

Deer Antics of Nature's Children Forecast Weather.

MAN'S most modern invention in transportation is the best barometer of the weather in existence. It is the mogul locomotive.

Ask any engineer on the road when he steps down from the cab after a long run, and you generally can take your raincoat with you or leave it at home on his mere "say so." His methods of forecasting the weather are simple in the extreme. They're the same our forefathers used more than half a century ago, and they hold good in the United States Weather Bureau to a certain extent today.

If a locomotive's steam and smoke from its stack trail behind in compact spiral masses an engineer will tell you we're going to have rain. If they disappear almost immediately they leave the smokestack it's an indication of a long dry spell ahead. The former indication resembles the cumulus clouds that are almost invariably forerunners of precipitation. The latter status indicates the moisture in the steam is evaporating almost immediately it leaves the boiler, and therefore the air is devoid of any indications of rain.

Old Methods Utilized.
Gossip-bone prophets in the past were looked upon with a reverence akin to awe. The highly specialized United States Weather Bureau has grown a trifle more deft in its prognostications, but it employs virtually the old-time weather "sharp's" methods, except on a broader scale, abetted by telegraph and telephone. Did you know that:

If it grows hotter each day you can rest assured there is going to be a spell of fine weather.

A rapid fall of temperature for a few hours is an indication a storm or squall is coming.

Light morning mists are an indication fine weather is ahead.

It's an old saying that "he who would be need only speak of the weather." But it's a malicious saying, for the weather expert is confronted with a thousand conditions that may put his calculations all awry.

There are only three factors that are fundamental in the duties of the weather forecaster. They are the clouds, the winds and the temperature. And the barometer is his most useful instrument, for the temperature virtually is the sole governing medium.

Prediction Fairly Accurate.
But it is possible on any given day to announce the weather of the morning, not, it is true, with certainty, but with a very great probability; and this probability, if we carefully watch the barometer, the winds and the clouds, may be as high as 90 per cent.

The origin of all bad weather, the "egg," one might say, from which every storm issues, is a "barometric depression," which means a more or less wide area of the earth's surface about which the atmospheric pressure is more feeble than in the surrounding regions.

Around such an area the air moves in circles; it tends to rush toward the center of the depression, turning in the direction opposite to the hands of a watch. This is what we call a cyclonic movement, and the region over which the depression is found is called a cyclonic center.

Barometer is Best Key.
This depression is characterized by the fact that it does not remain in one place, but travels to the north or south, and it is essential to know first if a depression is to be feared, then, if

this exists, to know from what direction it is coming.

Observation of the barometer is the basis of weather study. Let us suppose, then, that the observer has a good barometer, either mercury or aneroid. The one thing to notice is whether the barometer is "rising" or "falling"; that is to say, whether its pointer is moving from left to right or from right to left.

It should be understood that in the course of a rapid fall, announcing bad weather, the pointer of the barometer, starting from "set fair," may at the moment you look at it stand at "fine," although it is in full descent and forecasting bad weather. This being understood, here are some directions which will help you to make useful forecasts by reading the barometer.

As in every cyclonic movement caused by a depression the air is rising in the center, the masses of air so raised spill over again at the outer edge of the depression and there produce a slight rise in the barometer. So if after a sharp fall a slight rise is seen, this generally announces the arrival of a depression. A considerable and swift fall announces the near approach of a depression. A slow and feeble fall forecasts the lasting of the present weather, provided the fall is really feeble. A continuous, persistent rise indicates a spell of fine weather. This is what is called a "anti-cyclone." In summer it corresponds to those long successions of hot days which meteorologists wrongly call "heat waves."

Clouds and Winds of Value.
A too rapid rise after a clearly defined fall almost always announces a new depression. A rapid fall of brief duration—a few hours for example—announces the arrival of a squall or in times of great heat the formation of a storm.

The words "rise" and "fall" are applied to clearly marked variations of at least a millimeter and a half or two millimeters; smaller variations of about one millimeter are merely fluctuations that take place daily, even in fine weather.

Barometric observations are supplemented by watching the clouds and winds. When we see cirrus clouds, light filaments floating in the upper regions of the air, arrive rapidly in a clear sky; if besides the wind that is blowing at the surface of the earth is blowing in the direction opposite to that from which the clouds are coming, we may be certain of the arrival of a depression.

An eminent forecaster, among his rules had laid it down that "a depression always travels toward the region of least resistance." Now a region in which the winds are blowing in opposite directions offers less resistance to the progress of a storm than a region in which the winds are blowing in the same direction as the storm.

The coming of the depression is made still more certain if the cirrus clouds are followed by cirro-stratus, which look to the eye like a light veil, and above all by cirro-cumulus, those clouds in patches that give the sky a mottled appearance. Then the arrival of bad weather, to last some time, is more than probable.

Cirrus Clouds Spell Fine Weather.
The sky overcast very quickly without any cirrus being seen, without a



Fig. 1—Plan of a Cyclone Centre.

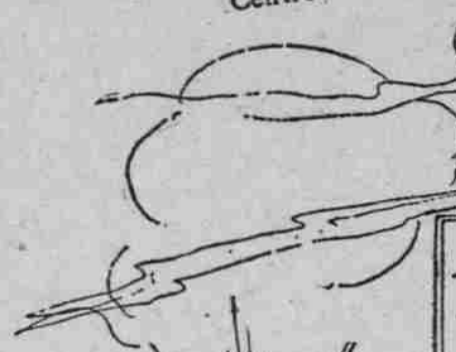


Fig. 2—Section Through a Cyclonic Section.

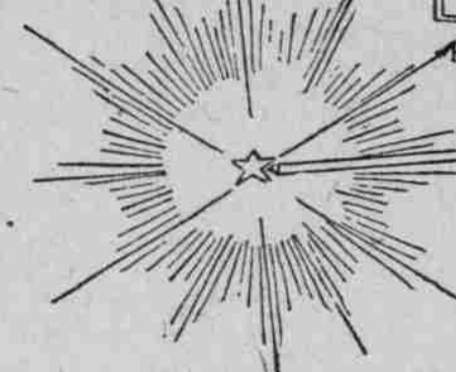


Fig. 4—Clover Raises Its Leaves

rise in the wind or a sudden fall in the barometer, means the immediate arrival of the depression, and in time of great heat a sudden storm.

There also are clouds that announce fine weather. Such are the light morning mists that accompany the dew in periods of fine weather. When at such a time we see in the morning very light and very slow cirrus clouds, the fine weather will last. The majestic cumulus, those beautiful white clouds on the horizon like ranges of mountains with their summits covered with snow, also are fine weather clouds.

Really there are scarcely any clouds of bad omen, except the rapid cirrus and the cirro-cumulus. Those dark gray and black clouds, those nimbus and cumulonimbus, as they are called, seen in time of rain or storm, do not announce a depression, they accompany it; they are not a prognostication but a manifestation of bad weather.

Cirrus clouds, so valuable to the forecaster, may serve also at night when we cannot see them directly. When they pass across the face of the moon they are the cause of the "veil" or "ring," as the case may be. The sight of such a halo around the moon is proof of the presence of cirrus and generally means a change in the weather.

Certain other symptoms may help the sagacity of the weather observer. Look at a train rushing across the country. The steam escapes in white clouds from the locomotive's smoke-

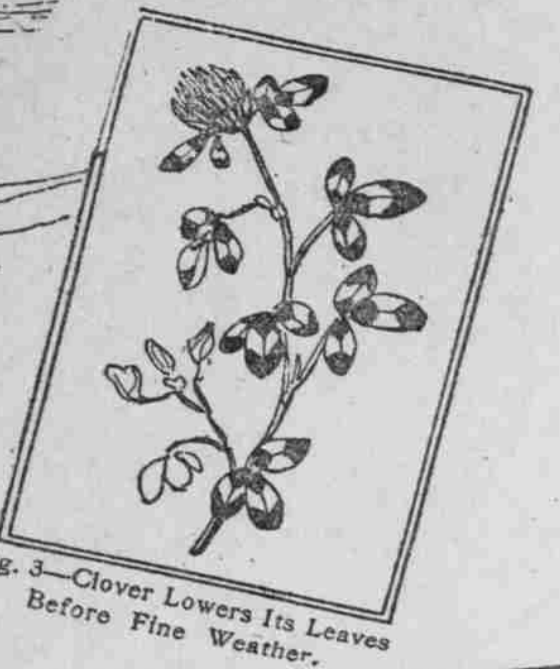


Fig. 3—Clover Lowers Its Leaves Before Fine Weather.

stack, but it may issue in several different ways. If it forms a long, floaky streak, recalling the appearance of the cumulus clouds upon the horizon, it shows that the vapor is condensing easily in air that is therefore humid, and this humidity is always favorable to rain.

If, on the contrary, the puffs of vapor dissipate in the air almost immediately on issuing from the smokestack this means that the condensed drops are evaporating rapidly, so the dry air does not present a condition favorable to rain. It is, therefore, a sign that permits us to hope for fine weather. No one of these directions

furnished by the barometer, the wind and the clouds, they supply us with data upon which to base valuable forecasts.

Observation of certain plants and animals will also help us to forecast the weather. Clover lowers its leaves—it will be fine; it raises its leaves, rain is coming. Fennel stands erect when it is going to be cold, sags down when it will be hot. Wild strawberries fold their leaves before a heavy storm. Morning glories and sorrel close before rain; lettuce opens.

Swallows and martins fly high in the weather; when they skim the ground look out for rain. Before a storm chickens roll in the dust, peacocks squawk, ducks plunge into their water, pigeons hesitate to return to their cote, rats and mice get excited, flies become more obnoxious, bees seek their hives, spiders do not spin, worms stretch themselves, frogs croak and toads leave their holes.

Pinnacle Rock Near The Dalles.
Many curious works of nature dot the landscape along the Columbia River. Among them none is more attractive or inspiring than Pinnacle Rock, near The Dalles. It rises abruptly from a rocky base implanted firmly in the rugged shores of the Columbia, which has carved a path for itself through the backbone of the Cascades.

This Pinnacle Rock, like others of its kind, has withstood the ravages of the elements and stands like a lone sentinel guarding the great Columbia basin and keeping time for the waters as they pass on their way to the ocean. Its sides are rough and jagged where the winds and rains have worn away the softer substances that compose it. Small crevasses are left between the edges of hard material that hold it together, and these crevasses, not infrequently, are filled with shifting sands and again are emptied by the winds.

\$5000 Pearl in Oyster.
New York Tribune.
When George Rogovsky, a Russian tourist, returned from a party at a restaurant he did not know that before he arose he would throw away a pearl supposed worth \$2000 and retain one valued at \$5000.

Weird Ways Carnegie Medals Have Been Won

SINCE Andrew Carnegie established a fund of \$5,000,000 to provide rewards for valorous deeds in the saving of human life, over 700 persons have been honored by the hero fund commission.

Heroes and heroines—any number of them—have swum their way to medals, rescuing fellow creatures from what would have been watery graves.

They have gone into burning buildings by scores to drag forth human beings that otherwise would have been victims of the flames.

Thrilling rescues by the dozens have been made where trains, moving at a frightful pace, were about to crush out lives, helpless on crossing or trestle.

Explosions, cave-ins, runaways—all these have figured time and time again in real life dramas in which the finale has been the bestowal of a Carnegie medal.

Yet there are Carnegie medal winners who have gone out of the beaten paths.

It was at Porters Lake, Pa., that Lucy E. Ernst, 20 years of age, saved Harry E. Schoenhut, aged 16, from death from snake bite. Miss Ernst, though having a fever blister on her lip, repeatedly sucked the venom from a rattlesnake bite on Schoenhut's shoulder.

Porters Lake is in the wildest part of Pike County, where the bear, the deer, the black bass, the pickerel, and the rattlesnake hold dominion. Miss Ernst and young Schoenhut, who were staying in the vicinity, started out one straight July day to inspect a pheasant's nest.

Flowing through the brush, Schoenhut stopped beside a fallen birch and reached down for a stick. From the leaves there came a shrill, singing sound. Then came a quick rush of some poisonous thing, a darting through the air, and Schoenhut straightened up with the cry:

"A rattler's got me! He's struck me on the shoulder.

Brave Girl Acts Quickly.
The girl's face grew deadly pale as the man spoke, but she did not lose her presence of mind or her courage. Without a word she grabbed the knife which the young man had dropped and before he realized what she was doing she had cut away his sleeve and had pressed her lips to the two small black dots in the arm that showed where the rarer's fangs had struck, where the youth tried to push her away.

The young man stopped further remembrance by grasping her by the throat. She knew she had a fever blister on her lip and she knew also that if one who sucks the twin punctures through which the snake sends death has a



CAUGHT THE CHILD AND PULLED IT ON WITH HIM TO SAFETY.

broken tooth or an abrasion of any kind in the mouth or on the lips, it is as though the snake had thrust its fangs there. But she did not hesitate. Rescuers found the two practically unconscious. For a week Schoenhut lay silent and still. There had been enough of the venom in the man's veins to bring him to the portals of death. Through the little blister on the girl's lips enough poison had entered to bring her to the door of death, too.

For her act Miss Ernst received a silver medal.

Then there was the medal for John M. Delo, who tried to catch a fellow workman in his fall from an electric light pole, and who was himself injured as a result.

Delo, a 27-year-old electrician, and Roy Yingling, aged 24, lineman, were working together on a job in Oh City, Pa., when Delo glanced up in time to see his companion, working at the top of a pole, stiffen from a shock received on the wires. Delo started to climb the pole in going to the rescue when to his horror he saw Yingling start to fall. The body was coming straight toward him. He could have dodged out of the way, but his only thoughts were of the terrible fall his fellow workman was about to receive. He reached out his arms and Yingling crashed into them, the two being knocked to the ground. The force of Yingling's fall had been broken and he survived. Delo survived, too, but

for weeks he lay ill from a fractured skull.

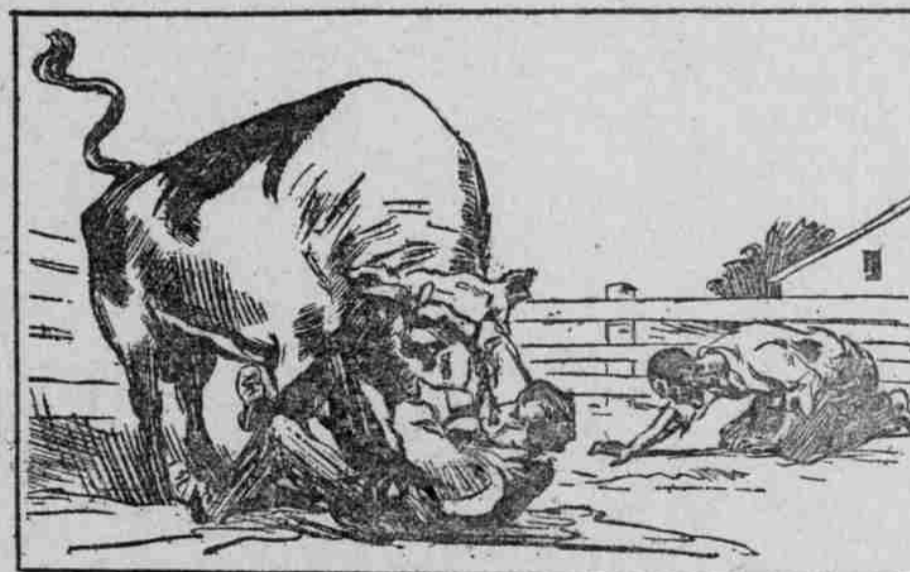
The commission recognized the act with a bronze medal and \$500 to reimburse for pecuniary loss sustained on account of injuries.

Fights Bull With Pocketknife.
What do you think of fighting off an enraged bull with no other weapon than a pocket knife?

Yet that was just what Clifford V. Graves, a Versailles (Ky.) farmer did one morning. Graves was attracted to his barnyard by cries to find Merritt L. Brown, a negro neighbor, being trampled and butted on the ground by an angry bull.

Graves looked about him for some weapon with which he might combat the animal which was holding a human being helpless beneath its fury. Before he would have time to rush back to the house for a gun, it would be too late. The negro was calling out pitiously. Reaching in his pocket Graves found an ordinary pocket knife, and with it, unmindful of the danger that would be transferred to himself, slashed at the angered bull.

The animal diverted its wrath towards the interfering Kentuckian, who slashed at the animal, only to be knocked down and severely butted. Frantically, he stabbed, each time bringing forth spurts of blood, but the knife was a weak weapon at best. Graves was beginning to fear that he would not be able to survive the torture much longer. He was no longer able to make use of the



FIGHTING A BULL WITH A POCKET KNIFE.

knife. He saw everything turning black.

At the critical moment Graves' huge dog dashed on the scene, attacking the bull with such ferocity that it was chased away. Both men were saved, but Graves suffered from a fractured rib and bruises all over his body.

For his heroism the Kentuckian received a bronze medal and \$700 to be applied to liquidation of his debts.

Insane Woman Battles in the Air.
Sticking his fingers and toes of his shoes into the meshes of a wire lattice screen, inclosing the porches of a hospital, Thomas W. Moran climbed a distance of 42 feet and carried on a struggle with an insane woman in order to save her from a fatal fall.

The incident occurred in Pittsburgh, Pa. Moran, a contractor, 42 years of age, was going home from work one evening when he saw a woman trying to make her escape from one of the top story windows. Moran realized that he must act quickly, and, fearing that the woman would come dashing to the ground any instant, he climbed on the wire inclosing the hospital porches, determined to make a rescue.

The man reached the woman as she stood on a two-inch ledge of the screen, 42 feet above the ground. Throwing his arm about her waist, he got behind

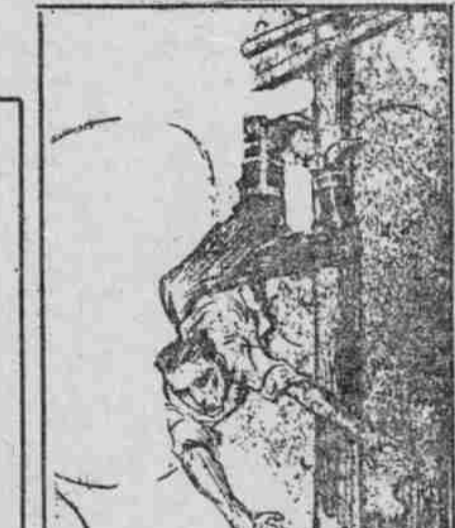
her to keep her from falling, holding her there for 20 minutes, during which time she struggled desperately to free herself. Feeling himself growing weaker and weaker from the struggle, Moran began shouting for help.

Help came when fireman dropped a noosed rope from the roof. Moran fastened the rope about the woman and she was hoisted and taken into the building. The rope was again lowered and Moran tied it about himself and was let down to the ground.

The hero received a bronze medal and \$1000 toward liquidating a mortgage on his property.

In Front of Rushing Train.
For an act of heroism, rivaling as a spectacle the climax of a melodrama and the feature of a circus, Leo Harold Nokes, of Sac City, Iowa, has been given a bronze medal.

Nokes, a high school student, 20 years of age, saved a little girl from being run over by a train, by crossing the track on a bicycle. In the face of the fast approaching locomotive and carrying the child out of danger just in time. The young man had ridden his wheel, on which he was an expert, to the depot on an errand and was awaiting the arrival of the train. Just as it drew near the crossing at the south end of



HE REACHED OUT HIS ARMS AND YINGLING CRASHED INTO THEM.

of the depot platform, he saw children approaching on their way from school, among them a little boy and his

younger sister. The boy crossed the track in safety, but the girl hesitated until the train was close and then started across, but appeared to be dazed.

It was evident to Nokes, looking on at a distance, that the child would not escape the locomotive unless helped. Instantly he mounted his wheel and rode swiftly toward the crossing.

The crowd at the depot platform yelled a warning, believing that Nokes must have lost his head. Then the bicycle rider, with the engine close upon him, was seen to ride directly on to the track and without losing speed lean over and catch the child and pull it on with him to a place of safety, the cow catcher of the engine barely missing the wheel.

Evidently Andrew Carnegie knew what he was talking about when, at the time of establishing the \$5,000,000 fund, he made the remark: "We live in a heroic age!"

New Conditions in China.
J. O. P. Bland in the Atlantic.

The ever-insistent problems of population and food-supply have of recent years been complicated by new conditions arising directly from the changes which have taken place in China's environment, as the result of the impact of the West. For these are the work of missionary and educational bodies, and the introduction of certain measures of public health and sanitation spreading from the treaty ports are tending to produce a diminution of the death-rate, which, under normal conditions in the interior, necessarily approximate to the birth-rate, and is computed at something like 55 per thousand. In other words, the effect of the introduction of Western ideas is to increase the pressure of population on the visible means of subsistence, precisely as it is doing in India. At the same time, the great natural outlet for the surplus millions which the Chinese government has been lately seeking to develop, by means of railroads and assisted colonization, in the thinly populated regions of Manchuria and Mongolia, is now being closed by the territorial encroachments of Russia and Japan. Thus, while our medical and other missions are teaching the Chinese, on humanitarian principles, ideas which tend to increase the natural pressure of population, the policies of the World Powers, dictated by instincts either of self-preservation or of earth-hunger, are steadily confining this non-aggressive race within narrower limits.

As Old as the Hills.
Boston Transcript.
Miss Eldersleigh—So you remarked to Katherine that I looked as old as the hills. Now don't deny it; I heard you. Jack Spot—Oh—er—but you misunderstand. It was merely comparing your age with that of the Hill young ladies I am acquainted with—twins, you know.