

resistance, but their surface is planed down, polished, and striated, testifying to the enormous pressure which they had to undergo. In the same manner the glacier of the Aar, at the foot of the promontory on which M. Agassiz' tent was erected, is polished to a great height, and on the face, turned towards the upper part of the valley, I have observed scratches inclined  $64^{\circ}$ . The ice, erect against this escarpment, seemed to wish to scale it, but the granite rock held fast, and the glacier was compelled to pass round it slowly.

“In recapitulation, the considerable pressure of a glacier, joined to its movement of progression, acts at once upon the bottom and flanks of the valley which it traverses: it polishes all the rocks which may be too hard to be demolished by it, and frequently impresses upon them a peculiar and characteristic form. In destroying all the asperities and inequalities of these rocks, it levels their surfaces and rounds them on the sides pointing up the stream, whilst in the opposite direction, or down the stream, they sometimes preserve their abrupt, unequal, and rugged surface. We must comprehend, in short, that the force of the glacier acts principally on the side which is towards the circle whence it descends, in the same way that the piles of a bridge are more damaged up-stream, than down, by the icebergs which the river brings down during the winter. Seen from a distance, a group of rocks thus rounded and polished reminds us of the appearance of a flock of sheep: hence the name *roches moutonnées* given them by the Swiss naturalists.”

Another phenomenon which plays an important part in existing glaciers, and in those, also, which formerly covered Switzerland, is found in the fragments of rock, often of enormous size, which have been transported and deposited during their movement of progression.

The peaks of the Alps are exposed to continual degradations. Formed of granitic rocks—rocks eminently alterable under the action of air and water, they become disintegrated and often fall in fragments more or less voluminous. “The masses of snow,” continues Martins, “which hang upon the Alps during winter, the rain which infiltrates between their beds during summer, the sudden action of torrents of water, and more slowly, but yet more powerfully, the chemical affinities, degrade, disintegrate, and decompose the hardest rocks. The débris thus produced falls from the summits into the circles occupied by the glaciers with a great crash, accompanied by frightful noises and great clouds of dust. Even in the middle of summer I have seen these avalanches of stone precipitated from the highest ridges of the Schreckhorn, forming upon the immaculate snow a long black train, consisting of enormous blocks and an immense