every direction by steel wire stays. This style appears to me barbaric. Horizontal pieces of wood adjacent to the horizontal or lifting calico surfaces must impair their efficiency. However tightly the calico may be stretched, the cobweb of wire stays used to keep the affair cubical must tend to slacken it. Again, if all is perfectly square and rigid before the kite is flown, the moment the wind blows on the calico, half the wire stays must slack up and allow the instrument to assume a rhomboidal form."

Yours faithfully,

LAW. HARGRAVE.

Woollahra Point,
Sydney, N.S. Wales.
February 25, 1905.

With reference to this subject the following has been received from Mr. W. H. Dines:—

"I much regret having misrepresented Mr. Hargrave's opinion as to the rigidity of a kite, through the carelessness of not having verified my reference. Recent experience has confirmed my opinion that there are great advantages in using a flexible kite, provided that deformation proceeds symmetrically under increasing wind pressure, and in such a way that the pull on the wire is lessened.

The introduction of a spiral spring into one of the cross bamboos of the kites I use has reduced the jerkiness of the pull, and greatly increased the reliability of the kite in bad weather.

W. H. DINES.

June 22, 1905.

Notes.

The New German Aëronautical Observatory.—In a published description of the proceedings of the St. Petersburg Conference on the exploration of the atmosphere, Mr. A. Lawrence Rotch mentions the description given by Dr. Assmann, of the new aëronautical observatory to be erected in large grounds thirty-five miles south-east of Berlin. The reason for planting the observatory at that distance from the capital is that at the existing observatory in the suburbs of the city the trailing kite wires constitute a danger to life and property. The new establishment is to be in every respect a model one, where balloon and kite ascents will be made several times a day. A boat will be provided on the lake, which will permit the kites being flown even in calm weather, and in this way it is expected that practically continuous meteorological records will be obtained in the free air. As an indication of what had already been done in this way, Dr. Assmann exhibited a chart, encircling the hall, on which were plotted the isotherms at different heights above Berlin, obtained from the ascents of kites and captive balloons made daily for more than a year. From this Dr. Berson showed that the wind direction shifted to the right hand with increasing altitude.

M. Jacques Faure's Recent Balloon Journey of Fifteen Hours in a Storm.—M. Jacques Faure has added yet another to his ballooning exploits. Accompanied by Le Comte de la Salle and M. Tollander Basch, he recently ascended from Havre in the Aëro Club No. 3 and went over the sea. It appears that he successfully applied the apparatus for steadying the balloon, which travelled in the direction of Cherbourg at an altitude of only 30 feet above the surface of the water. About nine o'clock a severe storm arose, and the balloon was driven towards Havre at a speed of 50 miles an hour. When the balloon arrived at the shore it was found necessary to rise to 4,500 feet in order to get beyond the reach of the storm currents. He was successful in finding a current by which he traversed the whole of France from west to east. At 10 o'clock he landed in Belgium, having been fifteen hours in the air. M. Jacques Faure may be congratulated on his skilful utilisation of the upper current, by means of which he escaped out of ill-threatening circumstances.

Recent Experiments with Aëroplanes.—The *Edinburgh Evening Dispatch* of June 5 gives a somewhat full account of an experiment with Professor Montgomery's aëroplanes in America. The Professor is stated to have been enthusiastically working at his idea for 20 years. Unlike most inventors of aërial apparatus, he appears to have preferred that the first experiment should be performed by a deputy, and an aëronaut was entrusted with the demonstration of the gliding powers of the machine. The aëroplane to which the aëronaut was attached was towed up into the air until a height of 4,000 ft. was reached, when the rope which held the aëroplane to the balloon was cut, and the aëroplane was left dependent on the sustaining powers of the air.

The aëroplane, which weighs 42 lb., consists of two wing surfaces, curved after the suggestions afforded by bird wings, a flat tail, and a vertical keel. There are relative adjustments, partly automatic, partly under the control of the operator, for maintaining equilibrium.

But this experiment resolved itself into being not much more than a descent with a parachute, and one infinitely more dangerous than one of the approved form. If the descriptions of the descent are correct, the aëroplane appears to have been in the air twenty minutes, to have described circles, gone backwards and forwards, and to some extent risen after descending on ascending currents; but, in the absence of motive power to overcome gravity, the experiment cannot be called an attempt at flight.

The *Car*, which makes a feature of aëronautical notes in its issue of June 21, describes some recent but abortive experiments with M. Earnest Archdeacon's aëroplane: "The huge machine was placed on the Seine, near the Pont de Sèvres. It is ten mètres long, and covers sixty mètres of superficial area. Its weight is over 650 lb., and it is actuated by a 15 h.-p. motor. The aëroplane was drawn by the auto-