

The Nation's Bread.

That bread is justly entitled to be called the "staff of life" is fully borne out by investigations of the United States department of commerce and labor. This department made an investigation to determine the amount spent for food by a "normal" laborer's family. The data obtained from the 11,156 families whose expenses were studied showed the average amount spent for food by a family consisting of husband, wife and five children to be \$329.19 per year. It is interesting to note how the so-called normal family of the average laborer, which seems rather above the normal in size, apportions its money for food and other necessities. Twenty-nine dollars and 20 cents is expended for bread, flour and cereals, and while the cost of the bread is small compared with that of other foods, the amount of nutrients and energy derived from it is large. The laborer's meat bill is the largest of all. He spends \$110.50 per year for all kinds of meat, three and a half times as much as for bread. His butter costs him about as much as his bread, and sugar half as much, while about the same sum is spent for potatoes and vegetables as for bread. Thirty-eight dollars goes for milk and eggs. More coffee is used than tea; about \$10 is spent for the one and five dollars for the other. Religion, charity and tobacco claim nearly equal amounts, while intoxicating liquors come in for a much larger share. Labor organizations get about nine dollars per year, while \$5.79 is contributed to the support of state and local governments in the form of taxes. Sickness and death on the average claim \$20.54. It is quite apparent, says Harry Snyder in Harper's Monthly, that bread and flour do not form a very large item of the food expense of the normal laborer's family, as only nine per cent. of the cost of the food goes for bread and 91 per cent. for all other food articles.

The Effort of Life.

Charles Erskine Scott Wood voices his creed of life and the hereafter in the Pacific Monthly in these words: "I like to insist again and yet again that the effort of life is virtue, not vice (if virtue be the upward flight). That the decree of life is happiness and that as one mode of happiness there is beauty everywhere—by day and night, in summer and winter, storm or sunshine, in desert or mountains, or on the salt and restless sea. The earth is marred by man, not man by the earthly life. The earth is kind to man. It is man who is ferocious unto man, and ravenously covetous. If heaven be not found in this life, on this earth, it will never be found anywhere. He who believes it will be found here and seeks to realize it is no dreamer, but the builder of a solid edifice; and he who seeks it in some vague hereafter, content to submit to the tyrannies of this life, in hope of a reward in another, is the visionary."

One of the most striking signs of this age is the entrance of science into every department of life. A symbolic picture of the twentieth century might represent the spirit of science stretching her hand out over the temples of learning, religion and law. The state of Chihuahua, in Mexico, has passed a sanitary law regulating theaters, churches and other public buildings. All such buildings must have ample fire protection, be properly ventilated, and provide sufficient seats. In the churches it has been the custom of worshippers to sit and kneel on the floors. This is forbidden by the new law, which looks to the health of the people. Old customs are suddenly, sometimes violently, upset by new knowledge, but there never was an age more confident of its new knowledge and more competent to produce the facts than the present age.

The old monitor style of warship is still good for something. One of the class, the Florida, is to be made the object of attack by modern ships and guns, and also by torpedoes, with a view to ascertaining the effect of the fire maintained under such conditions. Several of the obsolete vessels of the British navy have been utilized in this manner, and though it seems like an ignominious end for the gallant craft, the practical knowledge gained is considered more than an offset to any sentimental associations. In fact, rude war takes little account of sentiment.

A dog in a burning building in Rochester saved the lives of 80 people by its timely warning of danger, which forces the pessimistic but inevitable conclusion, original but sad, that some dogs are of far more use in the world than some people.

It is an extraordinary fact that there is \$250,000 in the New York city treasury, an accumulation for 25 years of unclaimed salaries, wages and warrants in general. How careless some people are about money!

SERIAL STORY

LANGFORD of the THREE BARS

By KATE AND VIRGIL D. BOYLES

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SYNOPSIS.

George Williston, a poor ranchman, high minded and cultured, searches for cattle missing from his ranch—the "Lazy S." On a wooded spot in the river he finds that would have been an island had the Missouri been at high water, he discovers a band of horse thieves engaged in working over brands on cattle. He creeps near enough to note the changing of the "Three Bars" brand on one steer to the "J. R." brand.

CHAPTER II.

"On the Trail."

Williston himself came to the door. His thin, scholarly face looked drawn and worn in the mid-day glare. A tiredness in the eyes told graphically of a sleepless night.

"I'm glad to see you, Langford," he said. "It was good of you to come. Leave your horse for Mary. She'll give her water when she's cooled off a bit."

"You sent for me, Williston?" asked the young man, rubbing his face affectionately against the wet neck of his mare.

"I did. It was good of you to come to soon."

"Fortunately your messenger found me at home. As for the rest, Sade, here, hasn't her heat in the cow country, if she is only a cow pony, eh, Sade?"

At that moment Mary Williston came into the open doorway of the rude claim shanty set down in the very heart of the sun-seared plain which stretched away into heart-choking distances from every possible point of the compass. And sweet she was to look upon, though tanned and glowing from close association with the ardent sun and riotous wind. Her auburn hair, more reddish on the ends from sunburn, was fine and soft and there was much of it. It seemed newly brushed and suspiciously glossy. One sees far on the plains, and two years out of civilization are not enough to make a girl forget the use of a mirror, even if it be but a broken sliver, propped up on a pine-board dressing table. She looked strangely grown-up despite her short, rough skirt and badly scuffed leather riding leggings. Langford stared at her with a startled look of mingled admiration and astonishment. She came forward and put her hand on the mare's bridle. She was not embarrassed in the least. But the color came into the stranger's face. He swept his wide hat from his head quickly.

"No indeed, Miss Williston; I'll water Sade myself."

"Please let me. I'd love to."

"She's used to it, Langford," said Williston in his quiet, gentlemanly voice, the well-bred cadence of which spoke of a training far removed from the harassments and harshnesses of life in this plains country. "You see, she is the only boy I have. She must of necessity be my chore boy as well as my herd boy. In her leisure moments she holds down her kitchen claim; I don't know how she does it, but she does. You had better let her do it; she will hold it against you if you don't."

"But I couldn't have a woman doing my grooming for me. Why, the very idea!"

He sprang into the saddle.

"But you waited for me to do it," said the girl, looking up at him curiously.

"Did I? I didn't mean to. Yes, I did, too. But I beg your pardon. You see—say, look here; are you the 'little girl' who left word for me this morning?"

"Yes. Why not?"

"Well, you see," smiling, but apologetic, "one of the boys said that Williston's little girl had ridden over and said her father wanted to see me as soon as I could come. So, you see, I thought—"

"Dad always calls me that, so most of the people around here do, too. It is very silly."

"I don't think so at all. I only wonder why I have not known about you before," with a frank smile. "It must be because I've been away so much of the time lately. Why didn't you wait for me?" he asked suddenly. "Ten miles is a sort of a lonesome run—for a girl."

"I did wait a while," said Mary, honestly, "but you didn't seem in any hurry. I expect you didn't care to be bored that long way with the silly chatter of a 'little girl.'"

"Well," said Langford, ruefully, "I'm afraid I did feel a little relieved when I found you had not waited. I never will again. I do beg your pardon," he called, laughingly, over his shoulder as he galloped away to the spring.

When he returned there was no one to receive him but Williston. To-gether they entered the house. It was

a small room into which Langford was ushered. It was also very plain. It was more than that, it was shabby. An easy chair or two that has survived the wreckage of the house of Williston had been shipped to this "land of promise," together with a few other articles such as were absolutely indispensable. The table was a big shipping box, though Langford did not notice that, for it was neatly covered with a moth-eaten plum-colored felt cloth. A rug, crocheted out of parti-colored rags, a relic of Mary's conservative and thrifty grandmother, served as a carpet for the living room. A peep through the open door into the next and only other room disclosed glimpses of matting on the floor. There was a holy place even in this eastaway house on the prairie. As the young man's careless eyes took in this new significance, the door closed softly. The "little girl" had shut herself in.

The two men sat down at the table. It was hot. They were perspiring freely. The flies, swarming through the screenless doorway, stung disagreeably.

Laconically Williston told his story. He wasted no words in the telling. In the presence of the man whose big success made his own pitiful failures incongruous, his sensitive scholar's nature had shut up like a clam.

Langford's jaw was set. His young face was tense with interest. He had thrown his hat on the floor as he came in, as is the way with men who have lived much without women. He had a strong, bronzed face, with dare-devil eyes, blue they were, too, and he had a certain turn of the head, a mark of distinction which success always gives to her sons. He had big shoulders, clad in a blue flannel shirt open at the throat. In his absorption he had forgotten the "little girl" as completely as if she had, in very truth, been the 10-year-old of his imagination. How plainly he could see all the unholy situation—the handful of desperate men perfectly protected on the little island. One man sighting from behind a cottonwood could play havoc with a whole sheriff's posse on that open stretch of sand-bar. Nothing but a surprise—and did these insolent men fear surprise? They had laughed at the suggestion of the near



"Who Could J R Be?"

presence of an officer of the law. And did they not do well to laugh? Surely it was a joke, a good one, this idea of an officer's being where he was needed in Kenah county.

"And my brand was on that spotted steer," he interrupted. "I know the creature—know him well. He has a mean eye. Had the gall to dispute the right of way with me once, not so long ago, either. He was in the corral at the time, but he's been on the range all summer. He may have the evil eye all right, but he's mine, bad eye and all; and what is mine, I will have. And is that the only original brand you saw?"

"The only one," quietly, "unless the J R on that red steer when he got up was an original one."

"J R? Who could J R be?"

"I couldn't say, but the man was—Jesse Black."

"Jesse Black!"

The repeated words were fairly spit out.

"Jesse Black! I might have known. Who else bold enough to loot the Three Bars? But his day has come. Not a hair, nor a hide, nor a hoof, not tallow enough to fry a flapjack shall be left on the Three Bars before he repents his insolence."

"What will you do?" asked Williston.

"What will you do?" retorted Langford.

"I? What can I do?" in the vague, helpless manner of the dreamer.

"Everything"—if you will," briefly. He snatched up his wide hat.

"Where are you going?" asked Williston, curiously.

"To see Dick Gordon before this day is an hour older. Will you come along?"

"Ye-es," hesitatingly. "Gordon hasn't made much success of things so far, has he?"

"Because you—and men like you—are under the thumb of men like Jesse Black," said Langford, curtly.

"Afraid to peach for fear of antagonizing the gang. Afraid to vote against the tools of the cattle thieves for fear of antagonizing the gang."

Afraid to call your souls your own for fear of antagonizing the gang. Your 'on the fence' policy didn't work very well this time, did it? You haven't found your cattle, have you? The angel must have forgotten. Thought you were tainted of Egypt, eh?"

"It is easy for you to talk," said Williston, simply. "It would be difficult if

your bread and butter and you little girl's as well depended on a scrawny little bunch like mine."

"Maybe," said Langford, shrugging his shoulders. "Doesn't seem to have exempted you, though, does it? But Black is no respecter of persons, you know. However, the time has come for Dick Gordon to show of what stuff he is made. It was for that that I worked for his election, though I confess I little thought at the time that proofs for him would be furnished from my own herds. Present conditions humiliate me utterly. Am I a weakling that they should exist? Are we all weaklings?"

A faint, appreciative smile passed over Williston's face. No, Langford did not look a weakling, neither had the professed humiliation lowered his proud head.

Langford strode to the door. Then he turned quickly.

"Look here, Williston, I shall make you angry, I suppose, but it has to go in the cattle country, and you little fellows haven't shown up very white in these deals; you know that yourselves."

"Well?"

"Are you going to stand pat with us?"

"If you mean, am I going to tell what I know when called upon," answered Williston, with a simple dignity that made Langford color with sudden shame, "I am. There are many of us 'little fellows' who would have been glad to stand up against the rustling outrages long ago had we received any backing. The moral support of men of your class has not been what you might call a sort of 'on the spot' support, now, has it?" relapsing into a gentle sarcasm. "At least, until you came to the front," he qualified.

"You will not be the loser, and there's my hand on it," said Langford, frankly and earnestly, ignoring the latter part of the speech. "The Three Bars never forgets a friend. They may do you before we are through with them, Williston, but remember, the Three Bars never forgets."

Mary Williston, from her window, as is the way with a maid, watched the two horsemen for many a mile as they galloped away. She followed them with her eyes while they slowly became faint, moving specks in the level distance and until they were altogether blotted out, and there was no sign of living thing on the plain that stretched between. But Paul Langford, as is the way with a man, forgot that he had seen a beautiful girl, and had thrilled to her glance. He looked back not once as he urged his trusty little mare on to see Dick Gordon.

(TO BE CONTINUED.)

AS EXPLAINED BY THE EDITOR.

Drastic Action Evidently Was Necessary, and It Was Taken.

The Bule's Creek (S. C.) Index to the Times recently came out with a double-leaded editorial as follows: "We wish to make our abject apologies to Hon. Hezekiah E. Kinney for having said of him in our last issue that he 'fumigates his garments.' What we meant to say was 'furnishes his arguments.' We have had our eye on the printer ever since he twisted a phrase which appeared in an editorial of ours from full of internal rottenness and dead men's bones' into internal rattlesnakes and dead wren's tones.' And as soon as our eye lit upon this gratuitous insult above to the Hon. Hezekiah E. Kinney we armed ourselves with our repeating shotgun, sought out the guilty party and shot him down in cold blood, notwithstanding the fact that the now deceased was the only support of a widowed mother and possessed a large and flourishing family. We wish to assure the Hon. Hezekiah E. Kinney that in the future his person and his speeches will be handled in these columns with respect."—New York Press.

A Backwoods Humorist.

The eastern tourists decided to have a little fun with a Billville citizen to whom they had applied for information as to the road they were traveling.

"How long have you lived here?" they asked.

"Long enough to know better."

"Don't you like the country?"

"When it goes to suit me."

"Ever been up in an airship?"

"No. When I make up my mind to fly, I'll know what to light."

"Ever ride on a railroad train?"

"No. Niguest I ever come to it wuz bein' blowed up by a sawmill."

"Well, tell us what 'moonshine' liquor means."

The Billville man shifted his "chaw" of tobacco from one jaw to the other, spat on the greensward, and as he prepared to climb a fence, said:

"H—I, and a heap of it!"—Atlanta Constitution.

Turkish Labor Too Cheap.

An American manufacturer of laundry machinery tried to introduce it into Smyrna, Turkey, but Consul Ernest L. Harris has reported that so long as the price of labor in that Turkish city remains so low the practice will continue of doing the washing at home, and there will be no opportunity for the sale of laundry machinery. Of late years in Smyrna it has become the practice, he says, to a certain extent to send the washed linen to public laundries for ironing and starching, but even this is ceasing. Specifications were drawn up for the establishment of a laundry after the American plan, and careful consideration was given to the price of coal and labor. It was found that the margin was so small that the undertaking was bound to be a failure.

World's Coal Beds Going Fast

Will Be Wholly Exhausted Within One Hundred and Fifty Years—China to Be Great Future Source of Supply—Water Power Insignificant Substitute for Coal—How Great Coal Deposits Were Formed.

BY GEORGE FREDERICK WRIGHT, A. M., LL. D.

[Author of "Ice Age in North America," "Man and the Glacial Period," "Asiatic Russia," etc.]

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Coal is the chief corner stone of modern civilization. Nearly all the labor-saving appliances must have coal to make them effective. Outside of the muscles of men and animals the chief sources of power available for the use of man are gravitation as it is set free in falling water and heat arising from the chemical combustion of coal. But waterfalls are stationary, and even with the ability to distribute their power through electricity, it is available as yet over only a limited area. If all the power of Niagara should be turned into electricity it could not profitably be distributed beyond the limits of western New York, whereas coal can be carried to the ends of the earth and its power set free for use wherever it is needed. If the prairies of the west and the comparatively level regions the world over, where are found the best agricultural lands, were limited, as formerly, to water power for running their factories and mills, these would necessarily be few and insignificant. Such great manufacturing centers as Cleveland, Detroit, Chicago, St. Louis and Cincinnati would be impossible away from the mountainous districts. It would be a tremendous setback to the agricultural interests of the Mississippi valley if they were compelled to dispense with steam thrashers and steam traction engines and substitute in their places the work of innumerable droves of horses and mules.

It is therefore rather startling to be compelled to face the fact that coal belongs to the limited and rapidly dis-

But, for the moment, leaving aside these rather sobering reflections to the far-seeing statesman and philosopher, we will turn to the consideration of those interesting processes by which even the existing limited amount of this useful material has been brought within our reach and preserved for our use.

Coal is an accumulation of vegetable matter which has decayed under water where oxygen could not get access to the carbon to consume it and transform it into carbonic acid gas, as it does in the open air. The conditions of the coal fields, therefore, during the accumulation of the coal must have been that of vast swampy regions, where there was not depth of water enough to destroy the vegetation or to admit of the intrusion of gravel, sand and mud, which, brought in from surrounding highlands, would have rendered it too impure for use. The character of the vegetation which supplied these great accumulations of coal is amply shown in the fossil forms which appear, especially near the top and bottom of the coal seams, while in some cases the entire stumps of trees are found still standing in place, with their roots penetrating into the under clay which supported the vegetation.

In Nova Scotia there are found no less than 76 seams of coal separated by beds of sandstone and shale. Each of these beds indicates a change of level which took place in the region during its accumulation. During the accumulation of the coal the swamp was so shallow that no currents of water could carry into it sand and gravel to interfere with the growth or to bury it. But after a certain amount of vegetable deposits had accumulated there was a subsidence of the area allowing access to currents of water carrying sediment sufficient to bury the deposit of coal, and furnish the basis for the growth of vegetation in another swamp on top of the accumulated sediment, and so the process went on indefinitely, as long as the climate continued favorable, and these



Coal Fields of the United States and Nova Scotia Shown in Black.

appearing reserved stores of nature. In using coal the human race is 'trenching upon its capital, and recklessly hastening an ultimate but inevitable catastrophe. It is estimated by the highest authorities that the total available coal treasures of North America cover 220,000 square miles, with an average thickness of six feet of workable seams, which would yield 4,800 tons to the acre. The total amount of coal, therefore, that is possibly within our reach in America could not exceed 700,000,000,000 tons. But in the year 1900 alone we were mining but little short of 300,000,000 tons, while the expansion of population and of business is demanding an increase at such a rate that two or three times that amount will soon be necessary to meet the annual demand. At the present rate of increase in the use of coal, therefore, the entire amount accessible in North America would be consumed in less than 150 years.

If we look to the rest of the world the prospect is not more encouraging. The coal fields of Europe are mostly confined to small areas in England and the northwestern part of the continent. Spain, Italy, Greece, Russia, Scandinavia, and the larger part of the German empire are dependent on England for their coal. At the present rate of increased production these fields will be nearly exhausted in 60 years. The remaining great deposits of coal are mostly found in China, where they equal, if they do not exceed, those in the United States. It may therefore be fortunate for the world that China is so slow in her development that her reserved sources of fuel shall yet be available when that in the countries more advanced in civilization shall fail.

The insignificant role which water power in this country can possibly play in keeping up our industries appears on brief examination of the facts. It is estimated by the best authorities that if the entire rainfall over the state of Pennsylvania were utilized with a head of 150 feet, it would not yield one-tenth the amount of power that is now derived in that state alone from the consumption of coal. But on the most extravagant calculation it would not be possible to make available in that mountainous state one-tenth of this theoretical amount of water power. What then would be the condition of those vast areas of the Mississippi valley where water power is far less available?

changes of level continued to proceed with the appropriate rate of rapidity.

The fossil plants of the coal period seem to indicate that the climate was at that time warm and moist and uniform, while the amount of coal accumulated shows that the air was much more fully charged with carbonic acid gas than it is at the present time. Of the coal plants of Great Britain about half were ferns, many of them growing to the size of trees, the most of which are tropical species. Indeed, during the coal period in Great Britain the proportion of ferns there to the other plants was far greater than it is in the tropics at the present day, while tree ferns are now wholly confined to tropical regions. Abundant tropical forms of vegetation are found in the coal seams in Greenland and on Melville Island as far north as the seventy-fifth degree of latitude; indeed, everywhere during the coal period the climatic conditions not only of the temperate zone, but of the arctic lands, were closely similar to those of the present torrid zone.

But, for man's use, it was necessary not only to have coal accumulate: it must be preserved for distant ages and brought within his reach. If the Mississippi basin had remained forever below the ocean level its stores of accumulated coal would have been unavailable. But, through causes which we can but dimly comprehend, at the close of the coal period the land all over that area, which had up to that time been slowly sinking, reversed its movement and began to rise. This elevation was produced by lateral pressure, which folded up the Allegheny mountains and produced a number of diminishing waves, so to speak, in the surface of the land extending to the center of the Mississippi basin.

But no sooner was this land elevated above the sea than erosive agencies went to work to dissect it and to remove its more elevated portions. Consequently it is estimated that more than nine-tenths of the coal which was originally deposited over central and eastern Pennsylvania has been carried away by the rivers, and hopelessly scattered over the bottom of the sea, while the one-tenth which remains is so folded up in the rocks that it is obtained with great difficulty. In the more central portions of the Mississippi valley, however, the disturbance of the strata has been less, and it is a comparatively simple matter to obtain the rich deposits.