

Be Your Own Weather Prophet

Be your own weather prophet, the Weather Bureau cannot always make forecasts for definite hours or for particular places. But any intelligent person ought to be able to do that. It is not really difficult, but just a matter that requires a bit of study and observation. If one will study the weather signs that are written plainly in the skies he can predict with reasonable accuracy the weather for his own particular locality from day to day.

Such local predictions are based upon atmospheric conditions, as revealed by the color of the sky and the appearance of the sun, moon and stars. This is no new discovery. When the Pharisees and Sadducees asked Jesus to show them a sign from heaven, he said: "When it is evening, ye say, 'It will be fair weather; for the sky is red. And in the morning, it will be foul weather to-day, for the sky is red and lowering.'" These sayings from the New Testament represent correct observations. A red morning implies a moist atmosphere; hence the rain may be expected later in the day. A red evening sky means that the air contains so little moisture that rain within the coming 24 hours is improbable. To explain this paradox, which has to do with condensation of moisture into droplets and also with certain principles of optics, would take too long, but it is entirely accurate.

If at evening the sky, along the western horizon is yellowish or greenish, it means that there is little moisture in the air, and that the next day will be fair. But if at evening the sky is overcast with a uniform gray, the atmosphere aloft is saturated with moisture and the next day is likely to be rainy.

The air is always heavily laden with dust, upon which moisture condenses. If there is enough moisture in the atmosphere, droplets are formed and fall as rain. Rain dries the air by taking water out of it and at the same time cleans it of dust. It is on this fact that the old saying "Rain before seven, clear before eleven" is based; for early morning rain often clears the atmosphere of water, causing the weather to clear.

Much dust, or smoke, in the atmosphere makes the sun look red, and the color is deepened by the presence of moisture. When the air is heavily charged with dust particles that have become laden with moisture, you see the sun as a fiery red ball. Thus a very red sun obviously suggests a damp atmosphere, promising rain. There is truth in the old saying, "A red sun has water in his eye."

Notwithstanding a very common impression to the contrary, the moon has no influence worth mentioning upon weather, but its appearance depends upon conditions of the atmosphere, and hence affords useful indications:

"The pale moon doth rain,
The red moon doth blow,
The white moon doth neither rain nor snow."

Much wisdom is wrapped up in these lines. For a pale moon implies thin clouds, such as run ahead of a general rainstorm. A red moon suggests a damp atmosphere, warning of a storm, and a white moon indicates dry air and absence of clouds.

A clear, or white moon is commonly understood to give warning of frost. Nor is that without good reason, inasmuch as the earth's surface heat radiates rapidly into a cloudless sky. Clouds interfere with this rapid loss of heat acting as a blanket, and so, by conserving it, tend to prevent frost.

"The higher the clouds the finer the weather," is another old saying in which there is truth. It is not to be accepted, however, without modification. Small, high "woolpack" clouds do not contain enough moisture to produce any considerable rain or snow. But a large woolpack often develops a thunderstorm. If formed during the morning, it is likely to increase in size in the afternoon and yield a downpour.

The cirrus clouds, highest of all, composed of ice needles and floating nine or 10 miles above the earth, are forerunners of storms, being carried far ahead of the rains. Hence the saying "Mackerel scales and mares' tails make lofty ships carry low sails."

Often the base of a rain cloud envelops mountain peaks and ridges. When you see clouds resting on a mountain top, it may be accepted as an obvious warning of coming rain—usually not more than a few hours away. The breaking up of mist on a mountain top may be accepted as a sign of clearing.

Would you forecast the next day's weather from observation of the stars? It is often easy to do. If they look dim, there must be much moisture in the atmosphere, promising rain.

Noah when he saw the rainbow, accepted it as a sign that the great storm was at an end. Presumably it was at an end. Presumably it was in the evening, for a rainbow in the morning would have offered no such favorable indication.

Everywhere in the temperate zones the prevailing winds move from west to east and hence nearly all storms do the same. Considering the fact that the rainbow (a purely optical

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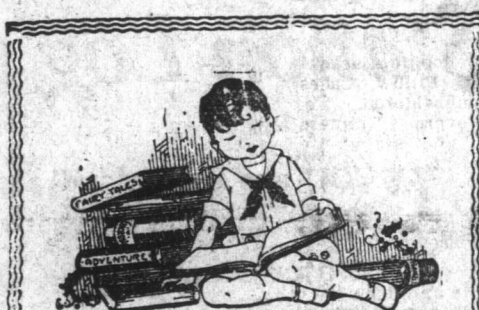
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phenomenon always is seen on the side of the observer opposite to the sun, the shower that gives an evening rainbow is moving farther away from the place of observation, and thereby promises a clearing of the sky. In other words an evening rainbow, being seen in the east, foretells fair weather for the morning. On the other hand, a morning rainbow, seen always in the west, indicates an approaching shower.

The rainbow can appear only when

the rain is falling and the sun shining simultaneously. If seen to windward, rain may be expected for the shower is approaching. If to leeward, no rain can come from that shower, for already it is receding.

Smoke from a chimney will afford you an indication of coming weather. If it rises high, disperses, and soon disappears, the inference is that the air is dry and therefore that there is no near prospect of rain. If, on the other hand, it floats slowly away in

a rather compact body and gradually descends, the obvious conclusion is that the particles composing it are laden heavily with moisture; condensed from the atmosphere; and accordingly, rain may be expected.

The amateur weather prophet often may obtain some advance information from the way in which the clouds behave. If they gather rapidly, a weather disturbance of quick action is indicated—a thunderstorm or a squall of small extent and short duration.

A bright light seen in a fog at night is encircled by a colored ring, red on the outside. On a misty night the moon has such an appearance. In either case the phenomenon is due to the bending of light rays as they pass through suspended droplets of moisture. The larger the droplets, the smaller the ring that encircles the moon.

Hence, if you see the ring shrink in diameter you may safely infer that

the rain is probable. If on the other hand, it enlarges, evaporation is indicated, and you may confidently predict clearing skies. Test this prophecy the next time you see a halo around the moon.

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What Cocoa Comes From

The cocoa plant is now grown in many districts of the tropical belt, and its consumption, in one form and another, has increased all over the world. It is an evergreen, and is equal in size to a well-grown apple tree. The pods, about eight inches long, grow out of the trunk, and are red, yellow, black, and purple, according to the season. There are twenty or thirty pale red beans inside each pod, embedded in a soft white pulp. Cocoa groves are never planted solely with cocoa trees.

Although it grows best in hot countries, it is delicate, and has to be protected from the sun, and for this purpose forest trees are planted in the groves. Some of these grow to a great height and have a tufted head like a natural sunshade. These protecting trees are called "Cacao Madre," or cocoa-mother.

Russia is Opposed to the League

COMMUNIST LEADER SAYS THE UNITED STATES IS REALLY THE "BOSS" OF EUROPE.

MOSCOW, Dec. 8.—Addressing the Moscow District Communist conference last night, A. I. Rykoff, President of the Council of Commissars, declared that Russia was prepared to abolish the Red Army and scrap all ammunition factories and war industries, provided the Bourgeois countries did likewise.

M. Rykoff characterized the League of Nations as an instrument of war and subjugation, and not of liberation.

The European Powers in seeking to get Russia into the League wished her to make political capitulations in the East and economic sacrifices in the West. The League agreements were as useless as the League to secure peace for the world.

It was contended by M. Rykoff that the United States dominates Europe. "Although the United States does not interfere in European affairs, and is not a member of the League of Nations," he said, "she is really the boss of post-Versailles Europe. No nation can enter into a treaty with another without the acquiescence of the United States. She has two-thirds of the world's gold reserves and has captured most of the international markets from Europe. She is the only country in the world able to grant loans, and is the greatest stronghold of imperialism. She enslaves the greater part of the world economically, and Europe is becoming more and more an American colony."

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Hand Vise and Pliers

SKILFULLY COMBINED.

A novel tool that combines pliers and a hand vise is the recent invention of W. A. Bernard, of New Haven, Conn., who has made a life study of pliers. The tool is fitted with a thumb screw, which, when backed out as far as it will go provides a pair of parallel jaws for ordinary use around the workbench or the automobile.

Often, the user of pliers finds it necessary to hold them in clamped position for several minutes at a time; as, for instance, in filing a key blank to the outlines of another key. A thumb-screw lock on this tool makes it possible to retain one or more objects firmly in position after the hand pressure is released. Thus it is especially useful where several operations are to be done without the necessity for releasing the work.

Filing operations on round stock are said to be greatly facilitated. The tool comes in handy also, it is said, for soldering small parts of a machine, engine, or radio set.

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Electric Machine

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A ton of moist sand can be sifted in four minutes, it is claimed, by a new sifting machine that obtains its motion from the action of a motor. The electric motor is connected directly with the riddle. The armature and the shaft of the motor remain stationary while the field and motor housing revolve at a high speed.

The housing is weighted on one side so that as it revolves, an eccentric or circular motion is conveyed to the riddle. This rapid vibratory movement is said to insure a more thorough and faster screening or mixing of materials than former methods, where a stationary screen was used.

In straining or mixing liquids, a special attachment is used. Attached to the bottom of the lower receptacle is a spout for delivery of the material.

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Measures Twenty-Thousandths of an Inch Accurately

Most methods of measuring extremely small distances are inaccurate. In micrometer screws, instance, oil films between the affected parts sometimes affect measurement. It is very difficult to get markings on dials that are actually correct.

A recently invented instrument called an "optometer" is claimed to measure 1/20,000 inch with exactness. The scale itself never is moved, but merely is observed through a microscope. To the eye 1/20,000 inch appears to be one-tenth of an inch.

The readings are not affected by variations in sense of touch or differences in human skill. In measuring infinitely small parts of an inch, results of this instrument may be relied upon absolutely, the inventor claims.

The lining of the mules also match the lining of the negligee.

