1. The great abundance of loose materials, often hundreds of feet thick, that are spread over the surface almost everywhere.

2. The evidence of the action of existing agencies. Upon sea coasts, cliffs are rapidly worn away; along rivers, deep gorges and valleys are excavated. In districts where the strata are but slightly inclined, outlying precipices and isolated hills were once continuous with each other. So vast has been the denudation, that we must call in the aid of the ocean in addition to rivers for its accomplishment. Such a process has gone on, for example, in the Palæozoic rocks in the Appallachian coal basin, to form valleys for the Ohio river and its tributaries; also in the Mesozoic rocks of the Connecticut river valley; where probably 1,000 square miles of surface have been denuded of sandstone to the depth of at least 1,000 feet.

3. All the fossiliferous consolidated rocks, six or seven miles thick in some places, are formed of materials eroded from older strata, stratified or unstratified; and probably, also, all the stratified unfossiliferous rocks, whose thickness is of equal amount.

4. The most striking evidence of the enormous extent of erosion is found in the vast amount of materials that must be supplied to fill up deficiencies in the strata. We never doubt but that a gorge in horizontal strata, (as B in Fig. 91), was once filled with sedi-

Fig. 91.



ments connecting the two sides. So when we find the same strata upon both sides of a valley of elevation, dipping in opposite directions, (as C in the same figure), we conclude that they once were joined together; and upon geological sections, such former extension is usually represented by dotted lines above the present surface. Another case is illustrated at A. A valley has been excavated in nearly perpendicular strata. As this is not their normal position, we endeavor to ascertain their former extent.