Are Ghosts Real Stuff?

By RENE BACHE

AFTER all, it seems that there really are such things as ghosts. Science at last accords them a somewhat belated recognition—though, of course, refusing to acknowledge that they are supernatural. On the contrary (according to the newly accepted theory), they are to be classed as natural phenomena, chemical in character.

Why is it that ghosts, since time immemorial, have been so intimately associated with graveyards? Why is it that the dead in cemeteries are so universally believed to "walk" at night? Why, when specters walk, are they so generally accustomed (in popular belief) to be sheeted—that is to say, clad in winding sheets—though nowadays people are nearly always buried in ordinary clothing?

These questions, and others equally interesting, in regard to phantoms, science is now for the first time prepared to answer. As to the first point, the reputation graveyards have for being haunted is attributable to the fact that ghosts, of the kind now recognized as real, do actually and not infrequently walk about in such places. They are seen at night (rather than in the daytime) because their chemical constitution is such that they can not be visible except in darkness. Finally, they are (or rather, appear to be) "sheeted" for the reason that the gases of which they are composed—here we begin to come to the explanation—flicker and waver in a fashion suggestive of garments.

For some reason not easy to explain, the dead are supposed to be hostile to the living. Few people there be who would not run, terror-stricken, from a ghost, if they thought they saw one. But, making all allowance for this fact, and for the influence of imagination, it still seems strange that the conviction that a graveyard is a dangerous and dreadful place to venture into at night should be so widespread even among educated persons. Nobody objects to entering, or wandering through, a burying ground in the daytime—rather the contrary, indeed, most cemeteries being attractive spots. But at night it is different.

The real cause of this fear lies in the circumstance that phantoms, for reasons presently to be made clear, are, and always have been, haunters of graveyards. People have been frightened by them time and time again, in such places. Other persons, who have not seen them, and who have professed disbelief, have nevertheless been influenced by testimony of the sort. Not often has anybody, witnessing a phenomenon of this kind, attempted to investigate it. Much safer does it seem under such circumstances to take to one's heels.

Nothing but the skepticism of science can fortify a man against the terror of such an experience. But, as it chanced, some years ago, a government anthropologist, of high reputation (now connected with the department of agriculture), Prof. W. J. McGee, had an opportunity to study this matter at first hand. He was living at the time in a small town, in the middle west, where, only a few weeks earlier, a burglar, engaged in the exercise of his hazardous profession, had been shot to death. Hastily buried, he might have been expected to refrain from disturbing the community further—instead of which, he proceeded to "walk," his ghost being repeatedly seen by a number of reliable witnesses, stalking about the potter's field where his grave was located.

Professor McGee, being appealed to on the subject, in his capacity of scientific investigator, finally consented to look into it. He went to the potter's field on a moonless night, sat down a short distance from the grave (carelessly left only half filled up) which had been pointed out to him as that of the late burglar, and proceeded to wait for something to happen. Nothing did happen for quite a while, and he was just making up his mind that he had come on a fool's errand when he descried a dim light immediately over the grave. As he gazed it became steadily more vivid and distinct, appearing to hover in the air—a flame-like, restless thing, about the height of a man and rather strikingly resembling the popular conception of a ghost.

When he attempted to approach the strange object it disappeared. He went back to the place where he had been seated, and it became visible again. Every now and then a gust of wind would seem to "blow it out," and it would vanish for the moment, presently reappearing. Apparently its movements were caused by the breeze, its wavering suggesting drapery. But presently the professor saw another ghost, of similar aspect, not far away, and then another and another, until there were at least half a dozen. It was not surprising that the townspeople (crediting a report to the effect that the burglar's wife and children, deprived of the family breadwinner, had died of starvation) should declare that these unfortunates came at night to dance over the graves.

Porfessor McGee found it impossible to get within a dozen feet of the phantoms, which would always vanish on his near approach. He is unable to explain this circumstance; but he became convinced through careful study of the apparitions that they were nothing more nor less than gaseous emanations of a self-luminous character. In all probability they were largely composed of phosphorus, derived from the dead bodies of people buried in the potter's field.

Here, then, is an explanation of the reason why ghosts haunt burying grounds. They are in fact a natural (not supernatural) product of graveyards, as one might say. In the body of an adult human being there are 55 ounces of phosphorus, seven-eighths of this quantity being contained in the bones (where it goes to make phosphate of lime), while there are 4½ ounces in the red corpuscles of the blood, and nearly half an ounce in the brain.

The processes of decay set this phosphorus free in the gaseous state—under which circumstances, atmospheric conditions being favorable, it is liable to produce, in the night time, effects such as those above described. As is well known, decomposing vegetable matter in swampy places yields an emanation that is highly phosphorescent, causing the phenomenon termed "will-o'-the-wisp," or "elf fire." It is not reasonable to suppose that there is some relation, in respect to cause, between the will-o'-the-wisp (which occasionally misleads unfortunate travelers into boggy places) and the "corpse candles" said to be often seen moving about in the mysterious and awesome darkness of cemeteries? The "sheeted dead" are alleged to carry these candles in their ghostly hands when they walk about among the graves at night.

The skeleton of an adult human being contains about four pounds of the metal calcium. This, in fact, is the most abundant metallic element of the body structure. In the fluids of the body, also, there is a good deal of it. But calcium and phosphorus, when combined, form a self-ignitable substance. Indeed, water will set it on fire. If a bit of phosphide of calcium be dropped into a saucer of water, it will instantly burst into flame, on which account, in the laboratory, to protect it from dampness, it has to be kept in an air-tight jar.

Three other self-ignitable substances, all of them metals, are contained in the human body. One of these (about two ounces in quantity) is the silvery-white magnesium—of familiar use for flashlight purposes by photographers. The other two are sodium and potassium—rather more than five ounces of each. A piece of the former, if thrown into water, bursts into a rosy flame, and swims about violently on the surface until burned out. The latter is likewise set afire by contact with water, on touching which it explodes like fireworks, throwing a shower of sparks into the air. As for magnesium, it is so fiercely combustible that it has to be kept tightly corked in glass bottles, to prevent it from igniting.

Thus is appears that the human body contains, in considerable quantities, quite a number of substances which are self-ignitable, and fiercely so, on coming into contact with water. The marvel is that we refrain from going off by spontaneous combustion, so to speak, while we are alive. When burned, these substances, of course, convert themselves into gases, which are luminous. Under favoring graveyard conditions (the processes of decay going on very gradually), they pass off slowly, by evaporation, and not in any such way as that above described. They present themselves to the view, in darkness, as mere chemical emanations—luminescent, blown about by light airs, or dissipated entirely for the moment by a passing gust of wind. In all probability they consist mainly of phosphorus.

One cannot capture a ghost of this kind. It cannot be trapped in a box or a bottle and conveyed to a scientific laboratory for examination or analysis. Hence it is likely that the true composition of phantoms will forever remain as much a mystery as it is today. But (supposing the theory here set forth to be correct) it is a comfort to know, in a general way, what graveyard spectres are made of.

When people are murdered, and their bodies (as often hapens) are buried in cellars or other damp places their ghosts, for the chemical reasons already given, are particularly likely to walk. So says Prof. Charles F. Munroe, a famous chemist, and dean of the George Washington university, who even goes so far as to declare that he could at a pinch produce in his laboratory phantoms in all important respects corresponding to those which graveyards are popularly supposed to manufacture.

Speaking Over the Wire

Some Pointers to Be Remembered by Those Who Are Users of the Telephone.

Most men—and women—use more nervous force in speaking through the telephone than would be needed to keep them strong and healthy for years.

Nature knows no strain. True science knows no strain. Therefore a strained, high-pitched voice does not carry over the telephone wire as well as a low one.

Impatience, rudeness, indecision and diffuseness blur communication by telephone even more than they do when one is face to face with the person talking.

It is as if the wire itself resented these inhuman phases of humanity and spit back at the person who insulted it by trying to transmit over it such unintelligent bosh.

To a demanding woman, who is strained and tired herself, a wait of ten seconds seems ten minutes. I have heard such a woman ring the telephone bell almost without ceasing for 15 minutes. I could hear her strain and anger reflected in the ringing of the bell. When finally she "got her party" the strain in her high-pitched voice made it impossible for her to be clearly understood. Then she got angry again because "central" had not "given her a better connection," and finally came away from the telephone nearly in a state of nervous collapse, and insisted that the telephone would finally end her life. I do not think that she once suspected that the whole state of fatigue which had almost brought an illness upon her was absolutely and entirely her own fault.—Annie Payson Call, in Nerves and Common Sense.

New Phase of the Moon.

"See, papa—see!" exclaimed a little prattler, pointing toward the moon which, for some moments, had been hidden by a cloud; "the moon is open again."

Enjoyed It.

"Did you enjoy your vacation?"

"Best in the world."

"Where'd you go?"

"My wife spent a month with her folks."

The Kitchen Cabinet

CHARACTER is the seal of a noble mind, the ornament and pride of man, the sweetest charm of woman, the scorn of rascals and the rarest virtue of sociability.

—Sternan.

For a Yellow Luncheon.

During the golden rod season a very attractive luncheon may be served. Let the rooms and porches be decorated with the feathery yellow blossom, having all the table pieces low and not too large.

For the menu serve a delicate soup like cream of celery, and on top of each place a spoonful of whipped cream, and for the yellow color just a suggestion of egg yolk from a hard-cooked egg put through a ricer or sieve. If one wishes to omit the soup, a fruit course may be substituted, or both may be served. For the fruit course, the rich yellow of musk melons served in balls made with a French potato cutter and dressed with a bit of lemon juice and powdered sugar, is very good. For the main dish, chicken croquettes with white sauce garnished with grated yellow cheese, might prove most appetizing.

With the ice cream, which will be plain vanilla, serve preserved yellow pumpkin. It tastes much better than it sounds and is a beautiful yellow to carry out the color scheme. Cut the pumpkin in dainty cubes and preserve with orange and lemon. It is the custom with many who entertain, when carrying out a color scheme, to tie the rolls with ribbon of the color used in the decoration. Ribbon seems very much out of place on food; it may be used in the table decoration to advantage or to tie up small boxes of candy as favors or in countless pleasing ways, but as an ornament or garnish for food, it seems inappropriate.

Mustard Pickles.

Take two quarts of small cucumbers, the same of small onions and tomatoes, one quart of wax beans, three green peppers chopped fine. Let stand in salt water to cover over night, using half a cupful of salt in enough water to cover the vegetables, put a weight upon them. In the morning scald until tender in clear water, drain and pour over the following mustard preparation: Mix one-half pound of mustard, one-fourth of an ounce of turmeric, three teaspoonfuls of celery seed and three-fourths of a cup of flour. Slowly add four quarts of vinegar and cook until smooth.

THE grandest thing in having rights," said George McDonald, "is that, being your rights, you can give them up." "Love seeketh not its own." It is ready always to yield even that which it might justly claim.

Digestible and Nutritious Foods.

There are those, who even yet, after much has been said and written about foods, their digestibility and value in repairing waste and building tissue, speak of digestible and nutritious as synonymous terms.

Foods may be very easily digested that contain little nutriment, for example, the oyster is easily digested but is not as nutritious as we once supposed it to be. Gelatine is easily digested but is of little value as a food. The tissue-building foods are milk, cheese, eggs, fish, lean meat poultry, dried beans, peas, nuts and grains.

Those foods that supply muscular energy and if eaten in excess are stored in the body in the form of fat, are underground vegetables, corn, rice, bacon, olive oil, cream, butter, grapes, dates, figs, honey and sugar. A digestible food is one that is assimilated, a nutritious food is one that repairs waste, builds tissue and gives heat and energy.

To Can Tomatoes.

Take one gallon of water, one cupful of salt and when boiling drop in peeled tomatoes and cook until thoroughly scalded, place in cans, using a skimmer to drain off all the brine. The juice of the tomatoes will make enough liquid to cover and the brine may be reheated for other tomatoes. The brine at last may be canned as it will be less salty after using and after straining it may be used for soups.

Corn Relish.

Cut corn from 12 ears of corn, chop a small head of cabbage fine, sprinkle salt all over the cabbage and let it stand three hours. Drain off the water and put corn and cabbage together, add one cupful of sugar, two quarts of vinegar, one-half cupful of ground mustard, four small red peppers chopped fine cook all until tender, seal in bottles or pint cans. If one does not like cabbage, celery may be substituted.

Water Melon Rind Pickles.

Peel the rind and cut in one-inch slices, let stand over night in salt water. Make a syrup of four pounds of sugar, two tablespoonfuls of ground cinnamon, one teaspoonful of cloves and two quarts of vinegar. Tie the spices in a cloth, pour the hot syrup over the drained melon rind, add the slices, let stand 24 hours and reheat the syrup four mornings in succession, over for winter use.

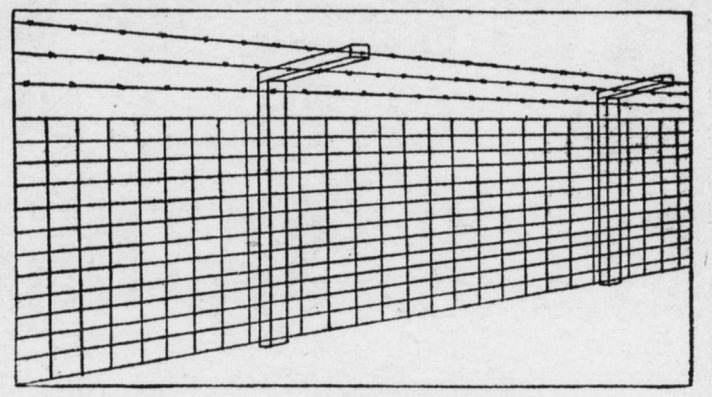
Nellie Maxwell

FENCE PREVENTS WOLVES FROM DEVOURING SHEEP

Best Protection Against Destructive Beasts Is Woven Wire Fence With Barb Wire Stretched Across the Top.

In answering a query as to the best method of preventing wolves from destroying a sheep flock, the Wisconsin Agriculturist publishes the following:

Many bells on a flock of sheep will no doubt do good service toward keeping wolves off though they would not be proof against attacks from the bolder animals. A few well trained shepherd dogs would serve the purpose better and would make very serviceable animals in other respects in helping to attend to large flocks. The best protection against wolves for the flocks, however, would be wolf-tight woven wire fence, with barb wires stretched at the top so as to prevent the wolves from getting over and into the sheep pastures. Such a fence must also be built close to the ground to present the wolves from digging their way through underneath. A barb wire stretched tightly along the ground line will be very serviceable in this respect. The woven wire fence should be at least as high as any farm fence ordinarily in use is, and pieces of 2x4's should be nailed or spiked to the tops of all the posts projecting outward from the field enclosed for sheep pasture at an angle of 45 degrees to the upper parts of the posts. The pieces of 2x4's should be 18 to 20 inches long and to them the barb wires should be stapled. The fence thus made will prevent the wolves from getting over as they cannot get over the projecting bark



Wolf and Dog Proof Fence for Sheep.

wire arrangement even though they manage to get up the woven wire to its top. The accompanying illustration shows clearly how the fence is built. Such a fence is of service to any sheep farmer who wishes an efficient means of protecting his flocks against sheep-killing dogs as well as against wolves.

High Prices for Horses.

We may well doubt the prediction that the automobile will soon put the horse out of business and reports from every section of the west show that well-bred animals are selling at $350 to $500 per pair.

COMFORT FOR FARM STOCK

Should Be Fed at Regular Times and Never Roughly Handled by Being Chased by Dog or Left in Cold.

(By A. D. WILSON, University Farm, St. Paul, Minn.)

One of our good dairy farmers, living in Carlton county, who is also a Farmers' Institute lecturer, Mr. F. B. McLeran, in talking on "Care of Dairy Cattle," always emphasizes the importance of making the stock comfortable. He says that if they are made uncomfortable by being fed at irregular times, so that they spend a great deal of their time expecting to be fed, the discomfort shows in lower production. If they are made uncomfortable by having a poor bed, by being roughly handled, by having a dog set on them, or by being left out in the cold or allowed to go thirsty, these conditions result in decreased production. He emphasizes the fact that one of the great advantages of weighing the milk every day, from each cow, is that it gives one a quick check on any condition that brings about discomfort to his animals. If any cow shows a dropping off of her milk flow, as a rule a little observation will show that she has been made uncomfortable in some of the ways mentioned above; and, knowing these facts, the farmer is able to check these unfavorable conditions quickly.

One of the points that Mr. McLeran especially emphasizes is the importance of not allowing the cows to stay out in the winter when they are uncomfortable. He states that a good way to determine this is to take off your coat and go out in the yard with the cows, stand around and act just as the cows do. When you begin to feel uncomfortable and feel like going into the house, put the cows in the barn.

Autos on the Farm.

Some people have an idea that the farmer will not be able to properly care for his machine, but my experience has been that the farmers who have called for licenses have been fully conversant with the workings of their machines—in fact, many farmers are better informed on mechanics, gasoline engines and the like than the average city man who applies for a license. There is another view held by many city people which is wrong, and that is that the farmer will be content with a small horsepower motor car, says a writer in Baltimore American. As a matter of fact, when a farmer gets a car he wants it so constructed that he can use it for pleasure and for business, and that is the reason that they generally want their cars to have 40 horsepower or better. Time and help are the two things now at a premium on the Ohio farm, and, as an auto saves both, there is an increasing interest in the subject I feel certain that the present fall and spring will be by far the best selling time for farm autos ever seen.

HOW ENGLISH RUN DAIRIES

Cows Are Not Soiled to Any Great Extent but Pasture Is Depended Upon for Entire Summer Feed.

In England cows are not soiled to any great extent but pasture is depended upon for the entire summer feed. They say over there that it takes two acres to keep a cow going as she should.

Early in August the cows are turned on the aftermath of the meadows and later changed back and forth between the pastures and the meadow.

When taken off the pastures in late summer the cows are fed a little cotton seed cake but they do not get much grain at any time.

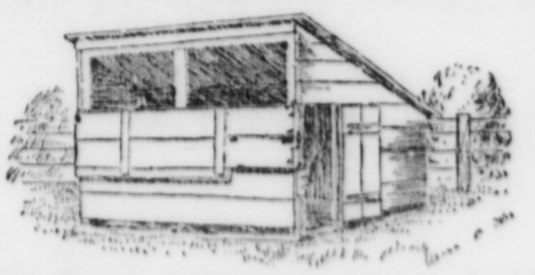
In the winter they are fed roots—40 to 70 pounds per day, about 15 pounds of straw, half as much hay and about eight pounds of meal and oil cake mixed.

The barn yards are paved with cobble stones to keep the cows out of the mud and the manure is saved under sheds. Not a thing is wasted.

There are very few creameries in England and the butter on the market is all farm butter but it is of fine quality, generally a great deal better than our farmers make.

The prices for milk for the year averages about $1.50 per 100 pounds, after the freight is paid.

COMFORTABLE FARROWING PEN



The brood sows must have dry and reasonably warm quarters. The accompanying illustration gives us a fairly good idea of one style of a litter pen. It is roomy and its long panel doors when opened admit of plenty of light and air. This style of a pen is handier for the attendant than are the triangular shaped sheds. These pens can be more easily cleaned and bedded.

Many Goats in Country.

It is estimated that there are over 2,000,000 goats in this country and all are practically free from tuberculosis. Thousands of them are milk goats and are used regularly for this purpose.