

Concerning Weather Signs

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THE SIGNS of rain wind storm and fair weather we have described so far as was attainable, partly from our own observation, partly from the information of persons of credit.

Now those signs which belong to the setting or rising of the heavenly bodies must be learnt from astronomy. Their settings are twofold, since they may be said to have set when they become invisible. And this occurs when the star sets along with the sun, and also when it sets at sunrise. In like manner their risings are twofold: there is the morning rising, when the star rises before the sun, and there is the rising at nightfall, when it rises at sunset.

Now what are called the risings of Arcturus occur at both times, his winter rising being at nightfall and his autumn rising at dawn. But the rising of most of the familiar constellations is at dawn, for instance, the Pleiad Orion and the Dog.

Of the remaining signs some belong specially to all such lands as contain high mountains and valleys, specially where such mountains extend down to the sea: for, when the winds begin to blow, the clouds are thrown against such places, and, when the winds change, the clouds also change and take a contrary direction, and, as they become laden with moisture, they settle down in the hollows because of their weight. Wherefore good heed must be taken to the local conditions of the region in which one is placed. It is indeed always possible to find such an observer, and the signs learnt from such persons are the most trustworthy.

Thus in some parts have been found good astronomers: for instance, Matriketas at Methymna observed the solstices from Mount Lepetymnos, Cleostratus in tenedos from Mount Ida, Phaeinos at Athens from Mount Lycabettus: Meton, who made the cycle of nineteen years, was the pupil of the last-named. Phaeinos was a resident alien at Athens, while Meton was an Athenian. Others also have made astronomical observations in like manner.

Again there are other signs which are taken from domestic animals or from certain other quarters and happenings. Most important of all are the signs taken from the sun and moon: for the moon is as it were a nocturnal sun. Wherefore also the meetings of the months are stormy, because the moon's light fails from the fourth day from the end of one month to the fourth day from the beginning of the next: there is therefore a failure of the moon corresponding to the failure of the sun. Wherefore anyone who desires to forecast the weather must pay especial heed to the character of the risings and settings of these luminaries.

Now the first point to be seized is that the various periods are all divided in half, so that one's study of the year the month or the day should take account of these divisions. The year is divided in half by the setting and rising of the Pleiad: for from the setting to the rising is a half year. So that to begin with the whole period is divided into halves: and a like division is effected by the solstices and equinoxes. From which it follows that, whatever is the condition of the atmosphere when the Pleiad sets, that it continues in general to be till the winter solstice, and, if it does change, the change only takes place after the solstice: while, if it does not change, it continues the same till the spring equinox: the same principle holds good from that time to the rising of the Pleiad, from that again to the summer solstice, from that again to the autumnal equinox, and from that to the setting the Pleiad.

So too is it with each month; the full moon and the eighth and the fourth days make divisions into halves, so that one should make the new moon the starting-point of one's survey. A change most often takes place on the fourth day, or, failing that, on the eighth, or, failing that, at the full moon; after that the periods are from the full moon to the eighth day from the end of the month, from that to the fourth day from the end, and from that to the new moon.

The divisions of the day follow in general the same principle: there is the sunrise, the mid-morning, noon, mid-afternoon, and sunset; and the corresponding divisions of the night have like effects in the

matter of winds storms and fair weather; that is to say, if there is to be a change, it will generally occur at one of these divisions. In general therefore one should observe the periods in the way indicated, though as to particular signs we must follow the accepted method.

The Signs of Rain.

NOW THE signs of rain appear to be as follows: most unmistakable is that which occurs at dawn, when the sky has a reddish appearance before sunrise; for this usually indicates rain within three days, if not on that very day. Other signs point the same way: thus a red sky at sunset indicates rain within three days, if not before, though less certainly than a red sky at dawn.

Again, if the sun sets in a cloud in winter or spring, this generally indicates rain within three days. So too, if there are streaks of light from the south, while, if these are seen from the north, it is a less certain sign. Again, if the sun when it rises has a black mark, or if it rises out of clouds, it is a sign of rain; while, if at sunrise there are rays shooting out before the actual rising, it is a sign of rain and also of wind. Again if, as the sun sinks, a cloud forms below it and this breaks up its rays, it is a sign of stormy weather. Again, if it sets or rises with a burning heat, and there is no wind, it is a sign of rain.

Moonrise gives similar indications, at the time of full moon: they are less certain when the moon is not full. If the moon looks fiery, it indicates breezy weather for that month, if dusky, wet weather; and, whatever indications the crescent moon gives, are given when it is three days old.

13 Many shooting stars are a sign of rain or wind, and the wind or rain will come from that quarter from which they appear. Again, if at sunrise or sunset the sun's rays appear massed together, it is a sign of rain. Also it is a sign of rain when at sunrise the rays are coloured as in an eclipse; and also when there are clouds like a fleece of wool. The rising of bubbles in large numbers on the

surface of rivers is a sign of abundant rain. And in general, when a rainbow is seen round or through a lamp, it signifies rain from the south.

Again, if the wind is from the south, the snuff of the lamp-wick indicates rain; it also indicates wind in proportion to its bulk and seize: while if the snuff is small, like millet-seed, and of bright colour, it indicates rain as well as wind. Again, when in winter the lamp rejects the flame but catches, as it were, here and there in spurts, it is a sign of rain; so also is it, if the rays of light leap up on the lamp, or if there are sparks.

It is a sign of rain or storm when birds which are not aquatic take a bath. It is a sign of rain when a toad takes a bath, and still more so when frogs are vocal. So too is the appearance of the lizard known as 'salamander,' and still more the chirruping of the green frog in a tree. It is a sign of rain when swallows hit the water of the lakes with their belly. It is a sign of storm or rain when the ox licks his fore-hoof; if he puts his head up towards the sky and snuffs the air, it is a sign of rain.

It is a sign of rain when a crow puts back its head on a rock which is washed by waves, or when it often dives or hovers over the water. It is a sign of rain if the raven, who is accustomed to make many different sounds, repeats one of these twice quickly and makes a whirring sound and shakes its wings. So too if, during a rainy season, he utters many different sounds, or if he searches for lice perched in an olive-tree. And if, whether in fair or wet weather, he imitates, as it were, with his voice falling drops, it is a sign of rain. So too is it if ravens or jackdaws fly high and scream like hawks. And, if a raven in fair weather does not utter his accustomed note and makes a whirring with his wings, it is a sign of rain.

It is a sign of rain if a hawk perches on a tree, flies right into it and proceeds to search for lice: also, when in summer a number of birds living on an island pack together: if a moderate number left, it is a good sign for goats and flocks, while if the number is exceedingly

large, it portends a severe drought. And in general it is a sign of rain when cocks and hens search for lice; as also when they make a noise like that of falling rain.

Again it is a sign of rain when a tame duck gets under the eaves and flaps its wings. Also it is a sign of rain when jackdaws and fowls flap their wings whether on a lake or on the sea — like the duck. It is a sign of wind or rain when a heron utters his note at early morning: if, as he flies towards the sea, he utters his cry, it is a sign of rain rather than of wind, and in general, if he makes a loud cry, it portends wind.

It is a sign of rain or storm if a chaffinch kept in the house utters its note at dawn. It is also a sign if any pot filled with water causes sparks to fly when it is put on the fire. It is also a sign of rain when a number of millepedes are seen crawling up a wall. A dolphin diving near land and frequently reappearing indicates rain or storm.

If the lesser Mount Hymettus, which is called the Dry Hill, has cloud in its hollows, it is a sign of rain: so also is it, if the greater Hymettus has clouds in summer on the top and on the sides: or if the Dry Hymettus has white clouds on the top and on the sides; also if the south-west wind blows at the equinox.

Thunder in winter and at dawn indicates wind rather than rain; thunder in summer at midday or in the evening is a sign of rain. If lightning is seen from all sides, it will be a sign of rain or wind, and also if it occurs in the evening. Again, if when the south wind is blowing at early dawn, there is lightning from the same quarter, it indicates rain or wind. When the west wind is accompanied by lightning from the north, it indicates either storm or rain. Lightning in the evening in summer time indicates rain within three days, if not immediately. Lightning from the north in late summer is a sign of rain.

When Euboea has a girdle about it up to the waist, there will be rain in a short space. If cloud clings about Mount Pelion, it is an indication of rain or wind from the quarter to which it clings. When

a rainbow appears, it is an indication of rain; if many rainbows appear, it is an indication of long-continued rain. So too is it often when the sun appears suddenly out of cloud. It is a sign of rain if ants in a hollow place carry their eggs up from the ant-hill to the high ground, a sign of fair weather if they carry them down. If two mock-suns appear, one to the south, the other to the north, and there is at the same time a halo, these indicate that it will shortly rain. A dark halo round the sun indicates rain, especially if it occurs in the afternoon.

In the Crab are two stars called the Asses, and the nebulous space between them is called the Manger; if this appears dark, it is a sign of rain. If there is no rain at the rising of the Dog or of Arcturus, there will generally be rain or wind towards the equinox. Also the popular saying about flies is true; when they bite excessively, it is a sign of rain. If a chaffinch utters its note at dawn, it is a sign of rain or storm, if in the afternoon, of rain.

When at night a long stretch of white cloud encompasses Hymettus below the peaks, there will generally be rain in a few days. If cloud settles on the temple of Zeus Hellanios in Aegina, usually rain follows. If a great deal of rain falls in winter, the spring is usually dry; if the winter has been dry, the spring is usually wet. When there is much snow in winter, a good season generally follows.

Some say that, if in the embers there is an appearance as of shining hail-stones, it generally prognosticates hail; while, if the appearance is like a number of small shining millet-seeds, it portends fair weather, if there is wind at the time, but, if there is no wind, rain or wind. It is better both for plants and for animals that rain should come from the north before it comes from the south; it must however be fresh and not briny to the taste. And in general a season in which a north wind prevails is better and healthier than one in which southerly winds prevail. It is a sign of a long winter when sheep or goats have a second breeding season.

The Signs of Wind.

SUCH THEN are said to be the signs of rain. The following are signs of wind and breezes. If the sun rises with a burning heat but does not shine brilliantly, it is a sign of wind. If the sun has a hollow appearance, it is a sign of wind or rain. If it blazes with a burning heat for several days, it portends long-continued drought or wind. If at dawn its rays are parted, some pointing to the north and some to the south, while the orb itself is clearly seen between, it is a sign of rain and wind.

Also black spots on the sun or moon indicate rain, red spots wind. Again, if, while a north wind blows, the horns of the crescent moon stand out straight, westerly winds will generally succeed, and the rest of the month will be stormy. When the upper horn of the crescent moon is bent, northerly winds will prevail for that part of the month: when the lower horn is bent, southerly winds will prevail. If however the horns up to the fourth day point straight and have not a graceful bend inwards but round to a circle, it will generally be stormy till the middle of the month. If the moon is dusky, it indicates rain, if fiery, it indicates wind.

It is a sign of rain when gulls and ducks, whether wild or tame, plunge under water, a sign of wind when they flap their wings. Wherever the bird called kepphos flies during a calm, it is sign of coming wind. If sparrows in winter begin to be clamorous at evening, it is a sign of a coming change or of a fall of rain. A heron flying from the sea and screaming is a sign that a breeze is coming: so is it in general a sign of wind when he screams loudly.

A dog rolling on the ground is a sign of violent wind. A number of cobwebs in motion portends wind or storm. The ebb-tide indicates a north wind, the flowing tide a wind from the south. For, if the flowing tide sets from the north, there is a change to the south, and if an ebb-tide comes from the south, there is a change to the north. It is a sign of wind when the sea has a swell or promontories moan or there is loud noise on the beach. Now the north wind has less force as it ceases to blow, the south wind as it begins. A mock sun, in whatever quarter it appears, indicates rain or wind.

The fifteenth day after the winter solstice is generally marked by southerly winds. If there is a northerly wind, everything gets dried up, if a southerly, there is abundant moisture. If, while a south wind is blowing, glued articles make a crackling sound, it indicates a change to a south wind. If the feet swell, there will be a change to a south wind. This also sometimes indicates a hurricane. So too does it, if a man has a shooting pain in the right foot. The behaviour of the hedgehog is also significant: this animal makes two holes wherever he lives, one towards the north, the other towards the south: now whichever hole he blocks up, it indicates wind from that quarter, and, if he closes both, it indicates violent wind.

If a mountain . . . , it indicates wind from the north. If at sea during a wind there is a sudden calm, it indicates a change or an increase of wind. If promontories seem to stand high out of the sea, or a single island looks like several, it indicates a change to south wind. If the land looks black from the sea, it indicates a north wind, if white, a south wind. A halo about the moon signifies wind more certainly than a halo about the sun: but in either case, if there is a break in the halo, it indicates wind, which will come from the quarter in which the break is. If the sky is overcast in whatever quarter the sun is first seen, there will be wind from that quarter. Light clouds in summer-time indicate wind.

If lightning comes from all sides, it indicates rain, and from any quarter from which the flashes come in quick succession there will be wind. In summer from whatever quarter light and thunder come, there will be violent winds: if the flashes are brilliant and startling, the wind will come sooner and be more violent; if they are of gentler character and come at longer intervals, the wind will get up gradually. In winter and autumn however the reverse happens, for the lightning causes the wind to cease: and, the more violent the lightning and thunder are, the more will the wind be reduced. In spring I consider that the indications would not so invariably have the same meaning, — and this is also true of winter.

If, while a south wind is blowing, there comes lightning from the north, the wind ceases. If there is lightning at dawn, the wind generally ceases on the third day: other winds than a south wind however do not cease till the fifth seventh or ninth day, though a wind which got up in the afternoon will cease sooner. A north wind generally ceases in an odd, a south wind in an even number of days. Winds get up at sunrise or moonrise. If the rising sun or moon have caused the wind to cease, presently it gets up again with more force, and winds which begin to blow in the day-time last longer and are stronger than those which begin at night.

If periodic winds have been blowing for a long time, and a windy autumn follows, the winter is windless: if however the contrary happens, the character of winter is also reversed. From whatever quarter cloud streams out from a mountain peak, wind will blow in the direction thus indicated. Clouds which cling to the back of the mountain will also produce wind from the back of it. If there is a girdle of cloud halfway up Mount Athos, and if mountains in general wear such a girdle, there will generally follow a southerly wind. Comets usually indicate wind, and, if there are many of them, drought is also indicated. After snow a south wind, after hoar-frost a north wind generally blows. Snuff in a lamp indicates wind or rain from the south.

The points from which the winds come are as they are given in the figure. The winds which most often come on the top of other winds while these are still blowing are the north wind (aparktias), the north-north-east and the north-west. When however the winds are not dispersed by one another but die down of their own accord, they change to the next winds on the figure, reckoning from left to right according to the course of the sun. When the south wind begins to blow, it is dry, but it becomes wet before it ceases: so too does the south-east wind. The east wind, coming from the quarter where the sun rises at the equinox, is wet: but it brings the rain in light showers.

The north-east and south-west are the wettest winds; the north the north-north-east and the north-east bring hail; snow comes with the north-north-east and north. The south, the west, and the south-east winds bring heat. Some of these have their effect on places which they strike as they come from the sea, others on places which they visit as they come over land. The winds which more than any others make the sky thick with cloud and completely cover it are the north-east and the south-west, especially the former. While the other winds repel the clouds from themselves, the north-east alone attracts them as it blows. Those winds which chiefly bring a clear sky are the north-north-west and the north-west, and next after them the north. Those which most have the character of a hurricane are the north the north-north-west and the north-west.

They acquire this character when they fall upon one another as they blow, especially in autumn, but to some extent in spring. Those which are accompanied by lightning are the north-north-west the north-west the north and the north-north-east. If at sea a quantity of down is seen blown along, which has come from thistles, it indicates that there will be a great wind. Wind may be expected from any quarter in which a number of shooting stars are seen. If these appear in every quarter alike, it indicates many winds.

Such then are the signs of winds.

The following are signs of storm. The sun becoming obscured as it sinks indicates storm. And, according as its orb is divided as it sets, so the succeeding days turn out; for instance, a third or a half of the orb may remain visible. If the horns of the moon point straight up till the fourth day, and if it rounds to a circle, it will be stormy till the middle of the month. If cranes fly early and in flocks, it will be an early winter; if they fly late and for a long time, it will be a late winter; and, if they wheel as they fly, it indicates stormy weather.

It is a sign of storm when geese make more clamour than usual or fight for their food; so too is it when a sparrow or chaffinch twitters at dawn. It indicates a storm when the goldcrest goes into holes and hides itself; so also when the redbreast does the same. It is a

sign of storm when the crow caws twice in quick succession and then a third time; also when the crow or raven or jackdaw makes its call late. It is a sign of a great storm when a white sparrow or swallow is seen, or a white specimen of any other bird which is not usually white, even as the appearance of a large number of such birds of a dark colour signifies rain.

It is also an indication of storm when birds flee from the sea. A chaffinch uttering its note in an inhabited house is a sign of storm. All the signs which indicate rain bring stormy weather, that is to say, snow and storm, if not rain. If the raven utters a great variety of sounds in winter, it is a sign of storm. Jackdaws flying from the south are a sign of storm, and so are cuttle-fish. It is a sign of storm when a loud voice is heard in harbour, which is re-echoed many times. It is a sign of a stormy season when a number of jelly-fish appear in the sea. It indicates an early winter when the breeding season of sheep begins early.

If in autumn sheep or oxen dig holes and lie keeping their heads close to one another, it indicates a severe winter. They say that in Pontus when Arcturus rises, (the cattle) face northwards as they graze. It is a sign of storm when cattle eat more than usual and lie down on their right sides. So is it when the ass shakes his ears, or when sheep or birds fight for their food more than usual, since they are then trying to secure a store against winter: also when mice squeak and dance.

A bitch digging holes with her paws and a tree-frog croaking alone at early dawn are signs of storm: it indicates storm when a number of the worms called 'the earth's entrails' appear. It is a sign of storm if the fire refuses to catch, or if a lamp refuses to light: while, if much ash is formed, it is a sign of snow. If a lamp burns steadily in fine weather, it is a sign of storm: so is it if in winter-time dark snuff forms: if it is, as it were, full of numerous millet-seeds, there will be stormy weather; and if these in fine weather appear in a circle round the flame, it is a sign of snow.

If the 'Ass's Manger' shrinks in size and becomes dark, it is a sign of storm; also if there is vivid lightning which does not remain in the same quarter. If at the setting of the Pleiad there is lightning over Parnes Brilessus and Hymettus — when it appears over all three mountains, it indicates a great storm; when over the two lesser heights, a less violent storm; when over Parnes alone, fine weather. Again, if during a storm a long cloud stretches over Hymettus, it signifies that the storm will increase in force. It is a sign of storm when Athos Olympus and mountain-peaks in general are covered with clouds. If during fine weather a cloud appears in the sky stretching a long way and torn to shreds, stormy weather will continue.

If the autumn is unusually fine, the succeeding spring is usually cold. If winter begins early, it ends early and there is a fair spring; if the reverse, spring will also be late. If the winter is wet, the spring will be dry, if the winter is dry, the spring will be fair. If the late summer is satisfactory, the sheep will generally suffer from hunger. If the spring and summer are cold, the late summer and autumn will be stifling hot and windless.

If the kermes-oak fruits well, there follows a long succession of storms. If a cloud stands upright on a mountain-peak, it indicates storm; whence Archilochus' lines "Mark you, Glaucus; deep ocean is now stirred up with waves, and about the heights of the Gyrae there rises a cloud erect, the sign of storm." If the clouds are of uniform colour, like a white membrane, it is a sign of storm. When, as some clouds are motionless, others move towards them while they remain at rest, it is a sign of storm.

If the sun in winter after gleaming out is again obscured, and this is repeated two or three times, it will be stormy all day. If the star Hermes appears in winter, it indicates cold, if in summer, heat. When in fine weather bees do not fly long distances, but fly about where they are, it indicates that there will be a storm. The howling of a wolf indicates a storm within three days. When a wolf approaches or enters cultivated ground in the season of winter, it

indicates that a storm will come immediately.

It is also a sign of great storms and heavy rain when many wasps appear in autumn, or when white birds approach cultivated lands; and in general when wild creatures approach such lands, it indicates a north wind and a severe storm. If the western side of Parnes and the side towards Phyle are blocked with clouds during a north wind, it is a sign of storm.

When there is a severe heat, generally there is compensation and a severe winter follows. If there is much rain in spring, it is followed by severe heat in low-lying districts and valleys; so that one should mark how the season begins. If the autumn is exceedingly fine, generally the spring is cold: if the spring is late and cold, the summer goes on late and the autumn is usually scorching hot.

When the kermes-oak fruits exceedingly well, it generally indicates a severe winter, and sometimes they say that this sign is followed by droughts. If one takes a mole and puts it in a tub, the bottom of which has been covered with clay, it indicates by the sounds which it utters wind or fine weather. There is also the sign of storm which is popularly recognized everywhere, namely when mice fight for the possession of chaff and carry it about.

The Signs of Fair Weather.

THE FOLLOWING are signs of fair weather. If the sun rises brilliant but without scorching heat and without showing any special sign in his orb, it indicates fair weather. The same may be said of the moon when it is full. If in winter that part of the sky into which the sun goes down is clear, it is a sign of fair weather, unless on the preceding days that part has not been clear, though it was clear above the horizon: in that case the prospect is uncertain. It is also a sign of fair weather, if during stormy conditions that part of the sky into which the sun sets is clear; and also if, in winter at the time of setting, the sun has a pale colour.

Again, it indicates fair weather if the outline of the moon of the third day is bright; also if the 'Ass's Manger' is clear and bright. If

the halo forms and disappears evenly, it is a sign of fair weather. Light clouds in winter are a sign of fine weather. It is a sign of fine weather when Olympus Athos and in general the mountains which give signs have their tops clear: so too is it, when clouds encompass them at the sea-level. Also when after rain the clouds have a bronze colour towards sundown: in that case there will generally be fair weather the next day.

When there is mist, little or no rain follows. When cranes take flight and do not come back, it is a sign of fair weather: for they do not do so till they see a clear sky before them as they fly. It is a sign of fair weather when during a storm an owl makes a low hoot, or at night during a storm it utters a low sound. If the sea-owl utters its note during a storm, it indicates fair weather, if during fair weather, it indicates a storm. It is a sign of fair weather if a solitary raven makes a low croak, and, after croaking three times, repeats the sound again and again. . . .

If the crow caws thrice directly the dawn appears, it indicates fair weather, as also if it makes a low note in the evening during a storm. It is a sign of fair weather if a goldcrest flies out abroad from a hole or from a hedge or from its nest. Again, if during a storm from the north there is a white gleam from that quarter, while in the south a solid mass of cloud has formed, it generally signifies a change to fair weather. Again when the north wind (Boreas) as it begins to blow violently stirs up a number of clouds, it indicates fair weather.

54 When sheep begin to breed late, it is a sign which fulfils itself in fair weather. So is it when an ox lies on his left side, and also when a dog does the same: if they lie on the right side, it indicates storm. The appearance of a number of cicadas indicates that the season will be unhealthy. If a lamp burns quietly during a storm, it indicates fair weather. So also if it has on the surface an appearance like shining millet-seeds: also if a bright line surrounds the lamp-nozzle.

The fruiting of the mastich gives signs as to the seasons of sowing: it takes place at three several periods, which indicate respectively the time for the first the second and the third sowing: and according as one or the other of these fruiting-times turns out best and produces the most abundant fruit, so too will be the success of the corresponding time of sowing.

Miscellaneous Signs.

THE FOLLOWING signs are said to affect either the whole year or whole periods of it. If at the beginning of winter there is dull weather followed by heat, and these conditions are dispersed by wind without rain, it indicates that towards the spring there will be hail. Again, if after the spring equinox mists come down, it is an indication of breezes and winds by the seventh month, reckoning inclusively. Those mists which come down when the moon is in its first quarter indicate breezes for that period, those which come down when the moon is in its third quarter indicate rain. And the more mists come down when the moon is assuming either shape, the more certainly is the result just mentioned indicated.

Also the winds which accompany the falling of the mists are significant: if the breezes come from the east or south, rain is indicated; if from the west or north, breezes and cold weather. And the stars which the Egyptians call 'comets' indicate not only the conditions just mentioned but also cold weather. In the case of the rising of the stars the indication, as in the case of also of the equinoxes and solstices, is given not at the actual time but a little earlier or later.