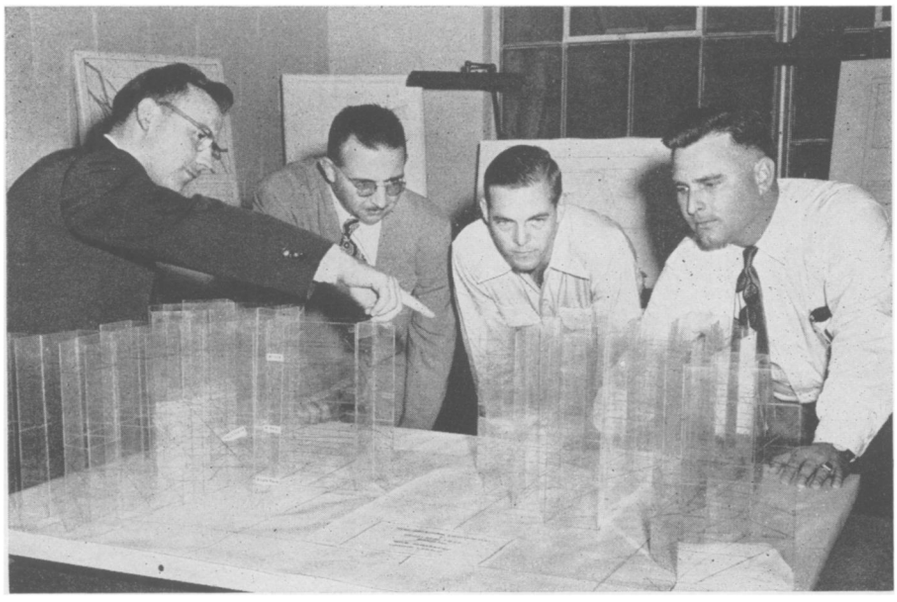

MODEL OIL FIELD—A three dimensional model of the Heidelberg oil field in Mississippi is being shown to Venezuelan production men R. V. Tailleur, W. M. Sanders and J. V. Todd by J. B. Currie, left, geologist of Gulf Oil Laboratories in Pittsburgh.

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.