a messenger, "Please ask Mr. Smith to call at a quarter to eleven to-morrow," why should my messenger go and ask Mr. Smith to call at about eleven to-morrow? The effect of that is probably this:—Mr. Smith thinks to himself, "About eleven? Oh, a quarter past, I suppose;" and, in fact, he calls upon me at somewhere near half past.

Nobody likes to see human beings behave like machines,—but there are very, very few of us who need fear being turned into cranks or pendulums by our own exact ways. So let us all go and try to be as exact as we can, looking to our friends to warn us when we are becoming too mechanical.

I have seen very serious mischief done through some one's want of care in answering questions. But instead of mentioning serious cases, we will take a small one. Suppose a father is going to take two of his children out for a ramble. They are to start by train at a certain minute, and they are going to botanize at a place where they will be glad to have brought some refreshments with them. The father is working till within a short time of the start. All in good time, he tells Bob to ask Jessy to pack the sandwiches and the wine and water in a certain satchel that they well know. "Tell her at once," says he; and Bob does. Within a short time of the hour for starting the father says to Bob, "Has Jess made up the satchel?" and giddy Bob answers, "Oh, yes." But at the last moment it is found that Jess has *not* packed the satchel; the train is missed, and the little holiday has to be put off. What Bob *meant* to say was that, he having told Jess to pack the satchel, he took it for granted she had done so.

Now this is not only a little case, it is purely imaginary. Yet things of the kind happen, every day, and some of them are very awkward.

We will end, for the present, with this remark,—that it is a very good thing to be sure and pay very exact attention,—"extra" exact, if you will excuse the phrase—at times of illness, of anxiety, of haste; or when there is more than usual to think about. You would suppose that when this is the case the knowledge of it must get into the air somehow, but it is not always so; many persons are always placid, apparently incapable of giving more than languid half attention to what is going on. Their minds won't *bite* at an idea in a flash of lightning; and when you have managed to beat a thing into their heads on one side, you may feel uncomfortably sure that, just when you want it again, it will come out something quite different on the other side. On the whole I think that Being Exact in Common Things ought to be taught in class, with experiments and all that, like Chemistry or Geology.

THE SPECTROSCOPE.

THE spectroscope is one of the most wonderful of modern discoveries. Its birth dates from the time of Sir Isaac Newton; but its application to chemistry, and many most important details connected therewith, is so recent, as to entitle this generation to the claim of its discovery as an instrument at least of research. Many a time the reader has no doubt noticed, with wonder and admiration, what beautiful colors were produced when a ray of sunlight happened to pass through a three-cornered piece of glass, called a lustre, hanging from either a candlestick or chandelier, and also without doubt noticed how delighted school-boys are with the cut "spy-glass," which shows a hundred heads, and these all colors. To many observers the phenomenon is only a mystery, and yet it admits of simple explanation. Light is composed of several different colors. These, when mixed, give forth white light; but, when a ray of white light passes through a three-cornered glass or prism, some of the colors get through quicker than others, and thus the whole become arranged in a line—violet at one end, red at the other, and indigo, blue, green, yellow, and orange in between. This row of colors, which for brilliancy and purity of tint, nothing can equal, is called the spectrum, and, as stated above, was discovered by Newton. The great philosopher furthermore proved that these colors could not be reduced to other and simpler colors. To satisfy himself on this point, he took another prism, and interposed it between a screen and a ray of pure color—say red—and he found that only that color could be seen on the screen, which was not the case when the white ray was passed through the prism, for then the variety already named was seen. To demonstrate with certainty that white light was composed of the colors given above, intimately mixed, he took a circular piece of cardboard, one foot in diameter, and divided it into seven equal parts; in these divisions he painted the colors enumerated, and by means of a multiplying wheel, caused the card to rotate on its centre very rapidly. This so effectually blended the colors to the eye that nothing but an apparently white disc could be seen. The experiment may be tried with a boy's whipping-top, with good results.

The next fact discovered with respect to the spectrum was, that when a magnifying telescope was applied to the band of colors obtained from decomposing a ray of sunlight, innumerable black lines crossed the colors longitudinally; these were discovered by Wollaston, but Fraunhofer counted them, and they are now called after his name. Some time after this, it was found, that if the rays of light obtained from burning certain substances in a colorless flame, as that of the spirit-lamp, were allowed to traverse the prism, a bright band of color appeared on the screen, in one certain place for each substance; thus the red flame from strontia always came where the red rays from the white light came, and the green from baryta where the green of white light would fall, and so on. This opened up to physicists a new field, and continued researches, particularly of Kirchhoff and Bunsen, revealed the importance of the discovery; for, inasmuch as no two metals give the same bright bands, nothing is easier than to burn a portion of the unknown metallic substance, and at once observe by the position of the bands what is contained in it.

To this succeeded the grandest and most important discovery of all. The bright lines were, in many instances, observed to coincide exactly with the black ones mentioned above; this coincidence led some one to try the effect of passing the rays from a flame of one color through a white light to the prism, when, instead of a brighter band, as might have been expected, there was observed a black line. It is naturally concluded that these black lines in the rays of light from the sun and stars are produced by burning metals; and no lines have been observed as yet which do not correspond with those produced by the elements already known on the earth.

A SPEAKER at a political meeting the other night, concluded his address by solemnly warning the audience that "the eyes of the *vox populi*" were upon them.

THE HOUSEHOLD.—As Spring approaches, employ all the care and ingenuity possible to preserve the health of your household during the most difficult and trying season. Grated horse-radish, moistened with vinegar, is one of the most valuable table adjuncts, and should be always in use. Reduce the quantity of meat, and place on your bill of fare instead, fresh eggs, hominy, crushed wheat, and fresh fish.

Spring greens, dandelion and the like, are worth more than their weight in gold, and should be had as frequently as possible.

Messina oranges cut up, and powdered, not too heavily, with sugar, are excellent for breakfast or dessert.

Boiled oatmeal for breakfast, with milk, and cranberry sauce as an adjunct to Graham rolls, will assist to keep the body in excellent condition.

VEAL.—When in perfect condition for the table, the grain will be close and firm, the flesh a delicate red, and the fat white. The kidneys should be covered with white, thick fat, the liver firm, and free from spots. The meat should be hung, and wiped every day with a dry, rough cloth. The loin is the best piece for roasting; the fillet, or thigh, is stuffed and roasted, or cut into steaks, cutlets, collops, etc.

"VEAL PIE."—Cut the veal in small pieces, beat it gently, stew until tender, with a seasoning of salt, pepper, and grated nutmeg. Make a crust with a quart of flour, a teacup of lard, and a teaspoonful of salt, and wet with cold water. Line the earthen dish with it, and bake for a few minutes. Then put in the meat, sprinkle with flour, lay in bits of butter. Cut in hard-boiled eggs, and white potatoes. Pour in the broth, put on the upper crust, and bake half an hour. Venison and mutton pie can be made in this way.

"VEAL CUTLETS."—Cut them half an inch thick from the fillet, or large part of the thigh. If not tender, beat slightly with a wooden meat-mallet; flour them, or dip them in egg, and roll in fine bread-crumbs, and fry them in hot lard. For gravy, pour off the fat, put a tablespoonful of butter in the pan, stir in a heaped tablespoonful of flour until it browns, add half a tumbler of boiling water. Season with catsup, and pour over the cutlet. Serve on a hot dish.

SWEET-BREADS.—Parboil them five minutes, take them up and drop them in cold water. Remove all skin, roll them in flour, and fry in butter, until a light brown. Strain the gravy, add a little flour, pepper, salt, a little boiling water, and if liked, catsup, or a glass of Madeira wine.

VEAL CAKE.—Take any kind of veal free from bone or gristle; chop it fine. It may be cooked, but it is best raw. Season well with pepper, salt, parsley, and onion. Take a tablespoonful of butter, four hard-boiled eggs finely chopped, and a teacup of bread crumbs. Work all well together, with three well-beaten eggs. Shape this into a cake, put it in a greased dish, sprinkle the top with flour, lay on bits of