Tabulating, next, the various shocks in the months in which they respectively occurred, (regarding each group or succession of small shocks connected together as one earthquake) and afterwards collecting the months with seasons, we find the following to represent the state of the case when all the observations made in the northern hemisphere are arranged so as to show the numbers during the cold and warm seasons respectively. It will be understood that this table includes the whole number of earthquakes recorded, whenever the record gives sufficiently accurate data:—

April	489	
May	438	
June	428	Warm months 2,721
July	415	
August	488	
September	463	
October	516	
November	473	
December	500	Cold months..3,158
January	727	
February	539	
March	503	

Such a calculation might be the result of grouping together a number of cases which, if taken fairly, each in its relation to its own district, might show a different result. We will next, therefore, take M. Perrey's table of the European earthquakes, in his list recorded between A. D. 306 and 1843. Without particularizing the months—which, however, follow nearly, though not quite, in the same order—and taking separately into account the earthquakes of the present century as being the most trustworthy, we have the following result for Europe:—

	To end of 18th Century.	During 19th Century.	Total
Warm months,	394	463	857
Cold months..	525	638	1,153
	919	1,101	2,010

Showing that in the European list, the excess of shocks in the cold months is even larger in proportion, amounting to more than one-seventh of the whole number. In other words, for every three earthquakes that are felt in Europe in warm weather, four are felt in cold. This very remarkable result is fully borne out, though not always precisely in the same proportion, by all the separate lists tabulated for the various districts in which earthquakes have occurred. Thus, out of 217 in the British islands, 94 were in warm and 123 in cold months In the Iberian peninsula, out of 201. the numbers are 87 and 144 respectively; in the Italian, out of 993, there are 455 and 538; and in the French district, out of 667, we have 272 warm and 395 cold. In Levant, indeed, the total number recorded being 436, there, appear 222 in the warm months against only 214 in the cool; but if we take the earthquakes of the present century, which amount to 196 (nearly half the whole number recorded), we find the same excess as in the other districts—the cold months going 103 and the warm only 93. In the doubt that exists as to the real value of the tables before the year 1800, the latter must be regarded as the nearest approach to an average.

In the southern hemisphere, where the climates are, of course, reversed, we find a general indication to the same effect, although the number of observations as yet is too small to have much value.—(Prof. D. T. Ansted.)

What becomes of Wasted Solar Energy.

Dr. Siemens is naturally dissatisfied with the ordinary theory which attributes to the sun a wanton prodigality not to be met with anywhere else in nature within human experience It is commonly stated that the merest fration of the sun's radiant heat is utilized by his attendant planets, all the rest being wasted in space. According to the new theory of Dr. Siemens this is not so. From the sun's equator, he imagines, which revolves at a tremendous rate, radiant heat it is projected far into interplanetary space, where it meets with rarified interstella atmosphere of various gasses, which are decomposed by the heat and sent back in the shape of a counter current to the poles of the sun. On this hypothesis there is no waste of solar energy, and no danger of the diminution and final extinction of the sun's light and heat. Moreover Dr. Siemens maintains his hypothesis explains that mysterious appearance, the zodiacal light, as well as those puzzling bodies the comets. This is a very meagre sketch of the new and startling solar theory by one who has had all his life to deal with enormous degrees of heat, and whose eminent position as a practical man of science will command attention. Should Dr. Siemen's hypothesis be itself erroneous, it will at all events set investigation working in a new direction, and may thus lead to substantial gains to science.

he Winds and their Law.

Whether considered as the indices or as the causes of coming changes of weather, no phenomenon is more important than that of the winds. Upon the direction and force of the winds some meteorologist lay very great stress in every attempt ot storm fore-casting.

The resulting movement of the air, modified by the forces of inertia and friction, and by the rotation of the earth and local obstructions, is converted into the *local* winds whose directions are indicated by the arrows upon the maps, and whose velocities are given in miles per hour. These winds may be called local winds, as distinguished from the general winds in any section, and from the great currents of air to be hereafter spoken of; the general winds appear to be primarily dependent upon the existence and position of the areas of low and high pressure; the great currents, spreading, as they do, over whole continents and encircling the earth, are largely influenced by, if not entirely dependent upon, the earth's axial rotation.

If the earth were not in rotation on its axis, the winds would uniformly blow in straight lines outward from the centre of every area of high barometer toward the surrounding localities of lower barometer. Observation, however, has long since clearly shown that in this hemisphere, within any area of high pressure, the winds will be found to be not only blowing away from the centre (outward), but also to be deflected toward the right hand as they move forward. Observation has also shown, with equal clearness, that in this hemisphere, within any area of low pressure, the winds will blow toward the centre (inward), and will also be deflected toward the right hand as they move forward. This deflection to the right has been demonstrated by Mr. Wm. Ferrel, of Cambridge, Mass., to be a mathematical necessity from the influence of the earth's diurnal rotation, which causes everything moving on its surface to deflect slightly to the right in the northern hemisphere. This force, by which, to a popular illustration, a railroad train is made to bear more heavily on the right-hand rail of the track along which it advances, is the key to the explanation of many phenomena in connection with atmospheric and ocean currents. By considering the influence of this deflection it becomes possible to construct the following table, which shows which winds will generally prevail on each side of areas of high and low pressure:—

The observer being	THE PREVAILING WINDS WILL BE	
	Low Pressure.	High Pressure.
On the N. side...	N. and E.....	S. and W.
On the N. W. side	N. W. and N. E	S. E. and S. W.
On the W. side...	W. and N	E. and S.
On the S. W. side	S. W. and N. W.	N. E. and S. E.
On the S. side ...	S. and W.....	N. and E.
On the S. E. side.	S. E. and S. W..	N. W. and N. E.
On the E. side ...	E. and S.	W. and N.
On the N. E. side	N. E. and S. E..	S. W. and N. W.

Vertical as well as horizontal systems of winds, depending upon the disturbances of equilibrium continually taking place in the region of the clouds, always exist in conection with the ordinary horizontal gales; these are, in fact, a most prominent feature of tornadoes and water spouts.

The force of a local wind at any point, and at any moment, certainly depends primarily upon the relative barometic pressure at points in the vicinity, and upon the rapidity with which the pressure has been or at that moment is changing, but the force and direction of the wind at any station are also very materially influenced by the character of the ground in the immediate and distant neighborhood. The wind which on the ocean would blow with a certain velocity, will have but one-half or one-third of that velocity when blowing over hilly country. This is due to the lesser friction on the ocean, and this frictional resistance in two different ways disturbs the direction of the wind:

1. If, for example, there is a north wind blowing very generally over a lake of elliptical shape, such as Lake Michigan, and over the neighboring country, then on the central line of the lake a strong north wind will be experienced, and a feebler one at the points on land far removed from the shore; but at points on the north-west and south-east shores of the lake a north west wind will be experienced, while a north-east wind will be observed on the north-east and south-west shores. Similarly, if a south wind blows steadily over the Southern States and coast, it will, to observers on the coast, appear as a south-west wind, and a north wind will be changed into a north-east wind; and this, too, independently of the additional influence exerted by the