

New Calling Opens for Young Folks — That of Impure Food Detective

In Recent Exhibition a Corps of C. C. N. Y. Boys Ran the Villain Coal Tar to His Many Lairs.

NEW vocations for our boys and girls are manifesting themselves. Recent activities on the part of young Americans of both sexes lead many to believe that through them the standard of living will soon be marvellously improved. No class of persons, for instance, has shown a greater determination than they to conquer in the assault against the manufacture and sale of impure food. Boys and girls are now being scientifically equipped to detect fraud. They are also filled with all the glorious enthusiasm of youth to banish chicanery from the face of the earth. Youth and scientifically directed energy! No wonder the impure food purveyors turn as purple as their "olive oil," that turns to cottonseed oil when these boys and girls have tested it.

The booth containing a group of boys from the department of chemistry of the College of the City of New York seemed to attract more attention and inspire more favorable comment at the Domestic Science and Pure Food Exposition, just held in Madison Square Garden, than was accorded by all the other exhibitions combined. Giddy young women with masses of false hair handed to the passing through thousands of samples of food, shrilly declared by countless posters throughout the Garden to be absolutely pure. A military band crashed out symphonic music from the second balcony. Everywhere, except in the booth occupied by the boys from the College of the City of New York, there seemed an air of light-hearted cheerfulness. You felt, as you strolled through the aisles, bordered by attractive exhibits of your favorite baking powder and pancake flour and chili sauce and even all the products of the dairy, that this was a revised edition of the county fair, with canned bacon instead of grunting porters to look at, but with all the charm of holiday making retained, and free ice cream to take, perhaps, the place of the homely bed quilt in your regard.

The boys only were serious, absorbed. They wore surgeons' antiseptic white coats. They were treating with their chemicals and their retorts food brought to them by the public. They have been taught to distinguish good food from bad. A pathetic proportion of the food submitted during the exposition was found by these boys to be impure. So much so, in fact, that the word itself was frequently cast out by them as too weak for the requirements.

We couldn't get along without cooks, it is said, but worse than that, according to these youthful chemists of the College of the City of New York, the cooks would be stumped for the raw materials of their trade if anything should happen to the supply of coal tar. The rallying cry of the cook ladies, confronted with such a catastrophic actuality, would, it is alleged, then be: "Take away our Thursday and Sunday afternoons off, if ye will, but leave us, praise be, our coal tar." A salaried pure food advocate says they couldn't be blamed. Weddings should be frugal apart.

The ordinary trials and the gravity of living are things that are sidetracked, as a rule, until the honeymoon special goes by. But a wedding cake at the recent exposition was found to contain coal tar in such amount that it could be detected by the direct application of hydrochloric acid to the cake itself.

The body of a chocolate layer cake was colored in imitation of egg color taken from coal tar. The chocolate layer contained no chocolate, but did contain mineral matter. Strawberry fruit syrup was discovered to owe its beautiful color to coal tar. Old port, such as is absorbed at Newport and elsewhere, had not only coal tar color, but salicylic acid as well. Pure cherry red fruit syrup blushed with a shame that aroused, however, no pity in the chest of the college chemist, when the result showed that though its glow be as



scarlet, yet its parentage could be traced direct to the coal tar dye family.

The peddler of coal tar is an open book. Coal tar is the thick, black, opaque liquid that comes over and condenses in the pipes when gas is distilled from coal. It is slightly heavier than water, and has a strong, disagreeable odor. Coloring matters for candy, cakes, butter, jam and hundreds of food products are artificially prepared from coal tar, chiefly from the hydrocarbons extracted from it. A cook without coal tar would be in somewhat the same plight as a fireman without coal. It would be different, of course, because the fireman could gather a lot of wood to tide him over.

Instead of rushing to the tenement districts from their proud college freshman days at Vassar, Wellesley and other inspirational headquarters, might not these fine young women, enthusiastic to uplift something, find satisfaction in detecting coal tar where it may prove injurious to the "race"? Girls have proved that they are just as capable as the boys in detecting such frauds by the making of chemical analyses. Also, their influence in the obliteration of all such injurious trade transactions will be far greater. The boys agree to this proposition most cheerfully. The girls say to their mothers and their aunts about food will be zealously followed. The girls will understand how best to bring the question of purity in kitchen supplies to the attention of women generally. And, again, these girls will have families of their own. It is safe to predict that dye stained attacks of candy colored with the same solutions now used on the stockings will not find their way to the mouths of their children.

College girls recently reformed the grocery, drug and confectionery business of Westfield, Mass. They did it more thoroughly than perhaps any public service commission could have done. At all events, they got their results quickly. Perhaps this fact alone is enough to place the schoolgirl squad in the vanguard of public opinion. Westfield, Mass., has learned to respect girls who handle chemicals. The feminine chemical detective has kept forty-five minutes from Springfield, but just do say, those who are in the thick of the struggle for pure nutrition, that the little Massachusetts town is at least fifty years from New York City, and based on such comparison the girls down there should be dating their love letters Frauleinstyle, 1911.

The school is a state normal school. A class for girls in chemistry was started by Professor L. B. Allen. He first showed them how to remove stains from their gowns. Then how to make vanilla and other flavoring extracts. When the dyeing lessons were followed by analyses of foods it became difficult to keep the girls out of the laboratory. Professor Allen invited the pupils to bring food for experiments. Every article served in the school was tested, and the girls began to purchase special articles from grocery, drug and candy shops.

The results were perfectly fascinating. Also they were a little frightening. One girl brought a jar of her favorite brand of raspberry jam for analysis, and found it to contain inferior apples, colored with our old friend and standby coal tar dye and flavored with ether. A delightful recess promoter of life-enduring friendship and affection among the girls was known as a tart. It was known as a tart, that is, until it was tested. Then it proved to be puff paste made with alum, with a jelly centre dyed with—you need only one guess now. It was coal tar.

To make an historical parenthesis short—what happened at Westfield? When the girls anywhere want anything badly enough they seldom have to demand it. The dealers in Westfield fought the troublesome interference of these bright, formerly laughing young women, and then they begged for the girls' approval of their canned and other goods. The only way the girls could approve them was first to put them to the laboratory test. If the goods stood the shock everything would be well.

"Very well," said the grocerwoman, who were beginning to see a great light. "Will you come to the store for the samples, or shall we deliver them at the school?"

"Please deliver all goods in the rear," replied the girls. They were just a wee bit haughty, but felt they were justified.

They say you couldn't buy impure food in Westfield now even with a certificate that it was to be used for fertilizer in the arid lands of the distant but growing West.

Wouldn't it be a fine thing, say the irritators of the impure food producers, if the girls of New York would turn in and do the same thing for the metropolis? A big contract? Not at all, say the pure food sharps. It is altogether in the control of the women. The way to eliminate the evil is successfully to steel one's self against buying any of it. Who buys the provisions for the home? A few give hachelions for a little food along Broadway, but whom do they buy it for? You see, women are at the bottom of the whole thing, say the pure food men. When they once make

up their minds to "ban" the coal tar in pure strawberry extracts and other table luxuries, the present food problem will go into a decline.

At the recent exposition in Madison Square Garden a red undervest of size to fit a small child hung exposed to the gaze of the multitude. The undervest had not always been red. The little child of the blue eyes and golden hair was gone. But there stretched the undervest. Where the child had gone was not explained. How its tiny undervest had met so violent an accident was told by Dr. Frederick E. Breitbut, of the Department of Chemistry of the College of the City of New York. Dr. Breitbut had been with the little shirt through it all, and so he could tell the

harrowing details. He said he had dyed the shirt in the contents of a half pint bottle of strawberry syrup, the label on which had announced, in small type, "artificially colored." This announcement, he said, was not an exaggeration. The syrup had contained coal tar dye, butyric ether, acetate ether and cantharide ether.

"Yes, but how much fruit, doctor?" he was asked.

"No fruit," he replied.

Looking once more at the shirt, one could tell immediately that as a dye the strawberry syrup was unusually successful. How enduring it might be was not pointed out. The doctor believed it would discolor a person's interior long enough to obtain unsatisfactory results.

"The unfortunate thing about this whole proposition is that people who eat impure food do not picturesquely drop dead in the streets," continued the doctor. "The effect of these poisons are subtle. Thousands of persons who have come to see this exposition would, however, have been in their graves sometime ago except for the great work that has been done by Dr. Wylie."

Taking up a bottle of catsup, so-called, he put its contents through the third degree while hundreds of housewives waited on the other side of the counter for the results to be ascertained. The results were weird. Pumpkin potato flour, cornstarch, coal tar dye and benzoate of soda were discovered. Oh, yes; there was some to-

do

College Girls, Too, Recently Reformed Grocery and Drug Trade of a Bay State Town.

mato pulp present. Tomato pulp, the doctor explained, meant tomato skins, cores and the sweepings of the canning factory. The bottle of catsup, so-called, was purchased by one of the college boys to a delicatessen store in this city. The label said: "This bottle contains tomato pulp, spices, salt, potato flour, benzoate of soda and coal tar color." A truthful statement, you see.

"If the women will only read the label," said the doctor; especially the small print. That is the biggest educational point. We don't expect to make them chemists, but they can read."

Imported French peas next received a severe blow.

"I have been around among the grocery stores," said the doctor, "buying imported French peas. Maybe they were imported. Maybe not. None of my business. Some of them had the label 'containing sulphate of copper.' Some didn't. I took a number of cans that had the label. Took a steel-like this one, see—just a plain everyday darning needle. I put the darning needle in hydrochloric acid. Very strong, of course. I then put the darning needle in the freshly opened can of peas. Look at it."

A brown taste would be excusable the morning after a mess of those imported French peas. The darning needle showed a coating of shiny copper. Vivid lessons were taught by the young chemists respecting not only peas, but canned stringless beans, spinach, and other vegetable green, the doctor, passionately explained, were rendered by the manufacturers more green than nature had produced them simply because the women of the country like very green things on the table. The doctor was a little bitter. He said the women were the backbone of the nation and he had as high an appreciation of their unmatchable qualities as any man alive, but he was downright exasperated with them because they would continue to buy these artificially colored vegetables. He said they looked prettier on the table. Pussy candies in lavender, pink, red and green also make charming combinations of color under the soft glow of the table illuminations. And yet, he said, the candy manufacturers got these delicate hues from seven coal tar dyes and nine others—all legal.

A fancy dessert that will stimulate under an electric dome, he said, is prized by the hostess, who unwittingly provides her guests with a worse than useless course. All for the titillation of the palate. Pink anemic bread, whose vitals have been ground out by the sensitive purveyor of flour to the cultivated housewife; white rice that has been scoured and coated with glucose; cherries, bleached with sodium dyes, otherwise the fresh pink of the fruit might break the color scheme of the repast—all these things are enemies of the doctor. (Glacé fruit made shiny with the finest polish that was ever put on a plastic ice cream from which one can distill a much glue of such good quality that it will hold together the chair in which grandfathers sit; cream fattened with powdered chalk! The list is awfully long. When our girls and their mothers make up their minds to bankrupt the purveyor of the titillatingly advantageous food products, the doctor is certain they will succeed.

Robert Kennedy Duncan, professor of industrial chemistry at the universities of Pittsburgh and Kansas, said recently that the demand for good chemists in fuel, water, fuel, mining, criminal and other work far exceeds the supply. And he added, the ball has only started to roll. For twenty years the demand for chemists will far exceed the supply, he believes. The revolution in factory practices that is proceeding is, he said, the most amazing in the history of American industry. The development of the process of least one work that chemists will be an anomaly.

The girl or boy who can make herself a chemist will be a supreme authority, even in a very limited field of industrial chemistry, he points out, limitless opportunities for achievement and adequate reward.

What better field than food? And that is just the way our boys and girls are deciding it.

THE HERETIC.

Sunday School Teacher—Why, Willie, I'm surprised; what part of the Bible is it that you don't believe in the middle when they sweep the family tree—Puck.

Fighting at Spottsylvania's "Bloody Angle" Furious to a Degree That Awed Even Grant

Battle Removed from Effective Service Half of Lee's Forces and One-third of Union Army.

SPOTTSVILIA, whose fiftieth anniversary will begin May 8, 1914, was another Wilderness, except it was a little bloodier and longer drawn out. Virginia was debated ground, and the Rappahannock River and its branch, the Rapidan, almost exactly half way between Washington and Richmond, the political capitals of the Union and the Confederacy, comprised the dead line. "You must not come on the north bank," said the Army of the Potomac to the Army of Northern Virginia, and the latter shook its sabre and shouted across the river a similar declaration regarding the southern bank.

It must needs be, therefore, that the death grapple should begin on the banks of these rivers and that the fighting should be more stubborn than anywhere else and at any other time of the war. "More desperate fighting has not been witnessed on this continent than that of the 5th and 6th of May," said Grant, regarding the battle of the Wilderness. Several witnesses and others have described the fury of the fighting at the "Bloody Angle" of Spottsylvania as being possible only between men of a common race. When Spottsylvania was over one-third of the troops which Grant led over the Rapidan had been killed, wounded or captured, or were missing, while it is estimated that of Lee's original army perhaps half had been removed from the effective roles for the same reason.

A true warrior has no use for a clock except as a convenience for dating his orders and movements and making engagements for his troops. It was 6:29 a. m., May 7, the day following the Wilderness, when Grant drew up orders for a march on the left bank of Spottsylvania. Some students of military matters have declared that the decision to move forward within twelve hours after the close of one of the fiercest struggles of modern times was a conclusive demonstration of Grant's calibre as a general. Doggedly he continued to press forward.

was about six miles southeast of Chancellorsville and eight miles by air line along the Brock Road, from the Wilderness. "Lee may go back to Richmond and crush Butler, who has just reached City Point," said Grant to himself, as he considered what he would do next. "A swift movement around Lee's right, where I can get between him and Richmond and secure a battle on more open ground, is worth trying." Thereupon he ordered it. At 3 o'clock in the afternoon the trains were

on their way. In the gloom of the early evening Warren's corps, Grant and his staff in advance, passed on the rear of Hancock's corps on the way to Spottsylvania. Cheer upon cheer rose upon the evening air as the troops saw that there was no retreat. Chancellorsville was not to be repeated. It was "On to Richmond," and an open field where the sanguinary struggles of the Wilderness would not be repeated. Again cheers burst upon the air. If Grant thought Lee knew nothing of his movements he was mistaken. The keen-eyed opponent had noted the departure of the wagon trains. Where was Grant going? "Is he going around my right or retreating toward Fredericksburg, as Hooker did?" He ordered Anderson with Longstreet's corps to march to Spottsylvania, which he was supposed to reach the next day.

Grant was to serve Lee a good turn, for the burning woods, coupled with the poor facilities for bivouacking, decided Anderson to push right along through the darkness to his destination. The result was that when daylight gave Grant an opportunity to look around at Spottsylvania, he was surprised to find Confederate troops in position in his path. Grant was not the only disappointed man. Overnight, Lee had reached the conclusion that Grant was retreating and jubilantly sent a dispatch to Richmond in the morning saying, "The enemy has abandoned his position and is moving toward Fredericksburg. This army is in motion on his right flank and our advance is now at Spottsylvania Courthouse." Early was ordered to pursue the enemy along the Brock Road. It was a pretty big order. The route he was to follow would have carried him directly through Grant's army if he had had the fortune to get through. But obvious reasons the order was not fully executed.

Lee made no delay in getting his whole army across to Spottsylvania Courthouse when he learned the true state of affairs,



ARMY OF THE POTOMAC DEFENDING THE "BLOODY ANGLE" AT THE BATTLE OF SPOTTSVILIA (Reproduced from a contemporary sketch in "Harper's Weekly," by courtesy of the publishers.)

and while the remainder of Grant's army was coming up his troops worked like beavers throwing up breastworks on every knoll and hill. When they finished they had constructed a fortress that was almost impregnable, for the country favored them. There were no offensive movements on the part of the Confederates in the course of the two days in which Grant was occupied in placing his men in position.

It so chanced that in the course of the first day at Spottsylvania, May 8, that Grant, Meade and Sheridan, the newly appointed leader of the cavalry of the Army of the Potomac, were at the army headquarters. Meade appeared to be perturbed about the safety of his wagon trains. He said something to Sheridan. Apparently General Sheridan took exception to the remark.

"No, I don't mean that," replied General Meade quickly putting his hand on Sheridan's shoulder in a friendly manner. The latter stepped aside impatiently.

"If I am permitted to cut loose from this

army I'll draw Stuart after me and whip him, too," said he in an emphatic tone. Shortly Grant gave him the verbal orders to make the very move he had suggested. It required only a few hours to get the ammunition train, the ambulances and the pack mules ready, and at 6 o'clock the following morning ten thousand troops moved out on the Telegraph Road leading from Fredericksburg to Richmond, with the intention of striking around Lee's army, drawing Stuart's cavalry after them, and by so doing relieving the Union army of

his fear for his communications. This proved to be the most important cavalry raid of the war, and it amply accomplished its purpose. The column under Sheridan if stretched out on Broadway by "four" in close order would have reached from the Battery to Kingsbridge, a distance of thirteen miles. At a brisk pace four hours were required for it to pass a given point. It was an army seldom equalled in numbers in the Revolution, travelling on horseback.

One of the first things the cavalry met

low Tavern, and in a big battle with the Confederate cavalry under Stuart at the point that valorous cavalryman was killed. The cavalry attached to the Army of Northern Virginia was never again so strong as it had been.

They were now close to Richmond, and the citizens were hastily called to arms to protect their city. A part of Sheridan's command rode within the outer lines of fortifications, but reaching the difficulty he would have in holding his place in the midst of a hostile population he did not attempt to take the Confederate capital. Recruiting from Butler's supplies, he turned back and shortly after Spottsylvania rejoined Grant.

General Sedgwick spent the night while Sheridan was preparing for his expedition sleeping on the grass in the open field, with his staff lying around him. With the first light of day he got up and, like his troops, breakfasted, went out on the line of battle where he could watch the preparations of the line. He and his chief of staff sat on hardback boxes watching the operations in the neighborhood of a battery over on the right.

"General," said McMahon, his chief of staff, "do you see that section of artillery? Well, you are not to go near it today," he continued, half jestingly.

"McMahon, I would like to know who commands this corps, you or I?" queried the general playfully.

"Well, general, sometimes I am in doubt myself," was the reply in a similar vein. "Seriously, general, I beg of you not to go to that angle. Every officer who has shown himself there has been hit both yesterday and to-day."

"Well," replied Sedgwick quietly, "I don't know that there is any reason for my going there."

An hour passed. In the absorption of the task in hand the conversation and warnings were forgotten. Sedgwick's battery was a line of troops overlapped a battery.

"That is wrong," he remarked abruptly. "These troops must be moved farther to the right. I don't wish them to overtake that battery."

McMahon started to execute the order.

In This Article of the Tribune's Civil War Series, Contest on the Rapidan's Banks Is Described.

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