Les taches du Soleil et les planètes (1901)
Translated by AltaVista Babel.

PHYSICAL ASTRONOMY
Sunspots and the planets.
Note of Mr. BIRKELAND, presented by Mr. Poincaré.

In my *Research on Sunspots* (1) I have examine, by a suitable method
(2), if one could discover the existence of an influence of the
planets on solar activity, influences due to gravity.

I recently completed the accumulation of sunspots over the period
1892-1896, while taking for their *characteristic time* the moment
when they made their first appearance. Current research applies to
the planets Mercury, Venus, Jupiter and then has the maximum
pertubating force exerted on the Sun by the whole of these three
planets.

In fig. 1, the curves D and their complementary D, give the
expression of the numbers of cumulated spots, while the curves S and
S1, are the representation of cumulated surfaces, the notations are
the same ones as in my first notes".

By comparing all the figures for the curves D and S on a side with
the corresponding figures for D, and S, the other, one will see that
the curves D and S are higher than the curves in their median parts,
while on the other hand these last rise higher for the wings.

(1) *Videnskabs selshabets skrifter*, no 1. Christiana; 1899.
(2) The method is also described in the Reports/ratios presented at
Congress of Physics, T III. Paris; 1900.

[Fig. 1. Diagrams for Mercury. Diagrams for Jupiter]

While holding account from this fact that there is in all 1164 spots
for Mercury, 1260 for Venus, 1205 for Jupiter and 1195 for (Fn)max
one also see that the median parts of the curves corresponding has
(Fn)max are higher everywhere than the curves corresponding has each
three planets taken separately.

That it is enough for us to make carry our study on the median parts
of the curves representing cumulated surfaces, without us to stop
with the numbers of spots, nor with what refers to the wings. We
notice then, as we already said, that the four numbers of column S
are larger than the corresponding numbers of column S, and than the
(S) number for (Fn)max is higher than this number for each three
planet taken separately, with the result that we have in all two
series of seven numbers which we reproduce in the Table below and
who all are larger in the first than in the second series:

"Mr. Brown, in a recent Report (Monthly Notes of the R.A.S., vol.
LX, no. 10, 1900), proposes: "A possible explanation of the Sunspot
period". He thinks that the negative result at which I arrive on
page 124 of my Notes first holds to be has what I lost sight of the
fact the played considerable part in this respect, as it shows it,
by the planet Saturn.

"I have remakes my consequently calculations while utilizing there

the influence of Saturn. The fig. 2 above shows the resulting obtained by comparison between the curve of the sunspots of the following Wolf and the curves for S k.dt answering (tn)max and (tt) max for the years of 1800 to 1896. The result thus remains the same one as previously, and I recall here, consequently, the conclusion which I then expressed at the quoted place:

"We thus see that the attempt made by us, to explain the undecennial period like resulting only from planetary influences exerted on the Sun, gives a negative result. There is necessary to seek other causes to explain this period and more hardly it would not know to be some discussion about seeking these causes apart from Solei I".