temperature affected the daily rate by only three thousandths of a second of time, and the average daily rate of the clock during the whole year varied between 0 and two-tenths of a second. Such accuracy as this greatly facilitates the determination of the force of gravity by the pendulum method, and is an essential condition in many other branches of work.

The determination of the absolute value of the force of gravity at Potsdam by means of the reversion pendulum has been published as No. 27 of the memoirs of the Royal Prussian Geodetic Institute. This extensive work is by Prof. Dr. F. Kuehnen and Prof. Dr. P. Furtwaengler, and has been in progress since 1898. On account of the fundamental importance of the determination of the force of gravity in order to ascertain the exact shape of the earth this problem is considered one of the most important problems in geodesy, and indeed it is but little less important for all branches of terrestrial and molecular physics, and even astronomy itself; all measurements of pressure, weight, volume, density of gases and vapors made on the earth's surface are subject to any irregularity that may take place in the force of gravity. In accordance with a general principle in all exact work, that measurements must be repeated with different instruments, and under different conditions, by different persons, and at different times, in order to detect the influence of every possible source of error, these observations have been conducted under various intentional modifications of method and apparatus. The fundamental variation has been in the manner of supporting the pendulum, so that the work divides itself into two parts: (*a*) pendulum supported by a knife-edge, resting upon a horizontal plane; (*b*) pendulum supported by a plane resting upon a fixed knife-edge. The swings were made at different temperatures and pressures, and with different amplitudes of oscillation; and the reductions to standard pressure and standard temperature were accurately determined. The influence of the elastic bending of the material, and especially of the induced oscillations in the support of the pendulum demanded a long investigation. The general result of this elaborate memoir is exprest in a few words. In the pendulum room of the geodetic hall at Potsdam, latitude 52° 22.86′ north, longitude 13° 4.06′ east from Greenwich, 87 meters above sea level, the length of the simple seconds pendulum is 994.239 ± 0.003 millimeters; or the acceleration of gravity is 981.274 ± 0.003 centimeters per second per second; or a heavy body falling freely in vacuo will fall 490.637 centimeters during the first second.

PERMANENCE OF CLIMATIC CONDITIONS.

[Extract from letter of Mr. ETHAN ALLEN to the Chief of Bureau. Dated Perry, Okla., January 22, 1907.]

Observation has shown me that the weather conditions do not change; taking a number of years, say twelve, and making an average the rainfall will not vary more than an inch or two in any one period over any other. It is true that in some years the precipitation is slightly more than in others; during some years the rainfall is better distributed than others; but take any period and the rainfall is about the same. After all is said the fact remains that this is a dry country, and there are natural causes why this is so and why it will remain so.

We read in the Old Testament that Abraham, Isaac, and Jacob, old cowmen of their day, living in a dry country, were fighting over water rights; and the fact is the people living in the same country in which they lived are to-day disputing over the water necessary to support their stock. It was dry then, it is dry now, after all these years of settlers; and in a thousand or two thousand years there will not be any more rainfall in the "Panhandle" than there is now. Anyone that expects anything different will be disappointed.

While there is no change in the rainfall there is a change in the people, and the people have learned better how to farm arid lands, how to plant crops better adapted to droughty conditions, how to utilize the moisture that does fall—until some confound the change in treating the soil with a change in climatic conditions.

All the dry land east of the mountains will ultimately be utilized, with the rainfall that naturally comes, but it will be by adapting conditions to the rainfall—never by changing the rainfall, for that is impossible.

IS NOT HONESTY THE WISEST POLICY?

A significant article in the Independent of January 31 narrates the trials of an honest independent thinker, who at the end of a long life is only able to say: "I am a slave to my committee, and always have been;" and again: "I like to recall the intellectual, as well as spiritual, independence of my grandfather, but that was fifty years ago. * * * Men are no longer measured by spirituality, or by intellectual achievements. * * * It is a miserable fact, which we must honestly face, that the average man is hypnotized out of his independence and manhood by the rich man of his environment. * * * The time has come when he who wishes to be successful must be financially independent of his salary".

All this may be true of the ministerial, educational, and some other professions, but it ought not to be true of the scientific man, and least of all of the meteorologist; and yet we are told that the frosts and freezes in one State, droughts and rains in another, earthquakes in still another, the tornadoes of some regions and the hurricanes of others, are matters about which "mum is the word"; that Weather Bureau men must not publish honest reports on these subjects because of the injury to local business enterprises and land booms, and that when they do make honest reports they must suffer attacks from those who wish to suppress the truth.

This ought not to be. If a few persons are injured by some unexpected natural phenomenon, be it earthquake, storm, frost, flood, drought, or stroke of lightning, the rest of the world is interested to know that fact; for it enables us all to be on the lookout for similar occurrences. Forewarned is forearmed, and it is the highest duty of the Weather Bureau to care for the best interests of the whole community. We are supported by the whole nation and owe to it our best service. An active business man may be justified in booming his own business and the financial interests of his clients, but he protects only a small part of the community; and the law does not allow even him, in helping his own friends, to work any injury to others. The weather, the mineral, agricultural and forest conditions, and the health of the community are among those matters of universal interest about which the whole truth should be known as nearly as we can get at it. Every patriotic citizen must rebel at the idea that a government for the people and by the people shall not be permitted to publish an honest report of data gathered by its own official observers for the use of all the people.

It is wrong to mutilate or suppress the record of an observation of a phenomenon of nature, but it is also wrong to make a bad use of the record. In fact, it is the misuse of meteorological data, not the observing or publishing, that constitutes a crime against the community. Observation and careful research are to be encouraged as useful. Misrepresentations are to be avoided as harmful. The "Independent Press" as the "Voice of the People" should be not only "Vox Populi" but "Vox Dei", repressing all cheats and hoaxes, defending the truth and the best interests of the whole nation as against the self-interest of a few.—*C. A.*