

exception of the practice of bench-terracing, which had its origin in ancient time.

Every measure mentioned in the press announcements and others were employed, except the Soil Bank.

The work proved successful where properly applied and maintained. To a considerable degree, wind erosion was stopped throughout the Great Plains.

Not all of this work has been forgotten. The Dalhart area in the Texas Panhandle is a notable exception. This was in one of the worst wind-whipped, drought-stricken areas in the whole afflicted region.

Finally the situation in this area was put under control. Even the dunes that had blown up were leveled and controlled with contour plantings of sorghums. And here the farmers had held on to their conservation practices; today these farms are in much better shape than those where the conservation practices were neglected or plowed up. The Dalhart area is a place where Plains farmers can go for conservation information and inspiration.

I mention these matters for whatever

they may be worth. They give me faith to predict a successful outcome of the new battle that apparently is to be fought to the finish, provided it is not made over-complicated and provided further that the farmers, the farmers' soil conservation districts, and those agencies which have had actual experience combating wind erosion along with other pertinent agencies be brought as fully as possible into cooperative action.

And, let's not forget that an element of mathematics is involved: We have a limited area of productive land, which is steadily being decreased by erosion, new buildings, new roads, and so on; we have, on the other hand, a rapidly increasing population. Let's not overlook the fact that these trends can clash with one another—will clash if left unattended.

So let's devote our efforts to solving the problems immediately in front of us. There is no time to waste on notions and unproved theories. We must move on the basis of land facts.

Science News Letter, January 19, 1957

traveled highways, accidents are not related to the highway conditions such as width of lanes or wider shoulders. But, accidents increase when more cars are on the highway; the number of intersections and through driveways increases; sight distance is impaired and cross-section is reduced.

Mr. Schoppert also reported that the Oregon researchers have been able to formulate a series of equations which can be used accurately to predict the number of accidents on rural two-lane highways from road elements such as the average daily traffic, lane width and shoulder width.

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AERONAUTICS

Aging Slowed in Space

► A SPACE SHIP traveler upon returning home from a long journey at high velocity would find that he had aged less than his earthbound twin.

This prediction of Einstein's theory of relativity has been verified experimentally, a United States scientist reports in a communication in *Nature* (Jan. 5).

To reach this conclusion, Dr. Frank S. Crawford Jr. of the University of California Radiation Laboratory combined the results of tests made by several scientists over a period of years.

He substituted the tiny sub-nuclear particles known as mesons for the brothers, since space travel is still for the future.

Some scientists, however, do not agree that Einstein's theory predicts the traveler would return physiologically younger than the stay-at-home. A controversy concerning this has been continuing for some time with strong words in the staid pages of *Nature*.

In order to guarantee Einstein's prediction that a pocket watch carried by a fast-moving space traveler will have performed fewer revolutions than the watch of his earthbound twin, Dr. Crawford says, three assumptions are sufficient. These are:

1. The time change of Einstein's theory of special relativity holds for uniform motion.

2. The acceleration of an ideal clock relative to an inertial framework has no influence on the clock's rate, and the increase in the proper time of the clock at any time is the same as that of the standard clocks in the framework in which the clock is momentarily at rest.

3. The traveler and his pocket watch are "good approximations" to an ideal clock, that is, the accelerations must not kill the traveler or break his watch.

Dr. Crawford sees a check of the first assumption in experiments that measured the lifetimes of mu mesons in flight, then predicted their lifetimes at rest, which value was later verified by tests.

The second assumption, Dr. Crawford reports, was verified by experiments in which the number of mu mesons decaying radioactively when at rest both at 11,500 feet and at 600 feet was counted. The counts were roughly as expected.

The scientists conducting the experiments cited by Dr. Crawford include Drs. Bruno B. Rossi, Norman Hilberry and J. Barton Hoag, Dr. F. Rasetti, Nobel Prize winner Dr. P. M. S. Blackett and Dr. H. Ticho.

Science News Letter, January 19, 1957

PUBLIC SAFETY

Misjudgment by Drivers Big Accident Cause

► DRIVERS misjudge and this is the major cause of accidents, a member of the Oregon State Highway Department told the Highway Research Board meeting in Washington.

A study of accidents on two-lane country highways with gravel shoulders in Oregon led researchers there to conclude that "accidents are essentially chance occurrences resulting from errors in judgment," David W. Schoppert of the Department said.

"The number of accidents," the Oregon survey showed, "increases with the number of situations presenting a change in conditions, and therefore requiring a decision on the part of the vehicle operator."

The study, made along 1,400 miles of highway in an attempt to find a means to predict accidents, also showed that on little