But this lapse need not detract from the undoubted value of his observations. For instance, he makes the important note that the most violent folding takes place where the largest proportion of slate exists. There also the gold-bearing quartz veins are most plentiful. "If one goes out from the centre of a dome, he will proceed from a part in which outcrops and underground cross-cuts show a definite alternation of slate and quartzite beds, rather suddenly into a region in which little, if any, slate is to be found. This is a typical condition."

When, however, Mr. Woodman begins to apply his accurate geological observation to the furtherance of mining, he also (like Mr. Faribault) misses the one economic essential, namely, that mining operations must tend to be profitable, first, last, and all the time. He presents some "facts" to encourage the miner:

"First, while there is an undoubted downward limit to the zone of leads which could be cut by a shaft sunk on the apex of a dome, we have no evidence that in any given district it is within the range of moderately deep mining, or that many valuable saddles may not be cut by such a shaft. The experiment has never been seriously tried. Second, while a very definite surface lateral extent is known for each true dome, there is many a district in which there are enough paying belts to keep one or a very few large plants for more years than any of us will see. Third, while there is a definite downward limit to each leg of a saddle, at which the vein dies out, it has yet to be shown that anyone has reached that limit in a characteristic case."

Here, as in the case of Mr. Faribault, the scientist who applies geology to mining ought to be assisted by a sampler and assayer. No new deep shaft is necessary to prove that the profitably gold-bearing veins of Nova Scotia do not persist. Shallow mining to three or four hundred feet vertically has sufficed to ascertain that fact. The "experiment," as recommended by Mr. Faribault, was tried at the Blue Nose mine, at Goldenville, and it failed utterly. I venture to deny that "there is many a district in which there are enough paying belts to keep one or a very few large plants for more years than any of us will see." Yes, breaking stone for roads, but not winning gold profitably for the shareholders whose money was subscribed for the erection of the large plant. It indicates obtuseness to unpleasant realities to assert that "it has yet to be shown that anyone has reached the downward limit to the leg of a saddle," if Mr. Woodman is referring to a leg or quartz vein that is profitably gold-bearing. Certainly those of us who are engineers would not urge the miner to follow the leg of a saddle for the sake of white quartz. Perhaps I speak roughly, but I do so in the interest of ascertainable knowledge. Spencer said that Huxley's idea of a tragedy