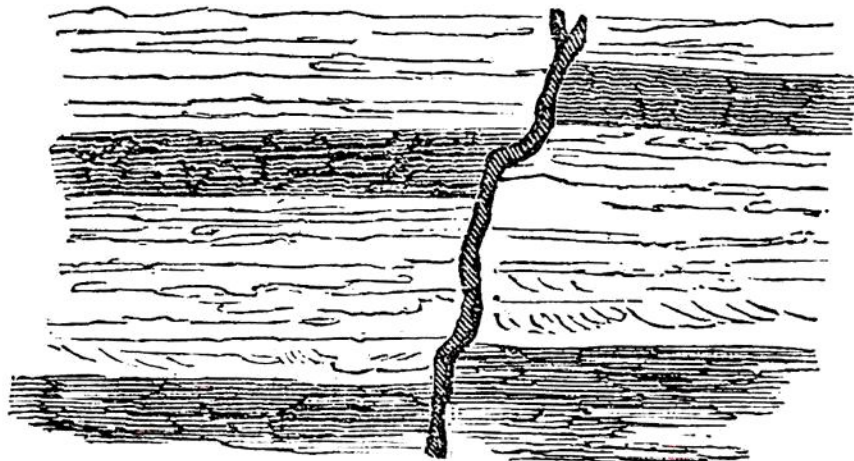


have been imagined. The art must be acquired by practice and the habit of close attention; and though there are occasional appearances which perplex the inquirer, yet the commonly occurring conditions of rocks are such as to give the practical geologist but little trouble. It cannot be too strongly impressed upon the student how necessary it is to examine for himself, if he intend to make himself a master of science, or to be useful to those who are to follow him. In geology practical studies are peculiarly necessary, for it is quite impossible that any adequate or accurate notion of the real constitution of the earth can be obtained by reading. He who would be a geologist must by constant personal exertion endeavour to form his opinions from the study of rocks in their natural situations. A life devoted to the perusal of geological papers will scarcely be sufficient to give an adequate knowledge of geology; for although a strong mind might be able to detect many errors in the theories which are proposed by geologists to account for various appearances, yet from the habit of dependance on the descriptions of others, even that mind would scarcely be in a state to propose any new explanation, or trace the origin of the error.

#### ELEVATION OR DEPRESSION OF STRATA.

There is another circumstance in relation to the stratification of rocks which is worthy of notice, as it may be a source of some difficulty to the beginner, and will frequently occur. **Strata** have been in some instances deranged by fracture,



Section of a fault at Tynemouth Castle Cliff.

and a portion of them has been depressed or elevated. In consequence of this it sometimes happens that a geological