be noted that Martin (p. 174) speaks of a fragment the s
a brick having travelled through the air to a distance of f
miles from the volcano. Doubtless much of the finer ash
dust from the Crowsnest eruptions were carried out of the
of deposition of larger fragments by air and water current

The volume of material ejected from Katmai is
(p. 167) as 4·9 cubic miles, extending over an area of
thousand square miles, as against the fifty cubic miles o
Crowsnest tuffs and breccias spread over 700 square
Tomboro is supposed by some (p. 165) to have ejected
cubic miles of material in a single eruption, again spread
thousands of square miles. A more conservative esti
gives twenty-eight cubic miles.

Even allowing for ash carried away by currents, it is
probable that a much greater area than is now represente
volcanic sediment was originally effected by the out-burst
instead, it would appear that a large volume of materi
comparison to the area involved, was deposited. The thi
of individual beds, and their alternation in character indi
that the formation was built up by successive eruptions
of which were of very great magnitude. The absence of
or sills shows that the eruptions were dominantly of the explo
type.

It thus seems apparent that the individual eruptions
not of great violence, and that a preliminary explosion du
Dakota time fore-shadowed the approach of the Crows
epoch, during which continual explosions on a moderate
took place. The time of eruption was probably short, reaso
from the amount of material sent out during a single out-b
of modern volcanoes. The explosive period ceased abru
and was followed by a rather rapid subsidence, as has alre
been pointed out.

Location of Vents.

No recognizable volcanic vents have been observed in
of the outcrops studied. This is not altogether surprising w
it is remembered that only a small portion of the formatio