



FRANKLIN FOUND OUT BASIC MEANS FOR FORECASTING

Story of Discovery and of Development by Other Scientists Is Fascinating One.

This is the second of a series of articles on the making of weather forecasts and observations, written exclusively for The Sunday Journal by Edward L. Wells, meteorologist, United States weather bureau, Portland.

By Edward L. Wells
Meteorologist, United States weather bureau, Portland.
Some years ago an employee of the weather bureau was accosted by an acquaintance, who said: "Say, how does that thing work up there?"

When asked what he meant he said: "Why, that thing that works and tells you what the weather is going to be."

If some machine could be invented that would really "work and tell us what the weather is going to be," it would make the inventor rich, and would save the official weather forecasts many a wrinkle of care.

However, while the business of weather forecasting is by no means so simple as it seemed to the questioner, on the other hand it has about it nothing of the occult, but is based on laws as immutable as those that govern the movements of the stars.

To Benjamin Franklin is due credit for the discovery of the basic principle upon which the whole modern science of weather forecasting is built. The story of this discovery, and of its development by other scientists, is a fascinating one, but the limits of this article forbid repeating it, or going into details regarding the principle itself.

WHIRLS OF ATMOSPHERE
In a word, it is known that most of our storms occur as great whirles in the atmosphere. These are set in motion by the unequal heating of different parts of the earth's atmosphere, but the direction of the motion is affected by the rotation of the earth. At the center of one of these whirles the air pressure, as shown by the readings of the barometer, is low, and the winds blow spirally inward toward the center. Many other factors have to be considered, but locating these centers is most important.

The weather observations described in the preceding article serve to show the forecaster where these centers are located and how rapidly they are traveling. As the observation messages are received they are translated and entered in the appropriate place on an outline map. When they have been so entered, and lines have been drawn through points where the barometer reading is the same, other lines through points having equal temperature, and still others enclosing areas where precipitation has occurred in the last 24 hours, the map presents what may be likened to an instantaneous photograph of the weather conditions prevailing over the country at the observation hour.

CENTERS ARE LOCATED
With the map before him the forecaster notes the location of the centers of low pressure, as shown by the barometer readings, also the centers of high pressure, and the kind of weather attending each, and the movement and development of each since the last observation. He must then calculate their probable movement and development during the next 24 hours, and then make his prediction as to the effect this movement and development will have on the weather. The work must be done quickly, but with great care, for to overlook any detail that might have a bearing on the forecast is to court failure, and failure not only brings public clamor about his ears, but lowers his percentage of verification, on which his continuance as a forecaster depends.

Forecasts based on the morning observations are for a period of 24 hours, but more specifically for the 24-hour period beginning at 5 p. m. They are usually read about 8 a. m. The evening forecasts are usually for the following day only. Every Saturday morning a general forecast for the following week is issued at Washington, D. C.

The forecasts are distributed by mail, telegraph and telephone, through the press, and by means of flags and lights. In some cases they are accompanied by a copy of the map upon which they are based, so that the public may know the conditions, and draw its own conclusions.

That forecasts sometimes fail is well known. That they are correct about 85 per cent of the time is a matter of official record. While all weather changes operate according to fixed laws, they operate on so stupendous a scale that it is not possible to measure all the factors affecting them. Almost all of our observations are taken at the bottom of the great ocean of air, and there are large areas on the earth's surface where even such observations are lacking. These areas are becoming somewhat smaller, as meteorological services are being organized in various countries, and new stations are being established, and as arrangements are being perfected to secure radio weather reports from vessels at sea. Considerable upper air data has been secured by means of kites and balloons, and as funds become available this line of work will be greatly extended, and the accuracy and value of the forecasts will be correspondingly increased.

The next article will cover the various special forecast services of the weather bureau.

Bodies of American Soldiers Reach N. Y.

New York, Aug. 7.—(U. P.)—Bringing the bodies of 1333 United States soldiers who died outside the actual zone of operations, the transport Antigone arrived here today.

SHRINE CONVENTION HERE IS DESCRIBED AS A GRAND EVENT

Milwaukee Publication Praises Hospitality of the Al Kader Temple and City of Portland.

"North American Shrinism will not soon forget the grandeur, vastness and magnificence of the forty-sixth annual session of the Imperial Council nor the wonderful hospitality of Al Kader temple and the city of Portland," says an editorial in the July issue of the Tripoli Tatler, official publication of the Tripoli temple of Milwaukee, Wis.

"A convention such as this, exceeding in every manner any gathering ever held in the United States, defies the most gifted voice and the most facile pen when adequate description is attempted," continues the editorial.

"Only those who were privileged to

be in Portland June 22, 23 and 24 are able to appreciate fully how this occasion marked the super-climax of greatness of fraternal gatherings on the American continent."

Continuing a review of the Portland pilgrimage, the July issue of the Tatler contains many interesting articles about Portland and the Shrine convention, and states that the entire August issue will be devoted to the forty-sixth session.

"Imperial council sessions of the past have been events with which it is difficult to compare annual conventions of other fraternal organizations, because of the high character of the members who attend and the great lengths to which the hostess city goes to provide adequate entertainment," says one of the articles.

"The 1920 session goes down in Shrine history as the largest and finest of all, and the city of Portland demonstrated far beyond a doubt that all of the wonderful things that have been said about it are true. Al Kader temple of Portland established marks that will require the utmost effort on the part of temples that will entertain future conventions to approach. It is difficult, indeed, to conceive that any temple will be able to equal the generous hospitality and genuinely warm welcome which the City of Roses extended to the Shriners of North America in 1920. "The floral parade was unquestionably the most beautiful of the numerous brilliant parades during the convention, more than 200 automobiles and tripolis artistically decorated with roses and other flowers from the gardens of Portland passing in review to the plaudits of an enthusiastic multitude."

HOSPITALITY OF PORTLAND PRAISED BY TRAVELING MEN

Secretary Evans Gets Many Letters Lauding Spirit Shown Delegates to Recent Meeting.

Clyde Evans, secretary of the Travelers' Protective association, is receiving complimentary letters concerning the hospitable way in which the annual convention was treated and handled last June in Portland.

The T. P. A. convention committee of Louisville, Ky., where the meet will be held next year, has suggested that Evans help them out with his personal presence, activities and advice for at least a month before, and Evans may accept their hospitable invitation.

J. C. Kirchdorfer, chairman of the Louisville committee, and one of the leading business men of that city, writes in one of his letters: "We went after the convention and I am very glad we got it. However, I would have preferred following any other place but Portland, Or., because I have been to several conventions of the T. P. A. and will have to admit that none were handled as well as yours."

THANKS EXPRESSED
Albert Ehrlich of Savannah, Ga., secretary of the T. P. A. for that hostile Southern state, and with a record as a "go-getter," second to none in the organization, writes:

"Thanks for most enjoyable time. You folks did the thing right up in Southern style."

E. E. Hughes, manager of the electric service company of Champaign, Ill., has written to G. E. Crow of the Northern Pacific Lumber company: "You have a town that you can feel proud of and a set of people living in it that makes you feel like you were spending the week-end with your mother."

He asks Crow to thank the T. P. A. of Oregon and the people of Portland for the hospitality and kindly treatment given the Illinois delegation.

MAGAZINE QUOTED
The T. P. A. Magazine, official organ of the order published at St. Louis and having a guaranteed circulation throughout the nation of over 150,000 among traveling and commercial men exclusively, says in its July issue following the convention:

"The cordial welcome at the train was only typical of continued efforts of the progressive Portland people to prove their assertion that the City of Roses is one of the most hospitable municipalities on earth. This was proven to the full satisfaction of every delegate and visitor."

"What a refreshing experience it was to those of us from the East, South, or Middle West, when we entered the hotels at the Portland convention, and found courtesy without servility, service without expectation of reward, and not only decency but absolute courtesy from all employees of the hotels."

"It was such a change from the hotel habits in other sections of the country as to be noticeable at once."

"We have never seen a hotel (meaning a large one) where there was such a spirit of courtesy shown on the part of all employees as at the Multnomah, and from what surveys we could make, all hotels in Portland may be included in this story."

SERVICE SUPREME
"From the bell boys to the clerks, that spirit of service was manifest at all times. The elevator girls were pleasant and accommodating, the baggage men were on the job with a sure instinct, and the men behind the counter, instead of supercilious stares, were looks of smiling welcome and seemed glad that they might impart information. This spirit seemed a part of the hotel everyday life, and extended to all departments."

"It was a decidedly pleasant surprise to those who meet the exact opposite in so many hotels in other sections of the country, where the traveler is regarded as a financial prey as soon as the bespangled Senegambian grabs the grip out."

"Perhaps the answer may be that a large percentage of the employees in the Portland hotels are Americans and a well-bred American is not looking for tips or basing his service on that expectation."

FEEL GRATEFUL
This magazine, as the representative of the Travelers' Protective Association of America, is under deep obligations to the press of the city of Portland for the wonderful publicity given the association previous to and during convention week.

The newspapers covered the convention thoroughly and each paper had a representative on the job every waking

hour of the entire week. These reporters joined in the spirit of the affair and called in the staff photographers or divers occasions, playing up the convention and the visitors for all they were worth.

"The newspapers seemed to embody the Portland spirit of 'Welcome Visitors' and the publicity gained by the association by reason of the liberality of the press cannot be measured in dollars and cents. The press spoke of the business aspect of the delegation, calling attention to the fact that the T. P. A. was strictly a business men's organization, representing the largest commercial industries of America, all of which had a decided value to the association."

The more the general public knows of the things this association does the more service it will be able to render."

Rail Brotherhoods Threaten to Scede From the A. F. of L.

By Mildred Morris
Atlantic City, N. J., Aug. 7.—Railroad union executives, here for a conference with the executive council of the American Federation of Labor, declared today that secession of their unions from the federation is not unlikely. Plans for withdrawal and affiliation with the Brotherhood of Railway and Shipbuilding workers, here represented in the federation number about one-third of its total strength. This fact, the disgruntled executives declare, is causing high officials in the federation to combat their power, fearing that they would gain control. Decision in the cases of the brotherhoods, it is said, has been delayed because of this fear.

Tenancy of way employees and shop employees were deprived of representation on the council because of their suspension.

Young Rancher Is Stricken Suddenly

Milton, Aug. 7.—Adelbert Sams, a well known young rancher living at Mud Creek, dropped dead Thursday evening. He was employed on the Ralph Kinser combine outfit about six miles south of this city, sewing grain sacks. Sams was 30 years of age and leaves a wife and small child.

The funeral of the late Mrs. Virginia Ann Hamer, one of Milton's oldest and most respected residents, was held Thursday afternoon at the Presbyterian church. Rev. B. F. Harper officiating. Mrs. Hamer had been visiting her daughter, Mrs. W. G. Rhoda of Hermiston. She was taken very ill and was removed to the hospital at The Dalles, where she died. Interment was made in the cemetery above Milton. Mrs. Hamer was born in Kentucky in 1844, and is survived by four children: Mrs. Rhoda of Hermiston, Mrs. H. M. Cox of Arlington, Mrs. H. M. Mumford of Bremerton and John E. Hamer of Hermiston.



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U. S. FAILURE TO JOIN PEACE LEAGUE SADDENS ENGLAND

High Prices Force British to Wear Cheap Clothing, Says Dunn, Back From London Trip.

America's failure to receive the League of Nations has brought Great Britain general and profound sense of disappointment and sorrow, England feels that America has left her allies in the lurch.

That's the message brought from London by "Jimmy" Dunn, Portland clothier, who returned early in the week after four months abroad, where it cost Mrs. Dunn and himself 17 shillings a day to enjoy the modest comforts of a hotel in Piccadilly Circus, in the glare of London's bright lights.

"Britain is not bitter at America's failure to accept the league," Dunn declared, "but she is sadly reminiscent of the promises implied by America and Americans in connection with the league."

TAKE SUGAR WITH THEM
The Duns carried their sugar from New York, and were glad they did when they found British supplies of sugar and butter at a low ebb. They also wore American made clothes and Dunn was not required to participate in the rather general British practice of wearing a

cheap combination of Norfolk jacket, flannel trousers, without vest, as so many London men are forced to do. The jacket at that, is only about half wool, the traveler testifies.

"Englishmen dress poorly by comparison with the American," said the clothier, who has been in America for 15 years since he left London. "The English are far more careless about their appearance."

"There are several things especially noticeable in England since I was there. First is, I believe, the moral condition, or the immoral conditions, I found in the old home town."

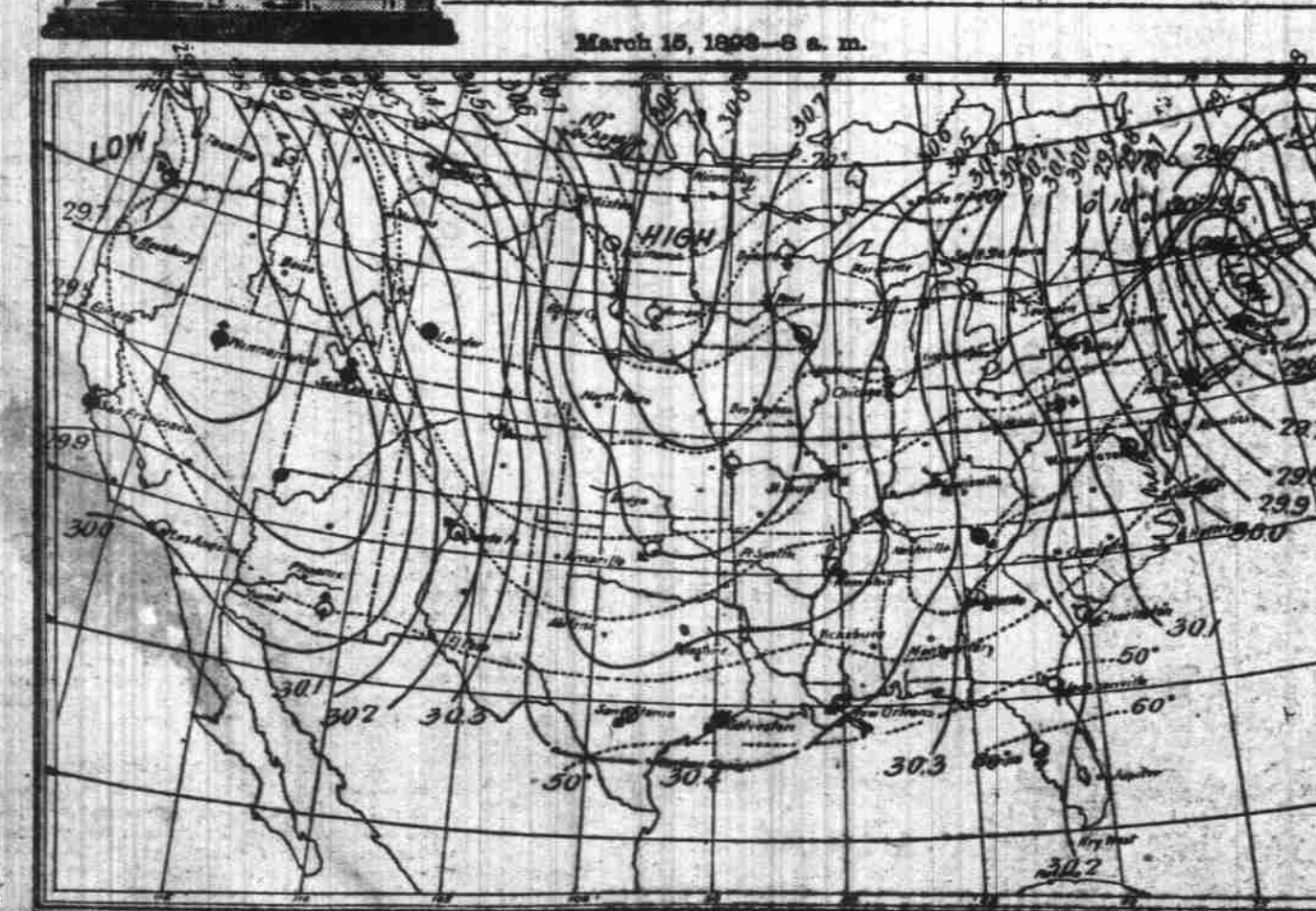
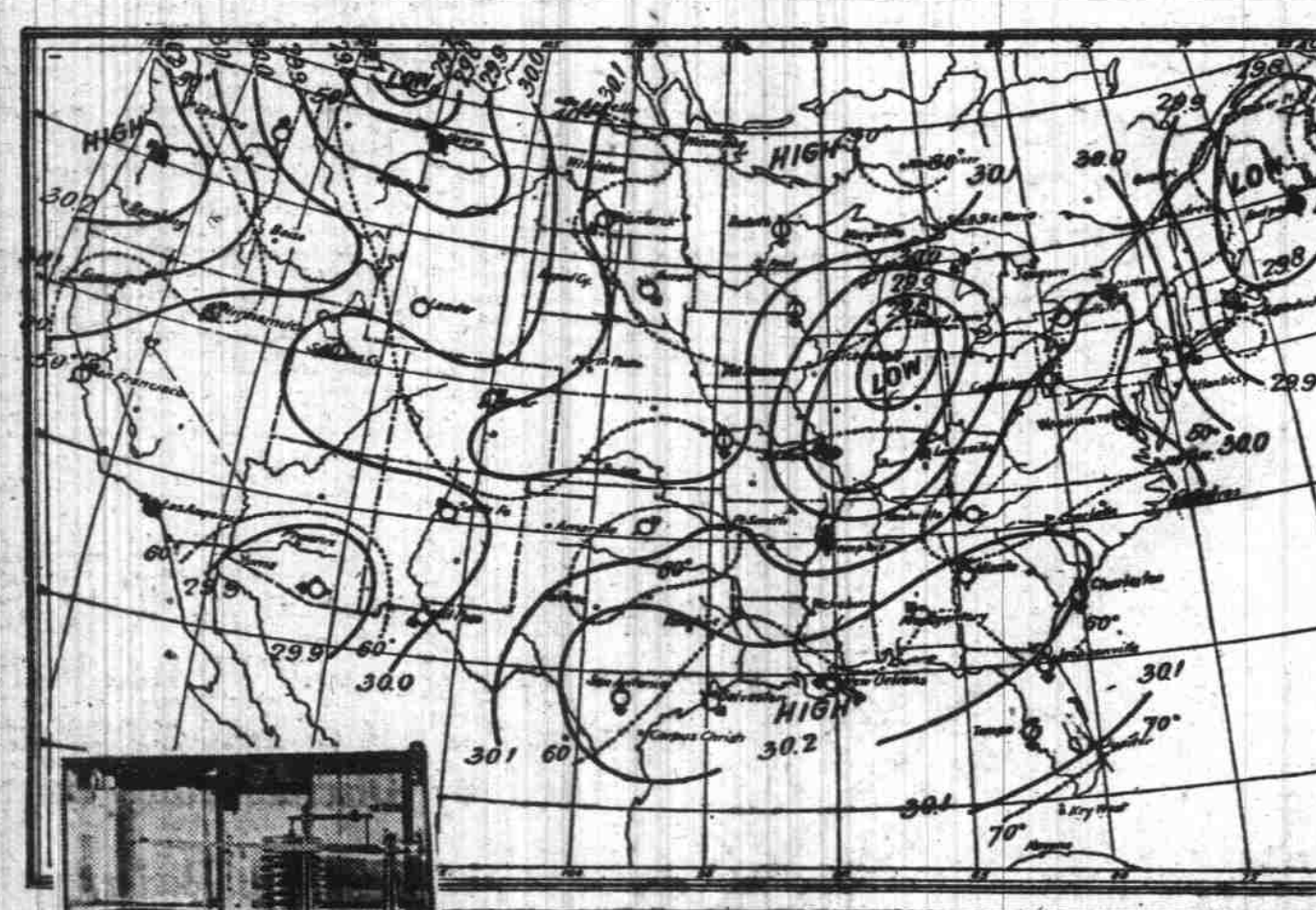
GIRLS UNRESTRAINED
"Perhaps afterwar effects have caused a loosening of restraint. Girls gaud about in most unseemly fashion and in large numbers. They didn't do that years ago."

On the way home Dunn stopped in eastern market places where he found no hope for lower prices in clothing. This fact he explains as due to a combination of circumstances over which labor has chief control.

"Labor has the upper right hand now and has achieved the things it has strived for through years of effort. Now that labor has been successful, don't believe they will let prices go down with consequent lessening of its own wage scale."

Express Firms Out For Rate Increases
Washington, Aug. 7.—(U. N. S.)—Schedules proposing increased express rates which have been petitioned for were filed by the American Railway Express company here today with the interstate commerce commission. Practically all commodities are included in the proposed schedules.

WEATHER FORECASTS ARE TOLD BY MAPS



Above—Samples of daily weather maps used by U. S. weather bureau in making forecasts. Fair weather type for Oregon. Below—Rain type, for Oregon. Insert—Barograph, or self-recording barometer. The barometer is the most important instrument in connection with weather forecasting.

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