and each explains a great many facts in common with
the other, any experiment which affords a crucial in-
stance to decide between them, or by which one or
other must fall, is of great importance. In thus verify-
ing theories, since they are grounded on general laws,
we may appeal, not merely to particular cases, but to
whole classes of facts; and we therefore have a great
range among the individuals of these for the selection
of some particular effect which ought to take place
oppositely in the event of one of the two supposi-
tions at issue being right and the other wrong. A
curious example is given by M. Fresnel, as decisive, in
his mind, of the question between the two great opinions
on the nature of light, which, since the time of Newton
and Huyghens, have divided philosophers. (See § 207.)
When two very clean glasses are laid one on the other,
if they be not perfectly flat, but one or both in an almost
imperceptible degree convex or prominent, beautiful and
vivid colors will be seen between them; and if these
be viewed through a red glass, their appearance will
be that of alternate dark and bright stripes. These
stripes are formed *between* the two surfaces in apparent
contact, as any one may satisfy himself by using, instead
of a flat *plate* of glass for the upper one, a triangular-
shaped piece, called a prism, like a three-cornered stick,
and looking through the inclined side of it next the eye,
by which arrangement the reflection of light from the
upper surface is prevented from intermixing with that
from the surfaces in contact. Now, the colored stripes
thus produced are explicable on both theories, and are
appealed to by both as strong confirmatory facts; but
there is a difference in one circumstance according as
one or the other theory is employed to explain them.
In the case of the Huyghenian doctrine, the intervals
between the bright stripes ought to appear *absolutely
black*; in the other, *half bright*, when so viewed through
a prism. This curious case of difference was tried as
soon as the opposing consequences of the two theories
were noted by M. Fresnel, and the result is stated by