In the Sierra Nevada, the western (or gentler) slope is between 100 and 250 feet to the mile, and the eastern, for a larger part of its length, 1000 feet. In the Andes the eastern slope is about 60 feet in a mile, and the western 100 to 150 feet; the passes are at heights from 12,500 to 16,160 feet, and the highest peak — Sorata in Bolivia — 25,290 feet. The slope is much more rapid than in the Rocky Mountains. But there is the same kind of mountain mass variously diversified with ridges and plateaus. The existence of the great mountain mass and its plateaus is directly connected with the existence of the main ridges. But it will be shown in another place that the ridges may have existed long before the mass had its present elevation above the sea.

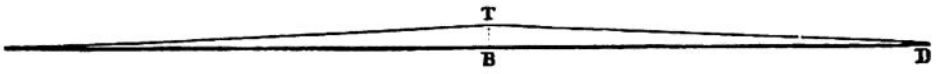
In the Appalachians the mountain mass is very much smaller, and the component ridges are relatively more distinct and numerous; and still the general features are on the same principle. The greatest height — Mount Mitchell or Black Dome in North Carolina — is 6707 feet.

It is common to err in estimating the angle of a slope. To the eyes of most travelers, a slope of 60° appears to be as steep as 80°, and one of 30° to be at least 50°. In a front view of a declivity it is not possible to judge rightly. A profile view should always be obtained and carefully observed before registering an opinion.

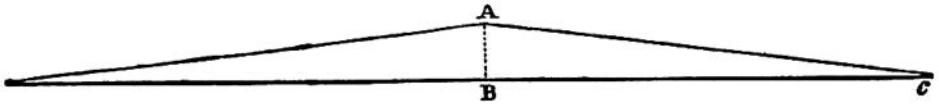
3.

In Fig. 3 the bluff front facing the left would be ordinarily called a vertical precipice, while its angle of slope is actually about 65°; and the talus of broken stones at its base would seem at first sight to be 60°, when really 40°.

4.



5.



6.

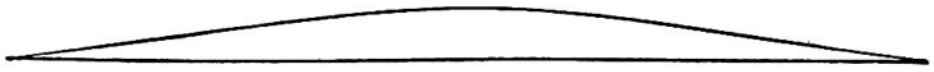
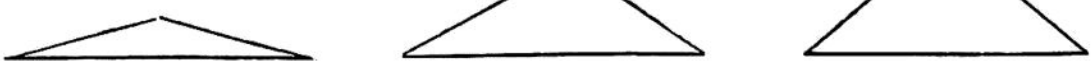


Fig. 4 represents a section of a volcanic mountain 3° in angle; Fig. 5, another, of 7°, — the average slope and form of Mount Kea, Hawaii; Fig. 6, the same slope with the top

7. 8. 9.



rounded, as in Mount Loa; Fig. 7, a slope of 15°; Fig. 8, Jorullo, in Mexico, which has one side 27° and the other 34°, as measured by N. S. Manross; Fig. 9, a slope of 40°, —