

dition, or steady motion, when any influences, distributed zonally, prevent a rotation with uniform average, angular velocity of the whole envelope, or at least of those parts that are at equal distances from the axis of rotation. If, therefore, such influences exist on the sun, then wave formations must occur on it, and the sun spots, which have already been considered as vortex phenomena, as well as their variability, would thus find an explanation similar to that of the cyclones and anticyclones of the terrestrial atmosphere. It thus becomes quite possible that the regular phenomena of the general atmospheric circulation of the earth may, for purely mechanical reasons, have the same period as those on the sun. In this case there would not need to exist any direct connection between the sun spots and our weather, even though the same period should be established beyond doubt by observation. On the other hand, a further development of the theory may, perhaps, lead to conclusions as to certain mechanical relations, especially as to the velocity of rotation of the sun.

Even the discussion as to the influence of the moon on our weather, which is still by no means settled, will, in this way, be brought to an end, for it must then be possible to satisfactorily show whether the otherwise regular processes of atmospheric circulation are influenced by the changes in the moon's position, especially by its motion in declination.

It is to be hoped that the method here indicated may lead meteorology out of the region of vacillating ideas that now control it into a broader field, and place it among the exact sciences, where everything is reduced to numerical computation, and thus, to an important extent, further its application to daily practice.

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SOME POINTS IN THE ELEMENTS OF THE THEORY OF FUNCTIONS.

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I. *A New Definition of an Analytic Function.* Cauchy defined $f(z)$ to be an analytic function of z when $f(z)$ is continuous and

$$\frac{f(z + \Delta z) - f(z)}{\Delta z}$$

converges toward one and the same limit when Δz con-