

Why Aliens Will Come Back

And the Cause of Their Exodus at the Present Time.

By T. U. Powderly,
Chief of the Division of Information, Bureau of Immigration.

SEVERAL causes combine to bring about the eastward march of the aliens now leaving us. Every year a great number of aliens return to their homes for the winter. The railroads, particularly in the North, East and West, lay off men engaged in outdoor work and, following this, others are thrown out of employment. These men find it desirable to return to their old homes for the winter. They have the opportunity to visit their friends and relatives, and can live much cheaper there during the winter than here, for food and lodging are cheaper and the climate is not so severe.

In other years the exodus began the latter part of October and continued up to Christmas, but this season the rush was accentuated by the financial flurry. Those who imagine that our aliens do not read are somewhat in error, for those who cannot read have others to read to them, and they keep a sharp eye upon the trend of events in this country, so that when the papers announced under scare head lines that things were going wrong, these men, not trained to analyze the statements made, took alarm and quite a number more went away than would have gone in former years.

Another cause is to be found in the fact that every four years, preceding the Presidential election, there is a tendency eastward on the part of the aliens. They hear so much said about the uncertainty of Presidential year that they prefer to take no chances and go home early.

There is still another cause for the return of Italians to their native land. It is estimated that about \$100,000,000 will be expended in Italy in bringing the railways up to a proper standard of efficiency, and Italy is calling her sons who have learned how to make good railroads in this country back to their old homes.

There is more work to do in this country than ever before; there is a necessity for more men and women to do it, and the first months of next year will see a return of aliens who will be able to find remunerative employment in this country.

How the Sun Has Puzzled Astronomers

By Waldemar Kaempffert.

THE great ball of fire which we call the sun is not really the sun. No one has ever seen the sun. A series of concentric shells envelop a nucleus of which we know absolutely nothing except that it must be almost infinitely hotter than the fiercest furnace, and that it must amount to more than nine-tenths of the solar mass. That nucleus is the real sun, forever hidden from us. The outermost of the enveloping shells is about five thousand miles thick, and is called the "chromosphere." It is a gaseous flood, tinted with the scarlet glare of hydrogen, and so furiously active that it spurts up great tongues of glowing gas ("prominences") to a height of thousands of miles. Time was when this agitated sea of crimson fire could be seen to advantage only during an eclipse; now special instruments are used which enable astronomers to study it in the full glare of the sun. Beyond the chromosphere, far beyond the prominences even, lies the nebulous pallid "corona," visible only during the vanishing moments of a total eclipse, aggregating not more than seven days in a century. No one has ever satisfactorily explained how the highly attenuated matter composing both the prominences and the corona is supported without falling back into the sun under the pull of solar gravitation. Now that Arrhenius has cosmically applied the effects of light-pressure a solution is presented.

How difficult it is to account for such delicate streamers as the "prominences" on the sun is better comprehended when we fully understand how relentlessly powerful is the grip of solar gravitation. If the sun were a habitable globe and you could transport yourself to its surface, you would find yourself pulled down so forcibly by gravitation that you would weigh two tons, assuming that you are an ordinary human being. Your clothing alone would weigh more than one hundred pounds. Baseball could be played in a solar drawing room; for there would be some difficulty in throwing a ball more than thirty feet. Tennis would be degraded to a form of outdoor ping-pong. From these considerations it is plain that gravitation on the sun would tend to prevent the formation of any lambent streamers and to pull down to its surface masses of any size.—Harper's Magazine.

The American Accent

By Ella Hepworth Dixon.

LAST our good American friends have acknowledged that it is they, and not ourselves, who have the "accent." This is a great step toward improving the American language, for up to now the New Yorker, the Bostonian, and the San Franciscan were at one in assuring the traveling Islander that his speech was spoiled by his "English accent." The Islander was too well bred, as a rule, to betray any emotion or astonishment at this accusation, but he thought a lot. Perhaps his thought was communicated to certain pundits

on the other side, for an American Speech Reform Association has just been started, with the laudable intention of teaching young America to speak the language of England, instead of the weird and complicated tongue which is the result of the salad of races and nationalities thrown hodge-podge on to the American continent. Already the society has issued a pamphlet imploring its compatriots "not to splash your words one into each other," "not to talk through the nose with your mouth tight shut," and "not to use the same phrase a thousand times a day." Even by employing these simple expedients, the New Yorker might make himself understood by a Londoner without going to the trouble of learning Esperanto. As for the astute American girl, she has long seen the expediency of approximating her speech to our own.—London Sketch.

The Deep Significance of Trifles

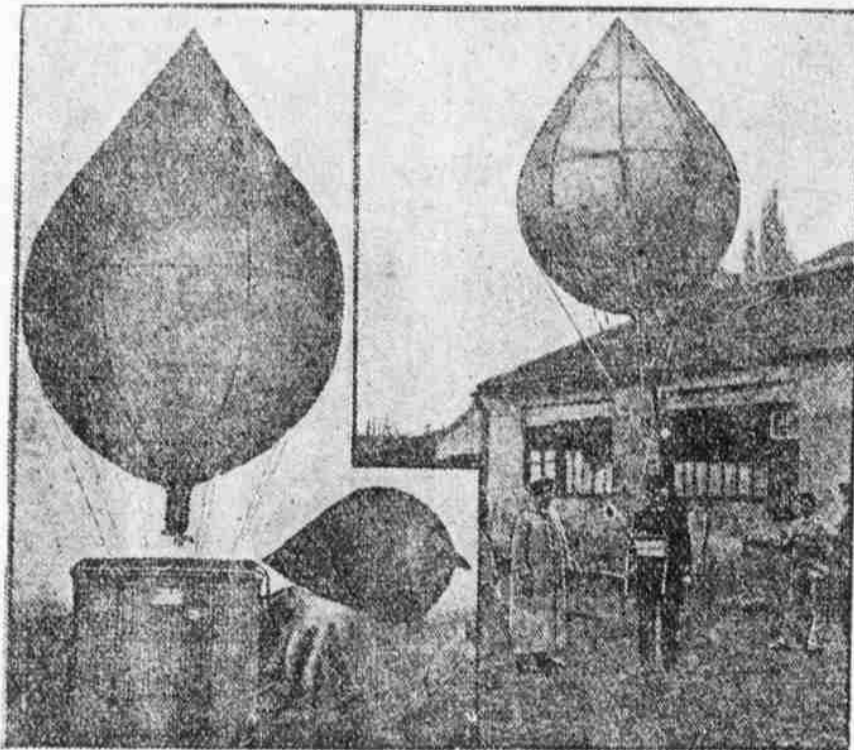
By G. K. Chesterton.

SOME small things go down to the depths just as tiny islets may be the peaks of enormous mountains under the sea. It is a small thing to take off one's hat in the drawing-room; it is an even smaller thing to vote. But these things are trivial or tragic according as they stand for certain strong strong desires in men and women. Wear your hat before a lady and you have said that she is not a lady; you have destroyed the whole structure of civilization on which she stands. Tell a man that he must not vote and he will probably be angry, even if he does not want to. For you are telling him that he is not a man at all; you are turning him out of the club, the coarse and brotherly association which is necessary to males. To sum it up in one awful phrase, you are chucking him out of the public house. That, very rightly, shocks his sensibility. But the sensibilities of the woman are quite different and demand quite different consideration. And no one will ever begin to understand men and women till he understands this fact: That every man must be a man, but every woman must be a lady.

THE USE OF BALLOONS FOR THE PREVENTION OF HAIL.

By the Berlin correspondent of the SCIENTIFIC AMERICAN.

Because of the terrible damage wrought by hail in some parts of Europe, scientists have directed their attention to designing a means by which the outbreak of hail could be prevented, and some success has been obtained by the use of hail guns, firing a shot of either gunpowder or acetylene against the hail cloud and thus dispersing it. Though a number of societies for the installation of these guns have



An Experimental Balloon With a Basket For Recording Instruments.

Dispatching an Experimental Balloon Loaded With a Nitro-Cellulose Explosive.

been founded, both in Southern France and Italy, their usefulness is not universally accepted. Other experimenters have tried rockets, and these have been adopted at some places.

Now, it would probably be more efficient to attack the cloud as it were from its very seat, than to act upon it from the ground. In fact, as far back as 1847 Arago and Dupuis-Belcourt suggested the use of a small captive balloon made entirely of copper, so as to be impervious, and the surface of which would be covered with sharp points. The suggestion was not tried.

The same idea has now been taken up by two Belgian aeronauts, Captain Marga and Mr. Adhemar de la Hault, who, however, use a free balloon, carrying some powerful explosive, such as dynamite or gun-cotton, which is ignited by some attachment as soon as the balloon has penetrated into the hail-carrying clouds. The balloon used by the experimenters is pear-shaped and of three cubic metres capacity. When filled with hydrogen gas it has an ascensional force of more than four pounds. Five hundred grammes of an explosive, with a nitro-cellulose basis, designed by Captain Marga, are carried, together with a slow match.

Experimental ascents have proved successful, and show that in the case of a gathering storm-cloud, it will be possible to so time a charge and direct a balloon as to obtain an explosion in a favorable position for dispersing the clouds. The explosive, suspended at some distance below the balloon, does not injure it, and the latter may be recovered and used again.

Some more extensive experiments will shortly be undertaken at the meteorological station at Mogimont, which has been recently installed by Mr. de la Hault, especially for the purposes of investigating the behavior of thunder storms and hail.

Intelligence of Bees.

Mons. G. Bonnier has informed the French Academy of Sciences of some experiments, recently tried by him, which, he thinks, demonstrate that bees possess a kind of collective intelligence. One of his most interesting experiments was this: He placed a lump of hard sugar within reach of some bees, and near it a basin of water. The bees, finding that their mandibles were incapable of breaking the sugar, organized a sort of bucket brigade to carry water from the basin to the sugar. Having reduced it to a sirupy state, they had no further difficulty. But Monsieur Bonnier noticed, in all his experiments, that single bees gave no such

indications of intelligence. Their minds seemed to wake up only when they were acting in company.

Cot and Bath Combined.

The United States is regarded as the leader in the matter of inventions, but occasionally we get some very striking novelties from the countries over the sea. The one shown herewith comes from England. It is called the bathkot, because it combines the nursery bed and bath. It is designed especially to meet the demands of the summer-time, when it



Ingenious Nursery Device.

is desired to take the baby to the country or shore without all the paraphernalia of the nursery. When not in use it packs in a flat package, and it is made at a convenient height, so that there is not the backache which mother or nurse finds incidental to the ordinary method of bathing an infant.—Philadelphia Record.

The average annual cost for each pupil for public school education in Germany is \$12.86.

THE GUILTY ONE.



"Bother this apple business! First it's Adam, then it's me gets into trouble over them."—Sketch.



New York City.—The blouse that can be made from bordered material is one in great demand just now; for bordered fabrics are many and beautiful while they trim themselves, so reducing the labor of making to the

Sloping Shoulders. Shoulders slope as obstinately as those of the early Victorian heroine.

Over Waists Bordered Material. Here are two attractive yet absolutely simple over waists which can be made either from bordered material or from banding, or from the beautiful ribbons that are treated in much the same way. The upper design includes narrow sleeves that are cut in one with it, and as shown is made from bordered foulard, but very wide ribbons are treated in this way, while bordered materials are many and each and every one suits the design. The lower waist is a little simpler in effect and sleeveless, consequently showing more of the guimpe worn beneath. As illustrated the material is cretonne trimmed with little gold buttons. The waists are joined to foundation girdles, and over these girdles the full ones are arranged.



The upper over waist is made with centre front and centre back portions, which are joined to the main ones, and is closed invisibly at the back. The lower over waist is made with bretelles and with a single connecting strip at the front and at the back. The closing is made at the back, where one side of the strip is hooked into place and the girdle is hooked together invisibly.

The quantity of material required for the medium size is for the upper over waist three and one-quarter yards of bordered material twelve inches wide; for the lower three and one-quarter yards nine inches wide; or if plain material is used either over waist will require one and seven-

minimum. This one is very charming yet simple in the extreme and can be utilized not for the bordered fabrics alone, but for every seasonable waisting material. As illustrated



bordered lawn is used, however, and the borders are joined beneath one of the tucks at the back to give the requisite effect. There also are shoulder straps cut from the border which add largely to the effect, while cuffs and collar are made to match. The waist is finished with hems in place of the usual box pleat, and there are spaces between these hems and the tucks which render it peculiarly well adapted to the bordered materials.

The waist is made with fronts and back. It is tucked on exceptionally becoming lines and the straps over the shoulders are smart in the extreme. The long sleeves are tucked to fit the arms snugly at the lower portion and are finished with straight cuffs and there is the favorite turnover collar at the neck.

The quantity of material required for the medium size is three and three-eighth yards of bordered material twenty-seven or four yards of plain materials twenty-four, three and three-eighth yards twenty-seven or two yards forty-four inches wide.

Cross-Matched Suit.

Black and white is still immensely popular, but if one wishes to be "in grand chic" one must get the white and chadron or copper plaid skirt, with the cutaway Empire jacket of solid chadron.

Modified Empire Gowns.

Strictly Empire coats and costumes are not worn, but the modified Empires are exceedingly pretty and becoming.

The Grandfather Frill.

Much as has been said against the frill down front going out of fashion, it holds its own. There are extremists who wear an immense jabot of net or fine muslin edged with colored ribbon and reaching from brooch to belt. The usual frill, however, is about two or three inches wide and edged with colored muslin, or ribbon if one prefers. The colored selvage is prettier than the all-white.

