"The quarry at present (*i. e.* previous to 1858) is in the form of a beautiful amphitheater or circle of cliffs, about 100 feet in diameter, and at least 60 or 70 feet high.

"The strata, fine bluish slate with ribbons of bedding, dip about 30° to N. 30° W., with remarkable regularity. In all the portions below a certain plane, apparently that of a slip or a *fault*, the cleavage is very nearly horizontal; but immediately above that plane, the cleavage planes of the first course curve down steeper and steeper towards the S. E. or S. 45 E. and in all the still higher ones the tendency is to a S. E. dip, but only very gently, except in the northwestern parts, where it is more obvious. . . . . .

"The texture of this slate, in the absence of any defining fossils, suggests that it may belong to the Utica Slate Formation, and it is quite conceivable that an axis at this distance from the outcrop of the Levant sandstone of the Kittatinny mountain may lift the Matinal slates to day, but this needs confirmation. The true stratification of the rock is only detected by the difference in color caused by numerous very thin layers, from a few lines to an inch or two in thickness, traversing the rock in bands parallel to each other, and at various distances not generally exceeding two feet. These ribbons denote the direction of the dip of the strata, being seams of somewhat different composition from the rest of the mass. Between each two of these ribbons the layer of slate is homogeneous, or of uniform texture and composition; but a difference in the quality of the slate on the two sides of one of these thin layers is quite common.

"When we examine a new surface of the slate, the usual and permanent color of which is dark bluish-gray, the hue of these ribbons is nearly black; but on exposure to the atmosphere they show after some time signs of spontaneous decomposition, and display a whitish efflorescence, which indicates that this part of the slate contains the sulphuret of iron. These ribbons are, therefore, carefully excluded from the slate when they undergo the operations of cleaving and trimming in their preparation for the market.

"At one place in the quarry the dip of the strata, as indicated by that of the ribbons, is towards the W. N. and W. at an angle of about 30°. In the same part of the quarry the dip of the cleavage planes, or in other words, of the slates, is towards the south at an angle of nearly 50° Here, however, is the same dislocation or *fault* traversing the quarry as in the spot first described.

"This *fault* is a slide of one part of the stratum upon the other, and is from six to twelve inches wide, being filled with white calcareous spar and fragments of slate. The rock below it has not only a different actual dip from the portion of the stratum above it, just alluded to, and a different direction also in the cleavage of the slates, but a different quality in these slates themselves; those beneath being much superior to those over the dislocation. From this lower part of the quarry, nearly all the roofing and writing slates are derived. The best school slates are got from belts that lie directly beneath the sparry seam or fault.

"The direction of the *cleavage planes* in this portion of the mass is nearly horizontal, while the planes of stratification dip towards the N. W., but at a very moderate angle.

"The difference of direction of the cleavage planes above and below the fault, renders it possible that the dislocation and slide in the stratum took place after the mass had acquired this remarkable tendency to cleave in a direction oblique to the stratification; for had the cleavage originated subsequently to the disruption of the rock, we ought to find it maintaining the same direction, and observing the same features on both sides of the fault. These facts concerning the change in the quality and position of the slates caused by the dislocation, indicate how numerous and minute the circumstances are which must be attended to by those who enter on the business of quarrying this rock."