Changing Conditions in the Kentucky Mountains.

B. H. Schockel.

(Illustrations by the author.)

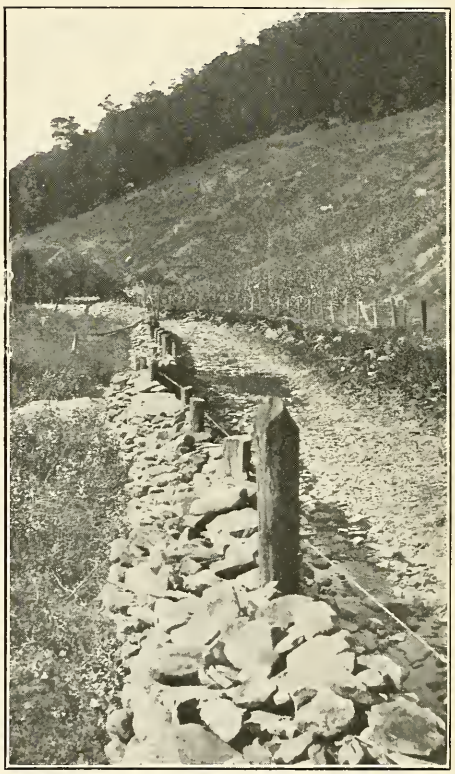
This summary of changing conditions in the plateau of eastern Kentucky is based upon a month's field work, supplemented by previous and subsequent studies. To refresh the reader's general conception of the region an introductory review is made of its topography, surroundings, and settlement.

Topography and surroundings.

Eastern Kentucky is a part of the Cumberland Plateau and consists of thirty-five counties with an area of some 12,943 square miles, that is, about one-third of Kentucky. It is a part of the Southern Appalachian Highlands. To the east of it are the parallel ridges and valleys of the Greater Valley of the Appalachians; to the west is the Blue Grass region. The top of the plateau is a part of the Cretaceous Peneplain, with monadnocks on it, and slopes gently westward in Kentucky from an elevation of about 2,000 feet to a height of 1,200 to 1,500 feet. This peneplain has been dissected by dendritic drainage to a topographic stage of maturity, the valleys being from 500 to 800 feet deep with narrow bottom lands, and the tops of the ridges averaging in many instances from 10 to 50 feet in width. The ridges, locally known as mountains, in general bear on their shoulders and crests hardwood forests sprinkled with conifers. Most of the lower slopes are cleared. From the top of Pine Mountain the Kentucky country appears to be a billowy wilderness. One cannot see any valleys, nor any sign of life; but beneath those forested waves are sylvan slopes to enchant one, and a sinister labyrinth of gashed valleys to enthrall one in mountain poverty.

Owing to the topography the roads are serpentine; since the bed rock is of shale and friable sandstone chiefly, good road material is scarce; furthermore, the people are poor, and what we term shiftless and ignorant; therefore, their highways are in a most wretched condition.

In the sixteenth century James I introduced Scotch settlers into northern Ireland, who became the Scotch-Irish. Some of them emigrated to America; and their descendants, augmented by English, native Irish, Pennsylvania Dutch, and others, formed the van of the 300,000 frontiersmen who passed through Cumberland Gap, from 1775-1800, to settle in Kentucky.



1. Creek-road, "upright farm," and forested ridge, near Pine Mountain Postoffice, Ky.

Some of these found a home in the plateau region, which offered clear springs, magnificent forests, abundant game, and good valley land sufficient for that first generation of hunter-farmers. No one could have foretold then the coming of canal and railroad.

The first permanent settlements in the Kentucky mountains were made in the decade 1790 to 1800. Imlay's map of Kentucky (1793), shows "settlements" on Rockcastle River, the upper Louisa Fork, and a fork of Red River. By 1800 the population was 7,964, which was about four per cent. of the population of the State; it is now about 600,000, which is about twenty-five per cent. of Kentucky. Genealogical records of this people are utterly lacking. Their names and survivals in customs and language point to English and Scotch-Irish ancestry in general, although a few German and Huguenot names are found.

Between 1800 and 1840 the mountain region was an integral part of the State, for various reasons. Four interstate, transmontaine routes trav-

2. An example of the poorest highways in the mountains, near Pine Mountain Postoffice, Ky.

ersed the plateau in leading from the Ohio and the Blue Grass countries on the west to the Big Sandy and Kanawha region on the east, and thus on to the tide water settlements. The plainsmen bought lean cattle in the Blue Grass and sent them in droves of from 200 to 300 through the mountains to the Potomac, where they were fattened and sold in Baltimore and Philadelphia. Large droves of hogs followed the same routes. The hog and cattle drivers bought corn at the homes of the mountain people and brought news from the outside world. The slender state appropriations for roads were impartial, the mountain counties being favored equally with the lowland.

But between 1830 and 1850 the four interstate roads declined gradually to a wretched condition and state of non-use; for the Blue Grass and Ohio regions were finding other routes to market, by use of steamboats, etc. Therefore, the mountain counties lost their market and received little outside help for roads. As a result the people have lived isolated by topography and social antipathy.

During the Civil War thousands of the mountaineers, whose ancestors had fought in the Revolution and the War of 1812, joined the Union army and received a practical education. Some received similar training as soldiers of the South. After the war many returned home. But the growth of formal education and broader outlook thus stimulated has been slow.

In 1878, Shaler, of the Kentucky Geological Survey, saw in the eastern, and then most inaccessible portion of the region, men hunting squirrels and rabbits with old English "short-bows" and wrote: "These were not the contrivances of boys of today but were made and strung, and the arrows hefted, in the ancient manner. The men, some of them old, were admirably skilled in their use; they assured me that, like their fathers before them, they had ever used the bow and arrow for small game, reserving the costly ammunition of the rifle for the deer and bear."

Recently outside capital has begun to develop the coal and timber resources of the region, a fact which is bringing about many changes in the mountain country rapidly. As a result, the inhabitants are facing the crisis brought about by the sudden mingling of a primitive people with the exploitative phase of modern civilization.

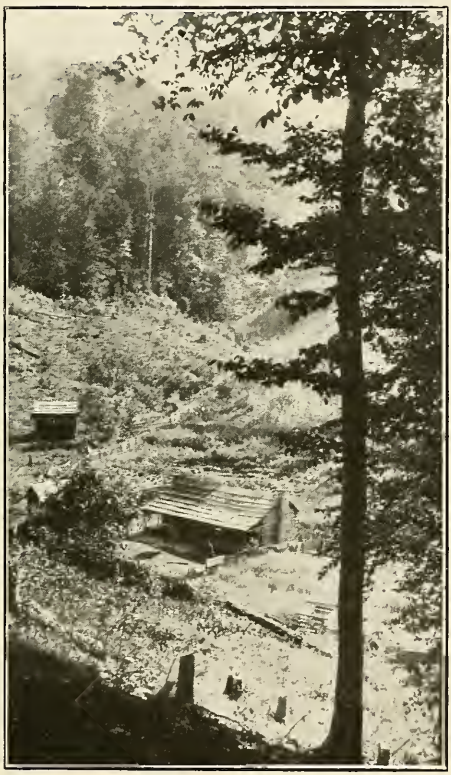
CHANGING CONDITIONS.

Mineral Resources.

Coal is the chief mineral resource of the region. The seams occur in every county, increasing in number and thickness towards the southeast and reaching their climax in the Black Mountain region. The layers are favorably disposed for mining, except in the Pine and Cumberland mountains, where complex structure renders mining difficult. The coal is bituminous, the most desirable varieties being as follows: Cannel, found in limited basins throughout the field; coking, appearing in large amounts only in the vicinity of Pound Gap; and high class steaming coals, occurring in quantity in the southeastern counties and at a few places along the western margin.

Coal was exported in 1827, probably earlier; but until the railroad came, the output was insignificant. Though production is rather small at the present time, and limited to a few mines scattered along the railroads, the region is beginning to become an important coal center.

The first extensive exploitation began in the region about Middlesboro, in 1892. At present most of this coal is shipped south. Some two years



3. A primitive mountain home, near Buckhorn, Ky.

ago a branch of the L. & N. railroad was pushed up the North Fork Kentucky River to Hazard, and extensive coal mining began. Hazard is now in its Ugly Duckling stage, has a population of about 2,000, boasts one of 3,500, and altogether is a scar upon the beautiful landscape, like a "boom"

town of the west. But the most spectacular development is taking place at Jenkins, on the headquarters of the Elkorn Creek, at the foot of Pound Gap, Pine Mountain, known in literature as "The Trail of the Lonesome Pine." Eighteen months ago a branch of the B. & O. Railroad reached the site, where a few months prior there had been but one mountain cabin. Jenkins now has brick buildings three stories high: a great power plant; palatial residences; a splendid hospital; a concrete dam causing an artificial lake, upon which are pleasure boats: and a town reservoir, into which spring water is filtered from the mountain. Indeed it is growing as fast as Gary, Indiana, in its early days. Most of this coal is shipped across Indiana to Gary.

At a shaft mined by two mountaineers near Booneville, good cannel coal sells for seven cents per bushel. Cause, poor transportation.

Essentially all of the mineral rights have been bought by outside capital, much for $1.50 per acre, and in some cases for fifty cents. Sometimes the mountain people made the further mistake of giving up the farming rights also.

At an early period iron and salt within the region were the source of considerable traffic, but not now. Oil, gas, and clays, although in progress of exploitation for the last two decades, do not promise to become important.

Forest Resources.

The primitive forests were splendid. But since an early day, lumber has been shipped to an outside market; therefore, the timber area has been reduced, and, although it remains the chief source of wealth, the end is almost in sight. About thirty per cent. of the region was in wood in 1910, not all of which was primitive.

The mountaineer's way of lumbering is to cut a few choice trees and "snake" them down to the creek, where as logs, rafts, or railroad ties, they await the coming of the flood, or "tide", to be floated down stream. Thus a man can produce ten ties per day, for which he received thirty-eight cents apiece, this summer, near Beattyville. But lumbering corporations are beginning to attack the two remote corners of the Southern Appalachian Highlands—the Smoky Mountains and the Kentucky Plateau—and after the onslaught, in which stumps three and one-half feet in diameter are left to rot, the hills are gaunt with slash, or black from resultant forest fires. Consequently increased erosion is resulting on the slopes, with augmented

harmful deposition on the flats below. Furthermore, within and below the plateau, the streams increasingly are characterized by short periods of flood, and long intervals of low stage. Also, the supply of drinking water and water power is becoming less constant.

Most of the timber is owned by outside capital. The United States government is seeking to buy wooded land for forestry having completed the first step last September, when it purchased the 60,000-acre Biltmore estate, near Asheville, N. C.

A passing forest industry is the digging of ginseng and other roots. The normal market price for the first is five dollars to seven dollars per

4. Snaking logs in the Southern Appalachian Highlands.

pound, but now, owing to the war, the price has fallen. One old man and his wife, digging "sang" in the woods, wanted to know why it is that the Chinese cannot live without the root, and what would happen to that people when the supply shortly would give out in America, but then consoled themselves with the thought that probably the Chinese have enormous amounts of it stored away in anticipation.

Animal Resources.

Wild game is becoming surprisingly scarce, due to overhunting, and lax observation of hunting laws. In general the supply of fish is low, some causes being: Dynamiting and seining, lack of restocking, and inconstant

and turbid streams resulting from deforestation. What little meat is eaten, is chiefly swine and chicken. Sheep continue to suffer from exposure and dogs. Beef is walked to market to obtain cash with which to pay taxes. The Ayrshire stock is giving way to a fine short-horn type of cattle, owing to the opening of stock yard cattle markets, as at Mt. Sterling. The mountain mule and pony are being displaced by larger types. Goats suffer from the rough, wet, winter climate.

The development of pasturage for live stock would prove to be a fundamental advantage. Timothy is the chief forage crop: clover is second. A diminutive Japanese clover has filtered into the mountains, and takes possession of deserted fields. It is good for grazing, but it is too small to be cut.

Agriculture.

About 80 per cent. of the land is in farms, of which 45 per cent. is improved, and 23.5 per cent. in woodland. The average size of the farm is 85.7 acres, of which about thirty-nine acres are improved (Kentucky: 85.6; 55.4—Indiana: 98.9; 78.6). The average value of all crops per farm in 1910 was $310.70. (Kentucky: $536.20— Indiana: $947.60). The average value of implements and machinery per farm in 1910 was $32.3. (Kentucky: $80—Indiana: $190). About 6.6 cents worth of fertilizer was used per improved farm acre in 1909. (Kentucky: 8.7—Indiana: 12.8).

The total value of all crops in 1909 was 24.8 million dollars, of which cereals amounted to 12.2 million, vegetables 3.8, hay and forage 1.1, and fruits and nuts 1.1. The total area in cereals was 921,538 acres, of which corn constituted 841,744 acres; oats, 39,341; wheat, 36,403; rye, 1,579; and barley, 510. Some 21,397 acres were devoted to potatoes, 5,673 to sweet potatoes and yams, and 10,713 to edible beans (a staple food in the mountains). Sorghum was raised on 21,970 acres, and hay and forage on 162,944 acres. There were 1,825,895 apple trees out of a total of 2,425,047 fruit trees. Peaches ranked second to apples.

The average production of corn per acre in 1909 in the region was 18.7 bushels; in Kentucky, 24.2; in Indiana, 40. The corresponding figures for wheat were 9.9; 12.8; and 16.3. Similar data for potatoes were 76.6; 91.8; and 99.4. The respective figures in tons of forage per acre were .8; .9; and 1.2.

The shale soil, which is most common, is fairly fertile, and produces good crops of corn under good cultivation, on gentle slopes. The chief

causes for the low productivity are steep slopes, poor cultivation, and lack of crop rotation. The shale soil washes less than almost any other soil under like circumstances. The wonder is that the soil produces as much as it does.

A few years ago Berea College, with the help of the United States government, employed a special investigator and demonstrator to work with the mountain farmers within reach of Berea. The success was such that a number have been appointed in other localities. About Berea, heavy breaking plows are replacing the one-mule plow, and the disk harrow is pushing back into the mountains. More than twice as many shallow culti-

5. Stumpage and slash which will invite forest fires in the Southern Appalachian Highlands.

vators as single shovel and double shovel ploughs were sold in Berea last spring. The practice of sowing cow peas and rye for forage and turning under is spreading, as is the use of commercial fertilizer. Crop rotation is displacing the fallow system.

Further education in agriculture is being given at the missionary and settlement schools, as at Oneida, Hindman, Buckhorn, and Blackie. But agriculture in the interior of the region is yet primitive, and improvements are slow in penetrating. A common sight is corn growing among girdled trees.

The few gardens which are being introduced about the settlements and mining and lumbering camps are giving favorable results.

Naturally, the region is a splendid fruit country, especially for apples; but spraying is unknown, and the stock has degenerated. Therefore the trees bear abundant crops of gnarled, sour fruit. One mountain woman told us to take as many apples as we wished, since they were of no value except to sharpen the teeth on. Often apples are sold for ten cents per bushel, are given away, or rot; cause, poor transportation.

Manufacture.

Manufacturing within the region always has been meagre, primitive, and for local use, except in the case of salt in the early days.

In 1901 Bell and Boyd counties contained 172 manufacturing establishments, with an aggregate capital of $5,201,489, an amount which was more than one-half of that invested in manufactures in all the thirty-five counties in 1910. The cause for the emergence of these two counties is the recent growth of Ashland and Catlettsburg on the Ohio River, and Middlesboro near Cumberland Gap, a local supply of coal being the factor in each case. Hazard and Jenkins soon will rank as manufacturing cities.

The status of manufacturing for 1900 is indicated in the following table:

	Establishments.	Capital Per Establishment.	Men, 16 Years and Over.	Women, 16 Years and Under.	Children Under 16.	Capital.	Value of Products.
Kentucky Mountains..	1,156	$7,221	4,853	44	85	$8,347,993	$11,993,195
Kentucky.....	9,560	10,886	51,101	9,174	2,687	104,070,791	154,166 365

The mills are small and are driven by water, animal, and hand power. Machine made goods from the outside have supplanted the linsey-woolsey cloth, counterpanes, and baskets formerly made in the cabins. But, recently, the missionary and settlement schools have begun to sell such goods outside of the mountains for the people, to supply cash, and therefore the industries are reviving, in part. The W. C. T. U. Settlement School at Hindman, for example, sold $1,800 worth of such goods last year.

Distilling always has been a widespread industry in the mountains, since thereby corn, the chief crop, is converted into a product which can be marketed with profit, and since the custom has been inherited. Illicit distilling increased greatly after the imposition of the liquor tax of the Civil

War. In 1877 the government began to suppress "moonshining" in the region. By 1882 the supremacy of the law had been established. But in 1894 the liquor tax was increased from ninety cents to one dollar and ten cents, which resulted in increased "moonshining". The counties have been voted "dry", which encourages the illicit traffic. About the coal mining centers, "blockading" is increasing greatly, the whiskey being brought to town under vegetables and in milk cans.

Transportation.

Transportation is the basic problem of the region. Poor communication within it has influenced greatly every phase of life always, and bad connections with the outside have isolated the country since 1850.

6. A primitive mill, near Cornettsville, Ky.

Of a total of 17,432 miles of road, there were within the entire region, in 1904, eighty-three miles surfaced with stone, and four miles with gravel. The present wagon freight is said to be about 44 cents per ton-mile. The average haul for a load of cross-ties is from eight to ten miles, and eight to twelve ties constitute a load.

Logs delivered at the railroad for twenty dollars per load are said to consume sixteen dollars in transportation. From Buckhorn to the railroad is eight miles. A team will make this trip for four dollars in good weather.

The charges in this case are about 88 cents per ton-mile. The average cost of transportation in the United States by wagon is 23 cents per ton-mile.

The old law that every man must work on the roads six days annually is enforced feebly. By a statute passed in 1894, road taxes can be levied by the county and a road commissioner appointed. But this new law is proving a failure in the mountains and is giving way to the old custom because the mountain county is too poor to pay the commissioner's salary, and because the mountain man may pay the tax in work, a fact which introduces again the old problem of road-work enforcement. In 1904 the total expenditures upon the highways in a number of rugged mountain counties amounted to about $24 per mile. The average expenditure for the State, much less dissected, was $43.57. The history of the mountain roads emphasizes the inability of the people to provide themselves with efficient highways, and manifests the great need for outside help, state or federal. In general, road material would have to be imported at great expense. The costs of roads steadily increase as the forest retreats towards the headwaters.

In 1907 the United States Department of Public Roads, as an object lesson, built and macadamized in Johnson County, 5,780 feet of road, and constructed through Cumberland Gap, 12,300 feet of macadam pike, and graded 900 feet more, at a total cost of $7,050 per mile. This work demonstrates again that the construction of good highways in the mountain region, while possible, cannot be done without outside help. Besides the government routes there is a short stretch of macadam road (1 to 20 miles) in five marginal counties, of which, however, Boyd County alone lies strictly within the mountain region. The coal company at Jenkins has surveyed and built six miles of well-graded dirt road connecting Jenkins and McRoberts. Owing to the enforcement of the road laws in Knott County, a fairly good ungraded dirt road extends thirty miles between Hazard and Hindman. Immediately west of Pine Mountain in Leslie County, no wagon roads were attempted till 1890, and few exist now.

Before the advent of railroads, highway improvements were negligible, but the past twenty years have seen progress. Numerous stretches of road, eight to ten miles in length, afford somewhat fair transportation for wagons to the railroads. Where the development of coal and timber has increased the wealth of the community greatly, substantial bridges have been built. Progress has been slowest in the rugged, extreme southeastern

section of the region, even though railroads have begun to penetrate. There the primitive saddle and sleds drawn by oxen are still in use.

Except for lumbering, the streams are used but little. The North, Middle and South forks of the Kentucky River penetrate into the interior. They join at Three Forks, near Beattyville. Thence to Carrollton are 350 miles of good waterway. In 1853 some five locks were completed by Kentucky at a cost of $4,000,000, which assured good navigation for 300-ton steamers for a distance of over 100 miles. The Federal Government made improvements at the close of the Civil War. Since then the waterways have been declining. In 1887 there were passing Three Forks annually, 50,000,000 feet of lumber, in logs.

Railroad building began in 1856, but made no headway until between 1870-90. The progress has been slow and confined to marginal counties until recently. Within the past five years it has penetrated the North Fork Kentucky River to McRoberts, a few miles west of Pine Mountain, and up the Poor Fork of the Cumberland River, by way of the gap at Pineville. The railroads have been built for the coal and lumber, and not primarily for general traffic. Since the advent of railroads, the conditions which have made possible "the mountaineer" have been passing away.

But in general the region is still landlocked.

Population.

In 1910 the total mountain population was 561,881, representing an increase of 18 per cent. over that of 1900. (Kentucky: 2,289,905; 6.6 per cent.) There was an average of 43.4 people per square mile (Kentucky: 56:9; Indiana: 74:9). The density is greatest along the main river routes and in mining sections. The people continue to be distributed as clans in valleys, which are surprisingly heavily populated. Of necessity the people depend upon the lower slopes of the hills to an extent equal to or greater than on the limited bottom lands, their "shoe-string farms" being found strung along little gullies as well as in broader valleys. A few farms are on the mountain sides, especially on benches or "coves" of somewhat gently sloping land, formed above some massive sandstone ledge. The average size of the mountain family is about 5.2. (Kentucky: 4.6; Indiana: 4.1.) The rural population increased 17.1 per cent. in the last decade. There was no urban population (towns of 2,500 or more) in 1870. In succeeding decades, as Ashland and Middlesboro developed as centers of coal mining, it numbered 3,280; 7,466; 17,428; and 24,004. These two

cities are unique in the region in having a population greater than 5,000; but they soon will be joined by Jenkins and Hazard, about which coal mining is developing rapidly. In 1910 less than one-half of one per cent. of the total population was foreign born. These people were chiefly skilled miners from England, Sweden, Germany, and Switzerland, who drifted in by way of Pennsylvania. In seven counties there were no farmers of foreign birth; and in only one county did the foreign born exceed 21. Recently, Southern Europeans have begun to come, particularly Italians and Hungarians. By 1920 the number of foreign born will have increased greatly. In 1900 about two per cent. of the population were negro, and in 1910 two and one-half per cent. In three counties there were no negroes; and in sixteen, less than twenty.

The problem presented in the region by the rapid increase in population with no corresponding increase in foodstuffs, probably is not greatly overdrawn in the following statements by a mountain graduate of Berea College: "The pioneer of 1850 who sat in his front door watching the deer rove the unbroken forest, today sitting in the same place can see acres of spoiled farm land. A few years ago the people produced enough on their farms to support themselves. Today one-half of the food consumed is brought in by the merchants. Twenty-five years ago our hillsides produced forty bushels of corn per acre. Today the average yield of corn per acre is a little less than twenty-five bushels. (In 1909 it was 18.7.) The independent farmer of yesterday has been transformed in the last few years to a man dependent upon his staves and ties for support. Now, his farm has grown up in bushes, and his timber is almost exhausted. . . . . Such is the condition of a vast number of our mountain farmers."

There is an emigration of the mountain families, or of sons and daughters, particularly from the marginal counties, where a fringe of mountain territory has been put in touch with outside progress and humanity, and where mountain peoples are buying adjacent lowlands. Some are moving to Oklahoma and the Far West. This in part accounts for a decrease in population of five counties.

Public health is not as good as might be expected at first thought. The situation has been summarized by Miss Verhoeff (in "The Kentucky Mountains") as follows: "Endurance and muscular strength are common, but a strong constitution is exceptional. Bad housing and sanitation, ill-cooked and insufficient food, exposure to weather, and . . . . poverty, have

had their detrimental effects, which have been augmented by a close intermarriage of families and by an inordinately large use of liquor."

In general the mountain man is quicker than the Indiana plainsman, but not as strong. A month's field work did not bring to note any of the storied giants of the hills, though there probably are some. Not all of the people are lank.

About two generations ago trachoma penetrated into the mountains, and is spreading rapidly, despite the efforts of the state and settlement schools, and the Federal Government. Of over 4,000 people examined in five counties, 12.5 per cent. had this disease. A report from the W. C. T. U. Settlement School at Hindman names twenty-five per cent. for that locality. Adenoid and turbinate cases are common. Several clinics held at Buckhorn revealed that 90 per cent. of those examined were afflicted with hookworm. Splendid work is being done, but the area to be covered is a vast one, and assistance is needed greatly. Superstitions that diseases are visitations of the Lord to be borne with resignation are disappearing slowly.

The people continue to be poor. In 1900 land was worth $5.00 per acre, and in 1910 $9.66. (Kentucky: $13.24 and $21.83; Indiana: $31.76 and $62.36.) The average value of all farm property per farm in 1900 was $860; and in 1910 it was $1,359. (Kentucky: $2,007; and $2,986; Indiana: $4,410 and $8,396.) The average value of farm buildings per farm in 1910 was $247. (Indiana: $1,230.)

Institutions.

There is great need of education. In 1900, 24.3 per cent. of the voters were illiterate, and a decade later, 20.7 per cent. (Kentucky: 15.3 and 13; Indiana: 5.6 and 4.1.) In eight counties in 1900, the illiterate voters constituted from 30.5 per cent. to 35.8 per cent. of the total. In 1910, 61.6 per cent. of the children, ages 6 years to 20, were in school. (Kentucky: 60.8; Indiana: 66.) Corresponding figures for children from 6 years to 14 years were 73. (Kentucky: 76.)

However, improvement is being made. In 1900, there were more than 20 counties without a local publication. Now, there are but few counties without a press, and several have more than one.

Formerly, the term of school lasted but three months in the year. The teachers received no training except in the common schools. The buildings were tiny, two or three teachers in some cases teaching in the same room.

But now, the term lasts six months (closing at Christmas owing to bad roads.) Also, many of the teachers receive some training in the normal department of the settlement and missionary schools. Furthermore, there is but one teacher in each room, though in it is no library, few modern desks, and little equipment. In one mountain school visited by the writer in 1914, the pupils were sitting in rough board pews, the boys on one side of the room and the girls on the other. The walls, floors, and seats were dirty. Some of the children wore but one garment. Two of them were suffering from trachoma. The equipment owned by the school consisted of one wall map and three calendars. The only object on the desk was a small switch. The girl-teacher, who was a graduate of the institute at Oneida, had charge of 69 pupils and, besides, without pay, was teaching a "moon-light" school of evenings, to which people of all ages were coming. She did not show any surprise or nervousness when our group of ten men in nailed boots filed in. Nor did the children pay much attention to the visitors. The third grade droned out its reading lesson, and then the second grade carried out its solemn program in spelling. There was a solemnity about it all which the outsider does not understand until he becomes acquainted with the gravity of these people in their gatherings. Progress was being made, though it seemed a pity that the children should have to learn the definition of some words which probably they never will have occasion to use. The day of the "shouting school" (in which the pupils indicate that they are studying by reading aloud) has passed in the mountains. In a second school, a girl, younger than the teacher above, was in charge. She had had no training beyond the common school. There were a few modern desks, but also some rough hewn pews. When I tip-toed to the door and took a photograph of the interior she showed less surprise than an Indiana school mistress would have exhibited, but she smiled when some of her children awakened to the situation. In some sections a holiday week is declared during the corn harvesting season. Mission and W. C. T. U. settlement schools are coming into the country, as at Buckhorn, Hindman, Pine Mountain Postoffice, and Blackie.

Berea College, on the western margin of the region, serves as a university for the mountains, and is sending its extension department with wagon and camp into the remote sections. The reader is referred to the December, 1912, number of *The American Magazine*, for the story of the heroic foundation of Oneida Baptist Institute, and is reminded of Bulletin Number 530 of the United States Bureau of Education for the story of the

opening of "moon-light" schools in the Kentucky mountains in 1911 for children, parents, and grandparents. When the feud breaks out, mountain mothers from the section in which blood is shed, anxious to get their sons out of danger, are wont to urge them to attend school at Berea College and elsewhere.

Though in some sections enthusiasm for education is becoming great, in others there is great apathy, because of lack of interest on the part of the people, lack of practical teaching, illiterate teachers, poverty, poor roads, and political interference in school affairs. In some districts it is still thought by the school trustee that "the lickinest teacher makes the

7. "The telephone whispers through the silent hills," near Booneville, Ky.

knowinest younguns". Changing conditions are indicated by an incident in which two teachers appeared in the same schoolroom, each determined to become the sole teacher. The following among the pupils was about equally divided at first, but presently they moved away from the teacher using the "A. B. C." method and grouped themselves about the more progressive instructor who was following the sentence method. The broad effort is being made to teach the people how to work and live according to modern ideas, and yet to retain the desirable traits of their own civilization. This is a delicate task, involving much more than merely academic training.

Religion is undergoing transition slowly. Formerly if a speaker did

not shout and gesticulate he might be termed a good *speaker* but not a good *preacher*. The early attitude towards the settlement workers was indicated in a mountain sermon in which the congregation was told to "beware of the fetched on women who come in here wearing gold watches, and their shirt fronts starched so slick that a fly would slip off and bust out his brains". But, a year later, the same mountaineer said that since these women were administering to the needy under conditions so harsh that even the mountain people would not venture out, "I allow as how they are welcome to stay in the mountains as long as I live." One mountain patriarch, who has given his farm and essentially his all in founding a settlement school in the valley of his home, gives some of his reasons as follows: That there was much whiskey and wickedness in the community where his grandchildren must be reared, was a serious thing for him to study about. He heard two of his neighbors say that there is neither heaven nor hell. One of them said that when a man is dead he is just the same as a dumb beast. Another said that he could not rear his large family of children to be as mean as he wished. The founder's idea was that a good school "would help moralize the country." Formerly the Presbyterian religion was most prevalent, but it gave way to the "Hardshell' Baptist creed, since in the mountains the educational qualifications for the latter were less severe than for the former. The disciples of this religion have in turn given way before the "Missionary Baptists." Methodists are also numerous. The most vivid disputes in the mountains were wont to be about religion. But now there is a significant change toward toleration in that preachers frequently exchange pulpits with pastors of other denominations, and that the use of a church is often tendered to another denomination which temporarily is without a place of worship. The following can be interpreted as a groan of growth: "The church in eour holler, hits about dade. Part ov the folks wants an eddicated preacher, an parts wants an old-timer, an so they don't get nary one". The funeral preaching had become the sole opportunity for social gathering until the recent advent of "camp meeting week", and the coming of the extension school on wheels.

Changing conditions have not yet affected greatly the political situation in the mountains. Since the Civil War so many of the inhabitants have been Republicans that party arguments have been one-sided, and the contests have been within the organization. Unity of feeling gives the representatives considerable power in the State Legislature. Political discussions are said to be confined in general to stump speeches con-

cerned with national issues, and hence are of little help concerning local problems. However, since the mountain men are good at politics, some make of the local contests a profitable business. Recently in some sections such men have turned their attention to the school, for the sake of profit in the appointment of teachers. There the trustee runs for office upon a platform statement of which teachers he favors. In some sections the vote runs high in school elections, while it is light on other matters. An increasing number of women vote on school affairs. Another favorite field of the politician is the handling of road taxes.

Deep seated prejudice, due to poverty, exists against taxation of any kind. In 1906 the per capita state and county tax was $4.62 for Woodward County, in the Blue Grass, while in the mountains it ranged from $0.40 in Elliott County to $1.75 in Harlan. Little returns are obtained by taxation of lumber and mineral resources.

The feud was transplanted from Europe into the Blue Grass, the Kentucky mountains, and elsewhere. It survived among the isolated valleys of the mountains, where it was fostered by folk-song, the flaring resentment of the Indian fighter and pioneer, and the habits of thought natural in isolated communities where for a long time there was neither sheriff nor jury and where, even to this day, the government hardly has been able to inspire confidence or dread. The Civil War greatly increased and intensified the feud: Prior to 1860 few weapons had been used in the mountains, and few deaths had resulted. In the region in 1860 there were 10,098 slaves and 1,280 free colored people. The lines grew sharp between the Union and Confederate counties, as well as between opposing families, and between opposing members of a family. Modern arms were introduced into the region. The physiography of the land favored bushwhacking. During the war the Kentucky mountaineers suffered more sharply than the mountain people of any other State, except Tennessee. Also, many of the principals of the post-war feuds were boys during the Civil War, whose imaginations were filled with all of these horrors. It is said by the mountain people that the actual numbers engaged in the feuds has ranged from 10 to 60 on a side; that the duration has been from 1 to 40 years; that perhaps not 10 per cent. of the mountain people have had a personal difficulty sufficient to cause fighting; probably not 40 per cent. of them have gone to a court house to prosecute or defend a case; and that half of the enlisted partisans never have faced the

music in a show down fight, the number actually having figured in the ambuscades being small.

In some parts of the region, as about Oneida, education is causing the decline of the feud; but in other sections it flourishes, as near Pound Gap (Trail of the Lonesome Pine), near where, it is said, some eleven men were killed in three months during the spring of 1914.

The home, also, is changing. One still can see the windowless log cabin with its "dog-trot"; but some roofs are of shingles, and some of tin, while frame structures are appearing, and brick.

Mountain simplicity and hospitality are illustrated by one man who said, "I want a good house; two rooms—one for the family and one for company, each big enough for a bed in every corner—and a lean-to cook room."

The following is a description from Professor Penniman's unpublished tales of the mountains: "Three days are ample to build a log-cabin twenty feet square. The part before the roof is called a 'pole pen'. This is run up in a few hours. The trees sufficient to build a cabin complete are often standing on an acre. With the roof up, and stone chimney on the outside, and the big fireplace opening into the room, the young people can begin housekeeping. A few saplings will make a bed frame fastened to the logs in one corner, and a bed without a tick, two feet thick, of fresh pine needles, gives a sense of luxury to the newly married pair."

Customs and Habits.

It must be remembered that there are all grades of society in the mountains, and that no general description can be applied to a specific case.

Woman is inferior to man in both number and position. Not only is she a household drudge, but a field hand as well (out-of-door work in itself, of course, does not constitute drudgery). She still follows behind him as they trudge over the mountain. A mountain boy, upon being asked how many brothers he had, answered promptly: "Two." But concerning the number of sisters, he drawled: "Oh, three or four." The modern woman movement hardly has penetrated into the hills, and when it does, it will meet orthodox opposition. However, women increasingly vote in school affairs in some districts. Furthermore, here and there a girl returns from Berea, or some other college, with ideas strange to her people.

Perhaps this explains the wide girdle, or other bit of modern adornment, now seen sometimes on the quaint costumes.

We were pushing through a deep forest in toiling over a ridge. Before us were two children, walking in single file, a boy of fourteen and a girl a year younger. Our youthful guide pointed in their direction and remarked, "They were married last spring. Some of us do get married that early hereabouts: but we who have been to the settlement school don't calculate to get married that soon."

"Store clothes" have displaced the homespun garments, the result being unfavorable in the appearance of the men. However, the settlement schools are reviving the home-weaving industry to some extent. The belt is beginning to rival the suspender on "Sunday" garments.

The quaint old English language also is disappearing, though slowly. It is becoming crystallized and is losing its flexibility whereby it was wont to be bent this way or that, to suit the fancy or fit the occasion. In a reminiscence of his boyhood, Professor Dizney tells of a minister in Dizney's valley, who, in preaching about apostasy, took as his text: "If they shall fall away", and who concluded in a high key: "'If they shall fall away', means that they cannot fall away, for anybody who knows anything about the English laguage knows that it is a verb *in the impossible mood and everlasting tense.*" There also comes to mind the following expression: "Law me, Honey, I'm glad to be back from the plains. Wooded mountains make the restinest place to lay your eyes on."

There is about to pass away a most interesting folk-song based upon English and Scotch ballads, and preserved verbally in the mountains with slight modification, from generation to generation. These songs of romantic love, hate, sacrifice, and revenge are sung in almost all of the log cabins. Thereby the visitor, who may have thought that the mountaineers neither weep nor smile, learns with delight that their natures are intensely fluid. The songs are sung in slow time, and in minor tones difficult to express in written music. An effort is being made to collect the words and write the music before it becomes too late.

The open hospitality, once common, is shrinking. An old man in his watermelon patch put it thus: "I used to raise melons for the whole valley, so that the folks would come to sit and talk with me on the porch while we ate them. But now too many foreigners have come in; they

would eat me out of home." Sometimes the mountaineer is disappointed in his hospitality to strangers.

There is a kindly, affectionate courtesy for one another among the people, which, it is hoped, will survive.

There is such a great need for improvement in sanitation that what has taken place is negligible.

The native is accustomed to work in his fields by seasons, with periods of rest between. During an "off" period in September but two men were seen at work in the field during eleven days of travel. It has been his wont to work during the favorable time, or when the larder is empty; or to rest during the unfavorable season, or while provisions are at hand. Therefore, in general, the population is unsuited to the routine of work in the mines, the manufacturing plant, and the lumbering camps, now appearing in the region under the control of outside capital. Furthermore, it is without a disposition to coöperate. Hence such workers are at once the despair and menace of the employer and the labor union. Consequently, foreign labor is imported, and the mountain man is in the way, as was the Indian. He will not necessarily become happy if, to meet modern industrial conditions, he throws off lightly his old attitude toward life gained through centuries of adaptation in the mountains. A few of the most versatile natives are profiting by the rapid changes; but the great majority, formerly independent land-owning farmers, are not. Many are seeking employment in mill or mine, or are contracting to the headwaters. It is significant that the leaders in the mountains, native and mission, deplore the *rapid* advance of industry into the region, and that they are bending every effort to prepare a civilization over a century in arrears, to meet the rude shock of the worst of our culture. In the 1911 term of court, Perry County, being invaded rapidly by railway construction, had nearly 600 cases; Owsley County, without access to railways, had less than 40 cases. A mountain guide in Pound Gap lamented, "The devil is coming into the mountains on wheels." Eight years ago I rejoiced with a clean cut, delightful, energetic man who was returning home from the Kentucky mountains buoyant because he had doubled his fortune by securing some of the primitive forest at an absurdly low price. He was bringing wealth and good cheer to his northern family. Now, with those slopes in mind, deforested, gullied, scorched, and sold ("unloaded"), I am glad that I did not smoke then, for I probably should have acceped some of his fine Havanas. The *rapid exploitation* of the natural

resources of a region by outside capital tends to harm the native, especially if his civilization is not modern. In this case the outcome is in the balance.

The Future.

If exploitation pure and simple continues, twenty-five years will bid fair to bring about the following results: The disappearance of this race of true Americans as a unit; the passing of the valuable timber; numerous forest fires in the region slashed over; greatly increased erosion of the steep hillsides with their soil already thin; short periods of flood within and below the region; long intervals of low water within and below the region; the reduction of fish and game; the introduction of a foreign mining element, also a foreign manufacturing body; and a region of great natural beauty changed to a region of squalidness. Presently, with the increase of population and the value of land in the United States, the region may be reclaimed at great cost.

Outside aid might do the following things: Regulate the exploitation of the coal and timber so that it will be gradual; aid the counties in building good roads; assist in educating the mountain people along broad lines to close the gap between them and us; help them to develop stock raising, fruit growing, scientific agriculture, and scientific forestry. Some of the results would be: The saving of the mountain race as a unit; the addition of a happy, prosperous, food supplying area to the United States; the prevention of the disasters of soil erosion and of flood, and the utilization of water power.

It is being pointed out that men break down under the tension of modern industrialism, unless they, somehow, are brought into contact with the beautiful, and get away for frequent moments of change and recreation. The government owns our national parks; but they are far out West, beyond the financial reach of the average worker. The government might also establish numerous small parks in the Southern Appalachian Highlands, which would become the recreation ground of millions of workers east of the Mississippi River.