MODEL OIL FIELD—A three dimensional model of the Heidelberg oil field in Mississippi is being shown to Venezuelan production men R. V. Tailleur, W. M. Sanders and J. V. Todd by J. B. Currie, left, geologist of Gulf Oil Laboratories in Pittsburgh.

ASTRONOMY

Time Differences Explained

Korea's Monday is a Sunday in U. S. Days begin at International Date Line and advance in 24 principal separate steps around the world.

➤ WITH RECENT truce negotiations in Korea, during which people in New York on Sunday evening would hear over the radio that Monday morning sessions had already started, time differences in various parts of the world have been strikingly brought to our attention. And doubtless many share the confusion felt by one inquirer, who wishes enlightenment as to how this happens.

First of all, our time is based on the turning of the earth from west to east, which makes the sun and other celestial bodies seem to turn around us from east to west. The day is based on the time it takes for one complete turn, as measured from one moment when the sun crosses the meridian, i.e., is directly south, until it does so the next time.

A place south of us obviously is not south of a point farther west, so when the sun is on the New York meridian, marking noon, it has not yet reached the meridian of Chicago. There it is 11 in the morning. The sun is still farther from the meridian at Denver, where it is only 10 a.m.

This, of course, is the reason for time zones, and why it is necessary to set one's watch back an hour for each 15 degrees of longitude travelled to the west. Going all the way around the earth, in this direction, one would set his watch back an hour 24 times, and would thus find himself a day behind his friends who had stayed at home—were not something done to correct it.

But "something" was done. It was decided to set one's calendar a day ahead at some stage of this westerly trip around the world. The place chosen is the International Date Line, which follows approximately the meridian of 180 degrees longitude. West of this line it is always the day after the one being marked to the east. Therefore, moving westward, one always shifts forward a day at the line, while he goes back a day on an easterly passage.

We may also consider the date line as the place where the new day is born. At noon, Greenwich time, which is 8 a.m. EDT, or midnight at the line, it begins. Suppose it has been Sunday. Then Monday starts, and advances toward the west with the shift of the meridian which marks midnight. After three hours (11 a.m. EDT) it has reached Japan, and after nine hours (5 p.m. EDT) the new day reaches Iraq. It comes to central Europe 11 hours after it began (7 p.m. EDT) and to England and western Europe an hour after that.

Monday is 17 hours old when, by standard time, it reaches New York. It is then, of course, 1 a.m. by daylight time. Twenty-two and a half hours after the day began, it reaches the Hawaiian Islands, at 6:30 a.m. EDT. An hour and a half after that the midnight meridian reaches the date line once more. Tuseday then begins, and repeats the process.

Thus, General Ridgway, at his headquarters in Tokyo, is having luncheon when people in New York are going to bed the night before. The negotiators in Korea have just finished their morning session.

Actually, the day does not advance smoothly around the world, as indicated in this somewhat simplified description, but in 24 principal separate steps. Each covers an average of 15 degrees of longitude, or one of the time zones. It becomes Monday all at once from Maine to Michigan, and an hour later does the same from Kentucky to Texas. Throughout the world, however, there are many local variations from strict adherence to the time zones. Honolulu, for example, is practically on the border between two zones, so Hawaiian time is not different by a whole number of hours from that which we use. Instead, it is six and a half hours behind eastern standard time.

Science News Letter, August 11, 1951

PUBLIC HEALTH

Safety Rules for Hurricane Season

➤ A LATE summer and fall danger to persons living or vacationing along the Atlantic seaboard or the Gulf coast is the hurricane. The U. S. Weather Bureau, which has been giving hurricane warning service since 1873, gives the following directions on safety measures:

1. Keep your radio on and listen for late warnings and advisories.

2. Pay no attention to rumors. Rely only on the official Weather Bureau advices and warnings.

3. Get away and stay away from low-lying beaches or other locations which may be swept by high tides or storm waves. If your only passage to high ground is over a road likely to be under water during a severe storm, then leave early. Don't run the risk of being marooned.

4. If your house is up out of the danger of high tide and is well built (securely anchored to foundation with a good roof also securely fastened) then it is probably the best place to weather out the storm.

5. Board up windows or put storm shutters in place. When you board up, use good lumber securely fastened. Makeshift boarding may do more damage than none at all. Have strong bracing for outside doors.

6. Get in extra food, especially things which can be eaten without cooking or with very little preparation. Remember that electric power may be off and you may be without refrigeration.

7. If emergency cooking facilities are necessary, be sure they are in working order.

8. Sterilize the bathtub and fill it with water, advises the Weather Bureau. Also sterilize and fill all jugs, bottles, cooking utensils and other containers. Even for some time after service has been restored it may be wise to boil drinking water, unless you are sure the supply received from the city's mains is safe. Your health department can tell you about this.

9. Have a flashlight in working condition and keep it handy.

Danger to life and health threatens even after the hurricane is over. To avoid some of these dangers, follow these rules of the U. S. Weather Bureau:

1. Seek medical care at Red Cross disaster stations or hospitals for persons injured during the storm.

2. Don't touch loose or dangling wires. Report such damage to the light and power company, or nearest police officer.

3. Report broken sewer or water mains to the water department.

4. Don't empty water stored in bathtubs or other receptacles until you are sure that a safe water supply has been restored.

5. Guard against spoiled food in mechanical refrigerators if power has been off any length of time.

6. Take down shutters and save the lumber. Store in a handy place for future use.

7. Beware of broken tree limbs. Collect fallen limbs and debris around the premises and pile along curb to facilitate collection.

8. Unless you are qualified to render valuable emergency assistance, stay away from disaster areas where you may hamper first aid or rescue work.

9. Drive automobiles cautiously. Debris-filled streets are dangerous so keep your eyes on the road. Along the coast the soil may be washed away from beneath the pavement, which may collapse under the weight of vehicles.

10. Be alert to prevent fires. Lowered water pressure makes fire-fighting difficult after storms.

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INVENTION

Bath Tub Use by Invalids Made Easier

➤ THE USE of the bath tub is made easy for invalids by means of an improved bath chair on which patent 2,562,598 was issued to Margaret Brown as executrix of Omer G. Brown, deceased, of Kane, Pa. The seat is attached to a frame on the wall behind the tub and can be moved up and down to the bottom of the tub by manual operation.

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ARCHAEOLOGY

First Tree Felled By Man

Birch tree found in Yorkshire was cut down over 7,000 years ago and preserved because it was lying in a permanently water-logged area.

➤ WHAT MAY very well be the first tree ever felled by man has just been dug up at Seamer, in the English county of Yorkshire. It is described by the British archaeologist Dr. Grahame Clark, in the American scientific journal, ARCHAEOLOGY (Summer).

The tree is a birch, cut down 7,000 to 8,000 years before Christ and preserved until now because it has been lying in an area that is permanently water-logged.

The woodsman was one of a hunter-fisher people who lived in England in the Middle Stone Age at the beginning of the post-glacial period when it was possible to walk across the North Sea. Flint blades of his roughly chipped adz were also found along with birch bark in tightly wound rolls like those in which the Lapps store their bark at the present day.

Every specimen of wood found in this archaeological site was identified as birch. These people were living before the spread of hazel and of such warmth-demanding trees as alder, oak, elm or lime. Analysis of fossil pollen confirms that the forests of those times were dominated by birch, although a certain amount of pine and willow may have grown not far away.

Quantities of the bracket fungus *Fomes fomentarius* were found at the site. These have been used for tinder and other purposes by European peasants down to recent times, but no conclusive evidence was found that the Seamer people gathered them; they may have been brought in clinging to the birch brushwood. Samples of the birch have been dated by carbon 14 tests as 9,488 years old—plus or minus 350 years.

The Seamer people apparently used animal skins for clothing, tents and possibly even for boats. Deer antlers were worked into barbed weapons for the chase.

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OLDEST FELLED TREE—Among the earliest traces of tree-felling yet found are these birch trees lying on the shore of the old lake at Star Carr, Seamer, Yorkshire, England, where recent excavations uncovered evidences of Stone Age men's work.

SURGERY

Skin Flap Operation Relieves Neuralgia

➤ A SKIN raising operation may relieve the intractable and often unbearable neuralgia that commonly follows an attack of shingles in old people, Drs. Kenneth H. Abbott and Bruce C. Martin of Ohio State University in Columbus find.

"Excellent relief from the burning pain" in two patients and "fair to good results" in a third are reported by them in the American Academy of Neurology's journal NEUROLOGY (July-Aug.).

The patient in whom results were only fair to good was a 63-year-old woman who had suffered a nervous break-down at the age of 33 and had shown various other neurotic symptoms.

The operation itself consists in cutting and lifting a flap of skin in the area affected by the pain. The cutting is done down to the muscle. The skin is then stitched back in place by silk sutures.

In this operation, both the nerves of sensation under the skin and also some of the sympathetic nerve fibers are cut. It is this double nerve-cutting that brings the relief, the Ohio surgeons believe.

One patient has been free of pain for three years, another for two years after the operation. This last has had return of sensation and some mild pain in the third year since the operation.

Only when the skin raising operation fails to give relief, Drs. Abbott and Martin state, should the more extensive kinds of nerve-cutting operations be tried.

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