been derived the resultants given in Table 4, and shown graphically in fig. 1.

TABLE 3.—*Diurnal period of wind direction and velocity.*

1906.	Dry season. Direction. Highest.		Second.		Third.		Departure from average velocity.	Wet season. Direction. Highest.		Second.		Third.		Departure from average velocity.
		%		%		%	M. p. h.		%		%		%	M. p. h.
0-3 a. m......	se.	26	sse.	22	ese.	19	—1.9	sse.	28	se.	16	ssw.	13	—1.4
3-6 a. m	se.	22	ese.	18	e.	16	—2.2	sse.	29	ssw.	17	se.	15	—1.6
6-9 a. m......	e.	27	se.	18	sse.	18	—1.1	s-e.	18	se.	14	ssw.	12	—0.8
9-12 a. m......	ene.	50	e.	27	ne.	15	+2.3	ene.	21	e.	18	ese.	15	+1.2
0-3 p. m......	ene.	54	e.	23	ne.	12	+3.4	ene.	26	e.	15	ne.	13	+2.2
3-6 p. m......	ene.	40	e.	33	ne.	5	+1.7	ene.	20	ese.	16	e.	12	+1.3
6-9 p. m......	e.	37	ese.	22	ene. / se.	13	—0.9	se.	19	ese.	16	e. / sse.	12	0.0
9-12 p. m......	se.	27	ese.	24	e.	24	—1.3	sse.	29	se.	16	ese.	15	—0.8

TABLE 4.—*Diurnal period of wind resultants.*

1906.	September. (Dry season.)		March. (Wet season.)	
	M. p. h.		M. p. h.	
(1) 0- 3 a. m.	4.9	n. 109° e.	1.7	n. 189° e.
(2) 3- 6 a. m.........	4.6	n. 120° e.	2.2	n. 187° e.
(3) 6- 9 a. m	6.0	n. 92° e.	1.9	n. 160° e.
(4) 9-12 a. m.........	9.9	n. 60° e.	3.7	n. 88° e.
(5) 0- 3 p. m.........	11.2	n. 68° e.	4.2	n. 62° e.
(6) 3- 6 p. m.........	9.9	n. 72° e.	2.0	n. 53° e.
(7) 6- 9 p. m.........	4.4	n. 81° e.	0.9	n. 97° e.
(8) 9-12 p. m	5.6	n. 100° e.	1.6	n. 166° e.

These figures clearly show the diurnal change, especially during the rainy season.

During the two seasons there seems to be a secondary daily wind maximum from 9 to 12 p. m.

The mean air movement and resultant direction are:

For the year............ 3,113 miles per month from N. 95° E.
For the dry season...... 4,675 miles per month from N. 90° E.
For the wet season...... 1,581 miles per month from N. 106° E.

The resultant mean winds, therefore, are due east during the dry season, and east-southeast during the wet season.

Effects of insolation on the diurnal wind period.

From seven bright and seven overcast days the results given in Table 5 have been derived. See also fig. 2.

TABLE 5.—*Effect of insolation.*

1906.	Departure from daily average. 7 bright days.	7 overcast days.
	M. p. h.	M. p. h.
0- 3 a. m.....	— 2.2	— 0.4
3- 6 a. m.....	— 2.3	— 1.3
6- 9 a. m.....	— 1.2	— 0.5
9-12 a. m.....	+ 3.3	+ 1.5
0- 3 p. m.....	+ 4.6	+ 1.6
3- 6 p. m.....	+ 1.6	— 0.3
6- 9 p. m.....	— 1.6	— 0.5
9-12 p. m.....	— 2.2	0.0

The difference between the highest and lowest mean hourly velocities is on the bright days, 7.5 miles, on the overcast ones only 4.1 miles. The daily average hourly velocity is 6.8 miles on the seven bright days, and 5.8 miles on the seven overcast days.

When the Besselian equations are formed, the following coefficients for the diurnal and semidiurnal terms of wind velocity result:

	Diurnal.	Semidiurnal.
	M. p. h.	M. p. h.
Year..................................	2.3	0.8
Seven bright days....................	3.5	1.5
Seven overcast days..................	1.0	1.1

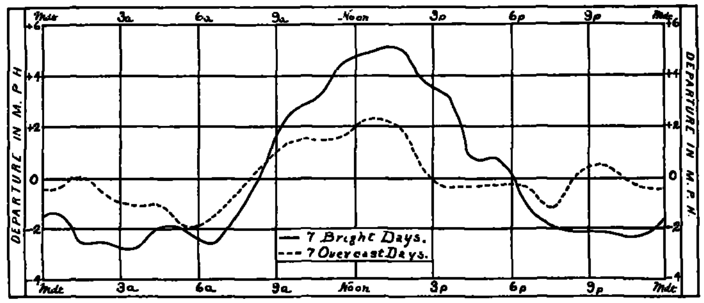

FIG. 2.—The effect of insolation on the daily wind period.

When referred to equal daily average velocity, the ratio of the daily terms is:

$$\frac{1.0}{3.5} \times \frac{6.8}{5.8} = 0.33.$$

The same seven bright and seven overcast days, when analyzed for temperature, give, for the corresponding ratio of the diurnal terms, the value 0.40. This close identity proves the diurnal variations of the velocity of the wind are mainly due to temperature.

The semidiurnal term, when examined in the same way, shows (contrary to the diurnal one) a remarkable independence of the thermal influence.

According to this result the secondary wind maximum mentioned before (9-12 p. m.), is to be expected, especially on overcast days, i. e., when the atmospheric equilibrium is more unstable than on bright days.

These conclusions may help to throw light upon the matter, but since they are based on fourteen days only, the results here derived will have to be confirmed by future observations in the Tropics.

METEOROLOGICAL OBSERVATORY AT TENERIFFE.

Solomon Berliner, American Consul at Teneriffe, reports under date of March 17, that a geophysical observatory[1] is being erected on the Cañadas, the plateau of the Peak of Teneriffe, at an altitude of about 8,000 feet (2,400 meters). This station will be known as the mountain or high-level station of Teneriffe (Höhenstation von Teneriffe).

The buildings, for which the foundations were already prepared at the time of the report, will be of asbestos and will accommodate both the instruments, apparatus, and members of the force employed at the observatory. The residence building is the gift of the Emperor of Germany, the money for the observatory building and the running expenses has been subscribed by the Prince of Monaco, by prominent citizens of the United States of America, and by German firms.

The high altitude of the station brings it above the level of the trade wind clouds so that the sky is almost perfectly clear throughout the year. This circumstance is particularly favorable to the principal object of the station, viz, continuous determinations of the intensity of the solar radiation. In addition to this and the very important studies of the trade wind by means of kites, magnetic and seismic records will be maintained and medico-biological studies will be instituted with a view to developing the hygienic value of the unusually sunny, dry climate and pure air of this peculiar plateau desert of the Canaries. The station will be under the general supervision of Professor Doctor Hergesell, of Strassburg, which is an assurance that its work and results will be of the highest order attainable.

Perhaps this station will furnish information about the northeast trade wind, as interesting as that about the southeast trade wind furnished by the anemometer on St. Helena.—*C.A., jr.*

[1] The corner stone of the observatory was laid by Professors Hergesell and Pannwitz, on March 21, 1909. See Zeitsch. Gesellsch. Erdkde., Berlin, 1909, p. 192.