



*Scott's Run, West Virginia*

**PLANNED COMMUNITIES FOR COAL MINERS**

Submitted in partial fulfillment  
of the requirements for the de-  
gree of Master of City Planning  
at the Massachusetts Institute  
of Technology

May 1952

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Justin Gray

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Professor Frederick Adams, Head  
Dept. of City & Regional Planning

Planned Communities for Coal Miners

by Justin Gray

Submitted to the Department of City and Regional Planning on May 16, 1952 in partial fulfillment of the requirements for the degree of Master of City Planning.

It is the purpose of this thesis to investigate the possibilities - physically and financially - of rebuilding in a planned manner the present environment in which our nation's 400,000 coal miners are forced to live and work. After discussing the economics of the industry and its implications for the planning of the mining communities of the future, an analysis is made of the existing environment of the coal miners and their families. From this analysis a four-fold program - including the erection of 22 new towns, the re-development of 750 coal camps, the building of 500 housing projects in existing incorporated communities, and, finally, the rehabilitation of homes owned by miners themselves - is proposed. The total cost of such a program is in the neighborhood of three and a third billion dollars. It is suggested that the trade union - the United Mine Workers of America - could play the dominant role in the creation of this new mining environment. Through the instrumentality of collective bargaining the UMW could press for the extension of the concept that human equities are as legitimate a part of the cost of production as is the cost of machinery, electric power or wages. The Union has already accomplished much along these lines. Today, the industry recognizes this concept to the degree that it contributes 30 cents for each ton of coal produced for market or use to the United Mine Workers Welfare and Retirement Fund. It is proposed that the UMW negotiate on a straight trade union basis with the coal operators for the creation of a Community Development Fund, which would receive its revenue from a ten cent royalty payment out of the production of coal. This would mean an annual income of approximately 50 million dollars. With this Fund as a guarantee of subsidies - to bring the

economic rent of the new housing down to the level the miners' families can afford - and payment of interest and amortization, it is estimated that money can be raised which would enable the completion of the four-fold program for the replanning and rebuilding of the mining communities in the course of a 16 year period.

Thesis Supervisor: Roland B. Greeley /  
Title: Associate Professor of Regional Planning

LETTER OF SUBMITTAL

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May 16, 1952

Pietro Belluschi, Dean  
School of Architecture and Planning  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Sir:

In partial fulfillment of the requirements for the degree  
of Master of City Planning, I respectfully submit my thesis  
entitled, Planned Communities for Coal Miners.

Sincerely

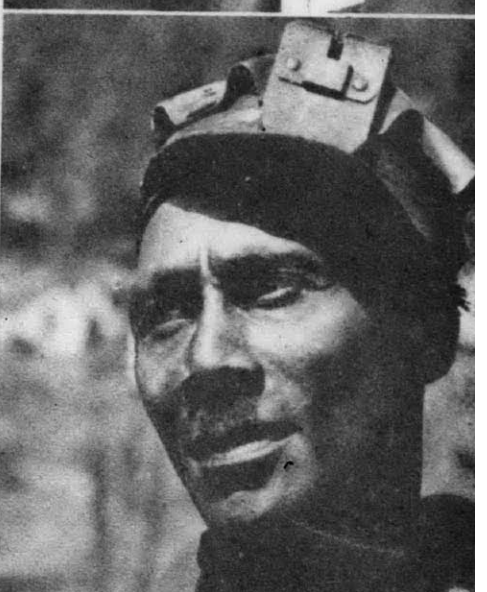
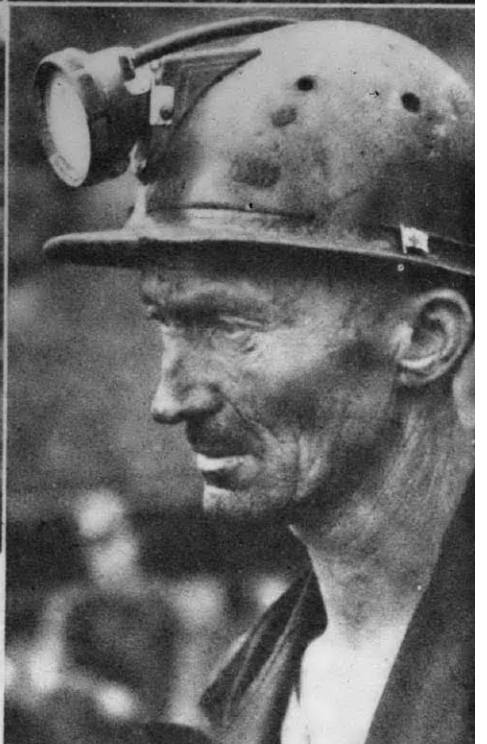
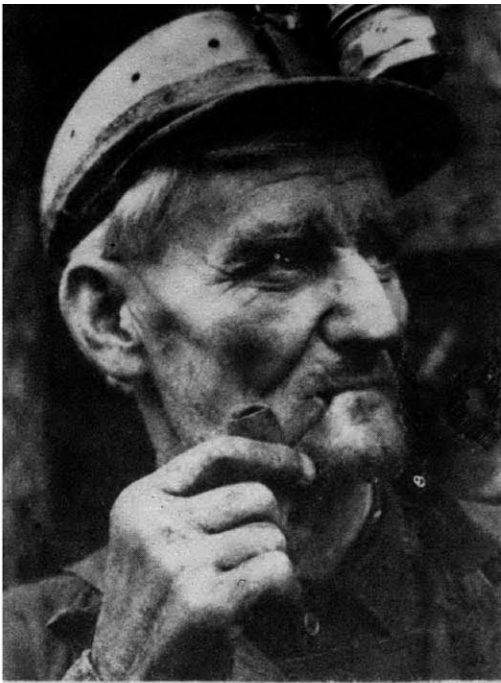
Justin Gray

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## Introduction



"To understand how we miners live you've got to see us first as we work." Manuel Vilone - my guide through the mining camps of Scott's Run in northern West Virginia - was explaining the way he and his fellow coal miners lived.

Vilone was in his early fifties, but his white hair made him appear older. His head was bent over and his shoulders hunched forward, the result of many years working in "low coal." His furrowed face bore the blue-black marks which distinguish the old-timers among coal miners. Vilone went on, a bit bitterly:

"You've got to see the fog of coal dust in the mine and swallow it. You've got to get to know the backbreaking work, day after day, week after week, without letup. Your body's got to get worn and tired until you're glad just to get home and lie down and rest up for the next day's work. You've got to feel the aching muscles, the sore back, the tired knees. Until you do, you'll never really know what it is like to live here in a coal camp."

None of these things have I ever done. I have never worked in a coal mine. I have never lived in a coal camp. From Vilone's point of view, I am an outsider - a do-gooder, he called me sarcastically - and he has little faith that any outsider will be able to help him and his

wife, Antoinette, and their two children get a better place in which to live. Vilone has confidence in his union - the United Mine Workers of America - not in outsiders or do-gooders. But he was tolerant and he allowed me to follow him around for a couple of days. I was able to get to know - intellectually, at least - that, working under conditions of great danger, miners face death daily.

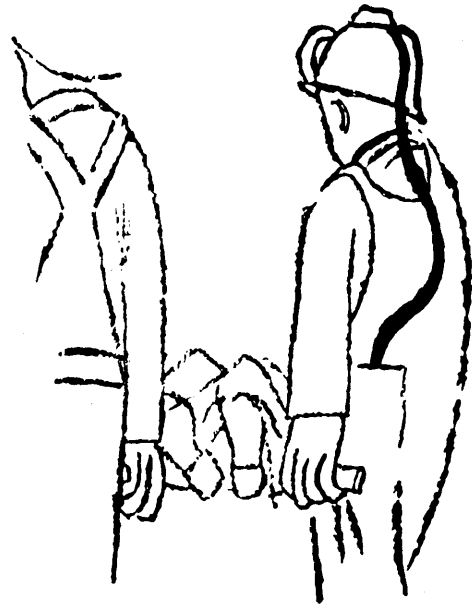
Manuel Vilone is right. No one can plan a new environment for coal miners without understanding this first. The crack of doom literally hangs over each man's head. Each year one miner out of every five is killed or injured. If miners were awarded Purple Hearts for their injuries, within five or six years almost every employed coal digger would be boasting a decoration. Death and injuries - the lot of the miner - have become taken for granted.

In return for their hazardous labor, for a service so vital to our economy, the miners are rewarded with living conditions that are the shame of the nation. The mining camps are in practically the same condition they were in fifty years ago. As we walked into Osage, one of the camps along Scott's Run, Vilone remarked, "It seems as if nothing has changed here except for the worse. The houses are older and more rundown than they were twenty years ago - that's all."

It is obvious that this is an area in which the physical planner - with his allies, the architect, the sociologist, the economist, the lawyer, the administrator, and, yes, even the idealist - could well invest his time and energy and technical knowledge. The slums of the coal camps literally call out for redesign, replanning and revitalization.

It is the purpose of this thesis to investigate the possibilities - physically and financially - of rebuilding in a planned manner the present environment in which our nation's coal miners are forced to live and work. In terms of procedure, the thesis begins with an analysis of the economics of the coal industry and its implications for the planning of the mining communities of the future. Part Two deals with the manner in which the miners and their families live today. Part Three concerns itself with the possible physical forms that the new mining communities might take and the general magnitude of the cost of such a development. The possibility that the trade union - the United Mine Workers of America - can play a dominant role in the creation of this new environment for the workers in the coal industry is discussed in Part Four. In conclusion, to the extent that it is proven that the United Mine Workers is able to play such a role, it is hoped this thesis may serve to show other trade unions in other industries both the necessity and the possibility of expanding their traditional concept

of trade unionism to include concern and, yes, even militant action in order to obtain a healthier and pleasanter environment in which their workers can live a more productive and fruitful life.



Part One: Coal and its Economics

There's a Future in Coal  
Where Coal is Found  
500 Million Tons  
The Big Get Bigger  
62 Percent is Loaded  
Mechanically  
400,000 Miners  
200 Days - a Year's Work  
The UMWA  
Planners Take Note

### There's a Future in Coal

Four-color advertisements tooting the marvels of the New York Central's newest and shiniest diesel locomotive, direct mail pieces describing the merits of oil furnaces and the widely heralded prospect of peace-time living in the atomic age have all produced the idea that soon coal will be as dated as the antimacassar. The progress-alert consumer also tends to think that whatever coal is used in the wonderful world of tomorrow will no longer be dug arduously out of the bowels of the earth, but it will be extracted in the form of gas - simply by igniting it under the surface.

Unfortunately, with bombs bursting in the air of Nevada, the age of industrially harnessed atomic energy does not seem immediate. A few facts point up the realism of a continuing concern with coal and with the environment of the men who produce it. Despite the inroads of competing sources of energy, coal still supplies the fuel necessary to heat more than half of all of the homes and apartments throughout the United States. It drives 8 out of 10 railway locomotives.<sup>1</sup> It is the source of energy for more than half

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<sup>1</sup>Actually the development of a practical coal-burning turbine locomotive - the Union Pacific already has one in regular operation and has nine more on order - presages a turn back from diesel to coal by the railroad industry. Taking up less than one-half the space of diesel motors and with a tremendous saving in weight, the advantages of such turbine engines has brought coal back into competition in this once lost market.

of the electric power produced.<sup>2</sup> It furnishes the coke for every ton of steel made in the country. It is the source of chemicals, perfumes, rubber goods, explosives and other chemical compounds and products.

More significant is the fact that while the production of both oil and gas has increased tremendously during the past years, most of this production does not come into direct competition with coal.<sup>3</sup> Much of the supply of both oil and gas is used in regions of the country, such as California and portions of the Southwest, where coal is available only at unusually high cost because of heavy transportation charges. Nearly half of the natural gas is used in the field for drilling or operating oil and gas wells and pipelines or for the manufacture of carbon black. More than half of the oil is used in the form of gasoline, kerosene, and lubricants - for which purposes coal cannot well compete, except at very much higher levels of oil prices.

The subject of interfuel competition is exceedingly complex. An elaborate analysis plus the accumulation of

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<sup>2</sup>Even the TVA, which has built its whole installation on the back of water power, has decided to build a number of coal generating plants because their water power generation is insufficient to meet the market requirements and the expanding demands for electrical power.

<sup>3</sup>Bureau of Mines, United States Department of Interior, Mineral Market Report No. 2032., U.S. Department of Interior, Duplicating Section, Washington, D.C., 1951, p. 74.

data not now available would be required to determine even approximately how much of any one fuel actually has been displaced either by other fuels or by water power. It is sufficient for the purposes of this paper, however, to state simply that the authorities on fuel resources spoken to are of the opinion that coal will retain its important position in the world's economy for at least another century. One hundred years is certainly a long enough future on which to base a planner's plans.

On the other hand, if for some reason coal is to become of diminishing importance, it is exactly the job of the planner to begin preparations for the rebuilding of the mining environment so that the hundreds of thousands of individuals who, today, with their families depend upon coal for their livelihood can make the adjustment from working in coal to employment in some other industry with the least possible dislocation.

#### Where Coal is Found

One thing is certain - there is plenty of coal in the United States if we want to use it. Geologists have estimated our reserves of bituminous coal alone exceed 2,000 billion tons.<sup>4</sup> These reserves, however, are not

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<sup>4</sup>Coal Mines Administration, United States Department of Interior, A Medical Survey of the Bituminous-Coal Industry, U.S. Government Printing Office, Washington, D.C., 1947, p. IX.

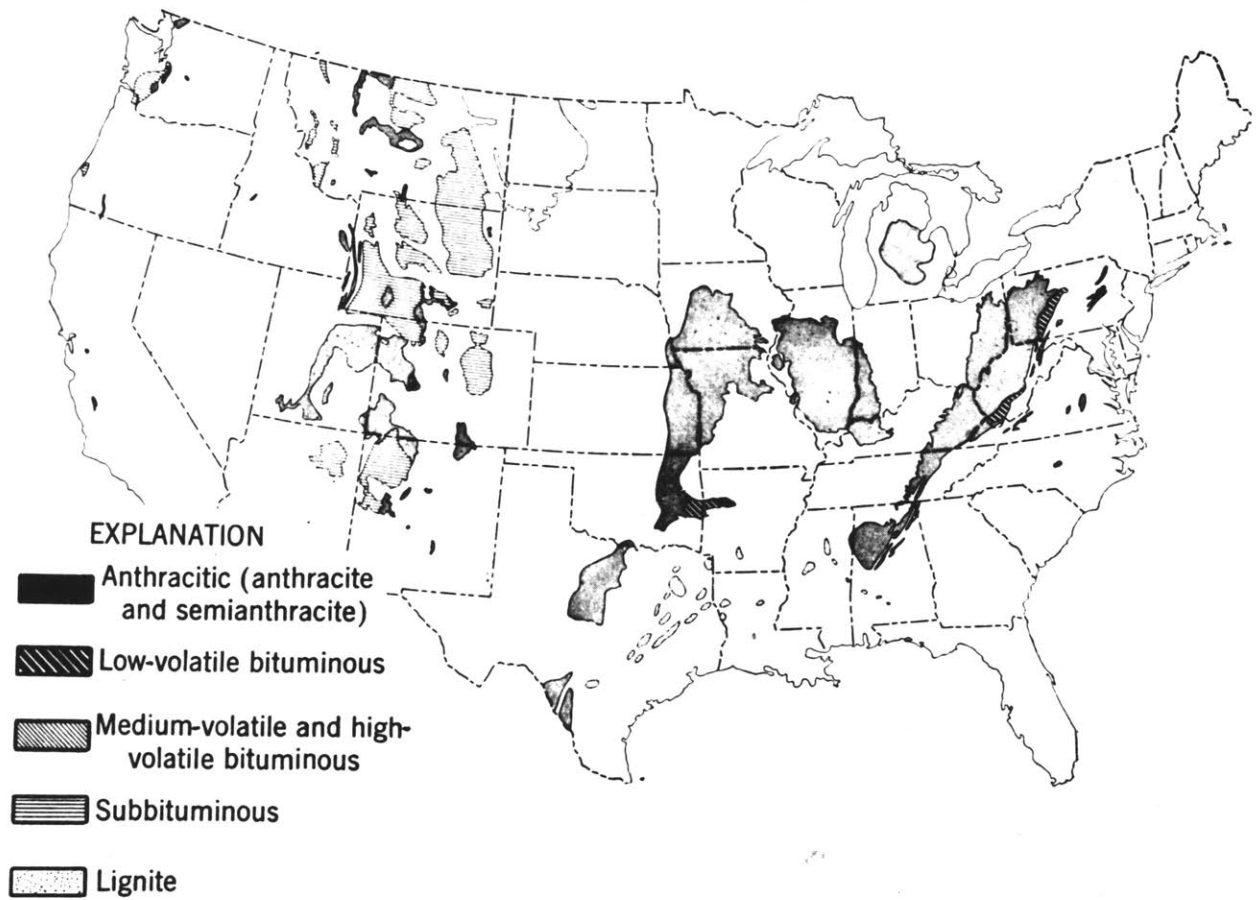
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equally distributed. One great formation - speaking in terms of both quantity and quality - lies along the Appalachian Highlands stretching southwestward from northwestern Pennsylvania to central Alabama. From the western third of Pennsylvania it extends into eastern Ohio from near Lake Erie to the State's southern border, western Maryland, West Virginia, southwestern Virginia, eastern Kentucky, east-central Tennessee, the northwestern corner of Georgia, and across the northern half of Alabama to a small area in eastern Mississippi. On the map on the following page it can be noticed that there are some smaller fields east of it, in Virginia and North Carolina, and of course the anthracite fields of Pennsylvania, where most of the nation's hard coal occurs.

West of the Appalachian coal field are two large interior fields. The easternmost of these extends through most of Illinois into western Indiana and western Kentucky. Slightly farther west, and looking on the map like a kangaroo standing on its head, is the other field, covering parts of Iowa, Missouri, eastern Kansas, Oklahoma and Arkansas. North of the more eastern of these two fields is a moderate-sized one in central Michigan, and extending diagonally across Texas are scattered fields of bituminous

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<sup>5</sup>Bureau of Mines, United States Department of Interior, Facts About Coal, U.S. Government Printing Office, Washington, D.C., 1950, p. 7.

## Coal fields in the United States



coal and lignite.<sup>6</sup> These eastern and interior fields contain about a third of the nation's deposits of coal and supply most of the nation's cooking coal.

The map shows a number of fields in the Great Plains and Rocky Mountain States which, taken together, contain about two-thirds of the nation's coal deposits on a tonnage basis. However, these fields are not large producers. The eastern and interior fields are composed chiefly of bituminous coal, together with most of the anthracite and are close to the great markets for coal. On the other hand, about 80 percent of the coal in the Great Plains and Rocky Mountain States is subbituminous or lignite and as of today of little value.

In the places where coal was deposited by nature, the topography of the land varies. In the Appalachian region the earth's surface is irregular, ranging from the high, steeply pitched hills of southern West Virginia to the gentle slopes of eastern Ohio. In the Central States the land generally is broad and flat, except in some sections where stream erosion has resulted in low, rolling hills. In

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<sup>6</sup>Lignite is the lowest rank of coal. As it comes from the mine, it contains 30 to 40 percent moisture. When exposed to the air, it soon slacks or falls to pieces because of loss of moisture. If not stored properly, it will take fire spontaneously. Although there are thousands of square miles of lignite deposits in the United States, production of this rank of coal is not yet important nationally. It is difficult to store and its heating value is low, making it uneconomical to ship very far.

the Rocky Mountain region topography is rough and mountainous.

The quality and characteristics of the coal, the geologic conditions (such as the thickness of the seam, the extent of the deposit, the pitch of the formation, and the nature of the cover) that determine the amenability of a particular deposit to mining, and the accessibility or proximity of mines to markets, have all been factors in determining the deposits to be mined. Thus, although bituminous coal is now mined in 32 states, production is commercially significant in only 22 - as the other 10 produce less than 1 percent of the total annual output. Further, two states - Pennsylvania and West Virginia - which together produce considerably more than half of the total coal output in the United States are estimated to have less than one-tenth of the country's total coal deposits.<sup>7</sup>

#### 500 Million Tons

Statistics are the bane of all reports - often making them soporific, if accurate. Nevertheless, a few figures are necessary in order to describe the industry which up to now has chained its workers mercilessly to living conditions reminiscent of the Middle Ages.

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<sup>7</sup>Bureau of Mines, Facts About Coal, op. cit., p. 8.

## Growth of bituminous-coal and lignite-mining industry in the United States, 1890 - 1950

Year	Production (net tons)	Value of production <sup>1/</sup>		Number of mines	Capacity at 280 days (millions of tons)
		Total	Average per ton		
1890	111,302,322	\$ 110,420,801	\$ 0.99	(2)	137
1891	117,901,238	117,188,400	.99	(2)	148
1892	126,856,567	125,124,381	.99	(2)	162
1893	128,385,231	122,751,618	.96	(2)	174
1894	118,820,405	107,653,501	.91	(2)	196
1895	135,118,193	115,779,771	.86	2,555	196
1896	137,640,276	114,891,515	.83	2,599	202
1897	147,617,519	119,595,224	.81	2,454	213
1898	166,593,623	132,608,713	.80	2,862	221
1899	193,323,187	167,952,104	.87	3,245	230
1900	212,316,112	220,930,313	1.04	(2)	255
1901	225,828,149	236,822,049	1.05	(2)	281
1902	260,216,844	290,858,483	1.12	(2)	316
1903	282,749,348	351,687,933	1.24	(2)	350
1904	278,659,689	305,397,001	1.10	4,650	386
1905	315,062,785	334,658,294	1.06	5,060	417
1906	342,874,867	381,162,115	1.11	4,430	451
1907	394,759,112	451,214,842	1.14	4,550	473
1908	332,573,944	374,135,268	1.12	4,730	482
1909	379,744,257	405,486,777	1.07	5,775	510
1910	417,111,142	469,281,719	1.12	5,818	538
1911	405,907,059	451,375,819	1.11	5,887	538
1912	450,104,982	517,983,445	1.15	5,747	566
1913	478,435,297	565,234,952	1.18	5,776	577
1914	422,703,970	493,309,244	1.17	5,592	608
1915	442,624,426	502,037,688	1.13	5,502	610
1916	502,519,682	665,116,077	1.32	5,726	613
1917	551,790,563	1,249,272,837	2.26	6,939	636
1918	579,385,820	1,491,809,940	2.58	8,319	650
1919	465,860,058	1,160,616,013	2.49	8,994	669
1920	568,666,683	2,129,933,000	3.75	8,921	725
1921	415,921,950	1,199,983,600	2.89	8,038	781
1922	422,268,099	1,274,820,000	3.02	9,299	832
1923	564,564,662	1,514,621,000	2.68	9,331	885
1924	483,686,538	1,062,626,000	2.20	7,586	792
1925	520,052,741	1,060,402,000	2.04	7,144	748
1926	573,366,985	1,183,412,000	2.06	7,177	747
1927	517,763,352	1,029,657,000	1.99	7,011	759
1928	500,744,970	933,774,000	1.86	6,450	691
1929	534,988,593	952,781,000	1.78	6,057	679
1930	467,526,299	795,483,000	1.70	5,891	700
1931	382,089,396	588,895,000	1.54	5,642	669
1932	309,709,872	406,677,000	1.31	5,427	594
1933	333,630,533	445,788,000	1.34	5,555	559
1934	399,368,022	628,383,000	1.75	6,258	565
1935	372,373,122	658,063,000	1.77	6,315	582
1936	439,087,903	770,955,000	1.76	6,875	618
1937	445,531,449	864,042,000	1.94	6,548	646
1938	348,544,764	678,653,000	1.95	5,777	602
1939	394,855,325	728,348,366	1.84	5,820	621
1940	460,771,500	879,327,227	1.91	6,324	639
1941	514,149,245	1,125,362,836	2.19	6,822	666
1942	582,692,937	1,373,090,608	2.36	6,972	663
1943	590,177,069	1,584,644,477	2.69	6,620	626
1944	619,576,240	1,810,900,542	2.92	6,928	624
1945	577,617,327	1,768,204,320	3.06	7,033	620
1946	533,922,068	1,835,539,476	3.44	7,333	699
1947	630,623,722	2,622,634,946	4.16	8,700	755
1948	599,518,229	2,993,267,021	4.99	9,079	774
1949	437,868,036	2,136,870,571	4.88	8,559	781
1950	516,311,053	2,500,373,779	4.84	9,426	790

<sup>1/</sup> Figures for 1890 to 1936 and 1939 exclude selling expense. Figures for 1937-38 and 1940-50 include selling expense.

<sup>2/</sup> Data not available.

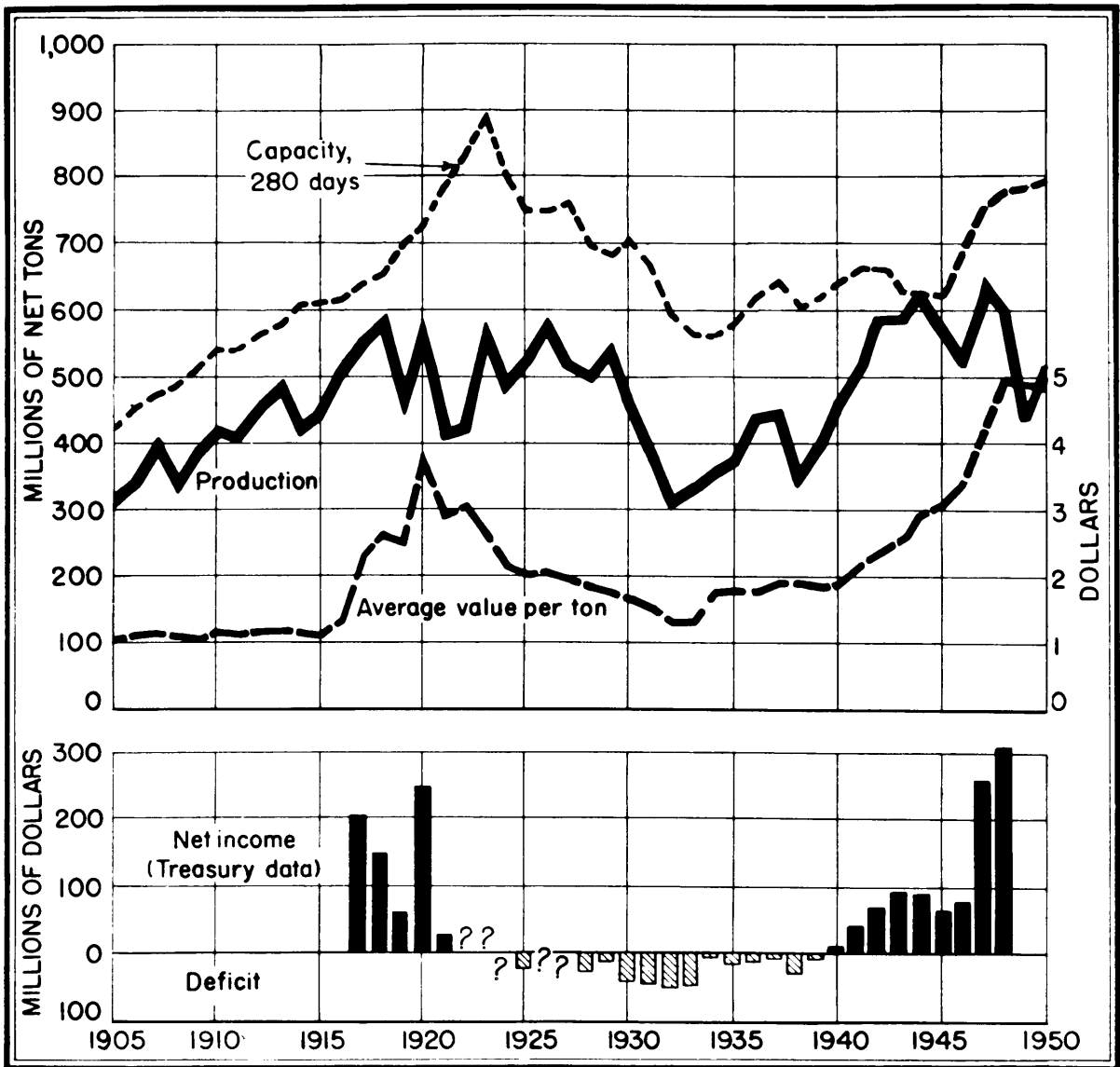
<sup>3/</sup> Revised.

The coal industry in the United States can be identified best probably as an industry of extremes - characterized by long periods of deep depressions rivaled by shorter, but nevertheless equally pronounced, periods of prosperity.<sup>8</sup> It first mushroomed into importance just prior to World War I when production almost doubled every decade. According to statistics from the Bureau of Mines, production of bituminous coal - including lignite - in 1890 was 111 million tons. Ten years later it totaled 212 million and in 1910 417 million tons were mined from the earth. By 1918 the bituminous output hit a peak of 580 million tons - the highest it was to reach for some twenty years. Following World War I the coal industry went into a depression and all through the twenties - while other industries and businesses in general were enjoying a period of prosperity - the coal industry was suffering. With the general depression in the 1930's the coal industry suffered an additional blow. Not until World War II, long after other industries had recovered from the depression, did the coal industry get back on its feet. The production of soft coal was still only 514 million tons in 1941 - as compared to the 580 million in 1918 - but war production was destined to bring a boom to the industry. By 1947 the nation's coal miners were producing the whopping total of 630 million tons. The last year

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<sup>8</sup>Coal Mines Administration, op. cit., p. XIV.

Trends of bituminous-coal and lignite production, realization, mine capacity, and net income or deficit in the United States, 1905-50.



official figures are available 1950 production had dropped again to 516 million but latest surveys predict "that in 25 years from now the United States will be consuming on the basis of present outlook anywhere from three-quarters of a billion to a billion tons per annum."<sup>9</sup>

### The Big Get Bigger

Although the production curve of coal is bumpy, the value of coal to the mine owners soared a million and a quarter dollars in the span of nine years - between 1941 and 1950.<sup>10</sup> These dollars go into the wallets and banks of relatively few big operators. About ten percent of the mines, each with an annual capacity of over 200,000 tons, produce more than two-thirds of all the soft coal mined. Forty-five percent of the mines, on the other hand, produce only about two percent of the total output. And the big operators are getting even bigger.

Running parallel with their expansions has been the complete withdrawal of a considerable amount of soft coal from the market. Many large consumers have become large

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<sup>9</sup>Copy of Transcript of Testimony of John L. Lewis, President of the United Mine Workers of America, before the Special Subcommittee on Mine Safety Legislation of the Committee on Education and Labor, House of Representatives, February 21, 1952, mimeographed, p. 18.

<sup>10</sup>Coal Mines Administration, op. cit., p. XVI.

producers of coal. Steel plants, railroads, public utilities and coke producers together use nearly three-fifths of the yearly output of bituminous coal in the United States and today, these groups are mining more than one-half of it themselves.

Other industries have captured mines, too. The Ford Motor Company, for instance, owns impressive coal holdings in the west. In the Pittsburgh area - where coal and steel have grown up side by side - captive mines are said to account for some two-thirds of the coal brought to the surface.

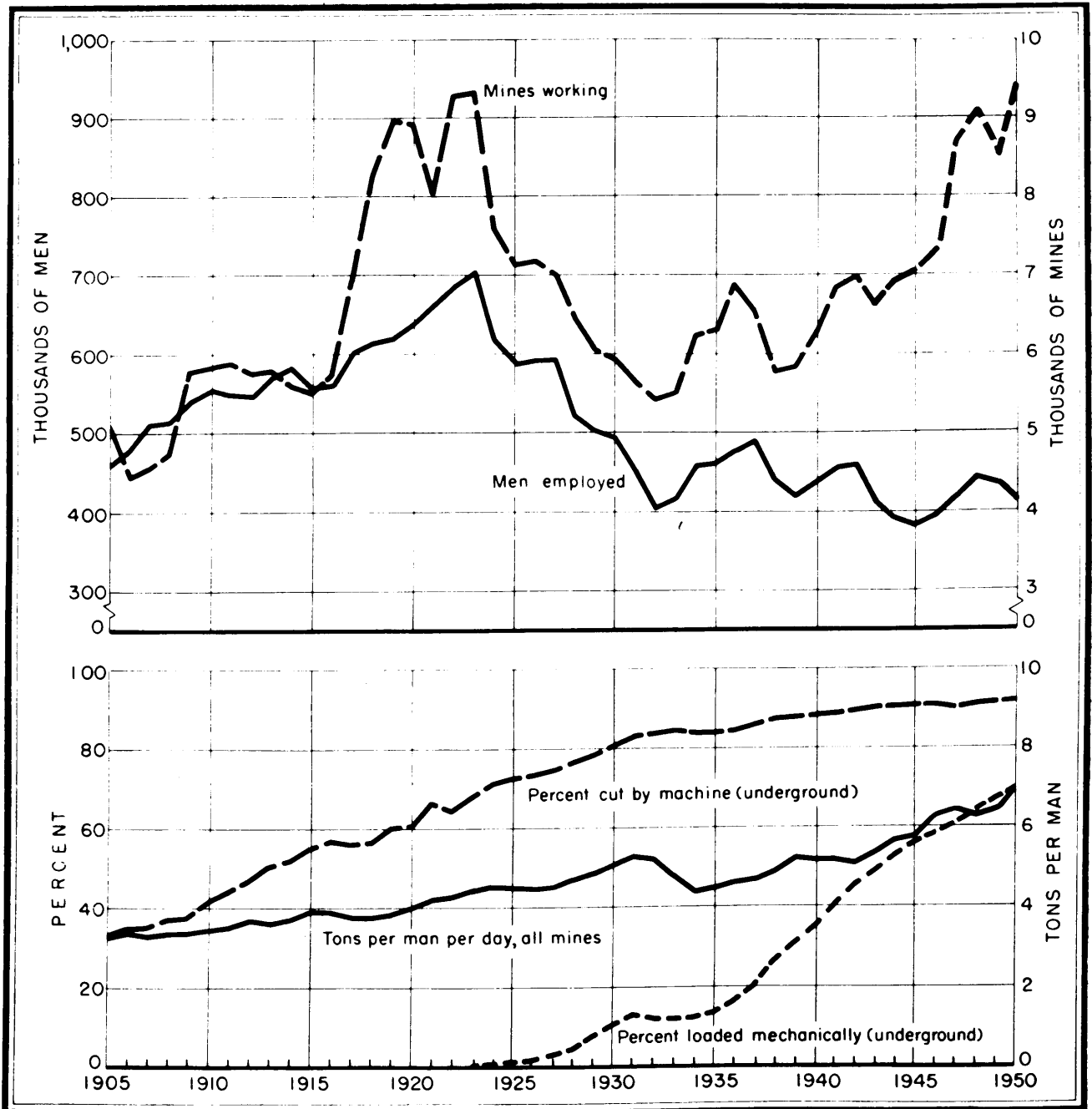
#### 62 Percent is Loaded Mechanically

Machines took the place of men at a fast rate - in and out of the pits - between the two World Wars.<sup>11</sup> At the time of World War I all of the bituminous coal produced underground was loaded by hand. By the end of World War II more than half of the production was accomplished mechanically. In 1950, the last year for which figures are available, bituminous coal and lignite mechanically loaded in underground mines added up to 272,724,612 tons, or 62 percent of the total underground output. Moreover, strip or surface mining - which is accomplished completely by mechanical

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<sup>11</sup>Bureau of Mines, Market Report No. 2032, op. cit., pp. 39-44.

Trends of employment, mechanization, and output per man at bituminous coal and lignite mines in the United States, 1905 - 50



means - increased from less than 1 percent in 1918 to approximately 24 percent of all bituminous coal production in 1950.

#### 400,000 Miners

Largely due to the increased mechanization of the mines the number of men working underground has decreased rather sharply from the peak period of employment back in 1923 when about 705,000 miners were working in the coal fields. According to the Bureau of Mines - the agency closest to this problem - the best estimate of the number of miners employed in the industry during the past years has leveled off at around 400,000.<sup>12</sup>

#### 200 days - a year's work

Mine workers have rarely averaged more than 200 days work each year.<sup>13</sup> In fact, only in the war years of 1942 through 1944 did they ever work more than 250 days a year - the average for most industrial workers. In 1949 the average number of days working in the coal mines was down as far as 157. The next year, 1950, the average rose to 183 and the estimates for 1951 - the statistics are not correlated as

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<sup>12</sup>Ibid., p. 17.

<sup>13</sup>Ibid., p. 17.

yet - bring the figure up around 200 again. This short work-week has long been the pattern in the coal industry and, in contrast to the decrease in the number of miners working, seems to be unrelated to the rise in mechanization.

### The UMWA

Since John Bates organized the Miners and Laborers Benevolent Association in 1849, the United States miners have been trying to bargain, strike, negotiate for their lives. Of the 400,000 odd miners working in the bituminous coal fields, it is estimated that today all but a handful - three or four percent - are members of either the United Mine Workers of America or of the smaller and less significant Progressive Mine Workers of America.

Trade unionism boasts a long and rich tradition in the coal fields.<sup>14</sup> Attempts of the workers to unite go back even beyond Mr. Bates to the early 1840's. The first national union of mine workers was founded in 1861 when the American Miners Association opened an office in St. Louis. Although unfavorable economic conditions during the period of readjustment following the Civil War caused the union's doors to

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<sup>14</sup>Lewis, John L., The Miners' Fight for American Standards, Bell Publishing Company, Indianapolis, 1925, p. 107; and McCarthy, Justin, Complete History of the United Mine Workers of America, Miners Journal Newspaper Company, Pottsville, Pa.

close, local unions persisted and in 1873 a group of them formed the Miners National Association. The panic of 1873 wiped out the MNA - as well as financiers - and within three years, it was just a memory and a letter-head. However, the memory was vital and inspired the mine workers on to organize the National Federation of Miners and Mine Laborers and the National Assembly of Miners of the Knights of Laborers in 1885. By 1890 these two organizations amalgamated to form the more euphonic United Mine Workers of America.

At the beginning, the UMWA grew as crazily as a patchwork quilt. In some states it was strong, in others weak. Its membership rolls lengthened, shortened, lengthened again. Then during the early 1900's the UMWA's growth began to catch up with that of the coal industry as a whole. Immediately after World War I the union's strength boomed and many of the hitherto staunchly non-union fields were organized. The operators recognized this strength, too, when in 1922 they refused to sign an agreement - a well-calculated attempt to break the UMWA. Widespread strikes that resulted set the UMWA back in many coal fields, but the northern fields stuck fast and finally wage increases were won. Two years later - in 1924 - the union triumphantly signed an agreement with the operators that set a relatively high level of wages for its members.

With the depression of the late 1920's and 1930's unionism in the coal fields was pushed back for a third time by the tides of American economic history. The depression began to take its toll in "Mine Closed" signs and empty pit cars long before it engulfed the rest of the nation. When the mines finally reopened the operators took advantage of the situation and refused to recognize the union. The proportion of coal mined under union contract was reduced from over 70 percent in 1924 to about 15 percent in 1932.<sup>15</sup> It was not until 1933, when the National Industrial Recovery Act endorsing and strengthening collective bargaining was inaugurated that the miners were able to close their ranks and force the operators to recognize and negotiate with the UMWA again.

The UMWA has been strikingly successful in its primary aims - to gain shorter working hours and higher rates of pay for their men in the pits. In 1898 the UMWA won the 8-hour day for a substantial number of miners. Their success is celebrated on April 1st of each year with fanfare and with glittering bands. The shorter work day was finally won on a nation-wide basis in 1933 when owners and union officers signed the first Appalachian wage agreement containing the 8-hour provision.<sup>16</sup>

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<sup>15</sup>It was during this period (1927) that the rival miners' union, the Progressive Mine Workers of America, was formed.

<sup>16</sup>McCarthy, op. cit.

Prior to the first World War the basic work week in the bituminous coal industry spun out to about 52 hours. In 1937 a 35 hour schedule was won by the UMWA. And the industry has maintained it ever since.<sup>17</sup> As a point of fact, though, it should be noted that the hours actually worked have averaged considerably less than the maximum permitted under any of the contracts.

Wage-wise, the UMWA has pressed the interests of its membership so well that today the coal miners are among the highest paid industrial workers in the world. In contrast with many other unions, the UMWA brought about this rising wage structure - not by opposing technological advances - but by supporting them and then demanding that a fair share of the increased profits resulting go to the miners.<sup>18</sup>

Today's national wage agreement between the UMWA and the associations representing the bituminous coal operators stems from the original Appalachian agreement. Back then - in 1933 - the basic wage rates for inside skilled workers came to five dollars a day in the North, \$4.60 a day in the South. The UMWA has been able to negotiate and renegotiate that basic agreement up to a wage of \$16.35 per day for

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<sup>17</sup> Coal Mines Administration, op. cit., p. XVIII.

<sup>18</sup> Lewis, op. cit., p. 107.

northern and southern miners alike.<sup>19</sup>

Other UMWA-negotiated boons for today's miners are the acceptance by the operators of such concepts as portal-to-portal pay, annual vacation period with pay, an enforced safety code, and the precedent shattering non-contributory Welfare and Retirement Fund - which for the first time in the history of the mining industry has brought a semblance of security to the miners and their families. In addition to providing pension checks, the welfare and retirement funds provide disability benefits to widows and orphaned children of coal miners; thousand dollar death benefits for men who, because of the perils of their work, could not afford insurance policies; and medical, health and hospital care for the injured and the maimed.<sup>20</sup>

#### Planners Take Note

This capsule summary of the economics of the coal industry has revealed a number of facts that are quite significant to a planner considering the possibilities of developing a program aimed at improving the physical environment of the mine workers.

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<sup>19</sup>National Bituminous Coal Wages Agreement of 1950 as Amended January 18, 1951.

<sup>20</sup>This aspect of the UMWA's impact on the industry will be discussed in much greater detail in Part IV.

First, it is obvious the industry is here to stay and concern for the manner in which the coal miners and their families live is both justifiable and purposeful.

Second, the trend towards greater concentration of ownership of the coal operations in the hands of some of the most powerful corporations in the country has meant that thousands of miners are today finding themselves shifted from the domain of the unstable small coal operator to the domain closely controlled by the financial giants of American industry. This growing concentration will have an important bearing on whether or not the industry can be forced to accept a greater responsibility than it has shown in the past for helping to improve the living conditions of its workers.

Third, the number of miners for whom a new environment must be built has, during the past years, leveled off at around 400,000. It can be assumed that this figure will remain relatively constant in the years to come. Yearly production, too, is estimated to remain around the 500 million ton mark.

Fourth, while the daily wages of the coal miners are, quite possibly, the highest of all industrial workers in the nation, the fact that the miners work on the average only 200 days a year means that the average yearly wage in the industry is only \$3400. This limits rather seriously the range of housing that can be built for the miners' family.

Fifth, the coal miners belong to one of the most militant and powerful unions in the country. If it so desired this Union could put up quite a fight to win a planned environment for its workers.

Part Two: How Miners Live

The Coal Camp

Housing

Frame Construction, 28 Feet Square

90 Percent Without a Bath

55 Percent Built before 1915

Crowded, too

Coal Stoves and Fireplaces

Electricity Costs More than Rent

Two Dollars and Fifty Cents per  
Room

The Company Lease

Housing for Special Groups

Sanitation

The Water is Outside

Most are Outdoor Privies

Just Throw the Garbage Away

Community Facilities

The Ruts are Deep

Three-Fourths of the Hospitals  
are Inadequate

No Place to Go - Nothing to Do

Still the Little Red Schoolhouse

Mining the Miner

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THE COAL CAMP

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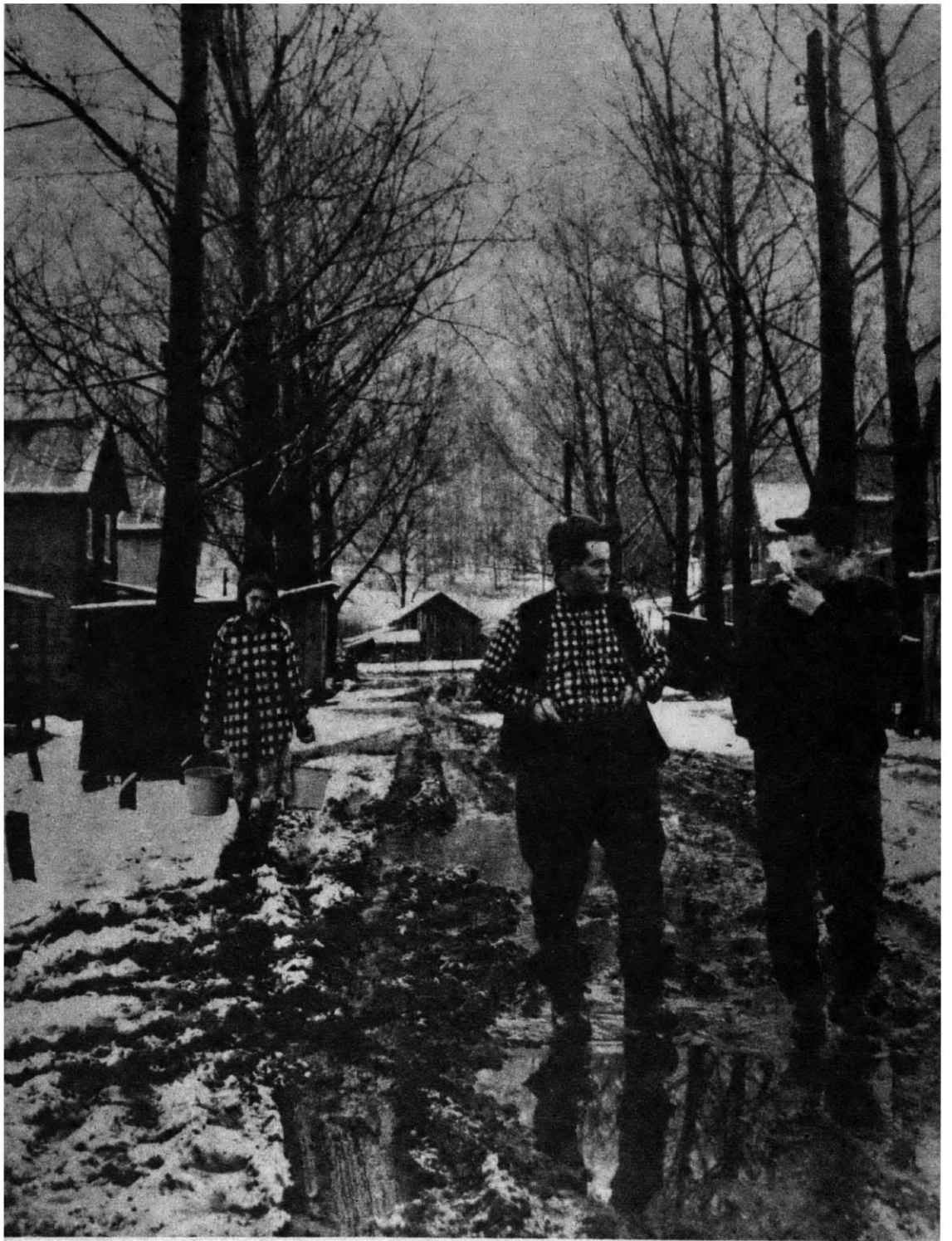
Force, Pennsylvania is a little mining village about a hundred miles to the north and east of Pittsburgh.<sup>1</sup> It is typical of the nation's coal camps. And typical of the miners living in Force is Angelo Uberti. He is 35, a veteran, married and the father of three children.

The Ubertis are fairly well off financially. Like all the miners in the camp, Angelo draws the new UMW wage of \$16.35 a day. The inside of the Ubertis' home is nicely furnished with tables and chairs and dressers from a Sears Roebuck catalog. The furniture and floors are spotless and shining. The house itself, though, was built in 1918 of unpainted weather board. A teetering shack, it stands over stagnant water that pools in the place where the cellar ought to be. That is Force's housing.

An open ditch runs parallel with the parallels of the railroad tracks and the deeply rutted, unpaved street in front of the Ubertis'. Refuse and human leavings float in the ditch. Children play in and around it and once a two-year old fell in and drowned. That is Force's sewage system.

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<sup>1</sup>Observed during trip to bituminous-coal fields of Pennsylvania, West Virginia, Kentucky and Virginia in December 1951.



Angelo Uberti (left) and Rico Guemeritto on "street" in Force. Mrs. Helen Levenduski carries pump water.

Angelo Uberti goes out to fetch two buckets of water from a nearby well before meals. The well that he walks to is one of twenty-one in the town and, like most of the others, it is dug directly beneath the outhouses behind the miners' homes. That is Force's water system.

The Pittsburgh, Shawmut and Northern Railroad Company owns Force. Every able-bodied man in the town works for the railroad's soft coal mines. The Company owns title to everything in Force, except the soot-laden air - the houses, the streets, the general store and the water wells. Village government does not exist in Force. The Ubertis and their neighbors have no say in any of the essential factors of their lives. That is Force's social structure.

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Coal camps began with the discovery of coal. One major characteristic of the coal industry is that, unlike manufacturing enterprises, the mines had to be developed where the coal deposits were located. The coal deposits, especially during the early days of coal mining, were remote from any civilization. In many instances, canals or railroads had to be built to them, so that the coal could be moved out. Even today, particularly in the mountainous areas in the southern Appalachians, a new opening may require the laying of a spur track through a hollow or canyon.

When the country was still in its pioneer stages, camping near the mines was not unusual. Transience and mobility were part of the life of the period. Moving shanty towns followed the railroads as their tracks extended across the continent. Lumber camps kept moving as the accessible timber was cut down. Coal camps were born in that period of change and movement and had about them both the feel and the name of impermanence.

The main difference between the coal camps and other camps was the durability of the material with which the men worked. The railroad camps and the pipeline camps died when their jobs were completed. The rough barracks of the lumber camps were left in the woods to rot, and others were built nearer the growing timber. Full-fledged towns that grew up around the great metal mines of the West were abandoned when the lodes ran out. But as coal deposits are more extensive and less easily exhausted, the coal camps stayed, eventually becoming established communities - with little of the amenities or necessities of normal communities.

There are exceptions to the mining camp, of course. In Illinois and Indiana, where the coal lies under the fertile soil of the prairie, the coal camp as such never existed. At the time the first mines were opened, villages and towns had already been established and much of the territory was rather thickly settled - having established lines of



A company camp - with a railroad as a main street

communication for trade and travel. As a result the coal industry fitted more naturally and normally into the life of the community than in some of the other coal fields.

Time, too, has altered the conditions and circumstances that made coal camps obligatory in some areas. A major influential change has been the growth of automobile transportation and good roads, particularly where the terrain is flat and rolling. This increased mobility, coupled with either the desire of some of the miners to live in incorporated towns or with the necessity of earning a living partly from the soil or in other industries, has encouraged many miners to move away from the company-owned and controlled camps.

In spite of improvements and the growth of automobile transportation the miners in the major portions of the bituminous-coal fields are still dependent on the company town - and company housing. More than half of the miners working in coal are living today in company dwellings. Even this high figure is not so important as the fact that for most no other dwellings are available. At hundreds of mines the worker and his family must live in a company town and in a company house or go elsewhere for a job.

Not long ago it would have been difficult, if not impossible, for an "outsider" to describe the manner in which a coal miner and his family lived in the closed

"company towns" in Pennsylvania, West Virginia, Kentucky and Tennessee. Incredible as it may seem, no outsider was allowed even to step inside these company-owned towns. As late as 1930 testimony before a House investigating committee shows that mounted and heavily armed coal and iron police were on hand to inspect the credentials of every stranger. Public roads were blocked off - even post offices were made almost impossible to reach. Huge searchlights, mounted on top of mine buildings, cast their groping beams at night across the shacks of the miners. Frequently machine guns were hidden beneath the lights and often the entire camp was surrounded by barbed wire beyond which no miner could go.<sup>2</sup>

Today, the machine guns have been stored away, but the coal camps remain. Hard roads, electricity, sewerage systems - the mechanical fundamentals of civilized living - are coming gradually to the coal camps. But the camps are still owned and controlled by the companies and the fundamental drabness and monotony of the miners' life has changed but little. To be sure, there are operators who strive to bring into the camps some brighter colors than the prevalent blacks and greys. In scattered places, playgrounds and swimming pools, recreation halls and movie houses have been set up by the mine owners. But life in the coal camps described in 1925 by the United States Coal Commission in

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<sup>2</sup>McAlister, Colman, op. cit., p. 285.

its report "The Case of Bituminous Coal" still holds good in the main for 1952: "...life in most mining villages offers to the men little outside of their work, offers to the children less than most cities, and offers to the women almost nothing that is stimulating or developing."



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HOUSINGFrame Construction, 28 feet square

The camp houses that stretch across the coal camps as monotonously as coops across a chicken farm are built of the cheapest materials. Little thought has been given to their appearance. Any variations in the square upon square, oblong after oblong forms would increase the cost of these houses without adding to the floor space - so few have been tried. Occasionally, one sees two-story duplexes or multiple attached structures - instead of the common single story individual homes - that a number of operators have gotten together and built in order to reduce unit cost.

In 1946 a survey was made of some 2000 dwelling units in the company owned coal camps. From it evolved a picture of the average - almost as graphic as a snapshot.<sup>3</sup> The miner and his family live in a house of frame construction about 28 feet square. That space contains four rooms, including a kitchen, two bedrooms and either a living-room or dining-room, but no closets and no bath. The roof is asphalt composition. The siding is wood. The exterior of

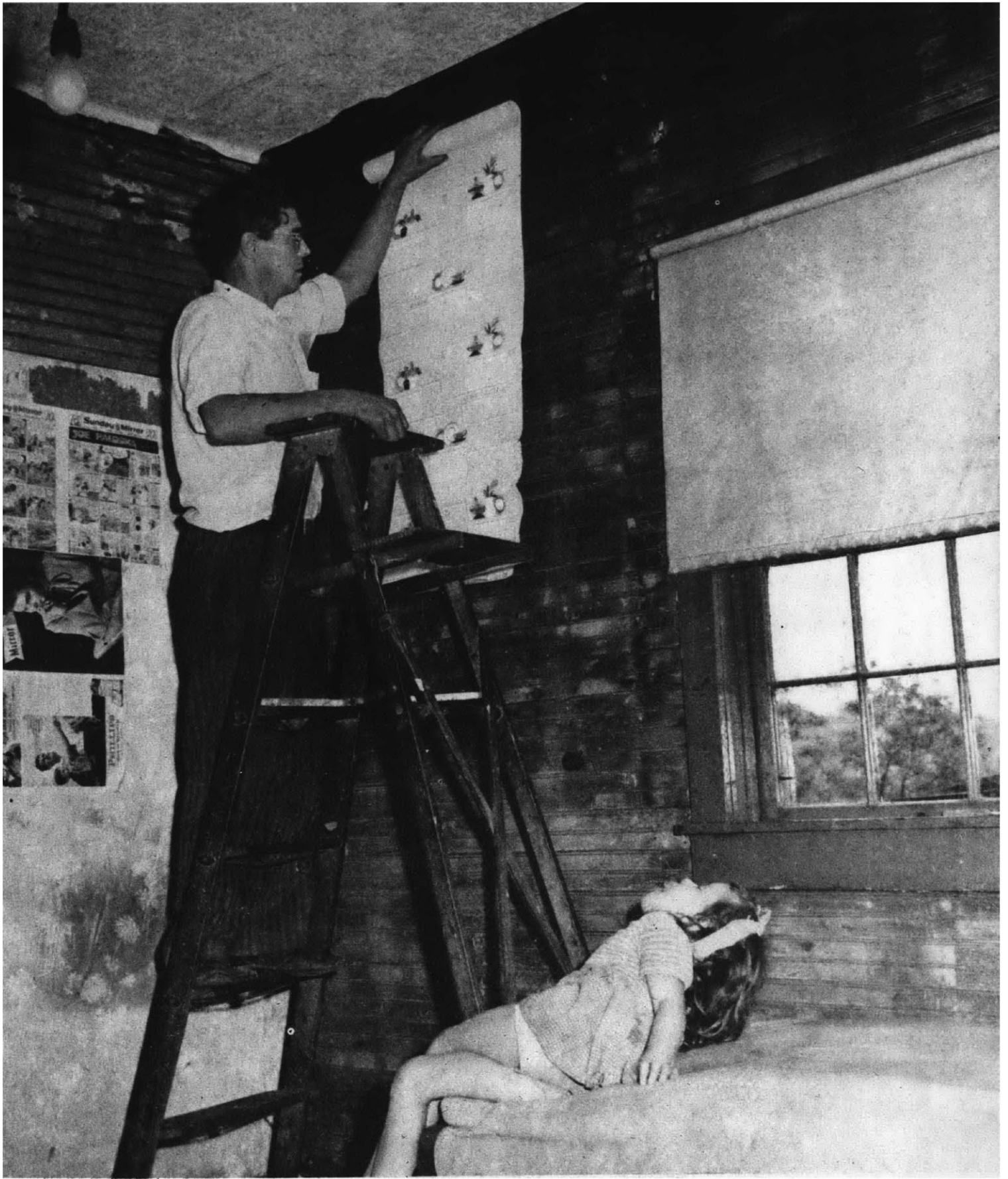
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<sup>3</sup>Coal Mines Administration, op. cit., p. 18.



Company Housing





Trying to brighten up the inside of company housing

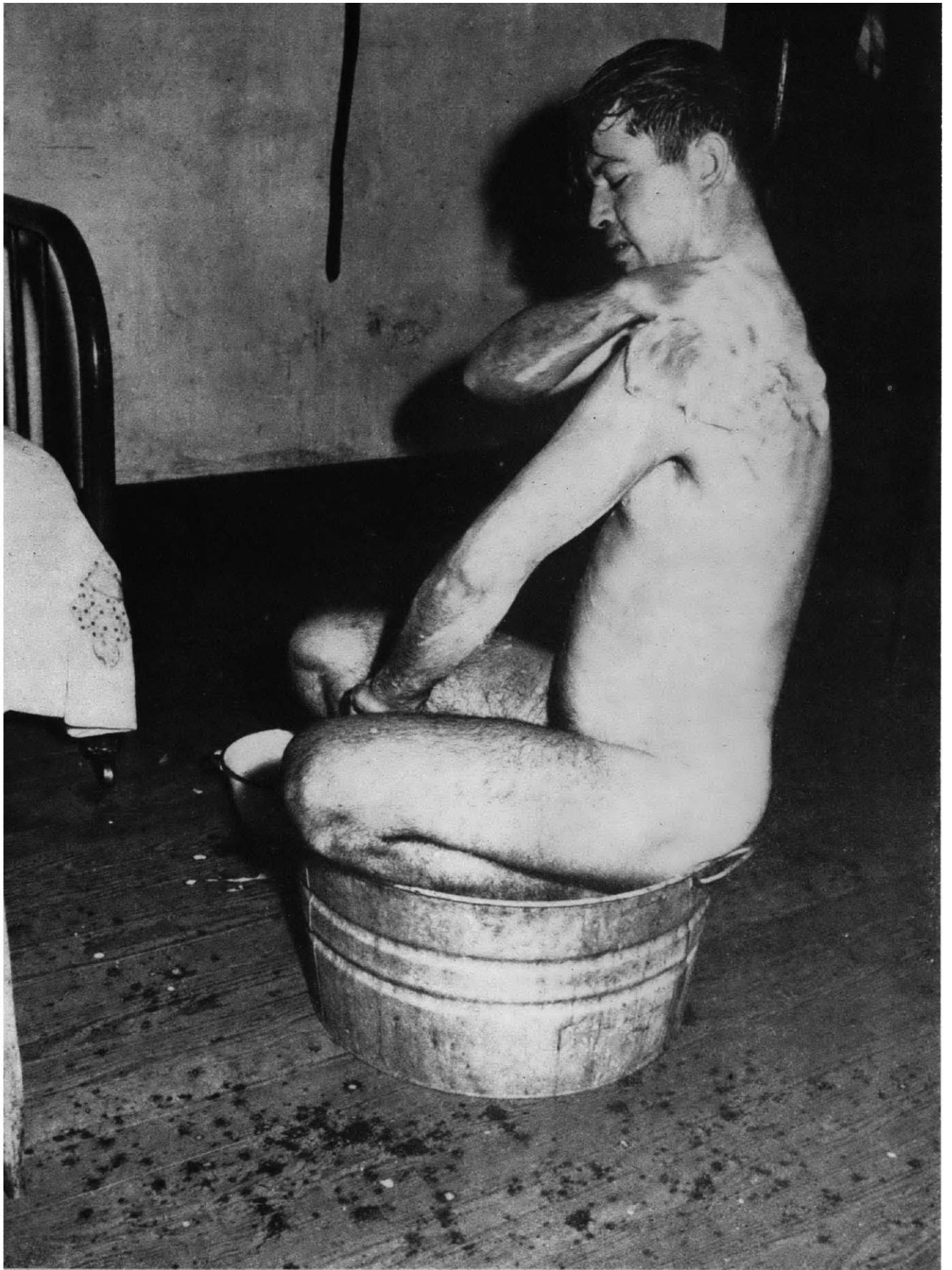
the house may be resheathed with a composition roof material - or something similar - which spruces it up a bit at modest expense. Wooden posts or masonry piers support the house and the wind whirls around them up through the floor. Pigstys and chicken coops are jumbled together under the living room floor - where the cellar ought to be. Except for resheathing, the miners' house is rarely insulated for economy of heating in the winter or for coolness in the summertime. His heat comes from a coal stove or grate. At all times of the year, at noon and at three in the morning, he and his family traipse 10 to 50 feet from the house to use the outdoor privy. From the hill above the house where the privy sits, drainage is toward the house and the water supply.

#### 90 Percent Without a Bathtub

Although the world of today is one of nuclear fission and jet propulsion, of international aviation and frequency modulation, of frozen foods and penicillin, the simple bathtub or shower is still a rare item in the houses miners and their families occupy in coal-mining camps. Of 1,154 company-owned houses inspected in the survey mentioned earlier, only 121 contained bathrooms in which there were<sup>4</sup> either tubs or showers or both - just about ten percent.

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<sup>4</sup>Ibid., p. 20.



90 Percent Without a Bath

This can be compared with the figures for non-farm dwellings which, according to the Sixteen Census of the United States (1940), shows that 40 percent have installed bathing facilities.

Although houses in rural areas or in communities that have no organized water-distribution systems ordinarily do not have bathrooms with tubs or showers, many houses situated where water can be piped to them lack modern bathing facilities. In view of the dirty conditions under which the miner works and the grime common to all active mining communities, the general lack of bathrooms is particularly striking. In some camps wash-and-change houses for the use of the miners are available at the mines, but these are of little help for the rest of the family.

#### 55 percent Built before 1915

The oldest dwellings in the coal camps seem to date from the 1860-65 period. Between these years and 1905 there was relatively little camp construction. Some 20 percent of the dwellings now standing come from that era. About 35 percent of the present housing was built from 1905 to 1915. The first large increase in coal requirements at the time of the first World War sparked another period of great activity in miners' housing construction - accounting for approximately 30 percent of today's housing stock in the coal camps. Few



An example of some of the poorest housing to be seen in the coal camps - company-owned dwellings situated in a gully adjacent to mine waste dumps

camps have been constructed in the northern Appalachian region since 1920, but there has been some new construction in the southern and western fields during this period and even continuing down to the present time.<sup>5</sup>

### Crowded, too

Not only are the houses in the coal camps old, but there are not enough of them. Almost all of the dwellings in the coal camps - and a majority of the non-company-owned homes occupied by miners - are classified as rural nonfarm properties by the U.S. Census. Rural areas are considered to include all towns with populations of 2,500 persons or less.

Data obtained from the 1940 Census of Housing reveals that 11 percent of rural nonfarm dwellings have an occupancy ratio of more than 1.5 per habitable room. In comparison with these Census figures, the Coal Mines Administration Survey reveals that in dwellings owned by the coal companies 25 percent have an occupancy ratio of more than 1.5 per habitable room.<sup>6</sup> Even this statistical comparison does not tell the true story for the Census figures include "all persons enumerated in the population census as members of

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<sup>5</sup>Ibid., p. 23.

<sup>6</sup>Ibid., p. 23.

household (including lodgers, servants, and other unrelated persons having no other place of residence)." The Coal Mines Administration survey did not count in its 25 percent "transient occupants or temporaries, such as sons recently returned from military service who brought their families to live with their parents or 'in-laws' while they searched for permanent quarters." Since it is common throughout the coal fields for families to take in boarders or lodgers it is likely that nearer 35 or 40 percent of the miners dwellings have an occupancy ratio of more than 1.5 per habitable room.

#### Coal Stoves and Fireplaces

The most popular heating devices in the miners' homes are coal stoves and fireplaces. Often both burn in the same dwelling. Other likely heating equipment includes wood-burning stoves, gas stoves and, sometimes, electric heaters. Most of the cooking is done by coal, though in some camps gas, wood and oil are used. Electricity is used only spottily and, more often than not, the cooking range acts as a supplementary heater.

Usually, coal is sold to the miners by the mine operators at somewhat reduced rates. In many districts, the operator assesses a monthly charge against his employee which entitles him to as much coal as he needs. The amount

of this charge is determined by agreement between the union and the operators. Additionally, a charge - varying in different camps - is made for delivery coal. When it can be had, gas is supplied by natural-gas companies, or, in rare cases, by one of the several brands of gas supplied in cylinders and ordinarily called "bottled gas."

### Electricity Costs More than Rent

Nearly all mines use electricity for their pit operations. Consequently, almost a hundred percent of coal camp houses have access to current. The wiring that carries the current varies - from all that the National Electric Code requires to installations that are fire-traps. The last seem to be in the majority. Baseboard outlets for floor lamps are seen only occasionally. Conductors are exposed on walls and ceilings. Short-circuits in the system - and sudden fires - are common.

Electric current is supplied and charged to the tenants of company houses in one of the following ways:<sup>7</sup>

1. Metered service under direct arrangement with the local power company, independent of the mine owner.
2. Submetered services, where all the power comes through the mine company's power services, and charges for electricity are paid by the tenants to the operator.

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<sup>7</sup>Ibid., p. 36.



Electrical wiring in much of the company-owned housing is crudely installed and constitutes real fire hazards

3. Nonmetered services, under which the tenants periodically pay to the operator a fixed amount, based on the number of outlets and electrical equipment used in the house.
4. Nonmetered service, under which the tenants pay flat-rate charges to operators based upon a unit price per house, regardless of the number of lights and appliances.

It is common practice for commercial power companies to sell electricity at graduated rates, depending upon the amount of energy consumed. The greater the consumption of power, the lower the average price by the kilowatt-hour. Thus, when the operator purchases power from a utility company and sells it to his tenants at the primary rate, he is not relaying the benefit of large-volume rates to his tenants. Further, it easily can be observed that, where this practice of secondary sales to tenants takes place, the operator's costs for industrial power are advantageously lowered. If the tenant's service is metered this makes no difference to him, as he could pay the same rate if his contract were made directly with the local utility company. If the service is not metered, the tenant may be paying total monthly charges the same or higher than those obtainable through metered service.

Flat charges for electricity vary from one camp to the next and from one section to another. In the four-state area of Kentucky, West Virginia, Virginia and Tennessee, monthly flat charges range from about 40 to 50 cents per

"drop," or outlet; 25 to 50 cents for use of a radio; 75 cents to \$1 for a washing machine; 25 cents to \$1 for an electric iron; and \$1 to \$2 for an electric refrigerator. In many instances, the total monthly charges for electricity exceed<sup>8</sup> the monthly rental charges to the miners.

#### Two Dollars and Fifty Cents per Room

Wage agreements between the operators and the United Mine Workers now stipulate that rentals for company-owned houses shall be established by supplemental agreements, and these figures currently average \$2.50 per room per month.<sup>9</sup> In some areas a flat \$1 charge is made in addition for each house. Figured that way monthly cost for each house of four rooms comes to \$10 or \$11, plus rental on a garage if any exists. For a six-room house the rent would be \$15 or \$16 on this scale. These rents do not depend upon the condition of the houses - especially if the houses are in poor condition. However, where houses are equipped with modern facilities breaks in the contract have allowed rentals to rise to the \$25 to \$30 level.

For housing in mine camps other than those controlled by coal companies, and non-company-owned housing that is not

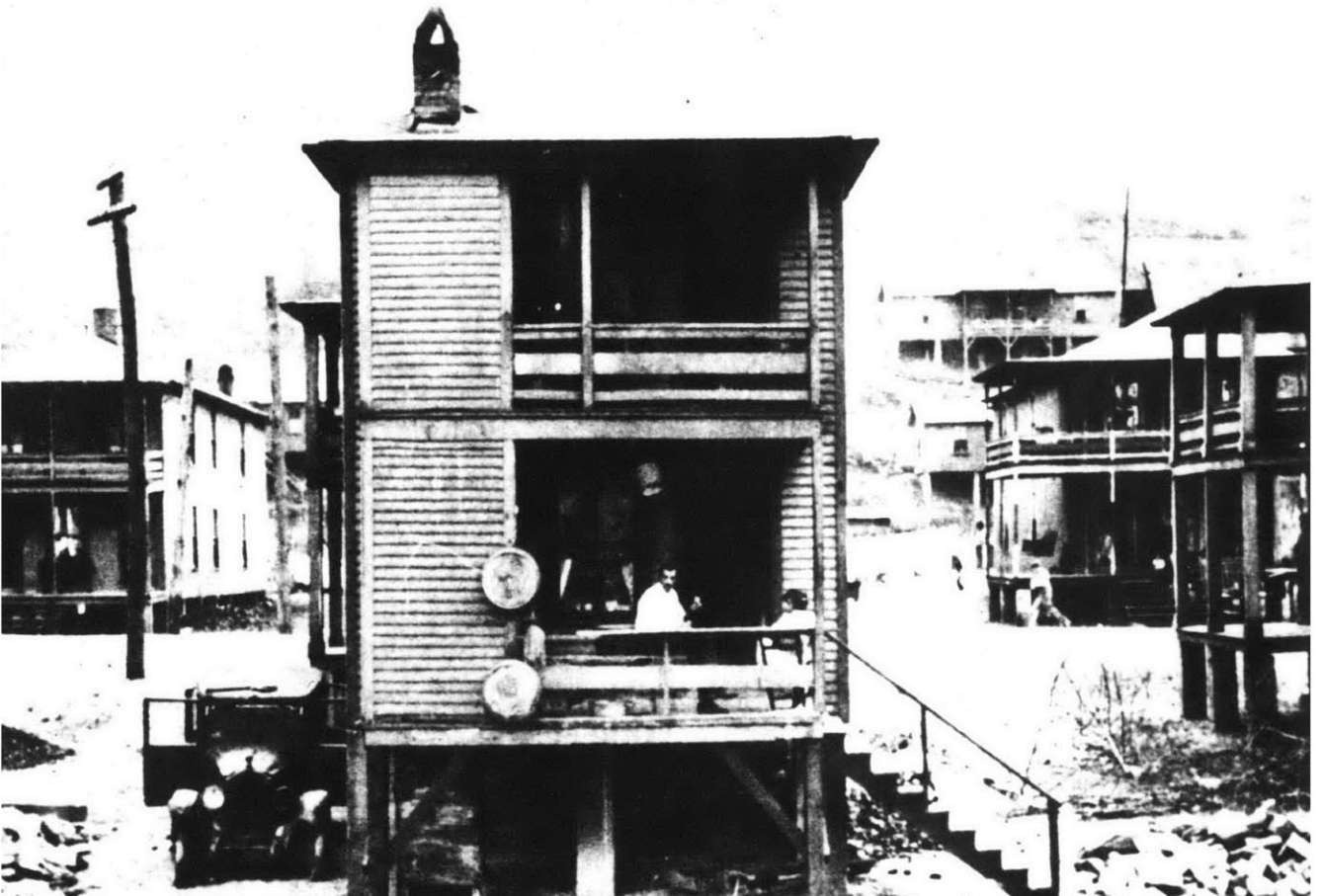
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<sup>8</sup>Ibid., p. 36.

<sup>9</sup>Northern West Virginia District Wage Agreement, 1941.



Company Housing



a part of any mine camp, the restrictions on rentals as determined in wage agreements are not applicable. While it is difficult to obtain figures it has been estimated that the cost of rentals of such homes are on the average about \$5 higher.<sup>10</sup>

### The Company Lease

One of the most objectionable aspects of living in a coal camp in company housing is the character of the lease a miner must sign in order to get a place to live. House leases between coal operators and miners contain certain special restrictions and stipulations which suggest a tenant's relationship in a feudal village store than in a twentieth century industrial community. In effect, the special restrictions in these leases force the miners to forfeit to a major degree their legal rights as tenants.

Typical leases contain at least the five following<sup>11</sup> points:

1. The lease is automatically terminated when the miner, for any cause whatsoever, ceases to work for the coal company.
2. The lease may be terminated by either party on five days written notice.

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<sup>10</sup>Coal Mines Administration, op. cit., p. 36.

<sup>11</sup>See copies of three typical leases for company-owned houses in Appendix A.

3. The company may deduct from a miner's wages for any damage to the property.
4. An extra charge of \$2 per day is levied for occupancy of premises after termination of the lease.
5. The tenant must not permit the use or occupancy of the premises by any persons "objectionable" to the owner.

To state that the typical coal operator's lease places the miner in amost insecure position is, in fact, a masterpiece of understatement. Aside from the ethics of such leases, the unusual limitations upon domain and the brief time which the miner is allowed for vacating his house following termination of employment are factors which cannot be ignored when considering the relatively low rentals of company housing.

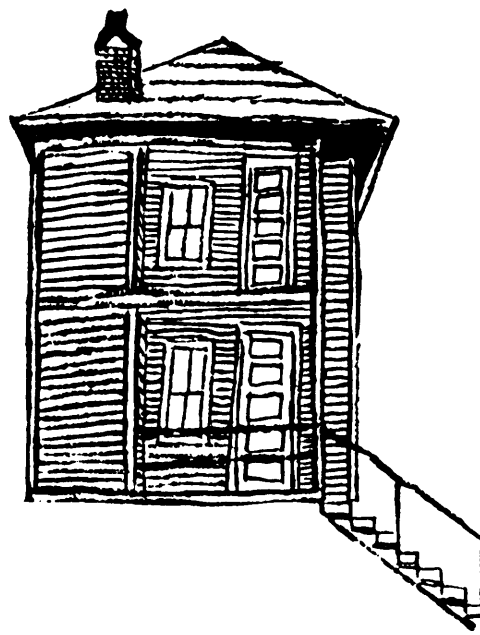
#### Housing for Special Groups

Coal operators have given almost no thought to the problem of housing for single workers while nailing up the coal camps. In only a few instances in the northern area buildings are designated specifically as bachelor quarters. The common practice - as pointed out earlier - has been for the single miners to find living accommodation in the homes of their married colleagues - a sort of making shift that just accentuates existent overcrowding.

Bachelor quarters are more plentiful in the southern and western coal fields. There they are often good-sized

buildings - three stories high - of frame construction, with furniture strictly limited to bunks and dressers. Either small private rooms or large rooms for two are provided. Shower rooms may be available on each floor, but, more often, the miners must use a wash house adjacent to the main building so that coal dirt will not be tracked into the living space. Cost of room and board has been estimated at \$45 to \$60 a month.

In contrast with, say, the geranium-bedecked row houses in most of the English mining towns, no special housing for aged miners seems to exist in the United States coal camps. The operators take the position that they bear no special responsibility for this part of the population.



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SANITATION

Housing - even in a penthouse or a Rye mansion - means little if drinkable water is not readily and plentifully available and if disease-menacing sewage, garbage, waste cannot be disposed of properly and regularly. Unfortunately for the miners, few of these facilities are at hand in the coal camps.

The Water is Outside

At best, mining is a very dirty job. It means an endless amount of heavy laundry work for the miners' wives. The theory is that wash houses are provided at the mine mouth so that the men can bathe and change their clothes before starting home. If well equipped and well run, wash houses would be a great asset to the communities. But, in the state that most of the wash houses exist today - where they exist at all - they are overcrowded and overheated. Private lockers are seldom provided. The miners' street clothes hang all day in bundles slung from the ceiling. Under these uninspiring conditions, most miners prefer to go home in their working clothes and use the immemorial tub of hot water that his wife or landlady fills in the kitchen. A



**The Wash and Change House:**

A miner reporting for work where there is a wash and change house immediately goes to it, removes his street clothes, attaches them to a chain, and deposits shoes and personal belongings from his pockets in a metal basket attached to the chain. These articles are then hoisted by the chain to the overhead or ceiling of the building, and the miner dresses himself in his working clothes that had been hanging on the chain since his last shift. Upon leaving the portal of the mine, he again goes to the wash and change house to remove his dirty, grimy, wet clothes, and hoists them on a chain to the overhead, where they will dry for the next 16 hours.

plenty of hot running water, then, with shower bath or a stationary tub is more vital to a miner than to almost any other citizen.

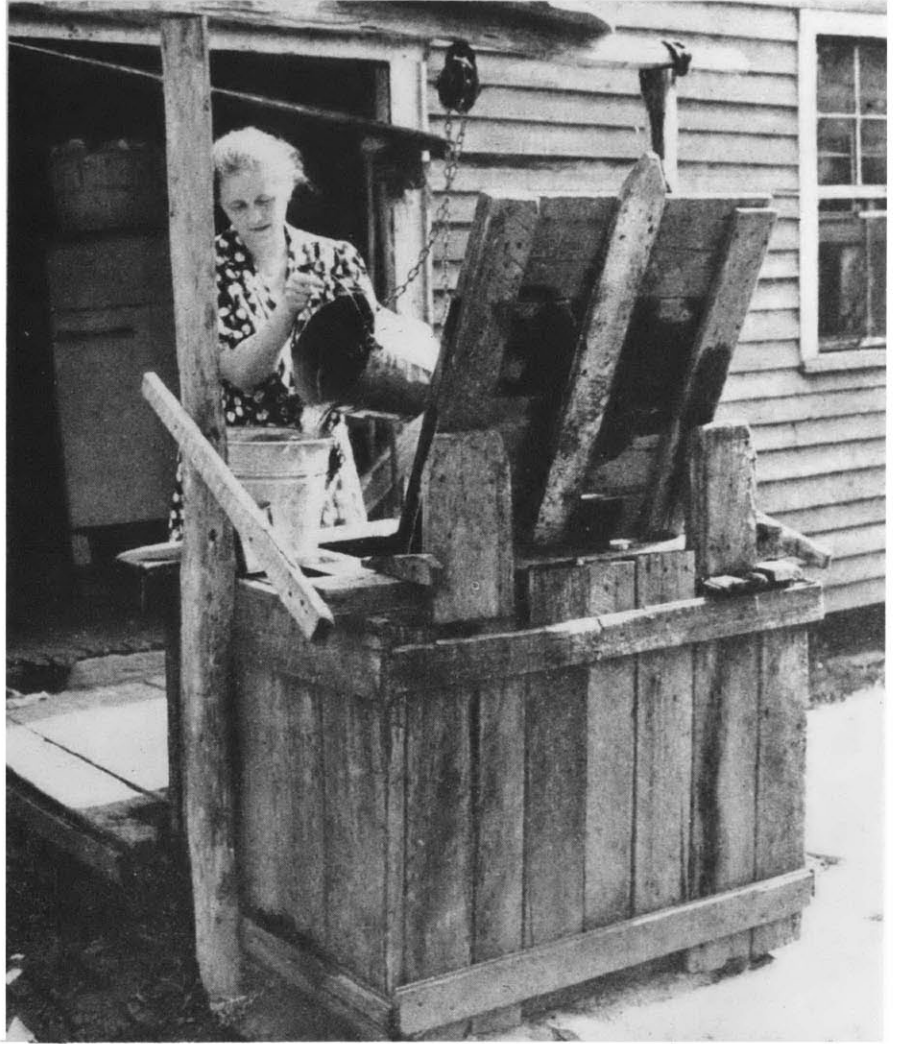
Since water is needed to carry on operations at most coal mines, it is not surprising to find the majority of coal camps boasting some sort of water distribution system. But the water piped in is not available in the miners' houses. On the contrary, although pipes run under the streets of about two-thirds of the coal camps, in six out of seven of these camps the miners' family must carry in their water from an outside hydrant or well that they usually share with at least two other families.<sup>12</sup> The companies' chief worry is to have water for dousing fires. The struggle for cleanliness is left to be carried on heroically and desperately by the miners' wives. As one woman put it, "It's hard to get at keeping clean when you're tired out from carrying the water."

The most common sources of the water used to fight the grit of coal towns - in order of their frequency - are wells, streams, rivers, impounded mine water, springs, lakes, ponds and, finally, cisterns.<sup>13</sup> For the far West water supply is a more serious problem than for the eastern or central mining regions. Many mines in the West are located

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<sup>12</sup>Coal Mines Administration, op. cit., p. 40.

<sup>13</sup>Ibid., p. 41.



Water is piped into less than half of the company-owned houses. Wells supply the majority.

where no water can be had at the site. Makeshift arrangements have had to be devised to fill the need. Although many mining companies have assumed the responsibility of providing water for their tenants, it is not uncommon for water haulage to be left up to the tenants completely and the miners can be seen carrying their own personal supply in milk cans and buckets long distances by automobile.

At several Kentucky camps families were using wells for drinking water and open streams and creeks for washing water. The explanation offered was that the drinking water was "hard." The stream water, they said, was better for washing clothes and bathing. While not seen, some of the miners stated that they purchased soft washing water from peddlers at 75 cents per barrel.<sup>14</sup>

Water costs to the miners' families range from no charge at all in many camps to about five dollars a month where private water companies maintain long distribution lines. As in the case of electricity some of this water is metered but most is billed for at a flat rate, or billed on the number of outlets, the front footage of the property, or the size of the house.

Rivers in the bituminous-coal producing areas are

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<sup>14</sup>Observed during trip to bituminous-coal fields of Pennsylvania, West Virginia, Kentucky and Virginia in December 1951.

heavily polluted with sewage, impurities and mine wastes of all sorts. Mine water, especially from stripping operations - flowing into streams that eventually find their way into the rivers - introduces a relatively high percentage of sulphur, plus calcium, iron and other minerals. Animals kept on the watershed contribute to the problem. Only too common is the hillside well, situated downhill from an insanitary privy with a pit that overflows during rainy seasons. As has been noted earlier, there is nothing whatever done to prevent seepage of the sewage into the source of drinking water and down on into the house. The possibilities of water-borne disease outbreaks and epidemics are tremendous in almost every coal camp.

As shocking as the water situation in the coal camps may be, state laws in most of the coal producing areas provide for inspection by the health authorities of private individual water supplies - exactly the type under the control of the coal operators - only upon the request of the users. It is safe to say that most of the water from individual wells or springs is never examined.

#### Most Are Outdoor Privies

Outdoor privies are the only toilets provided for most miners' families and few companies have taken the trouble to make even these modern and well constructed. According

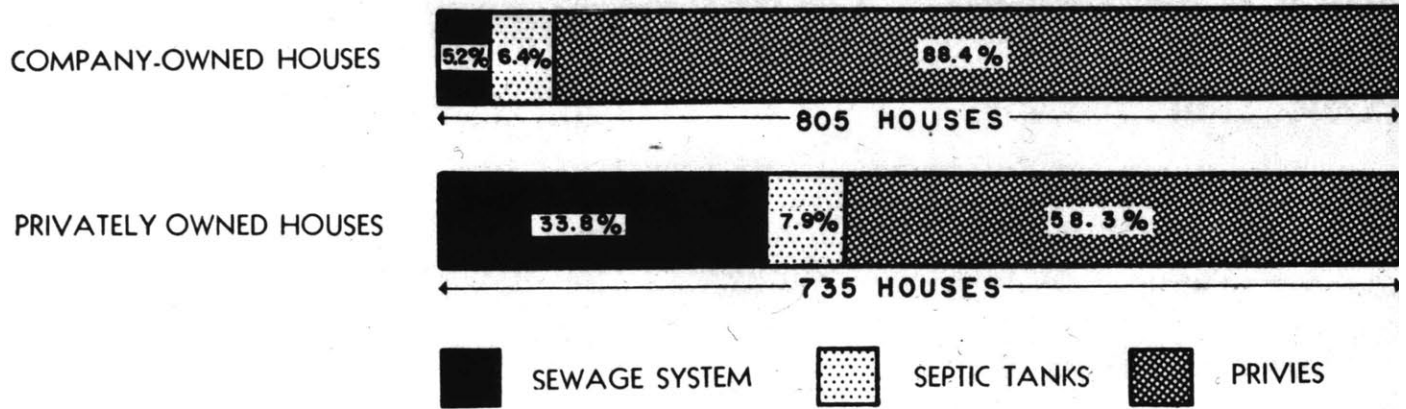
to the Medical Survey made of the bituminous-coal fields, privies are the most common method of disposal not only in the company-owned or controlled communities but also in other communities.<sup>15</sup> Cesspools and septic tanks were found to be the next most common method in company camps but the least prevalent in non-company communities. Integrated sewage systems were found in only five percent of the company camps but in more than a third of the incorporated communities that were surveyed. The situation as gathered by the Medical Survey group is summed up in the following diagram.

While not the best disposal system, the outdoor privy is not censurable of itself. Maintained properly, this type of outdoor facility can give satisfactory service, except with respect to personal convenience. In fact, in many cases a well maintained privy serves the purpose better than indoor bathrooms. This is particularly true where complete bathrooms have been installed, but the hygienic gain has been nullified because the raw untreated sewage has been allowed to be piped directly into the nearest creek. During dry spells, when the water level is low, these creeks are actually open sewers - unsightly, full of odors and acting as public dumps and added breeding spots for communicable diseases.

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<sup>15</sup>Coal Mines Administration, op. cit., p. 45.

## SURVEY OF SEWAGE-DISPOSAL FACILITIES OF MINERS' HOUSES



Rows of privies are characteristic of the coal camps. Almost 9 out of 10 company-owned dwellings and 6 out of 10 privately owned homes use privies



The industrial waste and the water used in coal washing, are most often simply disposed of by being dumped into streams or allowed to filter away in any manner that will not interfere with the mining operations. Very few plants utilize any systematic method of treating industrial waste. Even States with pollution laws do not invariably prohibit the introduction of mine water into streams and rivers.

#### Just Throw the Garbage Away

The best source of information available on the problem of garbage collection and disposal in the coal camps is, again, the Medical Survey.<sup>16</sup> In 60 percent of the communities surveyed, no type of organized collection was available to the miners, who, therefore, were obliged to devise their own methods of disposal. Since so great a percentage of the communities left this up to the tenants, the Survey made a special effort to discover just how the garbage was disposed of. Often garbage was thrown from cars along the road - perhaps into valleys, streams or abandoned strip pits about the countryside. Frequently it was buried in shallow pits or fed to chickens or pigs. At best it was burned on the premises and at worst it was left lying in the yard, sometimes close to the house.

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<sup>16</sup>Ibid., p. 47.



A common place for disposal of garbage and trash is the stream that runs through or alongside the company camp.

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COMMUNITY FACILITIESThe Ruts are Deep

"Our neighbor lost her baby boy in the middle of that road last year."

Mrs. Shaw, the wife of a miner working in the Morgantown area, was describing the life of her family in a coal camp.<sup>17</sup>

Mrs. Shaw and her neighbors had many complaints about their camp, but the one they were most bitter about was the condition of the roads - not so much because they were rough on the family's car but because in their present condition the roads were a definite hazard to the life of the babies in the camp. In the wet seasons the ruts and ditches - undulating as regularly as the ribbing of a washboard - became pools of muddy water, quite deep enough for children to play in and, as in the above case, drown in.

In terms of transportation all but the main highways are dirt roads in the majority of coal camps - the grades of which are often excessively steep. Some company camps have

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<sup>17</sup>Observed during trip to bituminous-coal fields of Pennsylvania, West Virginia, Kentucky and Virginia in December 1951.



The ruts are deep

no roads at all, other than the county highway which leads past the tipple. In these camps dry creek beds and wagon trails are the only means of entering or leaving. In wet weather many of the so called roads are impassable, and during warm, dry periods, clouds of dust are raised by passing vehicles. In the small camps, certain commodities, such as coal or furniture, often must be delivered to some houses far from the main highway by means of skids, small wagons, or other primitive vehicles.

#### Three-fourths of the Hospitals are Inadequate

When the miner goes underground, he is fully aware that his chances of being killed or maimed are greater than in any other industry. He has learned from his own experiences, or those of his fellow workers, the ever present threat of falling rock, gas and dust explosions, blasting, electrocutions and asphyxiations. These he has to face, and will always have to face, because mining - even with the many safety provisions that can be added - will always be a hazardous occupation.

Considering the obvious occupational hazards of the industry, an incredible inadequacy of medical facilities exists in every one of the coal mining areas in the country. <sup>18</sup>

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<sup>18</sup>Coal Mines Administration, op. cit., p. 165.

Accepting as a standard the goal set in the Federal Hospital Survey and Construction Act of 4.5 hospital beds per 1000 population, only three of the 31 counties in Pennsylvania meet or exceed this mark. Three other counties - all coal producing counties - have no hospitals. In West Virginia, 11 counties have no beds registered, and of the remaining 25 counties, only three exceeded the ratio of 4.5. These three counties that exceed the ratio and five of those that have no beds at all are coal mining counties. In Virginia, Tennessee and Kentucky, none of the counties has enough hospital beds to meet the goal set in the Hospital Survey and Construction Act. In Alabama only one county showed a ratio higher than 4.5 beds per 1,000 population.

Thus within the coal producing areas of the six Appalachian States, no hospital beds are registered for more than half the counties. And in the total of 125 counties, there are only eight with ratios equaling or exceeding the ratio of 4.5. These eight counties, except for the one in Alabama, are in Pennsylvania and West Virginia.

Further, data obtained by the Boone Committee indicates that coal miners are forced to depend primarily for hospital services on institutions of small or medium size - that is, those with a capacity of less than 150 beds. The evidence is convincing that three-fourths of these hospitals are inadequate with regard to one or more of the following:

surgical rooms, delivery rooms, labor rooms and nurseries,  
 clinical laboratories, and X-ray facilities.<sup>19</sup>

In face of these appalling conditions the United Mine Workers has stepped into the medical picture and recently - in March of this year - arranged to finance through the Union's Welfare and Retirement Fund the construction of ten community hospitals in West Virginia, Virginia and Kentucky.<sup>20</sup> This is just the first step in a huge program initiated by the UMW's Welfare and Retirement Fund to obtain for the mine workers facilities for medical care which will meet and exceed the goals of the Hospital Survey and Construction Act.

#### No Place to Go - Nothing to Do

In photographs of groups of miners at the coal camps an aimless and heavy sense of waiting usually shows in their faces and postures as clearly as the railroad tracks and stores show against the dusty sky. There is nothing to do. There is no place to go.

To the nation the total leisure time of its citizens can be a great asset or a terrifying liability. In the

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<sup>19</sup>Ibid., p. 191.

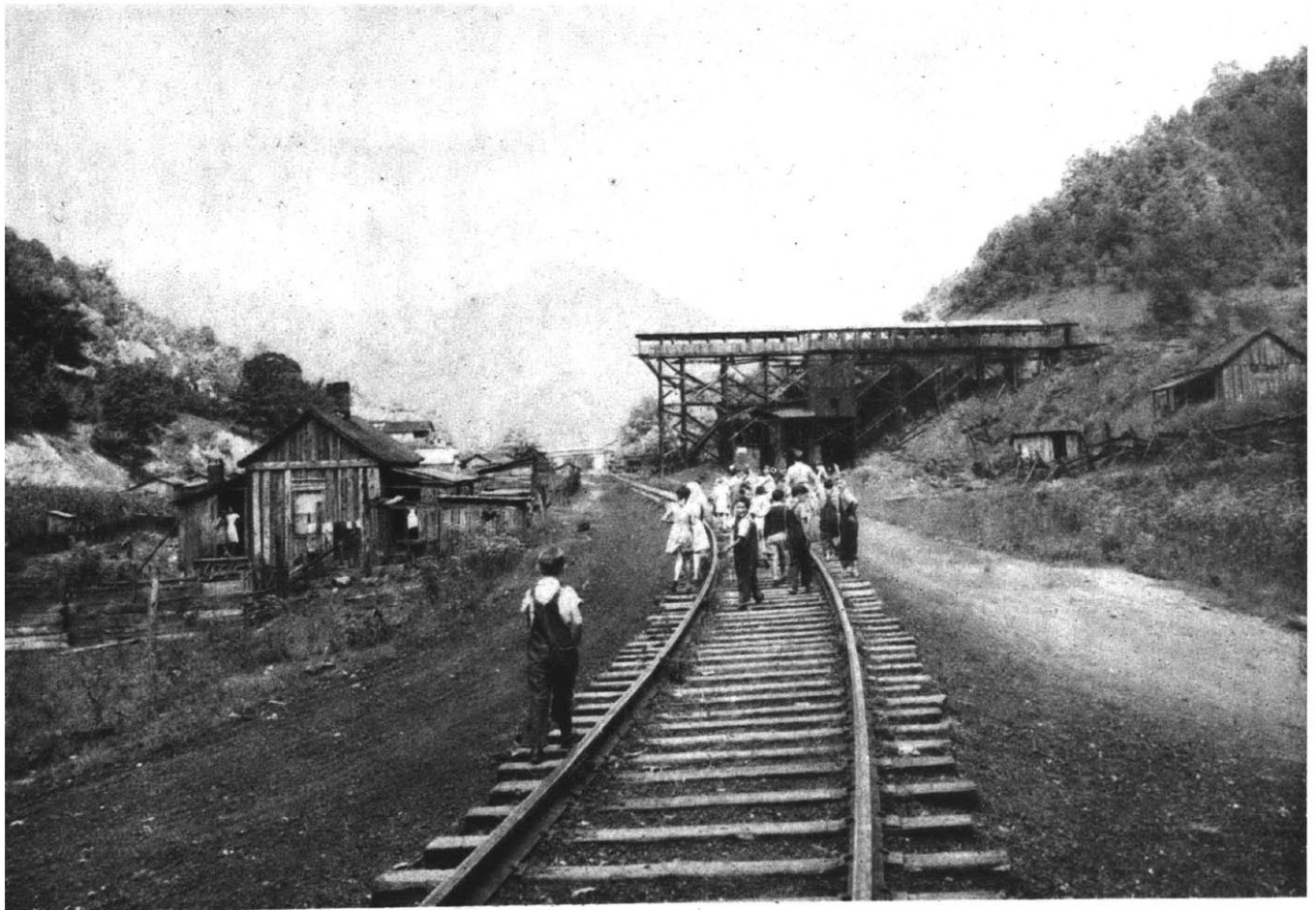
<sup>20</sup>United Mine Workers of America Welfare and Retirement Fund, Press Release, Thursday Morning, March 20, 1952.



Children: no place to go - nothing to do

Adults: no place to go - nothing to do





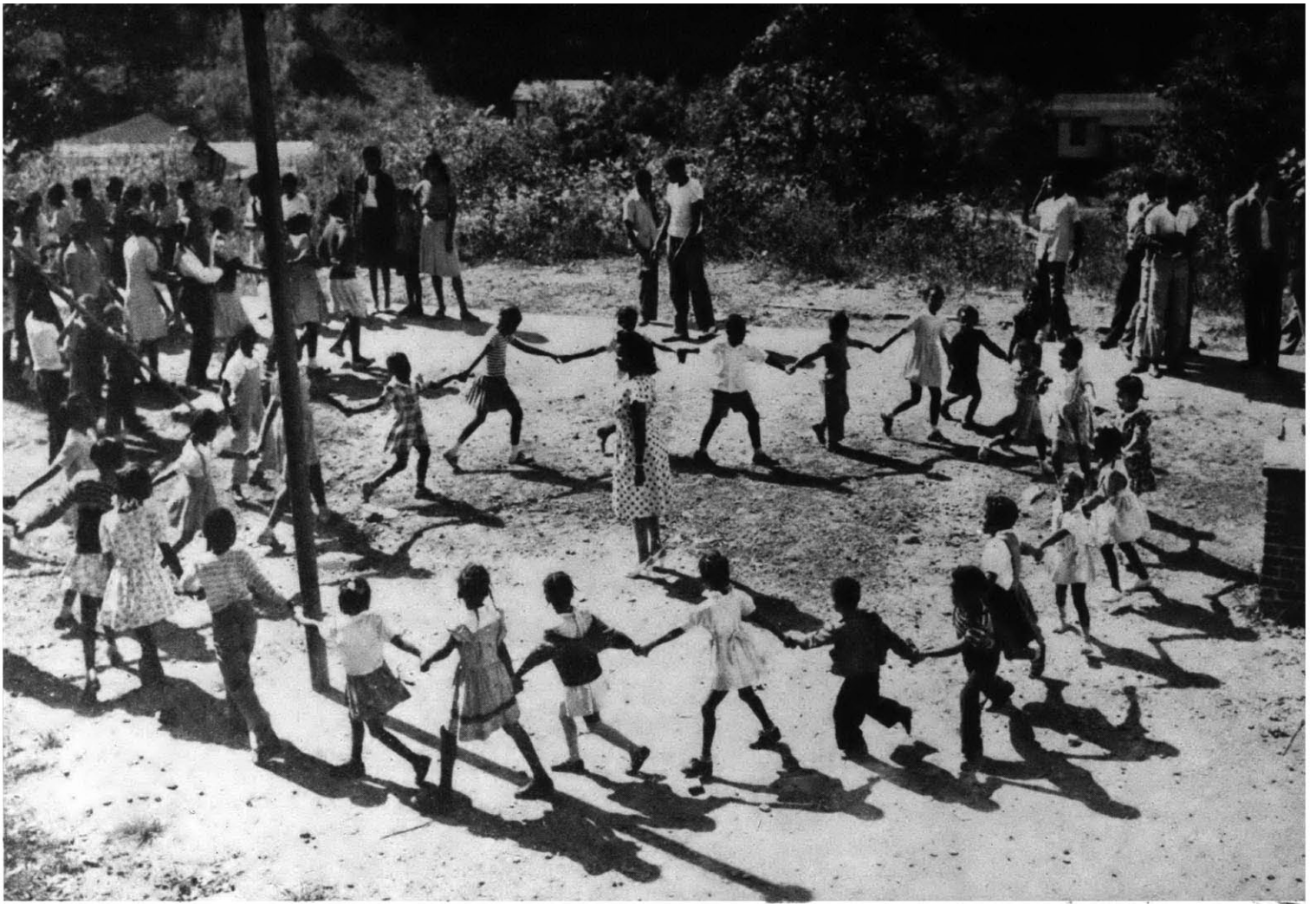
Just as children in the city learn to dodge automobiles and trucks, the youngsters in coalmining communities at an early age acquire an agility to dodge freight trains. The railroad is a highway and a playground



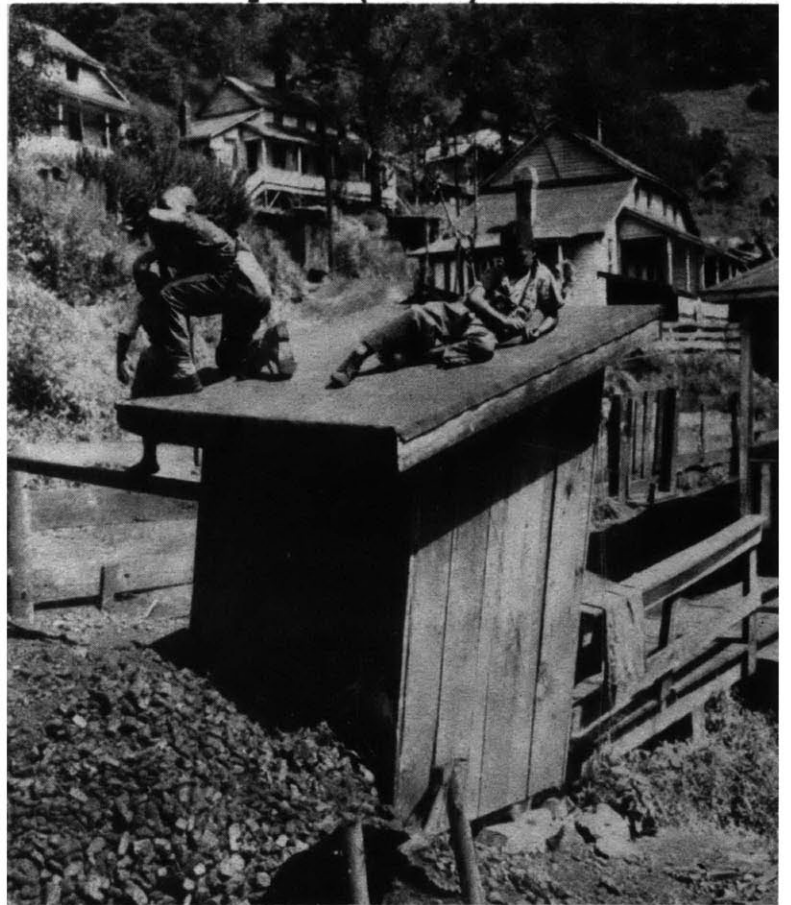
bituminous-coal industry, employing some 400,000 miners, statisticians have estimated that approximately half of the waking hours of each miner are leisure hours - time in which he is released from his chores in the pits and free to go his own way. The miners of the United States, exclusive of their dependents, boast a huge total of leisure hours that add up to hundreds of millions each year.

Throughout most of the United States, there are myriad answers to the eternal question of "What'll we do tonight?" Agencies and sub-agencies, churches and settlement houses, Y. M. C. A.'s and Y. W. C. A.'s vie with each other to provide facilities and leadership for "wholesome" recreation. Then, there is the vast commercial amusement industry - with its Lana Turners, Hurok-sponsored series and one night stands. Commercial enterprise gets into the act by establishing theatres, bowling alleys, swimming pools, camps, schools of arts and handicrafts. Organized agencies - public and private - build swimming pools, parks, club houses and thousands of other time-off facilities to fill any gaps left by private capital's omissions or lacks of daring. Thus, in Chicago and Salt Lake City and Robinhood, Maine recreational opportunities are numerous and becoming more numerous.

The coal miners of the country, however, are left waiting. And the circumstances of the coal camps hamper both the commercial and messianic efforts of public and



Recreation areas in company-owned coal camps are either inadequate (above) or nonexistent





The old swimming hole - right under the mine waste heap

private agencies and entertainment dealers. Conditions in the company-owned camps are the worst. The sparcity of their populations, the irregular and undependable working times and earnings of the miners frighten away the motion picture theatre chain from building anything as permanent as a Loew's or Paramount. Since the land in the company-owned camps is owned or leased by mine operators, it is neither public property nor generally available for lease or purchase by residents of the community and, as a result, public facilities depend on the largesse of the operators. Moreover, since these camps - with a few exceptions - are unincorporated, even recreational activities on a city council-sparked level are barred to the residents.

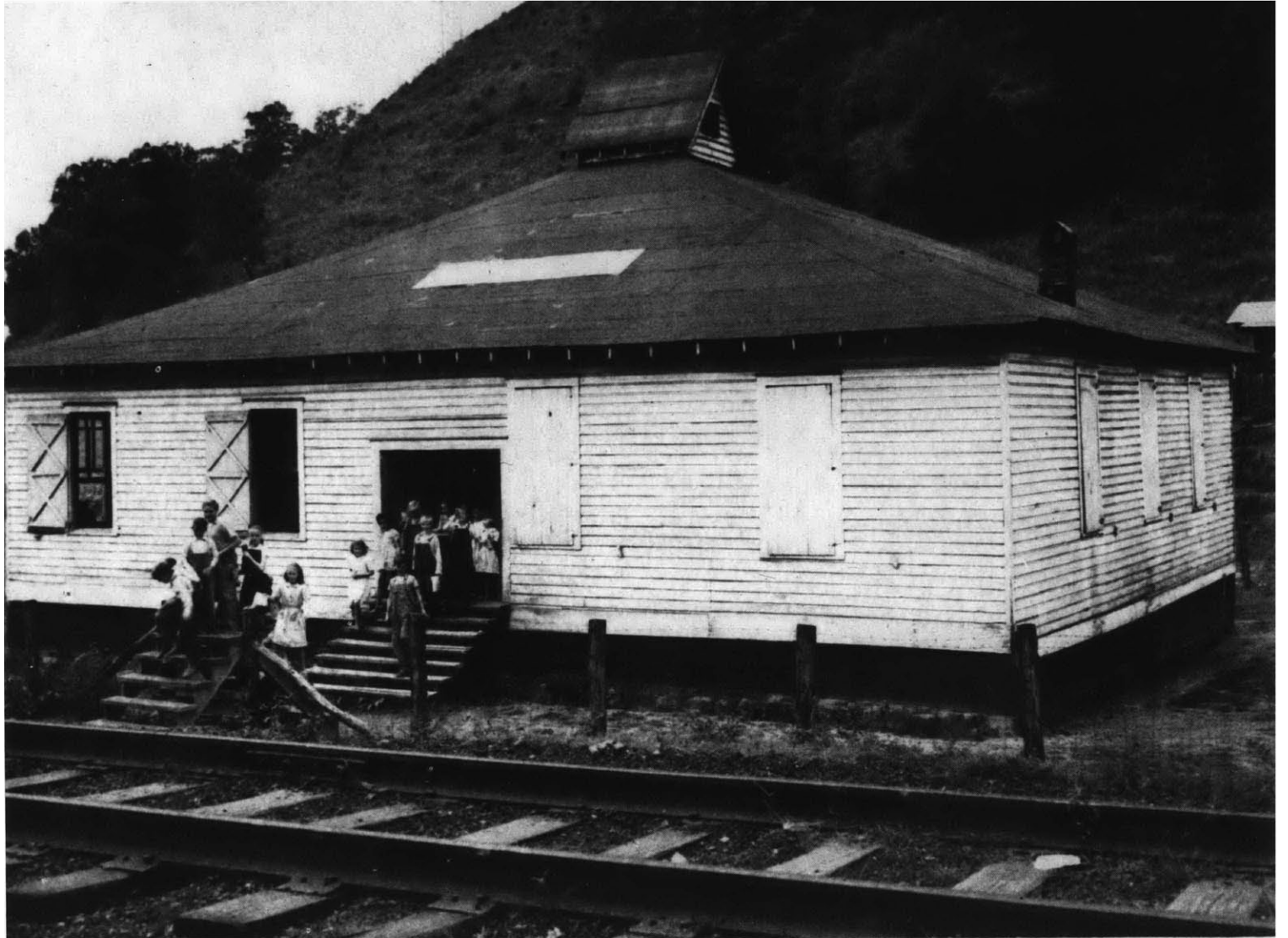
In a survey of 257 mining communities made in 1946, 68 communities had no athletic field whatsoever; 169 had no bowling alleys; 164 were without any community center or meeting hall; 158 had nothing that could be described as a park; 64 had no restaurant; 111 had no playgrounds; and 85<sup>21</sup> were innocent of a tavern or a place to drink a cool beer.

#### Still the Little Red Schoolhouse

Educators have discussed, conferred and shaken their heads over the inequalities of educational opportunities

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<sup>21</sup>Coal Mines Administration, op. cit., p. 201.



Still the Little Red Schoolhouse

afforded rural and urban children for years. In the rural districts of Kentucky, for instance, the average cost per pupil per year for elementary instruction is about one-fourth of that spent in the state's cities.

The little red schoolhouse may seem a romantic place - where young Henry Fords tinker and the minister courts the teacher - but it is wholly inadequate for educational purposes. Since the coal camps are usually in rural areas, the younger children of the miners' families attend typical country schools. Children living in the more isolated camps go to the old-fashioned, little, one-room schoolhouse. In recent years the consolidation of rural schools has effected a considerable improvement, but the facilities for primary education in the bulk of the camps are still lamentable.

Almost without exception, the coal camps are too small to justify secondary schools. High-schoolers must travel - either by county school - or by company-bus to the nearest town.

### Mining the Miner

As proved by the folk song that goes "I owe my soul to the company store," one institution common to all coal camps is the company store that is owned and operated by the mining company or by a separate company or corporation affiliated with the mining company. According to the National

Coal Association, approximately 3,000 company stores are operated by or affiliated with the coal-mining industry. Company stores flourish in greatest number in the Appalachian area, particularly in the southern part, but they also exist in the far western states - where the coal mines lie considerable distances away from towns and villages. In the central bituminous-coal areas, they are virtually non-existent.

From time immemorial the company store has been an outstanding source of grievance to the miner. In the past the company store had a strangle-hold on the trade in food and working supplies at the average and remote mining camp. Without a permit from the company no competing salesman could get his suitcase - or himself - inside the camps. Sears Roebuck and other mail order houses provided the only competition in clothing and household necessities to the monopolistic store. The miner and his family often thumbed through catalogs in vain, though. They could order goods only when they could muster enough cash for immediate payment. Price tags, therefore, were higher in the company stores than elsewhere. Coleman McAlister, in his understanding book Men and Coal writes that at one time it was said in the coal fields, "There's more money in mining the miners at the company store than in digging coal out of the ground."<sup>22</sup>

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<sup>22</sup>McAlister, Coleman, op. cit., p. 285.

Superficially, at least, some of the evils of the company store have been mitigated down through the years. Today, the companies are forbidden by state law in Pennsylvania to operate their own stores. The old dodge of paying wages, not in cash, but in scrip - which had to be spent at the company store or exchanged there at a heavy discount for greenbacks and silver - is now everywhere illegal. Physically, many of the company stores have been remodeled with shiny chrome and glass and display up-to-date stock on their counters.

Nevertheless, although the Pennsylvania state law forbids mining companies to operate stores at their mines, like many monopolists the companies have gotten around and under restrictive legislation. They have organized subsidiary supply companies. And, while it is illegal to issue scrip in lieu of wages, great quantities of coupons are handed out to workers as an advance against the next pay day.<sup>23</sup> These coupons or scrip can be exchanged immediately for cash at the old heavy discount or used at face value for food or a new suit at the company store. In fact, the "bob-tail check" of the old anthracite camp days - when every penny of wages stayed with the company for rent, mine supplies and purchases at the company store - is still omnipresent today in the bituminous camps. Instead of cash, a miner is apt to

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<sup>23</sup>Coal Mines Administration, op. cit., p. 217.



The practice of issuing scrip in lieu of currency as an advance on the miner's wages still flourishes in some places. Many stores openly offer to redeem the scrip at a discount.

receive on pay day, a statement almost perfectly balanced between wages and expenses. The pay check shown here is quite typical.

**BOONE COUNTY COAL CORPORATION**  
 SHARPLES, WEST VIRGINIA  
 NOT TRANSFERABLE

Name Charles Ferrell

Pay Roll No. 236 Half Ending JUL 31 1950

Total Hours of Piece Work for Period Shown

DEDUCTIONS		CREDITS	
Overdraft		Tons @	
Store % No. 2	81 49	" "	
Store %		Increase	
Store % Lease	20 00	6th Day O. T.	
Rent	6 75	O. T. Excess	
Lights	3 65	Differential	
Coal		Retrospective	
Bath House	80	Vacation	
Garage Rent		Yardage	
Coal Hauling		Hours @	
Community Club	2 30	" "	
Serum Fund	20	" "	
Dr. R. I. Frame		17 1/2 2242	
Burial Fund	25	" "	
Hospital, No. 1		76 1498	
Hospital, No. 2		" "	
Medical Fund	1 70	" "	
Bus		" "	
Ins. Group		Total Earnings	14613
Ins., Life		Blast Mtl.	
Cash Advanced		Tax. Earnings	
Mine Checks		Cash Credit	
Union Dues	2 00	Mine Checks	
Initiation Fee			
Warehouse			
Telephone			
Club House			
X-Ray			
Church			
Garnishes			
W. H. Tax	10 00		
Check W.			
S. S. Tax	2 20		
W. H. Tax			
Total	131 64	Total Credits	
Due Co.		Due Workman	14 49
Balance Due			

Before signing below I have examined and do hereby authorize and approve all items, amounts and deductions shown on this statement. If from my own record or otherwise my time and earnings are by me claimed to be different from that shown on this statement, I will call my employer's attention to such claim on or before the next regular pay day, and if I fail to do so this statement of time and earnings shall be conclusively deemed correct.

Part Three: The Planning Program

The Physical Form

Peterlee, England: A Precedent

Coal Towns vs. New Towns

New Towns - plus Redeveloped

Coal Camps, Housing Projects  
and Rehabilitation

New Town Forms

Town Centers

Industry, Hospitals and Green  
Belts

The Cost Picture

Dwelling Units Costs

The Cost of Community Facilities

Rehabilitation Costs

Total Costs

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THE PHYSICAL FORMPeterlee, England: A Precedent

There rises, today, in England a new town called Peterlee, being built for the coal miners of that nation.<sup>1</sup> Peterlee is situated on the eastern slopes of County Durham, right up against the North Sea. It lies just south of Newcastle, 210 miles to the north of London. Built in the midst of England's newest and largest collieries, which reach out on five different levels some six miles under the Sea, Peterlee is scheduled to house 30,000 miners and their families. Additionally, it will be the focal point and social center for the 80,000 people now living in a score of scattered colliery villages nearby.

Peterlee's aim is not simply to create new houses for miners - which could be done in the existing scattered and isolated villages - but to build a miners' town with all of the facilities for education, shopping and recreation that can be found only in a town of substantial size. Peterlee, it should be added, was suggested by the miners, it is being scaffolded for the miners and it bears the name

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<sup>1</sup>Observed in 1951 while working for G. Grenfell Baines, Planning Consultant for the new town of Peterlee.

of one of the most famous local miners' leaders. Peter Lee, Chairman of the Durham County Council, Secretary of the Durham miners and, finally, President of the Miners' Federation of Great Britain, died in 1935 and lies buried at Wheatley Hill, a small mining village just outside of the new town's "designated area."

However, though Peterlee is to be in the first instance a town for the miners who will work in the pits in its immediate neighborhood, it is not to consist of miners only. It is planned to include industrial employment for those for whom mining is either unsuitable or undesirable. It is planned to treat miners, not as an isolated community, but as part of a larger whole.

The primary reason for the construction of Peterlee is the existence of one rather terrifying statistic: 80,000 miners are leaving the pits annually throughout Great Britain. With the erection of a new, healthy and efficient living environment, it is hoped that many of those miners now migrating away from the pits in County Durham will choose to remain.

No such manpower problem exists in the coal industry in the United States. In fact, the problem is the exact opposite. The biggest problem in this country is technological unemployment and the ability of American industry to produce more coal than we can consume. This has resulted in

the reduction of employment in the coal fields to the point where today only 400,000 miners are employed compared to the 705,000 working in the mines in 1923. Nevertheless, there is an amazing similarity between the problems facing the planners of the coal communities of the future in both Great Britain and the United States. Many of the lessons learned in the construction of Peterlee in England could be applied with value to the American scene. With only a few changes in names of places and terminology, the following description of England's County Durham could easily be taken as an accurate picture of conditions existing in our own coal fields.

The Easington Rural District - in which Peterlee lies - comprises a wide area of mining and farming country with a population of 82,000 - the largest of any rural district in all Britain. It nevertheless contains no town in the usual sense of the word. The people lived in many scattered villages, and, although some of these had grown to be towns in respect of size, none had developed as the real center of the district. None offered the social, cultural and commercial facilities required. The urban centers - the Hartlepoons, Durham and Sunderland - lay beyond the district. The need for a local center unquestionably existed.

The mining villages lay in the shadow of the pitheaps. The older parts of the earlier villages were unsanitary and

the mining villages built in the present century - though improved in this respect - were monotonous and drab. Through the energy of the Easington Rural Council - the administrative government in this area - vast improvements had been made between the wars, but in 1939 more than a thousand slums still were inhabited. Of the remaining houses, a large number had no bathrooms and more had only an outside lavatory. Large areas of housing were still dominated by pitheaps and sulphurous coke ovens and according to the official report "drab beyond redemption." The need existed for many new houses to provide for homeless and overcrowding families and to replace the houses dominated by the pits.

Lastly, the Easington Rural District was overwhelmingly dependent on coal. The past had seen alternating depressions and booms - the depression of the 'thirties was recent history. There were almost no opportunities of employment for women or for miners whom injury or illness prevented from continuing to work in the pits. The prospects facing the district in case of a major setback to mining were alarming. An immediate need for new industries existed and in the future this new industry was expected to become vital.

#### Coal Camps vs. New Towns

The first problem facing the planners when they started to design a new environment for the British coal

miners was the question of the form of this new environment. There was considerable pressure to concentrate all the planning energies in an effort to rebuild the existing villages. However, the British came to believe that the solution lay, not in further improvement of the villages, but in the creation of a new urban center. It was their belief that it was better to concentrate on one site the new houses, schools, hospital and other buildings that would otherwise be dispersed throughout the district. Such a center could offer within a small compass a wider social and cultural life than is possible within the villages - and could attract the necessary large commercial and industrial enterprises.

The same question will plague any planning attempt at improving the environment of the coal miners in this country. In fact, it is quite probable that the forces in favor of placing the emphasis of any such program on rehabilitating the better coal camps and redeveloping the poorer ones will be much more powerful in this country than they were in Britain. From the point of view of the coal operators tangible financial benefits would be gained if the proposed effort were to concentrate on the rehabilitation of the substandard coal camps.

There were three fundamental reasons behind the original development of the company-owned camps. First, because of the very isolated nature of the coal deposits, it

was found necessary to build some sort of shelter - even if temporary in character - in order to attract workers. Second, the coal operators found in the coal camp an ideal institutional framework, within which they could physically control their workers. And third, the operators soon discovered that their camps - in conjunction with the company store - were a most satisfactory additional source of income. The first two reasons - to attract and to control the miners - have to a large measure been negated over the course of the years. The third justification of the coal camp from the point of view of the coal operators - the profit motive - is also rapidly losing much of its significance. In fact, under existing conditions many of the coal camps have become, today, financial burdens to the companies.

For years the operators have been making substantial profits on each house they owned. It is difficult to obtain actual costs of the housing built in the coal camps 40 years ago, but it can be assumed that the typical four room house - the size most commonly found in the camps - was constructed for a very modest sum, about \$600. Accepting this \$600 figure, it is possible to estimate a typical profit made by the operators out of a typical house.<sup>2</sup>

Amortization of this \$600 house called for repayment of \$30 annually over a 20 year period. This, combined with

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<sup>2</sup>Coal Mines Administration, op. cit., p. 60.

a \$15 yearly charge for interest - five percent - on the unpaid balance, totaled \$45 a year for amortization and interest. Average rent collected for this type of a dwelling approximated \$2.50 a room, so that a four-room camp house brought in a revenue of \$108 a year. Out of the remaining \$63, after paying amortization and interest, it can be assumed the operators paid taxes of about \$10 on the house and no more than \$2.50 on insurance. Water costs, where not borne by the tenants directly, averaged about \$12 annually. That just about completed the expenses of the operators. Maintenance can be considered to have been almost negligible as literally nothing was ever done. Whatever repairing had to be made on the house had to be done by the tenant. Road repairs were kept at a bare minimum. Conceivably, then, the operator gained some real profit for his housing as shown below:

Total rent received in 40 years at \$108 per year	\$4,320
Expenses to operator:	
Amortization of principal:	
20 years at \$30 per year.....	\$600
Interest:	
20 years at 5 percent.....	315
Taxes:	
40 years at \$10 per year.....	400
Insurance:	
40 years at \$2.50 per year.....	100
Water costs:	
40 years at \$12 per year.....	480
Loss of rent due to vacancy:	
(2 weeks per year) 40 x \$4.50.....	<u>180</u>
Cost to operator in 40 year period.....	\$2,075
Revenue remaining as profit.....	2,245
Average profit per year.....	56

It is thus shown that in the 40 year period the operator owning this unit gained a profit in the course of the last 40 years of \$2,245, or an average of \$56 a year - and this is after the return of his original investment. Multiplying this profit ratio for just one house times the thousands of company-owned houses in the coal camps, it is easy to see that the coal camp represented a considerable added income for the mine operators.

Yet, today, this almost endless source of income is running dry. Camp houses constructed 40 years ago were rudimentary indeed. Erected of green lumber, often cut at the site and unseasoned, their life expectancy at best could hardly have been anticipated to be of more than 20 years. Nevertheless they have provided a rich profit - if a poor shelter - for more than 40 years on the average, without any sort of major maintenance. Today, these houses are literally falling down. They demand a substantial investment in repairs and improvements to bring them up to modern standards of health and convenience. This the operators are loath to do. Their profit has been made. Now they want to get out from under. If a Planning program is established in the coal industry, it is a certainty that the operators will be fighting for its use in their own back yards - to rehabilitate the very houses they failed to maintain.

Surprising as it may seem, in light of the many

obvious limitations of living in the coal camps, there also may well be a considerable number of miners who will want the emphasis placed on rebuilding the existing camps. Many miners and their families presently living in the coal camps - while disliking the poor state of their homes - would much rather remain living in a rehabilitated or redeveloped coal camp than move into a new town with all of its urban facilities.

The reason for this preference is simple to find. Many miners like to live where they work. While the automobile and modern bus service has made almost every mine in the various coal fields within easy commuting distance from any possible new town site, the value of walking to and from work is still of considerable importance. Further, there are some miners who - much like steel workers - identify themselves with the industry. They are proud of the fact that their work is hard and, yes, even dangerous. This group of miners has no desire to live in any new town far from the site of the mine. They work in the mine, and they want to live by the mine. The coal camp is their life.

There are, however, a number of serious limitations to the rehabilitation or redevelopment of the coal camps. First of all, the sites of the present coal camps are difficult to work with. They were chosen apparently in accordance with a combination of at least three factors - geology,

topography and economy. Once the location of the mine was decided upon, the nature of the terrain and the amount of money a company desired to invest in housing and sanitary facilities determined the extent of the lay-out and the character of the construction. The first considerations were given to the mine portal, the tipple and the other structures associated with the industry. At this point topography and economy took over and dictated the nature of the housing development for the workers.

If the terrain was reasonably level, a fairly well defined "city plan" was designed, with a semblance of streets, walks, drainage, and other desirable features included. In most places - especially in the Appalachians and the Rocky Mountains - the topography in the vicinity of the mine workings is rugged and irregular and not adapted to good development.

Rehabilitating or even redeveloping the housing on such sites is a most difficult planning job. And if it is attempted on an overall scale the cost might well be prohibitive. The physical limitations of the existing coal camp sites further make it practically impossible to include in any redevelopment project many of the obvious needs of the coal communities. Secondary industry, community facilities such as parks and recreation areas, a variety of housing are but a few of the elements of sound planning which must,

almost by definition, be left out of any plan for the revitalization of the existing coal camps simply because of site limitations.

As in the case of Britain's Peterlee, the solution may rest not so much on the rebuilding of the existing, but in the creation of new urban centers which will be able to concentrate all the elements not permissible in the coal camps due to site limitations. However, site limitations are not the only values which dictate the transfer of at least part of the coal camp population to new towns. The very statistical classification given the coal camps in the official U.S. Housing Census - rural non-farm - point up the limitations of these communities. The fact is, no matter what the classification, these coal camps are neither rural nor urban. While the miners live in a rural setting, they have all the disadvantages of the urban slums with none of the amenities of an urban center.

There is no need to reiterate the evidence presented in Part II, indicating the incredible limitations of the coal camp environment. The significant fact at this point is that many of these limitations are impossible of solution without the creation of a new urban framework. For instance, while much can be done to improve the housing in the coal camps - even with the limitations of the sites - little or nothing can be done to provide the miners and their families of these relatively small communities with the variety of

housing types, ranging from single dwellings to apartments, which are normally associated with urban concentrations. It certainly is almost impossible to justify financially the construction of the special housing needed for such groups as the aged and the single workers within the confines of the smaller communities.

The provision of alternative employment to mining - for both women and men - is also an essential element that must be included in any planning scheme for the future of the mining communities. The miners' families have for generations been inordinately dependent upon the mining of coal for their livelihood. Statistical evidence is not available but the complete dependence of the miners' families upon coal is clearly reflected in the high percentage of men working in contrast with the small number of women. Further, the average community shows a ratio between employment in primary and service industries as something around one to one. The coal camps, in contrast, offer practically no opportunities for employment in service industries. This has resulted in the fact that the largest number of mining families have only one means of financial support - the members of the family working underground.

If for any reason - through the increased mechanization of the mines, the working out of the coal, an injury or, even, a disinclination to work underground - the men of the

family are unable to work in the mines, there is, literally, no other economic base upon which the family can fall back. The introduction of new industry into the one-industry coal fields, by itself, almost dictates the creation of new towns. First, industrial sites of any significance are almost completely lacking in the existing coal camps. And, second, it is only through the concentration of an available labor supply that industry will be attracted to the coal mining areas. It could be argued that the potential workers for this secondary industry could just as easily be housed in revitalized camps and travel to their new sources of employment. This may be true, but the fact remains that for decades this source of labor in the coal camps has remained available but dormant, while industry remained away and uninterested. The creation of new urban centers, including well planned industrial estates with the accompanying financial and other benefits accruing to industry, may well be just the stimulus needed to draw the alternative industry into the area.

Even if the miners' families were able to obtain a sound economic base without the introduction of new towns, it still would be most difficult for the planners to so rebuild the coal camps that they, alone, would be able to provide a full and satisfying life for their inhabitants. Restaurants, pool halls, taverns, movie houses, museums,

stores, concert halls and recreation areas - whether owned commercially or publicly - all demand a certain minimum level of income in order to operate. Small communities such as coal camps, no matter where they are located, are more often than not unable to support such elegancies.

New Towns - plus Redeveloped Coal Camps, Housing Projects and Rehabilitation

On the basis of all this, it would seem as if the answer to the problem of planning the mining communities of the future must include both the redevelopment of the better coal camps and the erection of a number of new towns. New urban nuclei, each surrounded and servicing the needs of a number of satellite redeveloped coal camps, will not only rehouse the thousands of miners and their families now living in bad and overcrowded conditions in the poorest camps, but they will act as social, commercial and cultural centers for the populations, which will continue to live in the coal camps.

This correlation of redeveloped coal camps with a number of new towns, sound an answer as it may be, however, takes care of only approximately 250,000 of the 400,000 mining population throughout the country. The other 150,000 miners today live in non-company owned housing in either incorporated towns now existing on the fringe of the coal

districts or in rural housing in neither the incorporated towns or the coal camps. Statistics are unavailable so it is impossible to state how much of this non-company housing is rented or privately owned. For purposes of this thesis it can be assumed that it generally approximates 65,000 miners living in rented dwellings and 85,000 living in houses owned by themselves.

On the average this non-company owned housing is in better shape than the company-owned housing in the coal camps. Nevertheless, the need for planning is in most cases as great for this group of miners as for those living in the coal camps. Certainly, no planned approach towards rebuilding the mining communities of the future can be made without considering this portion of the mining population.

There are, by definition, two distinct problems within this group. First, there is the problem of providing better housing for those miners' families needing it, who are now renting dwellings in the incorporated towns. It is suggested that, while a portion of this group might well move into the new towns, housing projects could be built for these miners within the limits of the incorporated towns that they already live in. This would, at one and the same time, provide good housing - and it is assumed community facilities, too - and also allow these miners to remain living in a community of their own choice.

The answer to the problem of helping those miners who own their own houses is not easy to reach. One possibility would be for the arrangement, through some agency set up for this purpose, of making loans - maybe even noninterest bearing loans - to the owners of these dwellings enabling them to bring their own homes up to the standards that will be reached by the miners living in either the redeveloped coal camps, the new towns or the housing projects.

Accepting this four-fold approach towards the re-planning of the mining communities of the future - redeveloping the better coal camps, the erection of new towns, the construction of new housing projects within the limits of certain incorporated towns, and, finally, the rehabilitation of the privately owned miners' homes - it is reasonable to suggest in general terms the possible future disposition of the nation's 400,000 coal miners. First of all, of the 250,000 miners presently living in the coal camps, it is proposed to move 100,000 into the new towns to be constructed, leaving the other 150,000 miners to remain living in the redeveloped coal camps. In addition to the 100,000 moved from the coal camps, the new towns will get 5,000 of the 65,000 miners now living in rental housing not controlled by the operators and another 5,000 of the 85,000 presently owning their own homes. This means a total of 110,000 miners and their families will live in the new towns. Twenty-two new towns are proposed -

each to house a population of 22,800 in approximately 6000 dwellings.

It is important, at this point, to reiterate that these new towns, while initiated by the need for a new environment for coal miners, will not be towns for only those working in coal. It is suggested that of the target number of 6000 dwellings for each new town one thousand be set aside to house non-coal mining families. Further diversification of the character of the new towns will come as members of the coal mining families also begin to turn to the alternative industry for additional sources of income. Mining will still dominate the life of the majority of the inhabitants of the new towns, but it will not control it.

The 150,000 miners remaining behind in the redeveloped coal camps will be housed in 750 camps averaging 200 miners' families in each camp. This will mean that about 34 camps will be associated with each new town. These 34 camps will house just about four thousand - 26,840 - more than the new town they will be using as an urban center. In other words, each new town will, in reality, be serving more than double its own population.

Sixty thousand miners will be rehoused in five hundred 120 unit housing projects in existing incorporated communities, and the last eight thousand miners will continue to live in their own rehabilitated houses.

Growing out of these decisions, it is now necessary to investigate the possible physical forms in which these four elements - coal camps, new towns, housing projects and rehabilitated houses - will develop. Unfortunately, much of this cannot be done at this stage of the inquiry. So very much depends upon the specific local conditions to be faced that attempting to develop a prototype "redeveloped coal camp" or "housing project" is of little significance. The form of the rehabilitated housing is even more dependent upon the character of the specific dwelling unit to be improved, making a prototype of this, too, of little value. The question of the form of the new mining towns - the new urban nuclei - is, however, well within the range of consideration and speculation at this point.

#### The New Towns Forms

It is assumed that these new towns must be close to, yet separated from, the mines. Further, the sites of these new communities must be sufficient to contain a population at moderate to high densities of approximately 22,800 population - 6000 dwelling units - with additional room for industrial development. And, last, each of these new towns will serve as the urban center for an additional 27,000-odd miners and their families remaining in neighboring redeveloped coal camps.

With these three assumptions as decisive, a typical new town site might well be chosen in a shallow bowl rimmed by low hills. The bowl site would provide both shelter from the wind and cut off from view of the inhabitants the surrounding mines and their waste heaps. Though located in the heart of the mining country, close to the tipples, it would be possible to stand within the new town and not realize one was in a mining community.

The concept behind the master plan for these new towns should be that they would maintain the comradeship and solidarity of the coal camps, but provide a wider life and an urban setting, in contrast to the isolation of the coal camps. It is proposed, therefore, not to divide the new towns into self-contained neighborhoods, but to design them as one unit, with a strong and vital town center. This does not mean that there will be no shops and schools in the residential areas. What it does mean is that there will be no formal attempt to divide the residential areas into self-contained units, each separated from its neighbors by green belts and striving to achieve the character of a small town. Instead the residential areas will form one whole - closely linked to the town center. They will have an urban character, containing a variety of all types of dwellings - singles, detached, rows and many apartment houses. The aim should be for a compact town, with every house within walking distance of the center.

Along these lines of reasoning, it is suggested that the residential area of the town should be contained broadly within the "horizon line" - that is to say the crest line of the natural drainage basin of the bowl. The benefits of this proposal are that the residential area will be given the advantage of what shelter from wind is offered by the hills, that drainage is simplified, that houses are confined to the more attractive part of the site - overlooking the dominant town center and avoiding the outward slopes that are exposed to wind and, it is assumed, face the mines.

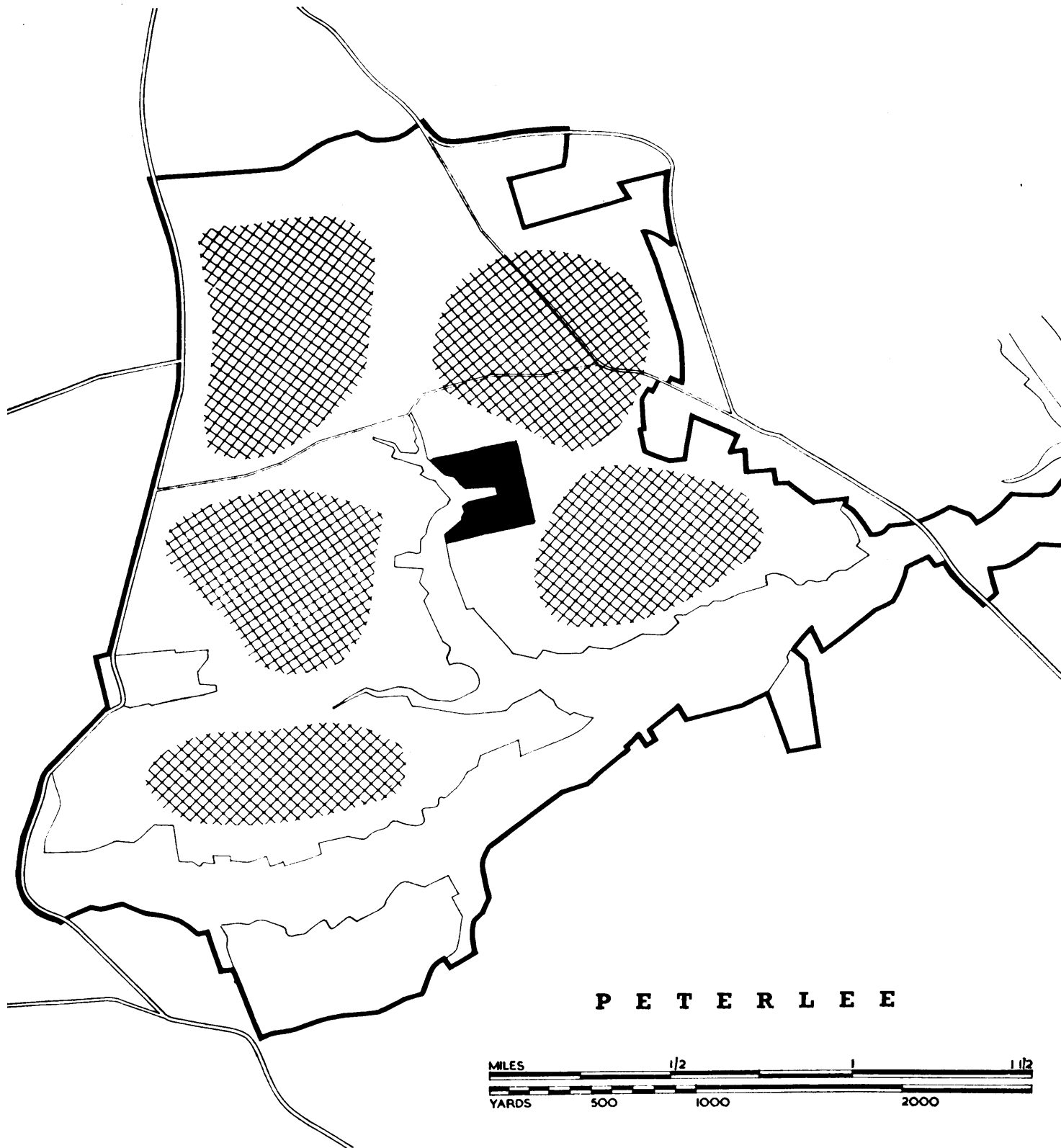
To achieve the desired character of compactness and urban quality, it is further suggested that a net density of at least 65 persons per acre be maintained through the introduction of a sizable percentage of row and apartment housing. This does not mean that there will be no opportunity to rent single dwelling units with plots of private land. The variety of housing in the new town will range all the way from singles to apartments. In addition, those desiring single dwellings will also have the chance of living in one of the surrounding redeveloped coal camps, which will be composed of single dwelling homes almost completely. As planned, the new town-coal camp orbits will afford the coal miners not just one type of housing but the unusual opportunity of seeing and renting almost any type of living accommodation they may want.

It is, of course, obvious that other physical forms might well be created that would satisfy the specialized needs of these new mining communities. No one design dogma can yet be established - especially at this stage of our relative lack of knowledge of the effects of differing new town designs upon the economic, social and emotional life of the people involved.

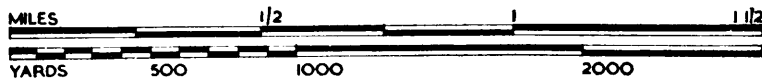
Peterlee, for instance, while originally conceived of in terms somewhat along the lines just proposed, is today more and more taking on the form of the traditional and generally accepted goals of town planning. While still huing to the approach that the town center must be dominant, distinct neighborhoods are being developed which are primarily residential. Each is oriented around a walking-distance elementary school and neighborhood shopping center. Density is relatively low and, while one block of flats - three storeys - has been erected, the overwhelmingly predominant building type is the semi-detached. Whether or not this more traditional approach will produce the desired effect of an urban nucleus it is still too early to determine. It is the feeling here, that it will miss its mark.<sup>3</sup>

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<sup>3</sup>In all due fairness to the planners of Peterlee, it should be stated that the problems faced in the design of this mining town have turned out to be so diverse and complicated as to make it most difficult to turn out any cohesive plan. While planners' interest is normally related primarily to surface conditions, dominant physical problems  
(continued)



P E T E R L E E



### The Town Centers

No matter what general form the new town might take - be it that proposed here or the form developing in Peterlee - the character of the town centers in these new towns will be probably, to a very large degree, the deciding factor in whether or not the whole planning concept - combining the redevelopment of the better coal camps with the construction of a number of new urban nuclei - is a success or a failure. These town centers represent a policy decision that the new towns should be built to serve, in addition to their own populations, as commercial, cultural and recreational centers

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of mining and geology have changed this emphasis in the case of Peterlee. Just because Peterlee is designed primarily as a miners' town, it had to be built in the neighborhood of the "pits" and that meant in practice that it had to be built largely on a coal field - a condition which raised serious problems of subsidence. Peterlee's site lies on boulder clay overlying magnesium limestone and deep beneath these are five generally workable seams of coal. The seams are only partly worked out. Extraction is proceeding now and will continue for many years. The whole of the coal will not be extracted, it is estimated, until the year 2000.

It might be thought that, because of the overlying limestone, surface subsidence would be negligible. Unfortunately, the limestone is too weak and powdery to give protection. Subsidence does take place in the Peterlee town site - usually within two to five years of extraction and amounts to some sixty percent of the thickness of the seams extracted. This means that the planners of Peterlee have had to contend with subsidence of up to five feet and more within the designated area. The problem of relating surface development to mining development, therefore, has become the major factor in the design of Peterlee. It has not only delayed the rapid development of the new town, but it has also to a large degree dictated the nature of the physical form.

for their surrounding districts. It is essential, therefore, that from the very beginning all development in these new towns should be designed to promote the growth of the town centers.

The first residential building in the new towns should be around the centers and the first stores should be within the eventual central areas. Since these new towns will be, in reality, the centers of the mining life of the nation, it is suggested that the educational authorities seriously consider the erection of technical junior colleges in each of the centers. If they could be built in the early stages of the development of the town centers it would be a tremendous asset. The colleges could then, initially, serve the additional purpose of acting as community centers.

In addition to the first stores and schools, all social and recreational buildings should be concentrated within the centers, and, if it is at all possible sports arenas - something with a wide appeal - should be built in each town center. They would give the embryo town centers a great stimulus.

It is essential that the design of the town centers should allow for expansion and growth. What must start as small centers serving the first residents will later become the main shopping centers for all the coal camps. Since temporary buildings are both uneconomic and undesirable -

especially in light of the tradition of "temporary" coal camps - it is vital that some pattern be found to control this development.

In this regard a leaf can be taken from the British experience. In all of the new town developments in England the first shops are built with small "maisonettes" above - small dwellings over the stores which house the first grocers, butchers, and other shop keepers to set up business in the new towns. This, too, could be attempted in our own new mining towns, but it is important that these first stores should not get the best sites. These first stores will not produce high rents and it is vital that they do not prejudice further commercial development. The best commercial sites must be reserved for the larger and more specialized stores, which will be coming later. The lesson of Letchworth, England's earliest garden city, is worth noting here. Three streets in succession have been the main shopping streets. These changes were not foreseen and as a result the present main street is some distance from the original "planned center."

The second stage of the Town centers is the vital one in the growth of the new towns and can be expected when the populations have reached 10,000 or so. By this time centrally located bus terminals - the bus, other than the automobile, is the major instrument of transportation in the

coal mining areas - should have been completed. This will interest more and more miners' families living in the redeveloped coal camps in visiting and shopping in the new towns. This is when the main shopping areas should be opened with groups of stores of considerable size and variety. Once these major stores are built, they immediately will attract others and the pattern of land values will be set. It is essential that this development be fully considered and, if necessary, held up a little until there are a sufficient number of stores to give an adequate distribution over the main commercial areas. In this manner, it is hoped, the land values could be spread as far as possible. If this momentum can be maintained the new towns will be well on their way towards becoming the district centers the planners will have planned.

It is proposed to reserve for the town centers in each of the new towns approximately 60 acres. This rather high figure is based on three factors - that the ultimate spheres of influence of each of these centers will be anywhere between 50,000 and 60,000 people, that the greater part of the shopping facilities in these new towns will be concentrated in the town center, and that the centers will include some residential development.

### Industry, Hospitals and Green Belts

It is difficult to plan in advance for the industrial areas of the new towns. All that can be said at this point is that special industrial areas should be set aside just outside of the residential zones, preferably on comparatively flat ground. The industrial areas should have easy access to all parts of their respective new towns and to the surrounding coal camps. Play fields should be so located as to divide the industry from the towns. In this way they may form a sort of a "green belt" around the towns, encircling the horizon. Somewhere in the "green belt," on the rim of the residential areas, will be located the general hospitals - one for each new town - which will enable them to be related to the regional bus routes. Child care centers, nurseries, elementary schools, gardens and small open spaces will be dispersed throughout the residential areas.



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THE COST PICTURE

Significant as the physical form of the new environment for coal miners may be, it has little meaning unless it is related to the actual cost structure. Even before investigating the possible sources for financing the program, it first must be determined just how much money must be raised to do the job.

Dwelling Unit Costs

The first aspect of the question of dwelling unit costs is to discover just what it might take to replace the existing "28 foot square, frame construction" miner's house with a dwelling unit representing at least a minimum of modern standards in comfort, health and efficiency. It can be assumed that an 800 square foot dwelling - just about the size for an average family - can be built today at the cost of \$10 per square foot. This means that it will cost just about \$8000 to substitute a new house for the old structure which forty years ago cost a mere \$600.

This is not all, however. Costs for site improvements must also be included. These costs may be summed up as costs per acre for cleaning, grading, landscaping, etc. and

costs per foot of street for streets, walks, utilities, etc. - plus an additional percentage to cover contingencies. A very rough quick estimate of site construction costs under average conditions may be made by computing \$2,000 for each acre developed, adding \$20 for each foot of street length and adding 5 or 10%.<sup>4</sup>

Using this rule-of-the-thumb, it can be calculated that at 12 dwelling units per gross acre, \$170 ( $\$2000 \times 12$ ) is needed for acreage costs and on the average of 15 feet for each dwelling, such linear items as streets will come to another \$300. Add an additional 10% and the total cost of developing the site for each dwelling approximates \$500. It should be pointed out that the cost of land is so negligible - having been estimated at \$50 an acre, or \$4 per unit - that it has not even been included in this calculation.

The summation of all these digits and dollar signs indicates the rather terrifying - although actually rather modest in relation to some of today's other costs - item of \$8500 for the construction of a new miner's home. The question then arises - can the miners afford such a house?

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<sup>4</sup>Lynch, Kevin, Notes on Technical Limitations and Standards in Residential Site Planning, mimeographed, p. 19.

The annual economic rent on this \$8500 is calculated as follows:

Debt Service:	
Interest and Amortization (4.3%)..	\$366.00
Taxes (\$30/\$1000 on 60% of assessed valuation).....	153.00
Maintenance, repairs and replacement.	170.00
Operation.....	85.00
Insurance.....	17.00
3% vacancy.....	<u>25.00</u>
TOTAL yearly rent on \$8500 D.U....	\$816.00

This makes the monthly economic rent of such a dwelling cost \$68. Remembering that the average rental today in a coal camp is something in the neighborhood of 11 or 12 dollars a month, it looks impossible to produce any modern dwelling within the range of the average mine worker. Fortunately, it is not.

While a miner pays only \$12 shelter rent today, this does not mean it is all he can either afford or is willing to pay - if good housing is made available. The average miner's annual wage is now \$3400 - based on an average of 200 days worked per year at \$17 per day.<sup>5</sup> Assuming a rent paying ability of 20% of this income, it can be seen that actually the miner can afford to pay, if he so desires, a rental of \$55 a month. This makes the situation not so

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<sup>5</sup>See Part One.

hopeless. A subsidy of one sort or another of \$13 a month - the difference between the economic rent of \$68 and the \$55 the miner can afford - is not at all out of the question.

So it seems quite feasible to assume (1) that a dwelling can be built for \$8500 and (2) that the miners' families can afford such a unit - if subsidized to the tune of \$13 a month per unit.

Accepting, therefore, this \$8500 unit as the basis of operation, it easily can be assessed how much it will cost to build the dwellings in the redeveloped coal camps, the new towns, and the housing projects in the incorporated towns that are to be planned.

Of the 6000 dwellings needed to house what has been proposed earlier as the ideal target population for one of the new towns - 22,800 people - it was suggested that 5000 units be built for the coal miners and their families. This means a total cost of the dwelling units for the coal mining section of the population of one new town would be in the area of 42 million dollars. By the same token, 200 dwellings in a redeveloped coal camp will cost \$1,700,000 and a 120 unit housing project for miners in one of the existing incorporated towns would total \$1,020,000.

### Cost of Community Facilities

Substantial as these costs for dwellings may be, they represent only a portion of the total outlay necessary to build the four-fold program outlined. Other elements - and their costs - that must be considered by planners in calculating the total costs of the mining communities of tomorrow are:<sup>6</sup>

Item	Cost
1. Community Center	\$ 35,000
2. Library	150,000
3. Fire Station and equipment	480,000
4. Maintenance building	18,000
5. Stadium - 2000 seats at \$15 plus fieldhouse at \$10,000	40,000
6. Tennis Courts - 16 at \$1000	16,000
7. Playfields - 20 acres at \$5000	100,000
8. Clinic - 3000 sq.ft. at \$15	45,000
9. Hospital	300,000
10. High School, 29 classrooms at \$35,000 and auditorium of 1500 at \$2000/seat	1,315,000
11. Junior High School, 4 with 19 classrooms at \$35,000	2,660,000

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<sup>6</sup>Lynch, op. cit., pp. 19-22; and Gatter, George, Financing New Towns by Private Enterprise, MIT, unpublished Thesis, 1951, Appendix E.

12. Elementary schools, 12 with 5 classrooms at \$35,000	\$2,110,000
13. Refuse disposal facilities	160,000
14. Parking lots - 225,000 sq.ft. at \$.40/sq.ft.	90,000
15. Rainey water collector - 2,000,000 gpd capacity at \$25/ 1000 gpd	50,000
16. Steel reservoir - 2,360,000 gpd capacity	67,000
17. Major 4 lane roads - 20,000 ft. at \$40/ft.	800,000
18. Water mains, storm sewers, etc. (other than residential) - 40,000 at \$20/ft.	400,000
19. City Hall	<u>200,000</u>
	TOTAL           \$ 9,036,000
Add 20% for contingencies	<u>1,800,000</u>
Total costs of community facilities	\$10,836,000

It should be understood that these figures only serve to represent the general magnitude of the cost of providing a community with needed public facilities. Some new communities may have all of the above features, some may have only a few and others may have many more. Also, such costs are difficult, if not impossible, to present in an accurate and all-inclusive manner. In some states certain financial aids are available to help communities erect schools, build highways and other such items. For instance, in Connecticut, the state subsidizes a write down of one-half of the cost of all major roads and one-third of the capital

costs of schools. Other states have none of these subsidies. The range is so wide that, for the purposes of this thesis no state subsidies for community facilities were assumed. The costs of these community facilities are based on the needs of the proposed new towns of 6000 dwelling units - 22,800 people. On this basis the cost of community facilities per dwelling unit can be calculated to be approximately \$1800. The final cost figure, therefore, for each miners' dwelling, plus community facilities will be just about \$10,300 - \$8500 for the dwelling unit and site improvements and an additional \$1800 for the associated community facilities.

#### Rehabilitation Costs

The aspect of the cost picture that has not yet been investigated is the cost of rehabilitating the homes owned by coal miners - the fourth subdivision of the proposed total program for rebuilding the environment of the coal miners. It is impossible to estimate the needs of this group without a thorough survey, but again for thesis purposes, it can be assumed that the cost will approximate \$1000 for each unit rehabilitated.

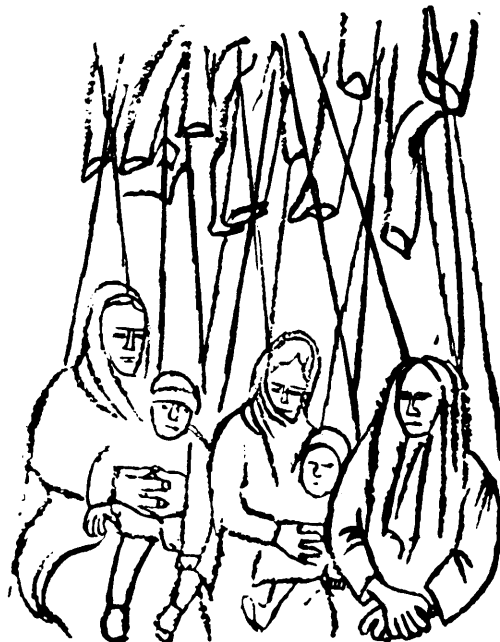
### The Total Costs

It was proposed earlier that the new environment for the nation's coal miners should include twenty-two new towns, which would house approximately 110,000 miners' families. Another 150,000 miners are expected to be taken care of in 750 redeveloped coal camps. Sixty thousand miners and their families are to be provided with living accommodations in 500 housing projects to be erected in existing incorporated communities, and the final 80,000 miners will continue to live in their own rehabilitated homes.

Accepting these round number figures as representing the general picture of the mining communities of the future, the following cost structure - at \$10,300 per dwelling plus community facilities and on the basis of \$1000 per rehabilitated unit - can be calculated:

<u>Type of Development</u>	<u>Number of Developments</u>	<u>Number of Miners Housed</u>	<u>Cost</u>
New Towns	22	110,000	\$1,133,000,000
Redeveloped Coal Camps	750	150,000	1,545,000,000
Housing Projects	500	60,000	618,000,000
Rehabilitation	---	80,000	<u>80,000,000</u>
		TOTAL.....	\$3,376,000,000

As can be seen from the above table, the grand total costs of the four-fold program to replan and rebuild the mining communities of our nation reaches the astronomical heights of three billion, three hundred and seventy-six million dollars. Building the mining communities of the future is a big job - both financially as well as physically.



Part Four: The Trade Union as an  
Instrument of Planning

Negating Company Towns

Trade Unions: Commodities or  
Social Institutions

The UMW Welfare and Retirement Fund

Proposal: A Community Development  
Fund

### Negating Company Towns

Astronomical as the costs may be to complete the proposed four-fold program aimed at replanning and rebuilding the total mining environment, the problem of raising the money for this project is, surprisingly enough, not the first consideration. The first - and most important - job facing the planner has nothing to do with the miserable physical conditions in which the miners and their families are forced to live. The first job of the planner of the bright, new mining environment of the future is forthrightly to attack the problem of company domination of the coal camps. While only two phases of the four-fold program - the redeveloped coal camps and the new towns - relate to the existing camps, no program in the coal fields will be successful without licking this aspect of the problem. Face and solve this role of the company in the lives of the coal miners and the manifold problems of financing and physical forms will follow almost as a matter of course.

As observed in Part One, the operator in the company-owned coal camps controls - and that very strong word is used advisedly - not only the man, his job, and his home, but also directs and controls the whole social life of the community. And most important, this control is reflected in

the few "good," well-designed company-towns as well as the majority - the slums.

In what is reported to be one of the best company-owned camps in the bituminous fields, the streets and sidewalks are paved, the houses well-built and in good repair. There are beautifully kept lawns and flower gardens, running water in the houses, excellent school facilities, a modern hotel, a thoroughly equipped hospital and a well stocked general store. The tipple is the only outward suggestion to a visitor that it is a coal camp.

But the town is unhappy. For all its good design and up-to-date equipment, it is a poorly planned town.<sup>1</sup>

In a conversation with a miner on the street the question was asked rather facetiously, "Who owns the general store?"

"The Company," replied the miner.

"Who owns the hotel?"

"The Company," was the reply.

"Who owns the restaurant?"

"The Company, sir,"

"Who owns the bank?"

This question displayed too great an ignorance of local conditions and the miner broke in, "Look here, stranger,

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<sup>1</sup>Morris, Homer Lawrence, The Plight of the Bituminous Coal Miner, University of Pennsylvania Press, Philadelphia, 1934, p. 92.

as far as I know the Company owns everything in this camp but two,"

"What are those?"

Pointing down the railroad tracks, he said, "Do you see that station? The Company don't own it." And then with a broad sweep of the arms, he explained, "The Company don't own God!"

There are people in the camp who will insist that even God is usually on the side of the Company.

It is exactly this intangible, yet tangible, power on the part of the company of control over every aspect of the miners' life - plus its "observed" alliance with God - that is the least satisfactory aspect of the existing coal camps. The planner must find, or develop, and use some new social force, not to replace, but to counter the dominance of the company. It is the premise of this study that the trade union - in this case the United Mine Workers of America - is in the best position to help the planner achieve this balance in the coal communities of the future. Further, it will be shown that not only will the participation of the trade union counter the company, but it will also serve as the basis for raising the necessary funds to finance the whole four-fold program proposed for the mining communities.

### Trade Unions: Commodities or Social Institutions

The traditional management approach to trade unionism has always been that of economics - and it is usually within an economic framework that unionism is discussed or dealt with over the negotiating table. This approach to trade unions has its roots in the classical view that since everything in the market is a commodity - and labor is in the market - therefore labor is a commodity and has to be treated as such.

It may well be that for purposes of management, labor has to be treated as a commodity and that such treatment is the best basis upon which the companies can operate. But labor clearly has a number of attributes not possessed by other types of commodities. It can talk and argue. It can go fast or slow. It can work or it can walk off the job. It can like its housing or it can tear it down and build new homes and new communities. None of these attributes is possessed by any other type of commodity. In other words labor is human and as such it can and must be considered within the human or social context as well as the economic.

It should be pointed out that in the past the majority of trade union leaders themselves have thought of their unions only as economic instruments organized for the sole purpose of gaining for their members "pork-chop" or "bread-and-butter" benefits - higher wages and shorter hours. Anything

else, it followed logically, was excluded as frills, or at least relegated to a very minor role.

This emphasis on "pork-chop" issues is still - and rightfully so - the dominant concern of the trade union leadership in this country. But the boundaries surrounding these economic issues are being steadily and consistently expanded to include more and more of the day-to-day interests of the trade union membership. Today, for instance, trade unions are fighting and striking for such traditionally "fringe" benefits as pensions and other retirement funds, medical and hospital care, aid to widows and dependent children and vacations with pay. Further, trade unions are now concerned - and it is so recognized and accepted by both management and government - in such diverse activities as the manner in which the employer runs his business, how the city council is running the town, what legislation Congress expects to pass, and, above all, whether or not there will be peace or war.

Put in more general terms, it can be said that in the United States in the course of the last twenty-five years, labor, the economic commodity, has grown into trade unionism, the social institution. And it is as a social institution that the trade union - like the church or the Kiwanis or the American Legion - can help the planner in the implementation of the planning process.

Any application of this principle in the coal fields, of course, hinges directly on the attitude of the United Mine Workers of America. The UMW is a classical example of the "bread-and-butter" union. Faced with the oppressive problem of technological unemployment fostered by the mechanization of the mines and, its correlary, the ability of the miners to produce more coal than the country can consume, the UMW leadership - as a matter of policy - feel that constant pressure on their part for better wages and working conditions is the all important job of the United Mine Workers. As pointed out in Part Two, by this very concentration on the economic problems of the workers - to the exclusion of relatively less important problems - the UMW has succeeded in getting just about the highest industrial wages in the nation for the coal miners.

#### The UMW Welfare and Retirement Fund

In spite of this concentration on economic issues, the United Mine Workers has battled for decades across the negotiating tables and on the picket lines for the provision that human equities in coal mining are as legitimate a cost of production as are the costs of maintenance and replacement of machinery, of power for haulage and tipples, or rails and equipment, of selling and overhead, and of the innumerable other cost items required to bring coal from its seams

underground to the surface for marketing or use.

The UMW's contention in these negotiations has been that the destruction of life and human values in coal mining has surpassed over many years that of any other industry. Not only have men been killed and injured year after year in this most hazardous of all industries at a rate far in excess of that of any other occupation, but there has also been an incalculable toll of life and health exacted from miners, their wives and children as a result of the shockingly inadequate medical and hospital care and the unwholesome living conditions prevailing in many mining communities.

The coal operators fought this concept of human equities as a legitimate cost of production right down to the bitter end. Contractual recognition of the rightful place of these human equities was won - in the form of the United Mine Workers Welfare and Retirement Fund - in 1946, but only after a struggle with the coal owners which involved a strike and later seizure of the bituminous mines by the President. In fact, the issue was settled in a contract signed, not by the operators, but by Secretary of the Interior Krug, acting for the United States Government.<sup>2</sup>

Today, however, the UMW Welfare and Retirement Fund to meet the human needs of the mine workers and their families

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<sup>2</sup>United Mine Workers Welfare and Retirement Fund, Four Year Summary and Review for the year ended June 30, 1951, 1951, p. 5.

is an accepted principle in the coal industry. Industry-wide collective bargaining agreements between the United Mine Workers and the Bituminous Coal Operators provide the Fund with its revenue. Established by these agreements are tonnage royalties to be paid the Fund. Payment of these royalties on each ton of coal produced for sale or use is required by contract to be made to the Fund by all signatory operators on the 10th of each month following its production.

Starting at 5 cents per ton under the 1946 Agreement, the royalty has been increased by succeeding National Bituminous Coal Wage Agreements to 10 cents in 1947; to 20 cents in 1948; and to 30 cents in 1950 which is the present rate. Revenues received by the Fund under these various royalty rates through June 30, 1951 - the date of the last regular annual audit - have totaled some 359 million dollars (\$359,499,580.63). An additional interest from Government Securities has added another 860 thousand dollars (\$862,190.39), making a total income since the Fund was initiated of \$360,361,771.02. Today, on the basis of the 30 cent royalty payment, the Fund receives approximately 150 million dollars annually.<sup>3</sup>

By terms of the Agreement, the Fund is established as an irrevocable Trust to be administered by three Trustees - one designated by the United Mine Workers, one designated by

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<sup>3</sup>Ibid., p. 4.

the Bituminous Coal Operators, and the third neutral Trustee jointly designated. At the present time John L. Lewis represents the UMW, Charles A. Owen has the job for the operators and Josephine Roche - a former mine operator, herself - is the third Trustee.

Since May, 1947, when the first Fund benefits were paid, through June 30, 1951, Fund benefits and services have aided 721,000 men, women and children in the bituminous coal mining areas. These benefits and services - totaling 1,096,167 - have provided special rehabilitation measures for the seriously crippled miners, pensions for the aged miners, cash aid for the disabled miner and his dependents, hospital and medical care for the miner and his family, death benefits for widows and dependents of deceased miners, maintenance aid and medical and hospital care for widows and orphans of deceased miners. Expenditures for these benefits and services - in effect for varying lengths of time during this four year period - have totaled 254 million dollars and have gone into every bituminous coal mining community.<sup>4</sup>

In the course of the expenditure of this money the Trustees of the Welfare and Retirement Fund soon discovered the shocking lack of hospital facilities available for the miners needing care and treatment. As a result the Fund has recently approved loans to three non-profit charitable

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<sup>4</sup>Ibid., p. 3.

corporations in Kentucky, West Virginia and Virginia for the construction of hospitals over a three year period in ten coal mining communities in these states. This action was taken by the Board of Trustees of the Fund as the best method by which the obligation of the Trustees to provide adequate hospital and medical care for its beneficiaries could be discharged. Loans are being made to these three Memorial Hospital Associations from the Funds' reserve as a regular financial transaction which will be repaid to the Fund in due course. The Fund is not subsidizing or building the hospitals itself, but rather making the money available at a low rate of interest so that the respective medical authorities in each State can proceed with the construction<sup>5</sup> of these sorely needed facilities.

On the surface, it would seem entirely logical that at least part of the monies of this Fund could be utilized for the improvement of the total environment - as well as just hospitals - in which the miners and their families now live. In fact, the "unwholesome living conditions prevailing in many mining communities" - the exact words used - served as one of the fundamental arguments used by the United Mine Workers to obtain the Welfare and Retirement Fund originally.

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<sup>5</sup>Press Release, United Mine Workers of America Welfare and Retirement Fund, March 20, 1952.

However, under the existing interpretation of the Fund's role made by the Board of Trustees, this seems to be out of the question. Under the general terms set forth by the Trust Agreement, benefits from the Fund are to be made for the following specific purposes: - (1) medical and hospital care, (2) retirement pensions, (3) benefits on the death of the worker and (4) benefits for illness or injury or "with respect to wage loss not otherwise compensated for or not adequately compensated for by tax supported or federal agencies." In all probability the Trustees will keep the work of the Fund within these general confines.

There is possibly just one area in which flexibility of this general rule might take place. The Trust Agreement does allow use of the Fund for "other related purposes" as determined by the Trustees. It is just possible that if they were approached in the correct manner, the Trustees might consider a "related purpose" the obvious need for some specialized housing for the aged.

At the present moment the UMW Welfare and Retirement Fund recognizes the special character of the problem of the aged by giving pensions of \$100 per month for all miners who have reached the age of 60 years, who have retired after May 28, 1946, who were employed in the industry for a year immediately preceding retirement and who have served at least 20 years in classified employment in the coal industry.

This \$100 pension payment is over and above any amount the pensioner - if he is 65 years of age or over - may receive in Federal Old Age Insurance. As of June 30, 1951, the last date of accounting, approximately 40,000 pensions were being paid out at a rate of \$42,500,000<sup>6</sup> a year.

In allocating funds for the construction of housing for the aged miners, the Welfare and Retirement Fund would be betting on a sure thing. There is a demand - it was pointed out in Part Two that the need is acute - and the income is guaranteed. In fact, a check off, a system quite traditional and accepted in the coal fields, for rent from the pension payments could well be made to insure the solvency of these housing for the aged projects.

Proposal: A Community Development Fund

Other than this possibility of housing for the aged and the already initiated hospital construction program, it must be assumed that the resources of the Welfare and Retirement Fund are not available for improving "the total environment in which the miners and their families live." But this inability to utilize the resources of the Welfare and Retirement Fund does not negate the possibility of obtaining additional funds from the industry to carry on such a program.

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<sup>6</sup>United Mine Workers Welfare and Retirement Fund, op. cit., p. 11.

The precedent is established. Human equities are accepted as a legitimate cost of production. Contractual recognition of this fact is established by the fact that the operators at the present moment pay 30 cents per ton of coal produced for sale or use into the Welfare and Retirement Fund. It would take only a small extension of the principles of this UMW Welfare and Retirement Fund to reach the point where the leadership of the United Mine Workers of America could begin to bargain with the coal operators across the negotiating table on a straight trade union basis for the purpose of raising a non-contributory fund - much like the existing Welfare and Retirement Fund in form and operation - which would be used specifically for the replanning and rebuilding of the miners' communities.

As with the Welfare and Retirement Fund, this new Fund - it could be christened the Community Development Fund - would gain its revenue through a non-contributory royalty payment on each ton of coal produced for sale or use. The exact amount of this tonnage royalty would be decided through industry-wide collective bargaining between the United Mine Workers and the bituminous coal operators. Administrative control of this Community Development Fund could be placed in the hands of three Trustees - similar to the Welfare and Retirement Fund - who would represent management, labor and the general public. In this manner the Fund will not build

either company or union towns. The mining communities of the future will be, in the best sense of the word, towns for the miners and their families who will live in them.

A major objection from the operators to the proposals of forming a Community Development Fund undoubtedly will be to the effect that such an addition to the cost of production will only serve to price coal right out of the market. If the Welfare and Retirement Fund costs the industry 30 cents on a ton of coal produced in order to realize a 150 million yearly program, the per tonnage cost of supporting a community development plan of almost 3-1/3 billion dollars would logically seem to be out of the question.

The truth is, however, that the magnitude of the financial operation is absolutely no obstacle to the implementation of a Community Development Fund. There are two methods of operating, both of which would, at one and the same time, reduce the amount of royalty payments necessary, while raising the actual amount of money available to carry on the development work. This seeming contradiction is based on the fact that the existing Welfare and Retirement Fund is operated on a pay-as-you-go proposition. It is proposed to run the Community Development Fund on a different basis.

The first possibility is to use the Fund as the basis for obtaining an FHA insured loan. In this case the Community Development Fund could easily be initiated with a

starting royalty payment of only 10 cents per ton of coal. The ten cent royalty would produce a revenue for the Fund of approximately 50 million dollars annually. Using this as a 20 percent equity for an 80 percent FHA insured loan at 4-1/2 percent, the Fund would be able to raise an additional 200 million annually. This means that a 10 cent per ton royalty will make available some 250 million dollars a year for use in the creation of a new environment for the coal workers. It also means that a ten cent royalty used in this manner will make available 100 million dollars more a year than the 30 cent royalty used by the Welfare and Retirement Fund on a pay-as-you-go basis.

At first glance, this FHA loan looks like a good proposition. But as good and as practical as it may be, there is an even more advantageous method of utilizing the proposed Community Development Fund. This is to set up Local Development Authorities, which - acting as public agencies and on the basis of the same 10 cent royalty payment proposed under the FHA plan - could raise 100 percent of the money needed, instead of the 80 percent in the FHA procedure, and it could get this money, because of the tax exempt features of a public agency, at 3 percent rather than the average FHA rate of 4-1/2 percent.

The formation of these Local Development Authorities as public agencies is routine. They follow precedents

already established in 43 of the 48 States, which permit the formation of Housing Authorities, Port Authorities, Traffic Authorities and other such groups. In certain states some additional enabling legislation may be necessary, but there is every reason to believe it would be forthcoming. To maintain the representative character of the proposed national UMW Community Development Fund, it is suggested that these Local Development Authorities be composed of five members - two representing the United Mine Workers of America, two the coal operators and one member acceptable to both parties. Once the Local Development Authorities are organized, all they need do is file certificates with their respective State agencies indicating they have elected to form for the purpose of rebuilding the mining communities in these States. The States will then empower these Local Development Agencies, among other things, to:

1. build housing and community facilities necessary to redevelop coal camps, erect new towns and construct housing projects in existing incorporated communities;
2. borrow money on a tax exempt basis;
3. receive subsidies from the national UMW Community Development Fund in order to reduce the economic rent to the level that the miners can afford;
4. acquire land by condemnation or other procedures normally available to public agencies; and
5. if needed or desired, pay in lieu of taxes a fixed sum of money.

The advantages of this public agency approach over the FHA proposal are obvious. First, the lower interest rate means a saving on the economic rent of the new miners' housing. Economic rent on a 4-1/2 percent FHA loan is \$75. The economic rent on the tax exempt 3 percent bond issue is a full seven dollars less, or \$68.<sup>7</sup> This is a considerable saving, especially when it means an annual subsidy of only \$156 is needed for each dwelling unit instead of \$240.

Second, the FHA procedure necessitates the putting up of 20 percent equity by the Community Development Fund in order to obtain an 80 percent loan. In other words the amount of money that can be borrowed depends directly upon the amount of equity that can be raised. The public agency technique, on the other hand, allows the borrowing of 100 percent of the cost of the development, with no equity required. This, in effect, means that there is almost no limit to the amount borrowable if the development is a sound one.

A third factor is that the Local Development Authorities would have as public agencies, by statute, the power of acquiring land by condemnation. This power would not be available to local Development Corporations which would be operating on the basis of an FHA loan. A final advantage of the public agencies is that, if desired, payments in lieu of

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<sup>7</sup>See Appendix B.

taxes could be made. This, too, is impossible without the creation of Local Development Authorities.

The key question to this whole procedure is, of course, will the investment houses go for it. All the Local Development Authorities and all the State enabling legislation are of little use if the money is not forthcoming.

Under the procedure of setting up Local Development Authorities as public agencies the ten cent per ton of coal royalty payments into the national UMW Community Development Fund - totaling 50 million dollars annually - would be set aside to pay the subsidies necessary to bring the rentals of the new miners' housing down from \$68 to the \$55 level that it has been estimated the miners can afford. This is a subsidy of \$156 per dwelling unit per year.

It is proposed that on the basis of such an assured subsidy it will be possible to raise 100 percent of the building capital necessary for each yearly construction program through the sale of 3 percent tax exempt bonds issued by the Local Development Authorities. As set up, the rents, plus the subsidies from the Community Development Fund, will serve as a pool which will be sufficient to pay the cost of upkeep and to cover the interest and amortization of 100 percent of the bond issue. The bonds would, therefore, be self-liquidating. On the surface, this is a sound deal and there can be little doubt that investment houses such as

Lehmann Brothers would be interested in such a proposition.<sup>8</sup>

There is just one aspect of the proposition that might deter the investment houses from going along with such a plan. The heart of the proposal - the Community Development Fund - depends for its revenues, out of which it will pay the rent subsidies, upon a collective bargaining agreement between management and labor, which is renegotiable every year or two. While once the program is initiated in the industry there is every reason to believe it will continue, no such iron-clad agreement can be made. This lack of continuity in the terms of the collective bargaining agreement might be a real disadvantage when it comes to getting the support of the investment houses.

To "sweeten the deal" - and to dispel any fears that the investment houses might have as a result of the lack of a guarantee in the continuity of the decisions made in the collective bargaining agreements - some sort of reserve fund for contingencies must be set up. This, too, is possible out of the 50 million dollar annual royalty payments being made into the Community Development Fund by the industry. The subsidy payments for rents - \$156 per dwelling unit - consumes only a portion of the Community Development Fund's

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<sup>8</sup>Charles Abrams, author of The Future of Housing and a leading authority in the housing field, is of the opinion the investment houses would back this proposal simply on the basis that the project would be self-liquidating.

annual income. A considerable amount of money is left, which could be held in reserve in the event that an emergency situation might develop which would cut off the royalty payments into the Community Development Fund.

In Appendix A the calculations are made showing the huge amount of money available for such a reserve fund. In fact, at the completion of the total construction program of 320,000 new units, the subsidies being paid by the Fund total about 49 million dollars annually, leaving over 400 million for just such a reserve fund.<sup>9</sup> This means that if for any reason - a depression, strikes or any other contingency that might arise - the Community Development Fund would be able to pay out of its reserves over a year and a half total rent for every single one of the 320,000 units.

There is every reason to believe, therefore, that on the basis of a self-liquidating program, plus a huge contingency fund, the investment houses would be most favorably disposed towards loaning the Local Development Authorities

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<sup>9</sup>It is also proposed to set aside out of the first years' 50 million dollars accruing to the Community Development Fund, 15 million dollars as a special revolving fund for the purpose of making non-interest bearing loans of \$1000 each to 5000 miners annually, who will use the loan to rehabilitate their homes in order to bring them up to the standard of the new housing to be produced for the miners moving into the new towns, the redeveloped coal camps and the housing projects. At the rate of 5000 one thousand dollar loans each year the whole rehabilitation aspect of the four-fold planning program can be accomplished in 16 years. This 15 million dollars will eventually be returned to the Community Development for some other future allocation.

100 percent of the cost of the redeveloping of the coal camps, the erection of new towns and the construction of housing projects for the coal miners of the nation. In fact, there is every reason to believe the investment houses will be tripping over themselves trying to get in on the ground floor.

One additional reason - other than to "sweeten the deal" for the investment houses - for the creation of a reserve fund should be pointed out. The only limitation from the point of view of the United Mine Workers to the whole concept of a Community Development Fund, which would guarantee subsidies for the rents of the coal miners living in the communities to be built, is that such a program might serve to tie the Union's hands in case it were necessary to strike or take any other kind of militant action in order to gain additional benefits for its members. By definition, participation in the Community Development Fund would obligate the Union to some degree to keep the membership on the job if only to get the rents paid in housing built by the Local Development Authorities. A reserve fund, such as that proposed, which would guarantee the rents in case of any contingency - including strikes - would free the Union from this obligation. A strike for better working conditions, greater safety in the mines or for any other benefits could be carried on without fear of jeopardizing or defeating the

purposes of the Community Development Fund.

The question arises - how fast could the new mining communities be developed? It was suggested earlier that one of the beauties of the idea of creating Local Development Authorities, in contrast to the FHA scheme, is that from the financial point of view there is almost no limit to the speed in which the four-fold program - redeveloping the coal camps, building new towns, constructing housing projects and rehabilitating privately owned homes - could be accomplished. Nevertheless, while financially it may be possible to rehouse in new communities all of the nation's 400,000 miners in the space of one short year, three very significant factors enter the picture to make this both impractical and impossible.

First, the necessity of accumulating a reserve fund for contingencies necessitates the construction of a relatively small number of the total dwelling units needed so that only a portion of the Community Development Fund's annual 50 million dollars is used for subsidies during the early years of the program. This will enable the accumulation of the proposed reserve fund. After a few years - when the reserve fund is an accomplished fact - the total annual 50 million dollars can be used to pay the full amount of subsidies and the construction program can move forward at a more rapid pace.

Second, the national economy just will not allow the

construction of 320,000 dwelling units and the rehabilitation of an additional 80,000 homes for the coal miners in one year. Between the two world wars an average of only 485,000 new nonfarm homes were produced annually in both urban and rural areas by the total resources of the nation's building and construction industry. Even in the peak period of 1920 to 1929 an average of only 703,000 units was erected.<sup>10</sup> In many years the production dipped as low as 150,000 units. It is obvious that an economy, which can only produce at the rate of 500,000 units a year, is in no position suddenly to accept the responsibility of building and rehabilitating the additional 400,000 units needed by the coal miners.

Finally, the planning process itself cannot be completed on a mail order, high production basis. It will take time to study the specific needs of the miners, to determine the possible sites for the new towns, to design the redeveloped coal camps, and to generally organize the proposed four-fold program to revitalize the environment of the mine workers.

It would seem advisable - on the basis of the needs of a reserve fund, the national economy and sound planning practice - to schedule the program of rebuilding the mining communities of the future at the rate of approximately 20,000 units a year. This, of course, could vary as the

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<sup>10</sup>Abrams, Charles, The Future of Housing, Harper, 1946, p. 69.

situation develops and quite possibly the program could be speeded up after the first years as the planning process tackles and solves many of the initial problems. At any rate, on the basis of programming the erection each year of twenty thousand dwelling units and their associated community facilities, the whole four-fold, three and a half billion dollar program proposed to rehouse the nation's 400,000 coal miners in planned communities could be accomplished in 16 years.

A program of this sort is certainly of sufficient magnitude and accomplishment to obtain the support of all concerned - management, labor, the investment houses and, yes, even the nation.<sup>11</sup> The very modesty of its demands of only

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<sup>11</sup>Complete emphasis has been placed in this thesis on the organization of a Community Development Fund as the means of financing a large scale planning program in the coal fields. There are, however, other secondary possibilities which might be utilized to help carry out such a program. Probably the most significant of all the alternative approaches to the problem of producing housing for the coal miners is that of Cooperative Housing. Actually, a few attempts by the American Friends Service Committee - at Tompkinsville, Nova Scotia and Penn-craft, Pennsylvania, among others - have been made at Cooperative Housing in the coal fields. But these projects were too few and too small to serve as a fundamental program to improve the environment of 400,000 miners. Also they were attempts which came from outside of the industry, and - while they may have gotten letters of support from the UMW or the operators - the result could never be applied to the industry as a whole. In spite of the fact that Cooperative Housing has had in the past a relatively insignificant impact upon the miserable living conditions in the coal fields, it could if organized properly play an important role in the replanning of the mining communities in the future - especially if it is correlated with the proposed UMW Community Development Fund.

ten cents per ton of coal produced for market or use as contrasted with the 30 cent payment made to the Welfare and Retirement Fund - coupled with the earlier expressed need on the part of the operators to be bailed out of their marginal coal camp operations-should go a long ways toward negating much of the potential opposition on the part of the coal operators to the idea of a non-contributory Community Development Fund. The United Mine Workers, with a reserve fund securing their right and ability to continue to fight in the interests of their membership, would be gaining the most valued possession of all - good and healthy living conditions for its members. The investment houses would be involving themselves in a most profitable and secure proposition. And, finally, the nation would benefit by both the introduction of the planning process on a broad national scale as well as the clearing up of a specific cancer on the American scene.

From the national viewpoint, it might be added - as it was stated in the introduction - that once the United Mine Workers of America is successful in gaining this proposed Community Development Fund, there can be little doubt that other trade unions in other industries will soon be involving themselves across the negotiating tables and, if necessary, on the picket lines in an effort to obtain similar Community Development Funds in order that healthier

and pleasanter environments can be planned and built for their own members. Just as the UMW Welfare and Retirement Fund led the way for the introduction of non-contributory pensions into other industries, so can the proposed UMW Community Development Fund set the same pattern. In fact, if the UMW is successful in obtaining a Community Development Fund, the planning process for the first time may well become a significant factor on the American scene. Certainly, on the basis of this possibility, the planning profession must come to recognize the trade union movement as one of its most powerful potential allies.

## Appendices

## APPENDIX A

Table shows in Column 3 the amount of annual subsidies at \$156 per dwelling needed on the basis of the erection of 20,000 dwelling units per year. Column 5 represents the amount of money available for a Reserve Fund.

(1) Year	(2) Number of D.U. added	(3) Total annual subsidy payments	(4) Amount in Fund before subsidy payments (\$50 million plus item 5 of year previous)	(5) Amount Left in Fund for Reserve Fund (item 4 less 3)
1	20,000	None	\$ 50,000,000	\$ 50,000,000 less 15 million set aside for rehabilitation revolving fund = \$35,000,000
2	20,000	\$ 3,120,000	85,000,000	81,880,000
3	20,000	6,240,000	131,880,000	125,640,000
4	20,000	9,360,000	175,640,000	166,280,000
5	20,000	12,480,000	216,280,000	203,800,000
6	20,000	15,600,000	253,800,000	238,200,000
7	20,000	18,720,000	288,200,000	269,480,000
8	20,000	21,840,000	319,480,000	297,640,000
9	20,000	24,960,000	347,640,000	322,680,000
10	20,000	28,080,000	372,680,000	344,600,000
11	20,000	31,200,000	394,600,000	363,400,000
12	20,000	34,320,000	413,400,000	379,080,000
13	20,000	37,440,000	429,080,000	391,640,000

(continued)

(1)	(2)	(3)	(4)	(5)
14	20,000	40,560,000	441,640,000	\$401,080,000
15	20,000	43,680,000	451,080,000	408,400,000
16	20,000	46,800,000	458,400,000	411,600,000
17	None	46,800,000	461,600,000	414,800,000
18	None	46,800,000	Rises at	Rises at
..	..	Remains	rate of	rate of
..	..	the same	\$3,200,000	\$3,200,000
..	..	through	annually	annually
..	..	40th year.	through	through
..	..		40th year.	40th year.
40	None	46,800,000	534,600,000	487,000,000
41	None	43,680,000	Rises at rate	Rises at
		Decreases	of \$3,120,000	rate of
		at rate of	annually as	\$3,120,000
		\$3,120,000	40 year loans	annually as
		annually as	paid off and	40 year loans
		40 yr loans	subsidies are	are paid off
		are paid	no longer	and subsidies
		off and	needed.	are no longer
		subsidies		needed.
		are no		
		longer		
		needed.		

Note: Reserve Fund is invested in Government Bonds at 2 percent. This additional income is not indicated in above table. After 40th year, as loans are paid off, royalty payments can decrease to keep up with slackening program.

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 APPENDIX B

Comparison between economic rent for forty year 4-1/2 percent FHA loan and forty year 3 percent tax exempt bond:

Item	4-1/2%	3%
Debt Service - interest plus amortization	\$455.00	\$366.00
Taxes	153.00	153.00
Maintenance	170.00	170.00
Operation	85.00	85.00
Insurance	17.00	17.00
3% vacancy	<u>25.00</u>	<u>25.00</u>
Total annual economic rent	\$905.00	\$816.00
Monthly economic rent	\$ 75.00	\$ 68.00
Amount of subsidy needed to bring economic rent down to \$55 miners can afford.....	\$ 20.00	\$ 13.00

Note: All figures have been rounded to nearest dollar.

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