

THE LAND RUNNING INTO THE SEA

STARTLING THEORY OF THE GEOLOGISTS

How the Hills and Valleys Have Been Formed

ROCKS THAT SPREAD LIKE TREACLE

A startling theory is now held by many geologists to account for the shape of the earth's crust, with its many hills and valleys.

What has caused these inequalities? Why are the continents not a series of plain, level surfaces?

Lieutenant-Colonel Tandy, of the Indian Survey, has just been lecturing on the subject to the Royal Geographical Society, and explaining the startling new theory of the circulation of the earth's crust, as it is called.

The old idea was that the mountains were formed by the crumbling of the crust as the earth cooled down, just as the skin of an orange wrinkles when the fruit dries up; and it was supposed that the crust, thus cooled and hardened, was fairly rigid. Then the rain and frost cracked up the tops of the mountains, and the winds and rivers and gravitation carried the pieces of rock down.

Balance of the Earth

Now, however, these things are not considered sufficient to account for all the conditions which we find, and the new theory makes the main reason for the inequalities of the surface of the land something quite different.

There is a principle known as isostasy, a name which comes from two Greek words meaning equal and standing. According to this principle the tendency of a globe made up like the earth of substances of different density, is to have the same weight of matter everywhere. The result is that where the consistency of the matter is light there will be bulges, and where it is heavy there will be depressions, in order that one particular section of the globe may be of the same weight as another particular section.

Nine Tons on Every Inch

This, according to Colonel Tandy and many geologists, is what really takes place on the earth.

The continents stand, on an average, about 15,000 feet higher than the ocean beds, and their weight causes a pressure on their base of eight or nine tons to the square inch. This pressure tends to cause the continents to spread out and creep into the sea, just as a great body of ice spreads out under pressure, or treacle runs in a basin when pushed.

This pressure is counteracted to some extent by the pressure of the sea against the sides of the continents, but as that is only about two tons to the square inch there are six or seven tons of pressure per inch to be accounted for. To a large extent this is met and resisted by the strength of the rocks.

Flow of the Valleys to the Hills

But the earth's crust is not uniform. Some of the rocks are weaker than others, and these, under the enormous pressure upon them, do actually spread out. Rocks in mines have been observed to creep.

As the wearing away of the mountains by the weather fills up the valleys there is an underground return flow from the deeps to the higher and lighter regions which prevents the whole earth from becoming a dead level.

It is clear from this theory, which is held by an increasing number of geologists, that the crust of the earth is not the firm and solid thing we have always supposed it, but is more or less acting in the same way as the sea, and is flowing, or spreading.

MUCH COVETED HONOUR

The Oxford and Cambridge Boat Race

STRENUOUS WORK ON THE RIVER

By Our Athletic Correspondent

What is the strange attraction of the University Boat Race?

Putney just now has a bad attack of "the Blues," and hundreds of people who know nothing of the art of rowing eagerly watch the two boats as they flash up and down the river.

The University Boat Race is one of the cleanest, fairest, and most purely amateur events in British athletics.

A rowing Blue—that is, the honour of rowing in the Boat Race against the rival university—can only be gained by a few in each generation, and the best qualities that go to make up a man—unselfishness, self-discipline, and resolution—are put to the severest tests.

The course over which the race is rowed is $4\frac{1}{2}$ miles in length, and the race is all over in about 20 minutes, yet think of the months of preparation—skilled boat-builders at work on the delicate shells less than an inch in thickness, which yet have to be strong enough to bear the weight of 8 lusty young athletes, all more or less in the neighbourhood of 12 or 13 stone, workmen—as skilled in their own way as the boat builders—engaged in making the nicely balanced oars, coaches following their charges along the river banks, shouting out instructions. Putney just now is indeed a sight to see.

The crews row in all weathers, and just before the race are out twice a day, and row a very severe trial over the whole course, but they think little of these hardships, which are more than compensated for by the honour of representing their Varsity.

It is this spirit of true sportsmanship which has gained for the Oxford and Cambridge Boat Race its unique place in the hearts of the British public, and lines the river banks from Putney to Mortlake with more than a million British people of all classes on Boat Race Day. Pictures on back page of Supplement

WORKING TO MUSIC

New Idea in Industry

One of the most practical of modern discoveries is that everyone is improved in every way by a cheerful mind.

It has long been admitted as regards health, but now happiness is recognised as a fine helper in work.

First, someone thought there might be some good in chasing away heavy feeling by letting men smoke, even at work, if the work allowed it and if they longed for a smoke. And it was found to answer.

Then it was remembered that music is a great enlivener, so why not have a musical accompaniment to work—perhaps only a gramophone, or perhaps a band? And they say that answers well.

But the real explanation is that the cultivation of a happy mind, whether by means of a band or by means of hopeful thoughts without a band, is the finest of all stimulants. It braces the whole being. Picture on page 12

LOOK AT YOUR SILVER

Is Our New Coinage Badly Made?

Have you seen anything wrong with the new silver coinage?

The Royal Numismatic Society, which of course makes coins its special study, complains that the new coins are "the most carelessly struck produced in any great mint since the establishment of the coinage press in the 17th century."

The Chancellor of the Exchequer pleads, in reply, that great speed in output has been necessary; but still he does not plead guilty of producing coins that, in the words of the Society, are "a national disgrace." Which is right?

GOOD ADVICE FOR NOTHING

London Mayor's Fine Idea

INQUIRE WITHIN UPON EVERYTHING

Many people are so well satisfied with themselves that they would not care to have advice from anybody.

But there are far more who need advice badly on all kinds of subjects, but do not know where to get it.

Magistrates, who are trusted, are beset by strangers in search of a wise friend, and magistrates often use their judgment well in guiding others.

And now a mayor, the Mayor of Shoreditch, has observed this wide public need, and has invited everybody in that borough to come to him, at a certain time on a certain day, and ask his advice on any subject.

In response to the invitation thousands have called to see him. The mayor's view of the public duties of a public man is so wide and fresh that it may almost be called new.

Prominent people are often asked for advice, but perhaps never before have they been approached in such numbers as have thronged to Mr. Girling, Mayor of Shoreditch.

Does it not show there is a need for a committee of advice in the midst of large populations? Mayors will not always be able to do such work even if they are willing.

Mr. Girling, Mayor of Shoreditch, has drawn attention to a great public need—the answering of the practical questions that perplex many people who do not know where to look for advice.

STOP, THIEF!

An Automatic Car Detective

The robbing of motor-cars has greatly increased of late. Sometimes the whole car is taken, and sometimes a rug, bag, or some other object in the car, is removed while it stands waiting.

These thefts have been particularly difficult to detect, but a new invention which has just been perfected and approved by the police authorities will make it difficult for the robber to escape.

An automatic detective is attached to the car—it may be placed in any part—and when it is set the slightest shaking or movement of the car will start a loud, long-range, electric hooter.

The Scotland Yard authorities have agreed to give instructions to their officers that any motor-car sounding this warning note shall be stopped.

When the owner, after making a call, returns to his car he touches a switch which renders the detective inoperative and quite unaffected by any movement. But when he leaves his car he turns on the switch by means of a kind of Yale key, which he takes away with him.

It is a splendid idea, and there will certainly be some excitement when the first of these "Stop, Thief!" sirens sounds.

THE LANGUAGE LIST

Marathi and Pali

Some weeks ago we gave a list of foreign languages, and wondered if our readers could tell us where these were spoken. The best attempt has been made by a fourteen-year-old Stroud Green boy.

He fails in only two of his answers. Marathi is a language spoken in Central and Eastern India. Poona is the large town most closely associated with it.

Pali, which our reader's answer links with India, is a literary rather than a spoken language, and is best preserved in Ceylon and Burma, in connection with the Buddhist religion.

Pronunciations in this Paper

Carthusian Kar-thu-ze-an
Diderot De-der-o
Maharatta Mah-raht-tah
Massachusetts Mas-sah-chu-sets
Ptarmigan Tar-me-gan

CHIEF SCOUT'S COLUMN

Meaning of True Chivalry

KNIGHTS OF OLD AND KNIGHTS OF TODAY

By Sir Robert Baden-Powell

Fourteen hundred years ago the old knights of Britain used to be sworn to do their duty in these words:

"Sir, you that desire to receive the Order of Knighthood, swear, before God and by this Holy Book, that you shall not fight against the King who now bestoweth the Order of Knighthood upon you: you shall also swear with all your force and power to maintain and defend all ladies, gentlewomen, widows, orphans, and distressed women: and you shall shun no adventure of your person in any way or war wherein you shall happen to be."

Their oath was much the same as the promise that the Young Knights of the present time make when they become Boy Scouts, for they promise to serve God and the King and to help others, especially women and children, and not to think of their own trouble and risk as long as they do a good turn to others needing help.

Be a Young Knight

The knights, being mounted men, were called the "chivalry," the old word for "cavalry," from the Latin "cavallo" and the French "cheval," meaning a horse. Then any noble act done by a knight was said to be chivalrous, or knight-like, so the word chivalry now means doing the things that the knights of old did.

It is chivalry to do one's duty to God and the King, to help women and children and all people in distress, and to be plucky and brave in carrying out one's duty.

The great point about a knight in olden times was that he was always doing good turns or kindnesses to people. His idea was that everyone must die, but you should make up your mind that before your time comes you will do something good. Therefore, do it at once, for you never know when you may be called away to another life.

The Chivalry of Caesar

Politeness was another great virtue of the old knights.

They used to tell a story of Julius Caesar that when he was entertained to supper by a poor peasant the man gave him a dish of pickles to eat, thinking that they were the sort of vegetables a high-born gentleman would like.

Caesar was so polite that he ate the whole dish and pretended to like them, though they burnt his mouth and disagreed with him considerably.

I am afraid some other countries can still give us lessons in general politeness.

In Spain, if you ask a man the way, he does not merely point it out, but takes off his hat, bows, and says that it will be a great pleasure to him to show it, and walks with you until he has set you right upon it.

Rough Diamonds

He will take no reward. A Frenchman will take off his hat when he addresses a stranger. You may often see him do it in London, even when he asks a policeman the way.

A lady told me that when, in one of the Far West Canadian townships, she met a group of wild-looking cowboys walking down the street she felt quite alarmed. But as they got near they stood on one side and took off their hats with the greatest respect, and made way for her.

I am glad to say that the Boy Scouts are often spoken of as the Young Knights of modern times. They have earned this name for themselves by carrying out the law of the Scouts, and I hope they will always keep up that reputation for chivalry.