

FORCES THAT MOVE THE AIR.

Contrasts in Temperature, High and Low Pressure and a Law of Nature Called the Deflecting Force of the Earth's Rotation.

It is a matter of common observation that when the window of a warm room is opened on a still winter night the cold air from without rushes into the room.

The range in temperature between the equator and the north pole amounts in winter to considerably more than 100 degrees F., and in summer the contrast is also great.

At the equator the temperature averages about 80 degrees throughout the year. Consequently the lower air flows in from regions of high pressure on each side, forming what are known as the trades.

The monsoons, or "seasonal winds," of India and the Indian ocean are the most interesting of their class. In summer the cooler ocean air pushes in toward the land, while the warmer air over the continents rises to a considerable height and then flows out to sea, forming a systematic circulation between ocean and continent.

The "land and sea breezes" occur with much regularity near large bodies of water in some parts of the world. The ocean is cooler than the land during the day and warmer at night, causing on a small scale a daily interchange of air similar to that caused by the monsoons.

A clear knowledge of the term "air pressure" is very helpful in studying the causes of wind. Air, like a stone, presses against the ground—in other words, it has weight, amounting to no less than 2,117 pounds upon every square foot of the earth's surface at sea level—but, unlike a stone, the atmosphere is elastic to a high degree and also presses in all other directions.

On account of this elasticity of the air, certain forces which arise from differences in temperature and the earth's rotation cause it to become dense or heavy in some regions and rare or light in other regions.

It is the effort of the atmosphere to overcome these pressure differences and resume a state of equal density that causes the winds to blow.

The column of mercury in a barometer tube is always just balancing a column of air of the same diameter, reaching from the barometer to the top of the atmosphere. If the air is dense the mercury will of course stand high in the tube, and to express this condition we use the term "high pressure," but if the air is rare the mercury will stand low in the tube, and we then use the term "low pressure."

Over the United States, Canada and other parts of the world the pressure is ascertained each day at numerous stations. The barometer readings, expressed in inches of mercury, are telegraphed to a central point and there charted on a map. The exact regions where the pressure is high or low may then be seen at a glance. It has been learned from such observations that these areas are constantly moving eastward at an average rate of about 600 miles per day.

Technically the low pressure areas are called "cyclones" and the high pressure areas "anticyclones." They are frequently 1,000 or more miles in diameter. The little storms of great destructive force so often called cyclones are really tornadoes.

The higher the pressure in any particular region relative to some other region the greater will be the velocity of the wind. The winds blow much faster in winter than in summer, because the greater contrasts of temperature cause more decided differences in

pressure. Observations demonstrate, however, that the wind never blows in straight lines, because all bodies of air when in motion are acted upon by a law of nature called the "deflecting force of the earth's rotation." This force turns all wind to the right of its course in the northern hemisphere and to the left in the southern.

Thus if a wind in our hemisphere starts north it is soon turned slowly toward the northeast, or if it starts west it will soon turn toward the northwest. When it is remembered that at the equator the earth is rotating at the enormous velocity of 1,035 miles an hour, one will not wonder that a deflecting force could exist. All areas of high and low pressure, from whatever cause, therefore become whirling masses of air, and a little thought will show that they must turn in opposite directions. In the northern hemisphere the low areas, or "lows," as they are designated on the weather map, always rotate in a direction contrary to that of the hands of a watch.—Youth's Companion.

John L. Interceded For Deserter. Washington, May 14.—As a result of personal appeals to President Roosevelt by John L. Sullivan, the former pugilist, in behalf of his nephew, John L. Lennon, a prisoner at Fort Jay, near New York city, for desertion, the president has informed the war department that he does not think Lennon actually intended to desert when he left his post in Cuba in December, 1896, and that he would like to commute the sentence so that Lennon might serve out his enlistment. The matter now is under consideration, but the law officers are almost unanimous in the belief that the president's powers are limited to a pardon, and that he cannot restore the man to the service.

Two Suffocated in Burning Home. Detroit, May 13.—Albert Gerutt, 35 years old, and his 6-year-old daughter Anna were suffocated when their home took fire while the family were asleep. The mother and a baby child escaped with bad burns, the mother throwing the infant from a window and leaping after it herself.

The Impression He Gave. His honor Judge Willis, on one occasion going home in an omnibus which landed him at an inn known as the Green Man, as usual passed the time in friendly discourse with the passengers. To one housewife who had been marketing he remarked that, owing to free trade, she was enabled to buy much more for her money than if she lived in a tariff country. To others he talked freely and dispensed counsel and advice indiscriminately. Arrived at his destination, he intimated to the conductor, "I want to get out at the Green Man." Accordingly the omnibus slowed down, but as he was leaving his seat a lady touched him on the sleeve and earnestly inquired, "My good man, don't you think you've had enough?"—London Tit-Bits.

The Koran. The Koran, or Al Koran, the sacred book of the Mohammedans, was written about 610 A. D. by Mohammed. It is a prose poem of 6,000 verses, the object of which was to show that God had told everything that was worth telling to Mohammed and that those who doubted it should be slain in this world and turned over to Allah to be eternally damned in the world to come. There are today some 200,000,000 of human beings who profess to believe in the Koran.

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Endowing Two Chairs.

The college president who figures in the following incident doubtless suffered a cruel shock at first, but when he found that his benefactor was acting in good faith and was thoroughly in earnest amusement over the situation must have made some light amends for his disappointment.

He was on a trip to secure an endowment for his institution when he received this letter from Lone Tree: President—Can you preach at Lone Tree church next Sunday and then go home with me to dinner? Mother and me want to endow two chairs in your college. Very truly, JONAS SMITH.

He joyfully accepted the situation after discovering that Jonas Smith was a very wealthy farmer, to whom the endowment of two chairs would work no hardship. After the dinner which followed the sermon the conversation came to the important subject in hand, and the farmer said: "Now, I know you can buy a good, strong, stout chair for 50 cents, but we want to do more than that for the college, and mother and me have decided that we are willing to give 75 cents each to endow two chairs, one for mother and one for me."

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Moving a Great Tree.

The directors of the Old Lenkenberg Botanic Gardens, in Frankfurt-on-Main, Germany, having to remove their quarters, were requisitioned the services of William Barron, of the firm of William Barron & Son, Derby, to superintend the transplanting of a yew tree about three hundred years old.

As the tree is about fifty feet high, with a trunk eight feet in circumference, necessitating the transport of a block of earth with the roots about fifteen feet square and eight feet deep, the task is not an easy one, especially as this huge tree has to be taken right through the town in an upright position.

Among other ancient trees successfully transplanted by the same firm is the "Bockland" yew near Dover, moved in 1850. This tree is said to be over eleven hundred years old, and is mentioned in the Domesday Book.—London Daily Mail.

—The quickest way to talk yourself into the graces of a girl, young man, is to listen hard.

Travelers Guide.

CENTRAL RAILROAD OF PENNA.

Condensed Time Table effective Dec. 3, 1906. Table with columns for Read Down, Stations, and Read Up.

(N. Y. Central & Hudson River R. R.) Table with columns for Jersey Shore, Wm. Port, Philadelphia, New York, and New York.

BELLEFONTE CENTRAL RAILROAD.

Schedule to take effect Monday, May 29, 1905. Table with columns for Westward, Stations, and Eastward.

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—Miss Jennie Morgan in her new room on Spring St., lately used as offices by Dr. Locke, is now ready to meet any and all patients wishing treatments by electricity, treatments of the scalp, facial massage or neck and shoulder massage.

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