

"Isn't it possible that STOP signs on arterial highways and streets should be replaced with signs such as CAUTION—THROUGH TRAFFIC?" suggested Mr. Van Duzer. "When 56 per cent. of the drivers disobey a STOP sign, is such a sign desirable? The 44 per cent. of the drivers who made a complete stop would obey a CAUTION sign. The 32 per cent. who made a partial stop would continue so with a CAUTION sign and would not be breaking the law as they now are."

*Science News Letter, December 10, 1932*

## ENGINEERING

## Jolts on the Highway Measured by "Roughometer"

THE JOLTS you receive as you drive over rough pavement can now be recorded automatically by a new type of "roughometer" devised by Homer J. Dana, assistant director of the Engineering Experiment Station of the State College of Washington. The riding qualities of various types of surfaces have been compared in preliminary tests conducted by Mr. Dana to test this automatic device developed at the State College of Washington. Very little difference was found between cement and oil surfaces, but a great deal of difference between new and old pavements. The smoothest road included in the test was a stretch of new concrete; the roughest was old concrete. A brick road was a close second for roughness.

*Science News Letter, December 10, 1932*

## ZOOLOGY

## Calves Retain Part Of Wild Things' Charm

See Front Cover

COWS are prosaic. Like all the rest of us that have grown into maturity and (alas!) responsibility, they have their workaday jobs in a workaday world, seeing to it that we get butter and, eventually, beefsteaks. But calves still have something reminiscent of the long-lost wild freedom of the ancestors of even the mildest-eyed of their mothers; they are still something akin to fawns. Even the thoroughly stabled calf that Cornelia Clarke photographed for the cover of this issue of the SCIENCE NEWS LETTER still gives one the "feel" of a soft, brown head suddenly poked at you out of a thicket a thousand miles from the nearest barn.

*Science News Letter, December 10, 1932*

## PHYSICS

# New Machine Measures Strength of Ultraviolet

## Photocells Sensitive to Different Wave-Lengths of Light Enable Physicist to Make Quantitative Analyses

A NEW machine for measuring ultraviolet light accurately has just been developed by Ernest Victoreen, working under the direction of Dr. Hugo Fricke who is head of the department of biophysics of the Biological Laboratory at Cold Spring Harbor, N. Y. The machine makes use of the principle of the photoelectric cell, Mr. Victoreen explained in describing it to his associates at the laboratory. It is expected to be useful in measuring ultraviolet light from artificial sources when used in the treatment of rickets and tuberculosis, and also for determining exactly the amount of ultraviolet light from sunlight available in various localities for treatment and for building up general bodily resistance.

"Methods of measuring ultraviolet light in general use depend on chemical or biological effects, such as the oxidation of oxalic acid, blackening of sulfides, bleaching of dyes, effect on photographic paper, reddening effect on the skin, and bacteriological effect," Mr. Victoreen pointed out.

"Most of these methods in actual use are of poor accuracy, time consuming and inconvenient. Furthermore, no consideration is given to the difference in wavelength dependence of the effect used for recording and that for biological effect.

"The photoelectric method is free from these objections. The intensity is recorded directly, and the method is simple, speedy and convenient."

The photoelectric cell which Mr. Victoreen showed consisted of a glass bulb with a metallic cathode deposited on the inside surface and in the center a metal ring acting as anode.

"A definite electric potential is induced between the two electrodes, which potential is gradually neutralized by the electron emission from the cathode due to the ultraviolet light," he explained. "The rate of neutralization is a measure of the intensity of the radiation."

The action of the photoelectric cell depends largely on the nature of the

metal used as cathode and the absorption of the envelope. With different metals and different glasses of suitable thickness, Mr. Victoreen stated that a cell could be produced having its maximum sensitivity at any desired wave-length.

*Science News Letter, December 10, 1932*

## ANTHROPOLOGY

## Science Seeks to Interpret Irish Nation

A FIVE-YEAR study of Irish civilization is being made by anthropologists of Harvard University, with the aim of producing a scientific interpretation of the Irish nation.

The social life of an Irish county, County Clare, is now being studied, and two years will be required to complete this part of the five-year program, says a progress report of the project, sent to *Science*. County Clare was chosen as the place to study the Irish marketing system, political institutions, land tenure, the family, and other sociological matters, because this county blends typically the old and new strata of Irish Gaelic culture.

Archaeological researches, to shed light on Ireland's ancient history, were also begun this year by Harvard scientists, working under the auspices of the National Museum of the Irish Free State. A lake dwelling of the tenth century A. D. has been excavated at Ballinderry, in County Westmeath. At Knockast, a huge cairn or stone grave was explored and 43 burials of the Irish Bronze Age were found.

Physical characteristics of the Irish people will be studied by Dr. E. A. Hooton, professor of anthropology at Harvard, who is in general charge of the entire Irish project.

The Harvard program has been accorded the official approval of the President of the Irish Free State, the progress report states.

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