THE ORIGIN OF HYPOTHESES, ILLUSTRATED
BY THE DISCUSSION OF A TOPO-
GRAPHIC PROBLEM.*

An important part—in some respects the
most important part—of the work of science
is the explanation of the facts of Nature.
The process through which natural pheno-
mena are explained is called the 'method of
hypotheses,' and though it is familiar to
most of my audience I shall nevertheless
describe it briefly for the purpose of direct-
ing special attention to one of its factors.

The hypothesis has been called a 'scientific
guess,' and unless the title 'guess' carries
with it something of disrespect it is not inap-
propriate. When the in-
vestigator, having under consideration a
fact or group of facts whose origin or cause
is unknown, seeks to discover their origin,
his first step is to make a guess. In other
words, he frames a hypothesis or invents a
tentative theory. Then he proceeds to test
the hypothesis, and in planning a test he
reasons in this way: If the phenomenon
was really produced in the hypothetic man-
ner, then it should possess, in addition to the
features already observed, certain other spe-
cific features, and the discovery of these will
serve to verify the hypothesis. Resuming

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