

7-1976

# The Reliability of Selected Weather Beliefs

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1976

THE RELIABILITY OF SELECTED WEATHER BELIEFS

A Thesis

Presented to

the Faculty of the Center for Intercultural and Folk Studies

Western Kentucky University

Bowling Green, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Judith K. Sadewasser

July 1976

THE RELIABILITY OF SELECTED WEATHER BELIEFS

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TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS . . . . .	iii
ABSTRACT . . . . .	iv
Chapter	
1. INTRODUCTION . . . . .	1
2. ANALYSIS OF TWENTY WEATHER BELIEFS HAVING SCIENTIFIC VALIDITY . . . . .	6
When smoke goes to the ground . . . . .	6
The higher the clouds . . . . .	7
Ring around moon . . . . .	9
Ring around sun . . . . .	10
Rainbow in the morning . . . . .	11
Dew on the grass at night . . . . .	13
Rain before seven . . . . .	14
When the wind is in the south . . . . .	16
Mare's-tails in the sky . . . . .	16
If there is enough blue sky . . . . .	17
Red sky at night . . . . .	19
Evening gray, morning red . . . . .	21
Odors are stronger . . . . .	23
Somebody's bones ache . . . . .	24
A person's hair gets curly . . . . .	27
All good signs fail . . . . .	28
When the stars begin to huddle . . . . .	29
If you see Sun Dogs . . . . .	30
Clear moon, frost soon . . . . .	31
Sounds loud and hollow . . . . .	32
Summary . . . . .	33
3. A SAMPLING OF WEATHER BELIEFS HAVING NO SCIENTIFIC VALIDITY . . . . .	34
If the moon's tilted out . . . . .	34
Full moon eats clouds . . . . .	37
When the sun draws water . . . . .	38
Cow's milk will turn sour . . . . .	39
If a glass sweats . . . . .	40
If a rabbit's fur is thick . . . . .	41
When a crawfish's chimney is plugged . . . . .	42
If a groundhog sees his shadow . . . . .	43
If you step on a toad . . . . .	46
Woolly worm with a wide band . . . . .	47
Summary . . . . .	48

	<u>page</u>
4. COMMENTARY: FOLK WISDOM . . . . .	49
. . . . .	
APPENDIX A: INFORMANTS AND COLLECTORS . . . . .	54
APPENDIX B: KENTUCKY COUNTIES SAMPLED . . . . .	55
SELECTED BIBLIOGRAPHY . . . . .	56

#### ACKNOWLEDGMENTS

I would like to express sincere appreciation to several individuals who were instrumental in the completion of this study. Special thanks go to Mr. Willard Cockrill, Department of Geography and Geology, Western Kentucky University, who offered many helpful suggestions, some of which were used in formulating the design of this study.

Further appreciation is given to committee member, Dr. Lynwood Montell, who made available his personal collection of weather beliefs and who also gave guidance throughout this study. Thanks also go to committee member Dr. Burt Feintuch for his useful suggestions and assistance. And special thanks are given to my committee chairman, Dr. Kenneth Clarke, who was a constant source of constructive criticism and guidance throughout all stages of this research.

I would also like to acknowledge and express my sincere appreciation to the staff of the Western Kentucky University Folklore, Folklife, and Oral History Archive for the use of their facilities.

THE RELIABILITY OF SELECTED WEATHER BELIEFS

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July 1976

57 pages

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Thirty Kentucky weather beliefs--twenty of which were considered to be scientifically valid while ten were not--were annotated, documented and discussed. It was shown that the weather beliefs which had scientific explanations were usually concerned with forecasts associated with rain and that most often they were based on observable atmospheric conditions. It was further shown that those beliefs which were not considered scientifically valid usually had an element of truth but were not considered plausible for one of the following reasons. First, there was evidence that some of these weather beliefs had been garbled during the process of oral transmission. Second, some segments of these beliefs were found to be either reversed or the sequence of events had been mixed in such a way that inconsistencies resulted. Third, some of the beliefs were found to be the object of cultural transference. Thus they had been geographically displaced and were no longer applicable.



## CHAPTER 1

### INTRODUCTION

Initially, this study grew out of a miscellaneous collection of proverbs, proverbial comparisons, witticisms, and beliefs which were part of a collection Dr. Lynwood Montell had acquired while teaching at Campbellsville College. The Montell collection contained approximately 1,000 entries. Each entry was on a 3 x 5 index card and included, in varying degrees of completion, informant name, age, and place of residence as well as the student collector and date collected. This collection included household, weather, medical, and legal proverbs and beliefs along with witticisms and proverbial comparisons.

Since it was unrealistic to attempt any type of analysis using the entire collection, the beliefs and proverbs pertaining to weather were abstracted and thus became the focal point of this study. In an effort to define the direction that this study would then follow, I visited Mr. Willard Cockrill. Mr. Cockrill teaches Meteorology at Western Kentucky University and at one time had a vast collection of weather beliefs of his own. During my discussion with Mr. Cockrill, he told me of a laboratory exercise incorporated in his Meteorology classes. The Meteorology students are given a number of weather beliefs, and they have to discern which are probably sound, based on their scientific knowledge of weather phenomena, and which are probably not sound. Out of this discussion and succeeding discussions, I decided to examine and contrast "scientifically

based" weather beliefs with "non-scientific" weather beliefs. This would entail giving the known scientific principles which substantiate some weather beliefs and trying to decipher and identify the reasons for the apparent inaccuracies of other weather beliefs. Thus, in the following study, weather beliefs were selected, classified, annotated, and analyzed in the following prescribed manner.

The primary requirements for selecting the specific beliefs found in this study were that (1) they had been collected in Kentucky and that (2) they involved a weather forecast. If a belief met both of these requirements, an initial literature review was made to determine if sufficient evidence was available on which to base a thorough analysis.

At this stage of selection, I found that the weather beliefs in the Montell collection which could meet the preceding stipulations were not sufficient in number. Although all of these beliefs were collected in Kentucky, many of them had to be excluded from this study because they did not involve a forecast. Still others had to be excluded because of the lack of reference materials or investigations proving or disproving scientific validity. I, therefore, had to find another source from which additional weather beliefs could be drawn. I solved this by using beliefs found in student collection projects which are housed in the Western Kentucky Folklore, Folklife, and Oral History Archive and further by collecting a few weather beliefs on my own which are hereafter referred to as part of the Sadewasser collection.

It was clearly evident at this point in my research that finding "scientific fact" to substantiate the proposed twenty weather beliefs which would comprise Chapter 2 of this study would present no problem as long as the beliefs were selectively chosen. After scanning the available

literature, it became apparent that those weather beliefs that were given preferential treatment and those that were discussed in the greatest detail were the ones which had a scientific basis. This favoritism shown for the scientifically valid weather beliefs was understandable since the largest part of the literature used was authored by meteorologists. It was obvious that they were more interested in those beliefs which were consistent with their science. The extent of the literature ranged from entire books devoted to substantiating weather beliefs to, at the very least, a chapter devoted to the subject. Thus by selectively using beliefs from the three above mentioned collections, I found sufficient, comprehensive meteorological references to use for interpreting the scientific principles pertaining to each belief which comprises Chapter 2 of this study.

Analyzing and interpreting the second set of weather beliefs which make up Chapter 3 of this study--the non-scientific--proved to be much more difficult. As would be expected, meteorological references were not of much value primarily because of the approach they took. Generally they dismissed weather beliefs as superstitious and non-scientific whenever the belief was based on "clue" days or whenever the belief attributed prognostic powers to animals without thorough explanation. Their limited treatment of these beliefs forced me to abandon my original plan in which I had intended to balance Chapters 2 and 3 by examining equal number of both types of weather beliefs. As a result, I had to compromise and present only a sampling--ten to be exact--of the non-scientific beliefs. The discussion in this section deals with the underlying reasons which lead to the initial development and establishment of these beliefs in tradition. Therefore in each case I attempted to pinpoint the scientific

inaccuracy inherent in the belief and then I speculated as to the reasons for its traditional persistence and acceptance.

Five folklore collections were used to annotate the beliefs found in Chapters 2 and 3. Those collections were: The Frank C. Brown Collection of North Carolina Folklore, Vol. 7, edited by Wayland Hand; Weather Proverbs by H. H. C. Dunwoody; Folk-Lore from Adams County Illinois by Harry M. Hyatt; Ozark Folklore and Magic by Vance Randolph; and The Proverb & Index by Archer Taylor. Because the following presentation required repeated citation of these collections, they appear hereafter according to editor/collector. Thus all annotations from The Frank C. Brown Collection of North Carolina Folklore are designated in the text as Brown; those from Weather Proverbs are designated in the text as Dunwoody; etc. If further annotation is required by the reader, he need only to look to the original sources and he will find leads to other sources there.

A section entitled "References Used for Interpretation and Analysis" is presented preceding the discussion of each belief. The purpose of this section is to make documentation readily accessible to the reader. Here the references are referred to by author only. The date of publication has been added to separate works done by the same author. Thus when Humphreys, 1923, p. 00; is cited, refer to the Selected Bibliography where the full bibliographic information can be found--Humphreys, W. J., Weather Proverbs and Paradoxes. Baltimore: Williams and Wilkins Company, 1923.

In a final statement, Chapter 4, I concerned myself with folk wisdom as it related to the persistence of weather beliefs found in this study. I found that as a whole, most weather beliefs contain some observable

truths. However, interpretation of weather phenomena which did not adhere to the strict rules of science was not the only possible explanation for inconsistencies. Some speculative theories regarding how beliefs may have passed from the scientific category into the non-scientific category were put forth.

All of the beliefs in this study were referred to as "beliefs" regardless of the category which they fit in--scientific or non-scientific. Some were referred to as proverbs but only because they had the necessary structural requirements of proverbs (i.e. rhyming, balanced phrasing, etc.). No special significance or emphasis was placed on a belief because of its proverbial characteristics. None of the beliefs were referred to as superstitious because of the derogatory connotations which have been previously associated with superstition, and it was not the intent of this study to address problems of terminology.

The beliefs contained in this study were assigned to their respective categories, scientific or non-scientific, based on our current understanding of weather. It is essential that it be recognized that "scientific beliefs" about the weather have undergone both radical and frequent change through time. In this study the current classification of beliefs as scientifically valid or invalid may be altered or modified by further investigations.

## CHAPTER 2

### ANALYSIS OF TWENTY WEATHER BELIEFS HAVING SCIENTIFIC VALIDITY

This chapter consists of twenty scientifically valid Kentucky weather beliefs. Each belief is annotated, documented, and discussed in light of present meteorological knowledge.

I When smoke goes to the ground it will be bad weather. [Montell Collection: Anonymous, Carroll Co., Ky.]

Folkloristic Annotations: Brown no. 6165 (If smoke stays close to the ground), Brown no. 6166 (When smoke beats to the ground), Brown no. 6167 (If the wind blows smoke down the chimney); Dunwoody p. 18 (When chimneys smoke and soot falls); Hyatt no. 847 (If soot drops to the ground or back down the chimney, rain is coming in summer and snow in winter), Hyatt no. 848 (If smoke rises into the air, we will have clear weather; if it falls and clings to the ground, rain in summer and snow in winter), Hyatt no. 849 (Chimney smoke clinging to the ground in the morning brings a storm before night).

References Used for Interpretation and Analysis: Dunwoody, 1883, p. 18; Humphreys, 1923, p. 79; Koeppe and De Long, 1958, p. 13.

Discussion: The meteorological explanation for this weather saying is dependent upon the existence of three concurring atmospheric conditions. First and foremost, there must be a supply of smoke. In essence smoke is "a cloud of fine, unburned soot, charcoal, or carbon particles, carried up

with the hot air over the fire, together with a small amount of mineral ash."<sup>1</sup>

Second, the air must be humid and in a depression for the smoke to descend. Under normal atmospheric conditions, smoke is less dense than air. Therefore when the air is relatively dry, the smoke particles are light and travel in an upward motion dissipating rapidly. However when the air is humid, the smoke particles become moisture-laden and too heavy to rise. Furthermore we can assume that the humid air is accompanied by low pressure because it is within low pressure areas that smoke is more dense than air; thus the smoke slowly descends and travels along the ground.

The third condition upon which the validity of this weather saying rests is the absence of a wind or at the very least the presence of a slow wind. This condition is necessary because no matter what the humidity, the smoke will quickly dissipate if the wind is at all strong.<sup>2</sup>

In conclusion, the prognosis of coming bad weather is a logical assumption if these three conditions are concurrent. Usual pre-storm conditions include both a humid atmosphere and a slow or nonexistent wind. The smoke and its behavior simply act as a weather indicator denoting the presence of these two common pre-storm conditions.

II The higher the clouds the finer the weather. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-448, Mr. Odell Branson, Webster Co., Ky.]

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<sup>1</sup>W. J. Humphreys, Weather Proverbs and Paradoxes (Baltimore: Williams and Wilkins Company, 1923, p. 79.

<sup>2</sup>Ibid.

Folkloristic Annotation: Brown no. 6386 (The higher the clouds the better [finer] the weather).

References Used for Interpretation and Analysis: Humphreys, 1923, p. 50; Koeppel and De Long, 1958, p. 11; Sloane, 1963, p. 34.

Discussion: "The height, extent and shape of clouds depend upon the humidity, the temperature, and the motion of the atmosphere; hence, they often give reliable warnings of the coming weather."<sup>1</sup>

In the case of the weather saying under consideration, it is the height of the clouds that is the significant determiner of fair weather. Clouds are formed when low humid air ascends. During the process of ascending, the air expands and cools. The degree of cooling is determined by the height of the clouds. Therefore the higher the cloud, the drier its air, and the less chance it has of being capable of producing precipitation.

It should also be noted that "rising air comes under less and less pressure by the weight of the atmosphere left below. . . ." <sup>2</sup> Thus higher clouds indicate higher atmospheric pressure, which is generally a quality that accompanies fair weather.

Although the foregoing discussion suggests that this weather proverb is factual, a qualification with respect to the cloud type is necessary. For the weather saying to be accurate the high clouds must be of the cumulus type and not of the cirrus type. And even then it cannot include the cumulo-nimbus cloud, but this can be justified by the fact that it is usually "classed as a cloud of great depth rather than a high cloud. . . ." <sup>3</sup>

<sup>1</sup>Ibid., p. 50.

<sup>2</sup>Ibid.

<sup>3</sup>Clarence E. Koeppel and George C. De Long, Weather and Climate (New York: McGraw-Hill Book Company, Inc., 1958), p. 11.



III Ring around moon means rain. [Montell Collection: Edna Gothard, Kenton Co., Ky.]

Folkloristic Annotations: Brown no. 6545 (A hazy circle around the moon is a sign of rain), Brown no. 6547 (If there is a circle around the moon, it will rain the next day; . . .), Brown no. 6548 (If there is a circle around the moon, it will rain before the next night), Brown no. 6551 (If there is a ring around moon, it will rain within forty-eight hours); Dunwoody p. 61 (A large ring around the moon and low clouds indicate rain in twenty-four hours; a small ring and high clouds rain in several days); Hyatt no. 64 ("Circle or ring around the moon, Rain soon; or Ring around the moon, Brings a storm soon"), Hyatt no. 65 (A halo about the moon foretells rain next day say some, within three days say others; the time frequently being determined by the size of the halo: the smaller the halo, the sooner the rain), Hyatt no. 68 (As many rings as the moon has, so many will be the days until rain); Randolph p. 15 (A ring around the moon is said to be a sure sign of bad weather--usually rain or snow).

References Used for Interpretation and Analysis. Brooks, 1924, pp. 204-5; Forrester, 1957, p. 284; Humphreys, 1926a, pp. 40-1; Koeppe and De Long, 1958, p. 12; Neuberger and Stephens, 1948, p. 125.

Discussion: The classification of this weather saying as "scientifically valid" may be questionable. However, since it can be predicted that precipitation will follow the sighting of a ring around the moon or a ring around the sun two out of three times<sup>1</sup> it seems more appropriately

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<sup>1</sup>Frank Forrester, 1001 Questions Answered About the Weather (New York: Dodd, Mead & Company, 1957), p. 284.

placed in this chapter than in the one to follow [Chapter 3. A Sampling of Weather Beliefs Having No Scientific Validity].

The presence of a lunar or solar halo is the result of light refraction between the celestial body and a layer of cirriform clouds. These clouds, which are long, thin and wispy in appearance, consist of myriads of ice crystals. It is the ice crystals which are ultimately responsible for the refraction of the light and thus the presence of the ring or halo.

Cirriform clouds are not generally precipitators. Rather, they usually precede an advancing warm front. The warm front, which usually follows within twelve to eighteen hours after the appearance of the halo, is the body responsible for stormy conditions and thus either rain or snow depending upon the season.

IV Ring around the sun--bad weather. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-488, Miss Mattie Ranes, Webster Co., Ky.]

Folkloristic Annotations: Brown no. 6146 (If there is a large circle around the sun, it is a sign of bad weather), Brown no. 6147 (When the sun has a circle around it, with a star in the circle, it will be bad weather), Brown no. 6460 (If a circle forms around the sun during the day, it is a sign of rain very soon); Dunwoody p. 77 (When the sun is in his house [in a halo or circle] it will rain soon [Zuni Indians]), Dunwoody p. 77 (A solar halo indicates bad weather), Dunwoody p. 77 (A halo around the sun indicates the approach of a storm, within three days, from the side which is more brilliant), Dunwoody p. 77 (If there be a ring or halo around the sun in bad weather, expect fine weather soon), Dunwoody p. 77 (A bright circle around the sun denotes a storm, and cooler weather); Hyatt no. 28 (Some regard a solar halo as an indication of rain before night).

References Used for Interpretation and Analysis: Same as in the immediately preceding belief.

Discussion: See immediately preceding discussion concerning a ring around the moon. This discussion encompasses both rings around the sun and the moon with the same resulting prognosis of bad weather.

V Rainbow in the morning is shepherd's warning; Rainbow in the evening is shepherd's delight. [Montell Collection: Ogle Pierce, Green Co., Ky.]

Folkloristic Annotations: Brown no. 6124 (Rainbow in the morning, is a sailor's warning; Rainbow in the evening is a sailor's delight), Brown no. 6128 (A rainbow in the morning, Gives the shepherd warning), Brown no. 6129 (Rainbow at night, shepherd's delight; Rainbow in the morning, shepherds warning); Dunwoody p. 71 (Rainbow in morning, shepherds take warning; Rainbow at night shepherds' delight), Dunwoody p. 71 (Rainbow at night, sailors' delight; Rainbow in morning, sailors' warning); Hyatt no. 110 (Rainbow in the morning, Farmer take warning), Hyatt no. 111 (Rainbow at night, Fisherman's delight), Hyatt no. 112 (Rainbow at night, Sailors' delight; Rainbow in the morning, Sailors take warning), Hyatt no. 113 (Rainbow in the morn, Sailors warned), Hyatt no. 114 (A rainbow at night, Is a shepherd's delight; A rainbow in the morning, Is a shepherd's warning); Randolph p. 15 (A rainbow in the evening means clear weather, but a rainbow in the morning indicates a storm within twenty-four hours); Taylor p. 55 (A rainbow at night is the sailor's delight, A rainbow in the morning is the sailor's warning), Taylor p. 112 (Lists fisher's and shepherd's as variants).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 91-2; Forrester, 1957, pp. 284-5; Humphreys, 1923, pp. 33-5; Kimble, 1955, pp. 83-4; Koepe and De Long, 1958, p. 12.

Discussion: This weather saying originated in the middle latitudes (and thus applies to the state of Kentucky) where the prevailing westerlies are responsible for the movement of weather patterns from west to east.

A rainbow is produced when the sun's light is reflected and refracted by raindrops. To view a rainbow, the observer must be positioned between the sun and the rain shower with the sun to the back of the shower. When a morning rainbow is evident, the sun is in the east and the bow is to the west (windward). Thus the morning bow indicates that a shower is approaching since the weather generally travels from west to east.

Conversely, when an evening rainbow is seen the sun is in the west and the bow is in the east (leeward). Therefore an evening rainbow indicates that the shower has already passed over the point where the observer is positioned and it will continue to travel eastward. Thus the evening bow usually indicates fair weather.

Technically the morning and evening rainbows have a far greater significance than has just been explained above. Kimble elaborates on the atmospheric conditions which produced the showers and preceded the bows.

Morning air is topped by cooler, drier air in which nocturnal radiation has brought down the temperature of the ceiling of the cloud, formed in the moist air, to the point where the increased weight of the chilled upper air causes it to descend, violently overturning the warm air beneath. Such showers may open a period of unsettled, squally weather . . . On the other hand, a rainbow "at night" . . . indicates . . . that the humidity is fairly low, seeing that it presumably took the maximum convection of the day to produce the shower and the bow along with it.<sup>1</sup>

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<sup>1</sup>George H. Kimble, Our American Weather (New York: McGraw-Hill Book Company, Inc., 1955), p. 84.

In conclusion, it has been clearly shown that this weather saying has a scientific basis.

VI Dew on the grass at night is a sign of fair weather the next day.

[W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, Mrs. Ovidene West, Christian Co., Ky.]

Folkloristic Annotations: Brown no. 6326 (Dew on the grass in the morning means there will be no rain during the day), Brown no. 6872 (Heavy dews give no promise of rain); Dunwoody p. 48 (Heavy dew indicates fair weather), Dunwoody p. 48 (If there is a heavy dew it indicates fair weather; no dew indicates rain); Hyatt no. 326 (No dew in the morning is a forecast of rain say some; say others: "When dew is on the grass, Rain will never come to pass"), Hyatt no. 327 (A light dew in the morning will be followed by rain; a heavy dew, by splendid weather); Randolph p. 11 (. . . when the tall grass is bone-dry in the morning he "allus figgered on rain afore night" but he also insisted that a heavy dew is one of the most reliable rain signs known).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 27-8; Humphreys, 1923, pp. 58-9; Koeppel and De Long, 1958, pp. 11-2; Sloane, 1963, p. 36.

Discussion: This proverb is valid in view of the fact that the atmospheric conditions required for dew to form are also the atmospheric conditions which prevail during fair weather.

The formation of dew at night is the result of the earth's loss of heat through radiation. The greatest heat loss occurs when there are no low lying clouds in the atmosphere to trap the heat. Thus when there is a relatively clear sky and night falls, the temperature of the earth's

surface and those objects on it falls sharply. Likewise, the air temperature also drops but to a lesser degree. Dew forms then when the temperature of the grass falls below the dewpoint of its surrounding air.

Dew forms only under dry conditions. Moisture-laden air prevents the formation because it retards radiation and thus a drop in temperature. Therefore moist air (high relative humidity) results in the formation of precipitation and dry air (low relative humidity) results in the formation of dew.

In conclusion then, the concurring conditions required by both dew and fair weather are no atmospheric obstructions to prevent the cooling process--namely clouds and humidity.

VII Rain before seven, quit before eleven. [Montell Collection: Anon.]

Folkloristic Annotations: Brown no. 6221 (If it rains before seven, it will clear before eleven), Brown no. 6251 (Rain before seven, Sunshine before eleven), Brown no. 6252 (If it rains before seven, It shines before eleven), Brown no. 6342 (Rain before seven, Fair before eleven), Brown no. 6446 (If it rains at seven, It will rain at eleven); Dunwoody p. 69 (If it rains before seven, It will clear before eleven), Dunwoody p. 70 (If it rains before seven, It will cease before eleven); Hyatt no. 126 (Morning clouds opening before seven and closing soon afterward foretell rain before eleven), Hyatt no. 236 (An early morning rain stops before noon), Hyatt no. 237 (Rain before seven, Stop before eleven); Randolph p. 17 (Rain before seven/Shine before eleven); Taylor p. 55 (Rain before seven stops before eleven), Taylor (See also pp. 111, 118).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 207-8; Forrester, 1957, p. 284.

Discussion: Two points of clarification must be made before the validity of this weather saying can be discussed. First, the area to which the saying is applicable must be determined. And second, the type of rain storm referred to must be qualified.

Frank Forrester states,

Most regions of the middle latitudes lie in the prevailing-westerlies belt which carry transient high- and low-pressure areas from west to east, attended by cold and warm fronts, each with a different pattern of weather. These weather patterns are generally in motion and stagnation of weather is not typical. Change of weather, therefore is quite normal, often within a few hours.<sup>1</sup>

Kentucky does lie in the prevailing-westerlies belt and therefore the weather saying is applicable in this state. Furthermore, the rains referred to in the proverb are the light rains typically associated with the weather patterns characteristic of this belt. Thus the storms which would be excluded from or those which would not pertain to the saying, would be extensive storms caused by over and underrunning winds. Such would be the case as with northeast and southerly winds.

Forrester concedes that the weather proverb is valid to this extent. However he rejects the idea that the reference to a specific hour of day is significant and in fact refers to it as "meaningless."<sup>2</sup> But Brooks in his discussion of the proverb, suggests that nocturnal cooling and diurnal heating may be responsible for the seemingly accurate times posted in the saying. He says,

Rains usually last only a few hours, therefore, those which start before seven are likely to stop before eleven. This is

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<sup>1</sup>Forrester 1001 Questions Answered about the Weather, p. 284

<sup>2</sup>Ibid.

especially probable, however, with those rains that do not start till the cooler hours of the night, for in most cases the clouds and rain would not have occurred except for this nocturnal cooling. This being so, the morning warming must stop the rain and evaporate the clouds.<sup>1</sup>

VIII When the wind is in the south, The rain's in its mouth. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-165, W.K.U. Teacher]

Folkloristic Annotations: Brown no. 6602 (When the wind's in the south, The rain's in its mouth; The wind in the west, Suits everyone best); Dunwoody p. 15 (When the wind is in the south, It is in the rain's mouth), Dunwoody p. 86 (A wind in the south, Is in the rain's mouth).

References Used for Interpretation and Analysis: Dunwoody, 1883. p. 15; Humphreys, 1923, p. 61.

Discussion: The winds which come from the southeast portion of a cyclonic storm positioned in the right-hand side of the depression, are usually the warmest and generally the most humid of winds. Typically the region in front of the southern air mass is occupied by colder, denser air. Thus when the southern winds converge upon this region, it forces the colder, denser air to rise, thereby producing clouds and precipitation in turn. Given this set of circumstances, the weather saying is valid.

IX Mare's-tails in the sky are signs of threatening weather.  
[W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, W.K.U. Teacher, Logan Co., Ky.]

Folkloristic Annotations: Brown no. 3475 (Mackerel backs and mare's-tails, Make lofty ships carry low sails), Brown no. 6520 (A mare's-tail across the clouds indicates rain), Brown no. 6521 (Mare's-tails in the sky,

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<sup>1</sup>Charles Franklin Brooks, Why the Weather (New York: Harcourt, Brace and Company, 1924), p. 207.



Never leave the ground dry), Brown no. 6944 (A mare's-tail is a sign of wind), Brown no. 6945 (A mare-tailed sky, with ragged edges pointing up, forbodes wind); Dunwoody p. 15 (Mackerel sky and mare's tails, Make lofty ships carry low sails), Dunwoody p. 45 (Mackerel scales and mare's tails, Make lofty ships carry low sails), Dunwoody p. 15 (The cloud called goat's hair or the gray mare's tails forbodes wind); Hyatt no. 133 (Horses tails and fishes scales, Make sailors spread their sails), Hyatt no. 134 (Clouds resembling a mare's tail presage rain); Taylor pp. 121, 46 (Mackerel sky and mare's tails make lofty ships to carry low sails).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 31-2; Dunwoody, 1883, p. 15; Forrester, 1957, p. 283; Humphreys, 1923, pp. 50-1; Koeppel and De Long, 1958, p. 11; Sloane, 1963, p. 54.

Discussion: The "mare's-tails" referred to in this weather saying are the high, wispy cirrus clouds which generally float from five to eight miles<sup>1</sup> above sea-level. They are often forerunners of an approaching storm; for although they originated at the same time and in the same place as the storm mass, they are often caught up by swift eastward-moving winds and thus outstrip the rest of the storm mass.

X If there is enough blue in the sky to make a pair of trousers there will be no rain. [Montell Collection: Clara Gribbins, Marion Co., Ky.]

Folkloristic Annotations: Brown no. 6229 (After a rain, if one sees blue sky enough to cut out a pair of pants, the clouds will go away and it

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<sup>1</sup>Humphreys Weather Proverbs and Paradoxes, p. 50 [There is a discrepancy as to the exact height at which cirrus clouds float. Brooks Why the Weather, p. 31 states that they float three to six miles above the earth].

will clear off), Brown no. 6855 (After a storm, if you can find blue sky enough to make a Dutchman's jacket, the rain is gone. Some say the garment must be an apron, or sailor's breeches); Dunwoody p. 14 (When as much blue sky is seen as will make a Dutchman a jacket [or a sailor breeches] the weather may be expected to clear up), Dunwoody p. 43 (Enough blue sky in the northwest to make a Scotchman a jacket is a sign of approaching clear weather), Dunwoody p. 44 (When there is enough clear sky to patch a Dutchman's breeches expect fair weather); Hyatt no. 83 (If on a gloomy day there is a patch of blue sky the size of a handkerchief, the weather will soon clear), Hyatt no. 84 (If on a gloomy day there is a patch of blue sky large enough to make a pair of britches for a Dutchman, the weather will soon clear), Hyatt no. 85 (If on a gloomy day there is a patch of blue sky large enough to make a shirt for a sailor, the weather will soon clear).

References Used for Interpretation and Analysis: Dunwoody, 1883, p. 14; Martin, 1913, p. 274; Sloane, 1963, p. 54.

Discussion: In this weather saying, the basis for the prediction of fair weather depends upon the amount of visible blue sky--thus implying that clouds are evident.

In Martin's discussion of the probability of this saying, he makes the assumption that the clouds which are evident are of the cumulus variety. Thus, he explains that "Well-defined cumulus clouds [the clouds that come in heaps] forming a few hours after sunrise, increasing toward the middle of the day and decreasing toward evening, are indicative of settled weather. . . ."<sup>1</sup>

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<sup>1</sup>Edwin C. Martin, Our Own Weather (New York: Harper & Brothers, 1913), p. 274.

Other versions of this weather saying (See preceding folkloristic annotations), also predict fair weather by the amount of visible blue sky; however, they begin with the premise that rain is falling or already has fallen. In these instances, the rain is referred to as "a clearing shower"<sup>1</sup> and the blue sky is in the rear of a low-pressure area.<sup>2</sup> Thus the predictable outcome is the same--clear weather is approaching.

XI Red sky at night is a sailor's delight; Red sky in the morning, sailors take warning. [Montell Collection: Charlie Winfrey, County Unknown, Ky.]

Folkloristic Annotations: Brown no. 6130 (Red at night, sailor's delight; Red in the morning, sailor's warning), Brown no. 6131 (Red clouds at night, Sailors' delight), Brown no. 6132 (Red clouds in the morning, sailors' warning; Red clouds in the evening, sailor's delight), Brown no. 6133 (Red clouds of the morning, sailor's fair warning; Red clouds of the night, sailor's delight), Brown nos. 6134, 6135, 6136, 6137, 6138 (All pertain; i. e. red clouds and sailors, red clouds and shepherds, red sails and sailors), Brown no. 6139 (A red sky in the morning, is the sailor's warning; A red sky at night, is the sailor's delight), Brown no. 6140 (Red sky at night, sailor's delight; Red sky at morning sailors take warning); Dunwoody p. 45 (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 (Matthew xvi, 2,3]), Dunwoody p. 46 (Red clouds at sunrise indicate storm); Hyatt no. 96 (Red at night, sailor's delight; Red in the

<sup>1</sup>H. H. C. Dunwoody, Weather Proverbs (Washington: Government Printing Office, 1883), p. 14.

<sup>2</sup>Eric Sloane, Folklore of American Weather (New York: Duell, Sloan and Pearce, 1963), p. 54.

morning, sailor take warning [Also noted in reverse]), Hyatt no. 98 (Red at night, soldiers' delight; Red in the morning, soldiers are mourning); Randolph p. 15 (A red sunset is supposed to promise at least twenty-four hours of dry weather).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 89-90; Forrester, 1957, p. 282; Humphreys, 1923, pp. 28-32; Kimble, 1955, pp. 246-7; Koeppe and De Long, 1958, pp. 12-3.

Discussion: Sky coloring is an excellent indicator of impending weather and it is effectively put to use in this weather proverb.

A red sky commonly indicates that the atmosphere contains dust and moisture, both of which are essential for precipitation. The red color is normally produced when the sunlight shines obliquely through the atmosphere laden with background concentrations of particles. The sun's rays are scattered in such a way that red is transmitted in a larger measure than blue.<sup>1</sup>

The position of the sun, as it reddens the sky, determines whether fair weather or rain will follow. Remembering that the weather travels from west to east in most of North America, if a red sky appears in the evening as the sun is setting, then clear weather will follow.

A red sky in the evening is seen when the sun is most oblique and there are no clouds to the west to obscure the redness. There may be clouds evident in the east which would reflect scattered red light and thus indicate that the cloud front has already passed. Hence, fair weather prevails.

A red sky in the morning results when the eastern sky is clear and the western sky is cloudy. Thus while the eastern sky transmits the

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<sup>1</sup>Brooks Why the Weather, p. 90.

redness, the western sky acts as a screen which reflects the scattered light waves. Since this would be observed from an area dominated by the prevailing westerlies, it would indicate an approaching front. Hence rain is on the way.

A statistical analysis was made in the south of England to determine the reliability of these red sky rules. The study showed that a red sunrise was followed by rain within two hours seven out of ten times and a red sunset was followed by twenty-four hours of fair weather two out of every three occasions.<sup>1</sup>

XII Evening gray, morning red; Brings rain upon your head. [Montell Collection: Anonymous, Carroll Co., Ky.]

Folkloristic Annotations: Brown nos. 6449/6853 (When the sky is red at sunrise and gray at sunset, there will be no rain the next day, but when the morning is gray and the evening red, there will certainly be rain the next day, as attested in the following little verse: Morning red and evening gray, Sets the traveler on his way; Morning gray and evening red, Brings rain upon his head), Brown no. 6450 (Evening red and morning gray, Helps the traveler on his way; Evening gray and morning red, Brings down rain upon his head), Brown no. 6451 (Evening red, morning gray, Sets the traveler on his way; Evening gray, morning red, Puts the traveler in his bed), Brown no. 6452 (Evening red, morning fine/ Evening's red a rainy sign/ But when red goes over, a red sunset and sunrise, you'll have rain that afternoon), Brown no. 6453 (If the evening's gray and the morning red, Put on your hat or you'll wet your head), Brown no. 6455 (If the sunset is gray, The next will be a rainy day), Brown no. 6852 (If the sun sets red in the

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<sup>1</sup>Kimble Our American Weather, p. 247.

evening, it won't rain the next day); Dunwoody p. 68 (Evening red and morning gray/ Are sure signs of a fine day), Dunwoody p. 68 (Evening gray and morning red, Put on your hat or you'll wet your head); Hyatt no. 87 (An evening red and a morning grey, Make a fair fair day), Hyatt no. 88 (Evening red and morning grey, That's the sign we'll have a fair day), Hyatt no. 89 (Evening red and morning grey, Two sure signs of one clear day), Hyatt no. 90 (Evening grey and morning red, Will pour rain on the pilgrim's head), Hyatt no. 91 (An evening grey and a morning red, Send the shepherd wet to bed), Hyatt no. 92 (Evening red and morning grey, Will set the traveler on his way; Evening grey and morning red, Will pour the rain down on his head), Hyatt no. 93 (Evening red, morning grey, Speed the traveler on his way; Evening grey morning red, Bring down rain upon his head), Hyatt no. 94 (Evening grey and morning red, Send the traveler back to bed; Evening red and morning grey, Send the traveler on his way), Hyatt no. 95 (If at morning the sky be red, It bids the traveler stay in bed); Taylor pp. 30, 112 (Evening red and morning gray/ Will speed a traveler on his way, But evening gray and morning red, Will pour down rain upon his head).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 89-90; Forrester, 1957, p. 282; Humphreys, 1923, pp. 28-32; Kimble, 1955, p. 246-7; Koeppe and De Long, 1958, pp. 12-3.

Discussion: This is another excellent example of the effective use of sky coloring to forecast the weather.

Since "morning red" was explained in the discussion of the preceding proverb (see discussion of proverb XI, pp. 19-21), it will not be repeated here. Therefore attention will be given only to the gray evening.

The appearance of a gray evening results when the western sky is banked with dense clouds. This cloud covering occurs when a great number of the air's dust particles have become saturated with water. In spite of the warming done by the sun during the day, these clouds do not dissipate because of the high relative humidity. Since this cloudy condition lies to the west, the eastward movement of air will probably bring the clouds and hence its rain to the observer's region.<sup>1</sup>

XIII Odors are stronger before a rain. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, Ovidene West, Christian Co., Ky.]

Folkloristic Annotations: Brown no. 6829 (When flowers stay open all night, or their odor is unusually strong, you may expect rain); Dunwoody p. 65 (When the perfume of flowers is unusually perceptible, rain may be expected); Hyatt no. 395 (Flowers just before a rain are always more fragrant), Hyatt no. 396 (Flowers remaining open all night and having a stronger fragrance than usual forecast rain), Hyatt no. 837 (You may expect rain, if one or more of the following things happen while you are smoking: your pipe smelling stronger than usual).

References Used for Interpretation and Analysis: Anthony and Kolthoff, 1971, p. 260; Humphreys, 1923, pp. 72-3; Starling, 1956, p. 499.

Discussion: Most odorous substances are very large molecules with high vapor densities. This means that odors usually diffuse slowly through the air and they tend to "hang around" the objects producing them.<sup>2</sup> Any factor which would cause their molecules to diffuse faster would result in more pronounced and penetrating odors. A considerable decrease of

<sup>1</sup>Koeppe and De Long Weather & Climate, p. 13.

<sup>2</sup>Ernest Henry Starling, Principles of Human Physiology, 12th ed., edited by Sir Charles Lovatt Evans (Philadelphia: Lea & Febiger, 1956), p. 499.

atmospheric pressure which immediately precedes an approaching storm<sup>1</sup> is one such condition. Thus with a storm approaching, the diffusion rate would change so rapidly that the increased number of molecules would be quite noticeable. Since olfactory receptors quickly adapt to the higher number of molecules present, smells would remain strong only for a short time,<sup>2</sup> possibly corresponding to the period of time just prior to the storm.

XIV It is going to rain when somebody's bones ache. [Montell Collection: Anonymous, Kenton Co., Ky]

Folkloristic Annotations: Brown no. 6640 (If old folks' ankles ache, it is a sign of rain); Dunwoody p. 14 (When rheumatic people complain of more than ordinary pains in the joints, it will rain); Hyatt no. 809 (Broken bones ache before a rain), Hyatt no. 810 (You can foretell a rain by the joints or bones of your body becoming stiff or paining); Randolph p. 18 (Many persons believe that twinges of rheumatism . . . inform them when it is going to rain).

References Used for Interpretation and Analysis: Humphreys, 1923, pp. 82-3; Landsberg, 1969, pp. 102-5; Neuberger and Stephens, 1948, pp. 144-6.

Discussion: Pronounced weather changes affect the vast majority of people in one way or another.<sup>3</sup> The degree to which one is affected and the actual manifestations produced by the changing weather varies with

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<sup>1</sup>Humphreys Weather Proverbs and Paradoxes, p. 72.

<sup>2</sup>Catherine Parker Anthony and Norma Jane Kolthoff, Textbook of Anatomy and Physiology, 8th ed. (St. Louis: The C. V. Mosby Company, 1971), p. 260.

<sup>3</sup>Hans H. Neuberger and F. Briscoe Stephens, Weather and Man (New York: Prentice-Hall, Inc., 1948), p. 144.



individual temperaments and sensitivity. Although both physiological and psychological changes have been observed in advance of stormy weather, the physiological aspects will be the main concern of this discussion since the particular weather saying with which we are dealing mentions aching bones.

It is impossible to determine the specific cause for the pain response with the information given us, therefore several possible explanations--all of which are valid--will be discussed.

In many cases complaints stem from a specific physical impairment where the sensitivity is induced by scar tissue. Scar tissue results from a number of different injuries and it involves not only regenerated skin but also usually some reconstituted muscle. "This newly repaired cell structure is not in entirely uniform harmony with the older parts . . . (and) It shows this by often reacting differently to environmental change than the older tissue. This sets up an internal stress which results in pain."<sup>1</sup> Deformed skin tissue, such as corns, can also react in this same manner.

Records indicate that there is a seasonal trend to pains which are induced by scar tissue.<sup>2</sup> The pains are more prevalent during the months of wet, stormy weather than they are during the months of dry, sunny weather. Furthermore, the trend holds true on a day-to-day basis. Again the pain coincides with disruptive weather changes. Thus, it seems that high humidities invariably accompany "weather miseries."

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<sup>1</sup>Helmut Erich Landsberg, Weather and Health: An Introduction to Biometeorology (New York: Doubleday & Company, Inc., 1969), p. 103.

<sup>2</sup>Ibid.

It has been proposed by some that humidity has a direct effect upon skin itself. This is true to the extent that skin is hygroscopic; that is to say it expands with rising humidity and contracts when the air becomes drier. However, for this to induce the paining response, an individual would have to be exposed to the outdoors and therefore it is unlikely the cause in those instances where the afflicted remain primarily indoors. Others speculate that the pain is caused by a change of the consistency in cell fluid which is the result of interacting electrical forces between the body and the environment. Research is still being conducted in this area.

The largest group of weather sufferers is persons afflicted with rheumatism. In these individuals, the pain is usually located in the muscles and joints. "Not all rheumatics have weather-related pains, but most of those who have chronic complaints react to atmospheric pulsations."<sup>1</sup> In other words, their pain is associated with fluctuating temperatures.

Rheumatoid arthritis which affects the joints is yet another weather-bound disease. It is commonly more inhibitive in cold, moist, stormy climates than it is in warm, dry, calm climates. It seems that the unfavorable atmospheric conditions act upon the albuminous fluid which lubricates the joints and tendons causing increased resistance in movement and hence pain.

A series of experiments was conducted using hospitalized arthritis patients. The results of those experiments clearly indicated that weather pains were not figments of the imagination.<sup>2</sup> Although no definite correlation could be found between just one environmental factor and the pain,

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<sup>1</sup>Ibid., p. 104.

<sup>2</sup>Ibid., p. 105.

the studies did reveal that when the barometric pressure was lowered simultaneously with increased relative humidity the typical arthritic complaints were provoked.

In conclusion, we can say that there are persons who can truly anticipate weather changes by noting physiological changes in their bodies.

XV When a person's hair gets curly, it's going to rain. [Montell Collection: Anonymous, Kenton Co., Ky.]

Folkloristic Annotations: Brown no. 6645 (When curly hair becomes unruly you may expect rain), Brown no. 6646 (When a baby's hair curls up, it is a sign of rain); Hyatt no. 818 (Curls that kink and cords that bind, Sign of rain and heavy wind).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 87-8; Humphreys, 1923, pp. 75-6; Kimble, 1955, pp. 255-6; Koeppe and De Long, 1958, p. 14; Miller, 1971, p. 22; Ouellett, 1971, pp. 329-32.

Discussion: Hair is hygroscopic. In other words, it will absorb moisture in direct proportion to the dampness or humidity of the atmosphere to which it is exposed.<sup>1</sup> Hair changes in length to correspond with the percentage changes in relative humidity . . . regardless of temperature.

Because of its susceptibility to the moisture content of the atmosphere and because its reaction is so easily measured, human hair is used in a hygrometer as the fundamental factor in its mechanism. The hair hygrometer is probably the oldest instrument used to measure humidity and today it is still a common, easily serviceable tool employed by meteorologists.

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<sup>1</sup>Humphreys Weather Proverbs and Paradoxes, p. 75.

Lengthening is not the only reaction that hair has to atmospheric moisture. The state or condition of the hair also changes.

The curliness of hair is created primarily by bonds and cross-links between protein subunits of the fiber. These are typically weak hydrogen or disulfide bonds which can easily break and reform in the presence of heat, ionic solutions, or chemical dipoles (such as water).

Since hair proteins are hydrophilic ("water loving"), they will readily absorb moisture from the air. In the presence of water molecules, the weak cross-links which have been formed artificially (i.e. during straightening or curling of hair) will easily break and reform in their original configuration. Thus, when high humidity is present in the air, naturally curly hair which has been straightened will return to its curly condition and naturally straight hair which has been artificially curled will return to its original state.

In conclusion, it can be said that **curliness** of hair indicates high relative humidity; and in turn, high relative humidity usually indicates an approaching storm front.

XVI All good signs fail in dry weather. [Montell Collection: Wanda L. Blaydes, Metcalfe Co., Ky.]

Folkloristic Annotations: Brown p. 475 (Vol. I) (All signs fail in dry weather); Hyatt no. 337 (Same as brown); Randolph p. 11 (Same as Brown); Taylor pp. 113, 29 (Same as Brown).

References Used for Interpretation and Analysis: Humphreys, 1923, pp. 6, 8; Koeppel and De Long, 1958, p. 15; Martin, 1913, pp. 272-3.

Discussion: No weather sign is infallible. It makes no difference what terms a prognosis is based on, all "good signs" have been known to fail at one time or another. One such time is during dry periods.

The weather is inclined to go by spells with each type tending to persist.<sup>1</sup> "Storms do not wholly cease in dry weather; but they are apt to be weak, and in addition they cannot in their travels find moisture enough in the atmosphere to make rain."<sup>2</sup> Thus, just as is implied, the signs do appear but the rain does not.

XVII When the stars begin to huddle, The earth will soon become a puddle. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-165, W.K.U. Teacher, Logan Co., Ky.]

Folkloristic Annotations: Brown no. 6557 (Same as above), Brown no. 6559 (When stars flicker in the dark background, rain soon follows), Brown no. 6560 (When the stars are very dim and dull, you may expect rain); Dunwoody p. 73 (When the stars begin to huddle, The earth will soon become a puddle), Dunwoody p. 73 (When stars appear to be numerous, very large, and dull, and do not twinkle, expect rain); Hyatt no. 73 (When the stars begin to huddle, The earth will soon become a puddle), Hyatt no. 76 (. . . a scarcity of stars means falling weather); Randolph p. 16 (When the stars appear faded and dim, some people say that a big rain is on the way, no matter what the moon signs may be).

References Used for Interpretation and Analysis: Brooks, 1924, p. 206; Forrester, 1957, p. 285; Humphreys, 1923, pp. 44-5.

Discussion: Stars appear to huddle as a result of the presence of either clouds or mist in the sky.

Cirro-stratus clouds, which are known to fly in advance of an approaching storm front, often obscure our visibility of small stars. Since the

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<sup>1</sup>Ibid., p. 8.

<sup>2</sup>Martin Our Own Weather, p. 273.

larger, brighter stars remain visible through the thin cloud cover, the stars seem to be grouped in patches. Thus, the spacing of this cloud cover produces the huddling effect.

Stars also appear to huddle when there is a fine mist present in the sky. A mist often forms over the sky due to the beginning of condensation on the forward side of a storm.<sup>1</sup> When this is the case, the mist, like the cirro-stratus clouds, completely obscures our visibility of smaller stars while only blurring or dimming the larger stars. Again then, the huddling effect is created because only selective patches of stars can be seen.

In conclusion it can be said that huddling stars foretell rain since both the clouds and the mist, which are notorious for producing this huddling effect, are reliable portents of precipitation.

XVIII If you see Sun Dogs out from the sun it will rain the next day.

[W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, Mrs. Edith Van Hooser, Christian Co., Ky.]

Folkloristic Annotations: Brown no. 6571 (The sun's rising with a "dog" is a sign of rain), Brown no. 6572 (When there is a sundog around the sun when it sets, there will be rain); Hyatt no. 29 (Morning sun dog, colder weather; Afternoon sun dog, warmer weather), Hyatt no. 30 (In summer a sun dog warns you of cooler weather; in winter, chillier weather or a blizzard), Hyatt no. 31 (The meaning of a sun dog north of the sun is rain from the northwest; south of the sun, rain from southwest), Hyatt no. 32 (If a sun dog is seen on each side of the sun, a severe storm will arrive during the night), Hyatt no. 33 (A sun dog on each side of the sun

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<sup>1</sup>Humphreys Weather Proverbs and Paradoxes, p. 44.

in the morning is a portent of milder weather; in the afternoon, harsh weather), Hyatt no. 34 (Two sun dogs in the east denote cold weather); Randolph p. 15 (When a "sundog" circle is seen about the sun, there will be some radical change in the weather), Randolph p. 15 (Some say that a sundog means a prolonged drouth).

Reference Used for Interpretation and Analysis: Brooks, 1924, pp. 283-4.

Discussion: Sundogs are bright spots seen at either side of the sun. They are located on a circle of 22-degree radius from the sun's center. Although they often have all the colors of the corona, red usually predominates.

Sundogs are produced when the sun's light is reflected and refracted by the ice crystals contained in cirro-stratus clouds. Since cirro-stratus clouds usually advance a storm front and since they in effect produce sundogs, it can be said that sundogs indicate an approaching storm front.

XIX Clear moon, Frost soon. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-165, W.K.U. Teacher, Logan Co., Ky.]

Folkloristic Annotations: Brown no. 7070 (Moonlight nights have the heaviest frosts), Brown no. 7071 (Clear moon, Frost soon), Brown no. 7072 (A still winter's night with clear sky and twinkling stars is a sign of heavy frost), Brown no. 7073 (A very hard freeze never occurs on dark nights); Dunwoody p. 21 (Clear moon, Frost soon), Dunwoody p. 54 (Moonlight nights have the hardest frosts); Randolph p. 24 (Nearly all of the old-timers believe that when a frost comes in cloudy weather it is less harmful to crops than a frost in clear weather).

References Used for Interpretation and Analysis: Forrester, 1957, pp. 283-4; Humphreys, 1923, p. 41; Koeppe and De Long, 1958, p. 15.

Discussion: The same basic atmospheric conditions which allow dew to form also allow frost to form--namely dry air and cloudlessness. Dry air and a cloud free sky permits rapid radiation of the earth's heat as the sun sets. This rapid heat loss causes condensation on ground objects in the form of either dew or frost depending upon the temperature.

In this proverb, the clarity of the moon is used to indicate favorable atmospheric conditions for frost. A clear moon is best seen when there is little or no moisture in the air and when there are no clouds to obscure it. Hence: A clear moon, frost soon.

XX When distant sounds are loud and hollow, look for rain. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, Mrs. Ovidene West, Christian Co., Ky.]

Folkloristic Annotations: Brown no. 6834 (If sounds are heard more distinctly, and at a greater distance than usual, it is a good sign of rain), Brown no. 6835 (If whistles and bells sound very plainly, one may look out for rain), Brown no. 6836 (Heavy noises in outside air means rain); Dunwoody p. 18 (If the noise of a steamer or railway train is heard at a great distance, rain is predicted), Dunwoody p. 19 (A good hearing day is a sign of wet), Dunwoody p. 19 (Much sound in the air is a sign of rain), Dunwoody p. 106 (Bells are heard at greater distances before rain); Hyatt no. 832 (Chairs creaking louder than usual signify rain); Randolph p. 18 (It is generally believed, in many sections of the Ozarks, that gunshots, church bells, whistles and the like may be heard at a greater distance when rain is approaching than when continued dry weather is in store).



References Used for Interpretation and Analysis: Dunwoody, 1883, pp. 18-9; Humphreys, 1923, pp. 67-8.

Discussion: In general, air is a poor sound conductor. On a clear day, there exists large temperature variations within any given area (i.e. in direct sunlight, in shaded areas, near water, etc.). The atmospheric irregularities which result interfere with the travel of sound and largely limit the distance at which it can be heard.

With the approach of a storm, clouds move in providing a lower sky ceiling and the air grows more humid. The cloud cover helps to smooth out existing temperature variations and the more dense air, which results from increased humidity, passes sound more efficiently.

Thus, when normal sound travels at a greater distance and with more clarity than usual, it can be attributed to general storm conditions.

#### SUMMARY

1. Generally speaking the weather beliefs which have scientific explanations and are therefore considered valid are those which are based on observable atmospheric phenomena.
2. The largest number of these "tried and tested" weather beliefs concern themselves with signs which point to rain.

CHAPTER 3  
A SAMPLING OF WEATHER BELIEFS  
HAVING NO SCIENTIFIC VALIDITY

This chapter consists of ten Kentucky weather beliefs which, for one reason or another, are not considered scientifically valid. All of the beliefs are annotated and documented. The discussion of each belief pinpoints its inherent inconsistencies and attempts were made to determine how the foundation for the misconception was achieved.

XXI If the moon's tilted out, it will rain. (Informant's Explanation: If the crescent is tilted so that the rain would pour out of it, it'll rain). [Sadewasser Collection: Ed Hartowicz, Henderson Co., Ky.]

Folkloristic Annotations: Brown no. 6533 (The moon lying on her back is a sign of rain), Brown no. 6534 (It promises to be a rainy month if the new moon is lying on her back), Brown no. 6536 (A wet moon is tilted over, pouring water out), Brown no. 6537 (If the moon rises on its back, it is a sign of rain), Brown no. 6538 (If the horns of the moon are tilted so the water will spill out, the month will be rainy), Brown no. 6539 (If the quarter moon is turned down, it will rain); Dunwoody p. 61 (If the new moon appears with the crescent turned up, the month will be dry. If the points are turned down, it will be wet), Dunwoody p. 61 (If the crescent will hold water, the month will be dry; if not, it will be wet), Dunwoody p. 61 (If the Indian hunter could hang his powder-horn on the crescent, he did so

and staid at home, because he knew that the woods would be too dry to still hunt. If he could not hang his powder-horn upon the crescent he put it on his shoulder and went hunting, because he knew the woods would be wet and that he could stalk game noiselessly); Hyatt no. 52 (If the first new moon in January lies on its sides or back [horns upward], predict a wet year; if on its belly [horns downward], a dry year), Hyatt no. 55 (If the points of the moon curve downward, water is running out of the apron), Hyatt no. 56 (If the ends of the moon extend downward, water is pouring over the tip of the dipper), Hyatt no. 57 (If the tips of the moon tilt downward, much water will flow under the bridges), Hyatt no. 58 (If an Indian cannot suspend his powder-horn [or shot-horn] from the moon, it presages a wet month), Hyatt nos. 53, 54, 59, 60, 61, 62 (All pertain to the position of the moon and the prognosis of a wet or dry season); Randolph p. 15 (When one of the [moon's] horns seem much higher than the other, the concavity will no longer hold water, and one may expect rain shortly).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 84-5; Forrester, 1957, p. 285; Martin, 1913, pp. 260-1; Sloane, 1963, pp. 46-7.

Discussion: This example of weather lore rests on the assumption that the earth's moon controls or, at the very least, affects our weather. And further, both the moon's phase and its position can be used as determinants for the type of weather one forecasts.

First, meteorologists tell us that the moon itself has little effect on our weather. The only documented influence which it has is a very minute effect on [our atmosphere's] tidal movements.<sup>1</sup>

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<sup>1</sup>Forrester 1001 Questions Answered About the Weather, p. 285.

Second, the phase and the position of the moon are based on astronomical reasons. The moon follows a cyclic pattern. Beginning with the appearance of the new moon, it increases at an even and continuous rate until it reaches fullness. It then again steadily wanes until it passes from sight. Thus the phase of the moon is based on the lunar month which follows a uniform rhythm.

The tilted position of the moon which we observe is determined by the portion which the sun shines on most; that being either the upper or lower part. As far as it is known, the tilted position of the moon, as determined by the sun, does not affect our weather.

Thus, the basis of this weather prognosis is not substantiated by the presence of the moon, its phase, or its position.

Several conjectures have been made concerning the persistence of this bit of weather lore in tradition. Some attribute it to coincidence, while others attribute it to false reasoning from the misapplication of cause and effect factors. Those who hold to the speculation that coincidence is the reason that this weather belief persists say that it arose from observations that some months are dry while others are wet. Thus when the wet or dry month coincided with the belief it was noted but when the wet or dry month contradicted the belief it simply went unobserved or was virtually ignored.

Those speculators who hold to the theory of false reasoning or misuse of cause and effect factors state that the resemblance of the moon to that of a dipper accounts for the belief in its ability to either hold water or to pour it.<sup>1</sup>

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<sup>1</sup>Sloane Folklore of American Weather, p. 46.

Perhaps evidence for both theories can be found by comparing variants. Two similar interpretations of the moon's position can be found in both Kentucky and North Carolina. But at the same time, two contradicting interpretations can be found in the same state (See Brown nos. 6537 and 6538).

In conclusion, the only thing one is certain of is that for whatever reason, this belief persists.

XXII The full moon eats clouds. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-165, W.K.U. Teacher, Logan Co., Ky.]

Folkloristic Annotations: Brown no. 6225 (The moon at or just after it is full can eat up clouds); Dunwoody p. 60 (The full moon eats clouds [Nautical]).

References Used for Interpretation and Analysis: Humphreys, 1923, pp. 42-3; Humphreys, 1926b, pp. 112-5; Neuberger and Stephens, 1948, p. 123.

Discussion: With the setting of the sun, daytime convection ceases. Any clouds in the atmosphere at this time lose heat by emission of radiation faster than they gain it by absorption. While the clouds undergo a heat loss, they naturally cause the air surrounding them to also drop in temperature. This causes the air to become more dense and it sinks to a lower level taking with it the clouds. As the air descends it comes under greater and greater pressure making it reduce in volume and increase in temperature. This increase in temperature and the consequent decrease of humidity, causes the clouds to evaporate.

Although the moon is in no way responsible for this process, the phenomenon is best seen on moonlit nights. Therefore it is easy to see how the cause and effect have been misconstrued unknowingly.

XXIII When you see the sun drawing water, it is the sign of rain soon (Abstracted from informant narrative). [W.K.U. Folklore, Folklife, and Oral History Archive: 1973-2, J. D. Osborne, Logan Co., Ky.]

Folkloristic Annotations: Brown no. 6461 (When you see the sun drawing water, it is the sign of rain soon), Brown no. 6462 (The sun drawing water [streaks of sunlight through clouds] is called Jacob's ladder, and indicates rain); Dunwoody p. 77 (Rays of the sun appearing in a cloud forebode rain), Dunwoody p. 77 (When the sun draws water, rain follows soon), Dunwoody p. 77 (Sun drawing water indicates rain), Dunwoody p. 77 (If the sun draws water in the morning, it will rain before night); Hyatt no. 5 (If a morning sun draws water, rain will fall that night; if an afternoon sun draws water, rain will fall next day).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 88-9; Forrester, 1957, p. 285; Humphreys, 1926b, p. 147; Sloane, 1963, p. 58.

Discussion: The lines of alternate light and shade which seemingly originate from the earth's surface and lead up to the sun are commonly referred to as "the sun drawing water." The parallel bands of light are widest at the point where they seemingly originate from the earth's surface and narrowest where they seemingly enter the sun.

This illusion is seen when the sun is obscured by a bank of dense clouds and when the sun is in the process of either rising or setting, the angle of the light being a critical factor in producing the illusion.

"Meteorologists call the phenomenon crepuscular rays."<sup>1</sup> And what is actually being witnessed is streaks of sunlight passing through rifts of

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<sup>1</sup>Brooks Why the Weather, p. 89.

dense clouds. As the sun streaks pass through the atmosphere, they illuminate small dust and moisture particles which are in the air. These particles are mistaken for water droplets and as the saying goes they are drawn up by the sun resulting in rain.

Although the visual interpretation of the phenomenon is incorrectly stated in the weather saying, more times than not the prognosis of approaching rain is accurate. This is due not only to the presence of dust and moisture in the atmosphere but also the the large banks of cumulus or strata-cumulus clouds which are necessary components for this phenomenon as well as requirements for rain.

XXIV Cow's milk will turn sour if it thunders. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-367, Mrs. Sam Downing Jr., Fayette Co., Ky.]

Folkloristic Annotations: Brown no. 7568 (Thunder turns milk sour), Brown no. 7569 (If it thunders, the milk will clobber more quickly), Brown no. 6669 (When cream or milk sours during the night, you may expect rain); Dunwoody p. 107 (Cream and milk, when they turn sour in the night, often indicate thereby that thunder-storms are about, and will probably shortly take place), Dunwoody p. 118 (Abundance depends upon sour milk; meaning that thunderstorms aid crops); Hyatt no. 858 (Milk or cream souring in the night means a thunderstorm next day); Randolph p. 18 (Country women say that when milk or cream sours sooner than usual, a rain may be expected--and they insist that this works in fairly cold weather as well as in the heat of summer).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 156-7; Forrester, 1957, p. 288; Sloane, 1963, pp. 43-4.

Discussion: This weather belief is not as popular as it was before the widespread use of refrigeration and modern milking machines. However we need no more documentation for its persistence, even in our "modern times," than to note that this example was collected in 1972.

In actuality neither thunder nor thunderstorms are responsible for the spoilage of milk. Low pressure, humidity, and heat are atmospheric conditions which cause storms. They also favor rapid growth of bacteria (producing lactic acid) which results in the souring of milk. Therefore it is the prevailing atmospheric conditions which links the spoilage to the storm and hence the thunder.

Even though this weather belief is proven literally inaccurate, much can still be said for the keen observation of those who correlated these events.

XXV If a glass sweats, it will rain. [Montell Collection: Anonymous, Kenton Co., Ky.]

Folkloristic Annotations: Brown no. 6583 (When vapor condenses on a cold glass, they say there will soon be rain), Brown no. 6584 (When moisture gathers on window glass, or any kind of glass, in hot weather, you may expect rain that day), Brown no. 6585 (When glass and pitchers sweat, you may expect rain), Brown no. 6586 (When a glass filled with water sweats, rain may be expected); Hyatt no. 834 (The sweating of glassware--a water pitcher in particular--is a presage of rain).

References Used for Interpretation and Analysis: Humphreys, 1923, pp. 56-7; Humphreys, 1926a, pp. 5-7.

Discussion: The amount of water vapor in any given space rapidly decreases as the temperature drops.<sup>1</sup> This process is known as condensation,

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<sup>1</sup>Humphreys Weather Proverbs and Paradoxes, p. 56.



and using its principles we can explain why a glass sweats. The process begins when the glass contains ingredients which are cooler than the temperature of the room. The coolant affects the adjacent air's temperature causing it to drop. As this temperature drops the water vapor contained in the adjacent air condenses. Now if there is sufficient water vapor in this given space and if it is cooled below the dewpoint, then deposition of moisture results.

Although warm humid weather favors both the sweating of glassware and rain, it cannot be said that one causes the other.

XXVI If a rabbit's fur (is) thick, it will be a harsh winter (winter); if thin, a mild one. [Montell Collection: Anonymous, Kenton Co., Ky.]

Folkloristic Annotations: Brown no. 6076 (Hunters say that if wild animals have an unusually heavy coat of fur it will be a hard winter); Randolph pp. 25-6 (The severity of the approaching winter is indicated by the thickness of furs and feathers and cornshucks and so on. If hair on muskrats, skunks, coons, and possums is unusually thick, the hillman expects a hard winter).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 199-200; Humphreys, 1926b, pp. 142-4; Koeppe and De Long, 1958, p. 9; Neuberger and Stephens, 1948, p. 124.

Discussion: The thickness of an animal's winter fur coat depends upon the weather conditions and food supply during the time of attainment. It is usually during the late summer and early fall that the coat thickens and the weather conditions and food availability at this time determine the amount of growth.<sup>1</sup> "In effect, the behavior of animals . . . is largely

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<sup>1</sup>Neuberger and Stephens Weather and Man, p. 124.

a reflection of their past and present adjustments to weather conditions, not of their prognostic abilities."<sup>1</sup> However, Brooks states that "Since there is a small tendency for a cool season to be followed by one of like character, the fur . . . indications are not always wholly fallacious."<sup>2</sup>

XXVII If you find a crawfish chimney and it's sealed (plugged), it's going to rain. But when it's open, that means fair weather. [Sadewasser Collection: Ed Hartowicz, Henderson Co., Ky.]

Folkloristic Annotations: Brown no. 6806 (When there are numerous and fresh crawfish holes near water, there will be rain soon); Dunwoody p. 50 (When lobsters or craw-fish heighten their holes about the surface of the ground, it is a sign of approaching rain); Randolph p. 14 (When the burrows of ants and crawfish are "banked up" about the entrance, the mountain man looks for a cloudburst, or a sudden rise in the water of the streams).

References Used for Interpretation and Analysis: Personal Communications with Horton Hobbs III, Ph. D. and Steven Sadewasser, Ph. D.; both biologists have observed crawfish in the field as part of their research of crustaceans.

Discussion: Normally, burrowing crawfish move freely in and out of their burrows at the bottom and along the mud banks of ponds, streams, and rivers. Their respiratory system is such that they can take oxygen from either water or air as long as their gills remain wet.

Commonly, crawfish remain in their burrows for long periods only during extreme weather conditions, (i.e. summer drought, winter freeze).

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<sup>1</sup>Koeppe and De Long Weather and Climate, p. 9.

<sup>2</sup>Brooks Why the Weather, pp. 199-200.

During dry periods, when bodies of water which normally cover crawfish burrows are apt to dry up, burrows are usually left plugged. If the burrows were left open to the air, the moisture, which is essential for proper respiratory functions, would escape. Therefore, assuming that fair weather means no rain, the crawfish would take measures contrary to those described in the belief. He would in fact plug his burrow in "fair weather."

This weather belief further suggests that when rain is imminent crawfishes will seal the chimneys of their burrows. Here again, this is not the case. They usually open their burrows and even crawl about during rainy spring and summer weather.<sup>1</sup>

It is possible that the facts of this weather belief were at one time stated correctly. All the facts are there, they have just been inappropriately paired. Perhaps the reversal could have happened during the process of oral transmission.

XXVIII If a groundhog sees his shadow, there will be 40 days of bad weather. [Montell Collection: Odell Alvey, Jefferson Co., Ky.]

Folkloristic Annotations: Brown no. 6045 (At noon on February 2 [Candlemas Day] the ground hog comes out of his winter hiding. If it is cloudy, he stays, and fair weather has come. But if the sun shines at noon, the animal sees his shadow and is frightened. He bolts into his hole, and winter will continue for six weeks), Brown no. 6068 (If it is fair, and the sun shines on ground-hog day, we will have six weeks of winter, and if it is rainy and the sun doesn't shine, the winter is about gone), Brown no. 6069 (If the ground hog sees his shadow on the second day of February, he goes back and stays for forty days, and thus makes a

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<sup>1</sup>Horton Hobbs III, Personal Communications: October 22, 1975.

longer winter); Dunwoody p. 31 (If on Candlemas day [2d February] it is bright and clear, the ground-hog will stay in its den, thus indicating that more snow or cold are to come; but if it snows or rains he will creep out, as the winter has ended), Dunwoody p. 101 (On Candlemas day the bear, badger, or woodchuck comes out to see his shadow at noon; if he does not see it he remains out; but if he does see it he goes back to his hole for six weeks, and cold weather continues six weeks longer); Hyatt no. 753 (If a ground-hog sees his shadow on February 2, spring is at a distance, four weeks, or six weeks, or eight weeks; if he does not see his shadow, spring is very near. The four-week period is rare), Hyatt no. 754 (If a ground-hog sees his shadow on February 2, seven weeks of rain are foreshadowed); Randolph p. 27 (The groundhog is supposed to emerge from his burrow on Groundhog Day, and if the sun is shining he goes back to sleep, knowing that there will be six more weeks of winter weather).

References Used for Interpretation and Analysis: Brooks, 1924, pp. 273-4; Forrester, 1957, pp. 280-1; Humphreys, 1926b, pp. 131-2; Kimble, 1955, pp. 42-3; Koeppe and De Long, 1958, p. 9; Martin, 1913, pp. 262-3; Neuberger and Stephens, 1948, pp. 124-5.

Discussion: According to American tradition, the groundhog awakes from hibernation on February 2, and upon inspection of the day's weather, forecasts what conditions will prevail for the next six weeks or forty days.

In medieval Europe, February 2, then called Candlemas Day, was celebrated in honor of the goddess Febra, mother of Mars. Like many religious feast days, Candlemas Day was also used in a prophetic sense. Hence the proverbs:

If Candlemas Day be fair and bright,  
 Winter will have another flight;  
 But if Candlemas Day brings clouds and rain  
 Winter is gone and won't come again.

And

If Candlemas be fair and clear  
 There'll be twa winters in the year.

Although it is not known when the prophetic powers of this day were first ascribed to animals, we do know that Slavs believed the power belonged to the bear and later Germans held that the badger was the weather prophet. When German immigrants settled in North America, they brought this belief with them. Since there were only a few badgers on this continent, the Germans reassigned the powers to the more plentiful groundhogs or woodchucks. However, they failed to take into account the fact that the winters of the continental United States and Canada bear no resemblance either in duration or severity to the winters of Germany. Even if they did consider this climatic factor, it seems that the survival of the time-honored belief was far more important.

The details of the belief associated with Groundhog Day are several times removed from those of the original Candlemas Day. Not only is there a basic difference of how the weather forecast is achieved, there is also a date discrepancy. "February 2 is recognized as Groundhog Day in most sections of the United States . . . But there are thousands of people in Missouri and Arkansas who regard February 14 as Groundhog Day . . ." <sup>1</sup> It seems that the two days share only one common element--on both days the continuation of winter or the arrival of spring is prophesied.

Generally meteorologists do not credit February 2 beliefs with any scientific validity because, in the words of one meteorologist, ". . .

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<sup>1</sup>Vance Randolph, Ozark Magic and Folklore (New York: Dover Publications, Inc., 1964), p. 26.

deductions from clue days cannot be true because the weather conditions on any given day are not necessarily followed by a given weather sequence."<sup>1</sup>

XXIX If you step on a toad, it's going to rain. [Sadewasser Collection: Ed Hartowicz, Henderson Co., Ky.]

Folkloristic Annotations: Brown no. 6773 (To step on a toad is a sign it will rain soon), Brown no. 6765 (To kill a frog causes rain); Hyatt no. 530 (You cause a rain by killing a frog or toad), Hyatt no. 531 ('. . . Go out and find all the toad-frogs you can, kill them and put all their bellies up so it will rain. '); Randolph p. 30 (Other hillmen try to produce rain by . . . killing frogs and leaving them in the dry road . . . ).

References Used for Interpretation and Analysis: Forrester, 1957, pp. 281-2; Humphreys, 1923, p. 82; Humphreys, 1926b, pp. 17-9.

Discussion: Frogs, perhaps because of their close association with water, have long been considered providers of weather clues.<sup>2</sup> There is a vast array of beliefs which attribute rain making powers to both frogs and toads. The belief that is the primary concern of this study suggests that the consequence of stepping on a toad (and thereby killing him) produces rain. Some of the other popular and related frog-rain beliefs include: excessive croaking indicates rain; beating frogs summons rain; and simply, the appearance of an unusual number of frogs in the evening denotes approaching rain.

A possible explanation for the basis of all of these beliefs may stem from the known fact that "toads . . . come out more when the sky is

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<sup>1</sup>Neuberger and Stephens Weather and Man, p. 125.

<sup>2</sup>Frank Forrester 1001 Questions Answered About the Weather, p. 281.

clouded and the air is very damp than on dry sunny days . . ."<sup>1</sup> Thus one would be more likely to step on a toad; the croaking would be more evident and not restricted to a single area; and toads would be more numerous. Although there is then a sound basis for these beliefs, they still must be considered inaccurate because the cause and effect factors stipulated in the beliefs have been misinterpreted.

XXX If the woolly worms have a wide ring around them it's gonna be a bad winter. [W.K.U. Folklore, Folklife, and Oral History Archive: 1972-206, Edith Van Hooser, Christian Co., Ky.]

Folkloristic Annotations: Brown no. 6087 (If the woolly worm's head is more black than colored, the coldest part of the winter will come in the first months of winter); Hyatt no. 466 (If the head of the autumnal caterpillar is black, the early part of the winter will be cold; if the center of the body is light-colored, the middle of the winter will be light; and if the tail is black, the end of the winter will be cold), Hyatt no. 467 (If caterpillars during autumn are dark-brown in the central part of the body and yellow at each end, all of the cold weather will come in the middle of winter).

References Used for Interpretation and Analysis: Forrester, 1957, p. 281; Sloane, 1963, p. 63.

Discussion: The woolly worm weather belief is erroneous for the same reasons stated in connection with the rabbit belief cited earlier (See discussion of belief XXVI). The animal and/or insect in these two particular cases is capable of using and interpreting only the immediate weather

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<sup>1</sup>W. J. Humphreys Weather Proverbs and Paradoxes, p. 82.

conditions of the present season. It is not capable of interpreting weather conditions for the explicit purpose of preparing for the coming season.

A series of annual woolly-bear studies at the American Museum of Natural History in New York has been in progress for several years. The results of their investigation does not support the validity of this belief.<sup>1</sup>

#### SUMMARY

1. Generally speaking some truth can be found in all of these weather beliefs.
2. Some of these weather beliefs were based on environmental factors peculiar to the geographical location in which they originated. Thus, when they were transferred to other places they were no longer applicable.
3. There is evidence that some of these weather beliefs have been either reversed or garbled from their original form during the process of oral transmission.
4. Although some of these beliefs contain observable weather signs, they are stated in such a way that the sequence is unordered, resulting in inconsistencies.
5. Some of the beliefs which were based on "clue days" are so old that they had to be reinterpreted to fit the new calendar and were thus inappropriately assigned to a new date.

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<sup>1</sup>Forrester 1001 Questions Answered About the Weather, p. 281.



## CHAPTER 4

### COMMENTARY: FOLK WISDOM

Weather proverbs are traditional epigrammatic condensations of experiences.<sup>1</sup> They are terse, witty summaries drawn from observations of nature. Unlike most other types of proverbs, those which forecast weather conditions usually contain no metaphorical shift of meaning. They usually make reference to certain "signs" (i.e. sundogs, halos, rings) but those are used in a strict literal sense.

Although "the forces which are operative in the creation of weather proverbs are not altogether clear,"<sup>2</sup> some speculative theories can be put forth with regard to their persistence.

One line of thought has it that the persistence of a belief is clearly dependent upon its traditional sanctity. Such is the case with regard to the survival of the oldest weather proverbs, which contain traces of magic. Efforts have been made by scientific investigators to discredit some of the "magical" beliefs; but they have failed to substantially affect the popularity or perpetuation of the beliefs because the beliefs are traditionally sanctioned.

Traditional sanction not only serves as a major factor in perpetuating beliefs, but it also can be used by the person relating the

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<sup>1</sup>Standard Dictionary of Folklore, Mythology, and Legend. 1950 ed., s.v. "Proverb." by Archer Taylor.

<sup>2</sup>Archer Taylor, The Proverb & Index (Hatboro: Folklore Associates, 1962), p. 118.

belief as a safeguard against public censorship. If there is any doubt voiced concerning the validity of a belief, the person stating the facts of the belief can avoid criticism either by implying that he does not necessarily believe in those old sayings or by noting that the belief has already withstood the judgment of time and therefore it must have credence.

It has been established that the validity of a weather belief has no or at least very little bearing on whether or not a belief persists. With that in mind, an attempt was made to identify and decipher the reasons for the survival of weather beliefs which are obviously in contradiction with scientific fact. It is possible that some of these beliefs are in fact valid if they are considered in proper perspective.

The inaccuracies of some of these beliefs can be explained in light of the fact that they have been geographically transferred from their place of origin. One of the most obvious examples of this kind of displacement occurred with the migration of Europeans to this country. These people brought with them the beliefs which were functional and properly reflective of their parental climatic region. However, in the case of weather beliefs, the cultural transference of the belief system was inappropriate because the U. S. and large portions of Europe are within different climatic regions. Thus, "the inapplicability of weather proverbs in regions to which they have been carried by cultural currents appears in meteorological matters."<sup>1</sup>

The Groundhog Day weather belief (See belief XXVIII) illustrates the inapplicability of this kind of continental transference due to climatic differences. More times than not, our February weather is at

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<sup>1</sup>Ibid., p. 115.

a stage where groundhogs could come out of hibernation to inspect the prevailing weather conditions and then after judging the situation decide whether or not to return to hibernation or to begin spring activities. However, this weather belief is not only recognized in Kentucky. It is now popularly observed all over the United States. In some parts of the U. S. it would be impossible for a groundhog to come out of hibernation on February 2. In places like the Upper peninsula of Michigan, Wisconsin, Minnesota, Maine, Vermont, etc. a groundhog would have to dig his way through "inches" of ice and snow just to get out in the open so that he could inspect the weather. Obviously these regions of the U. S. do not have the kind of climatic conditions in February that are conducive to the workings of this belief.

Sometimes the European immigrants recognized that wholesale adoption of their weather beliefs was inappropriate in the new country. Therefore, in an effort to keep some of the old while adjusting to the new, they tried to assimilate some beliefs so that the inconsistencies were not so obvious. In doing so, they created what they thought were analogous or parallel beliefs the result of which was misleading and often confusing. The beliefs that were once based on the observations of nature were displaced and then altered without careful consideration of the new weather environment.

Another rationale that has been postulated by some for inconsistencies which pertain to certain beliefs concerns inappropriate interpretations of dates stemming from the reformation of the calendar. Again we can use the groundhog weather belief to illustrate this point. The original belief--Candlemas Day--was instituted in 542 A. D.<sup>1</sup> When the new

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<sup>1</sup>H. A. Hazen, "The Origin and Value of Weather Lore, "The Journal of American Folklore 13 (1900):192.

calendar was adopted, February 2 became the "clue day" of this belief. "But there are thousands of people in Missouri and Arkansas who regard February 14 as Groundhog Day, and it is February 14, not February 2, that they consider in deciding the proper dates for plowing and planting."<sup>1</sup> This is not the only example where contradiction in dates can be found. Horace Beck in his chapter on "Weather Lore" in Folklore and the Sea states that February 3 is the date recognized by mariners as Candlemas and/or Groundhog Day.<sup>2</sup> Thus we have two reference groups which suggest that the proper date has been misplaced.

There is also evidence that some weather beliefs have been either reversed or garbled during the process of oral transmission. A close look at the belief pertaining to crawfish (See belief XXVII) reveals that all the behavioral traits that are noted do have a foundation in fact. However, the facts have been inappropriately paired. It is possible that this could have occurred during the process of oral transmission.

This is not the only example of a belief where a reversal exists. The belief pertaining to the angle of the moon's crescent also exhibits this trait (See belief XXI). Katherine Martin, in her M. A. Thesis, cites this belief and she contends that the controversy over which variant is accurate has a functional role; ". . . this disagreement among believers is healthy and aids in keeping these particular beliefs alive in the minds of the folk."<sup>3</sup>

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<sup>1</sup>Randolph Ozark Magic and Folklore, p. 27.

<sup>2</sup>Horace Palmer Beck, Folklore and the Sea (Middletown: Wesleyan University Press, 1973) p. 81.

<sup>3</sup>Katherine Rosser Martin, "A Comparative Study of German and Kentucky Moon Beliefs." (M. A. Thesis, Western Kentucky University, 1974) p. 26.

In conclusion, it can be said that generally, there is an element of truth to most weather beliefs. Furthermore, it seems that in many of the instances where inaccuracies exist, they could be plausibly explained if all the facts were available for consideration.

APPENDIX A  
INFORMANTS AND COLLECTORS\*

Western Kentucky University Folklore, Folklife, and Oral History Archive

Student Collection Projects. Informants: Mattie Ranes, Ovidene West, Mrs. Sam Downing Jr., J. D. Osborne, Odell Branson. Student Collectors: Linda Austin, Tom McGinnis, Walter McHugh, Dorothy Downing, Brenda King.

Montell Collection. Informants: Edna Gothard, Ogle Pierce, Clara Gribbins, Charlie Winfrey, Wanda L. Blaydes, Odell Alvery. Student Collectors: Fred Gothard, Kenneth R. Pierce, Wanda L. Blaydes, Phil R. Aaron, Paulette Strader.

Sadewasser Collection. Informant: Ed Hartowicz.

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\*Each informant and student collector was listed only once regardless of the number of contributions he made.

APPENDIX B

KENTUCKY COUNTIES SAMPLED

Carroll Co. (2)  
Christian Co. (5)  
Fayette Co. (1)  
Green Co. (1)  
Henderson Co. (3)  
Jefferson Co. (1)  
Kenton Co. (6)  
Logan Co. (4)  
Marion Co. (1)  
Metcalf Co. (1)  
Webster Co. (2)  
County Unknown (3)

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TOTAL COUNTIES REPRESENTED: 11

TOTAL NUMBER OF BELIEFS: 30

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