steps of the land valleys amounts to 150 feet per mile, and for the last four miles, at the head of the amphitheatre even 600 feet per mile. Similar declivities have also been pointed out among the tributary amphitheatres of the Colorado River. The slopes of the drowned valleys (as illustrated in figures 2 and 3), are thus seen to be a succession of flat reaches, like base levels, and the margins of all are characterized by steep slopes in all respects resembling the land valleys, (figures 5 and 6) descending from high table-lands. The great stretches of low gradients found amongst the drowned valleys, agree more or less with the submerged plateaus, and appear to have been formed when they were at base level of erosion, before their subsidence.

If the Mississippi valley were elevated, the processes of *canyon* and valley making would gradually dissect the margins of the newly elevated table-land. Such appears to have been the case, at the time of the formation of the now buried valley, discovered near New Orleans to a depth of 1,000 feet. On the other hand, if the Mexican plateau were reduced to base level, the valley above Atoyac would be a short fjord, like that of the Gulf Cazonas (Figure 4), or like the buried valleys of the lower Mississippi.

If the analogy be complete enough, and numerous other phenomena could be further cited in support of it, a most important geological history can be interpreted from the submarine valleys. It has been found that terrestrial movements are not uniform; and although over some continental regions the variation has been so slight as not to disturb the course of the drainage, in others it has been affected. In some cases barriers have been thrown across the valleys by the warping or tilting of the earth's crust; such as that closing Lake Ontario and other lakes and confined sea basins. The greatest amount of terrestrial movement occurs in the mountain regions; and the least on the plains. There are also indications that the greatest rate of depression takes place upon approaching the oceanic abysses. These exaggerated movements named are usually parallel to mountain ranges, and consequently most of them are transverse to the courses of the submerged valleys, and consequently the terrestrial oscillations have not materially affected their depths, though they may have somewhat increased their slopes; yet not to so great an amount as to prevent the depths of the valleys dissecting the submarine plateaus (and producing banks and islands) from being used as yard sticks for measuring the extent of changes of level of land and sea. In the valleys parallel to the mountain folds, it appears that the terrestrial movements have given rise to deep basins.