

cut them down to grade, and then to widen and form flood plains in them, thus changing the **V**-shaped valleys into **U**-shaped ones, floored by alluvial plains through which the rivers and brooks meandered from side to side.

A normal stream decreases in velocity and gradient as it descends its valley and reaches grade near its mouth before it has cut down the rest of its valley to grade. So, when each of these streams had cut down the lower portion of its valley to correspond with the base-level established by the Yukon River, it would begin to meander and extend the width of its floor. At the same time, with the decrease in gradient the velocity of the current would decrease, and its transporting power would be diminished. Consequently, part of the detrital material which would be brought down by the upper and swifter portion of the stream would be dropped where the current was retarded by the decreased gradient, and would lodge in the bottom of the valley and form a "flood plain" or "alluvial plain." This alluvial plain would be first formed where the **V**-shaped valley changed into a **U**-shaped one.

Most of the gold which had previously been discharged into the stream with the detritus from the adjoining hills and ridges would have already lodged in the bottom of the **V**-shaped valley, and would have settled down almost vertically as the bottom was lowered by the downward erosion of the stream. If any gold was carried down to the mouth of the **V** it would have a very strong tendency to settle just where the velocity of the current was diminished, or at the head of the flood plain, and the weaker current would have no power to pick it up again, or to release that gold which was already present beneath it on account of having been previously caught in the bottom of the **V**-shaped valley. Thus the pay-streak would be formed. Afterwards the gravel, sand and alluvium of the flood plain would be deposited over and beyond it, but it would continue to mark the position of the bottom of the old **V**-shaped valley, no matter how wide the bottom of the mature valley might afterwards be extended.

After a flood plain had been formed at the mouth of a valley the river farther up stream would still continue the downward erosion of its channel until it reached the grade of that below it, when lateral plantation and the formation of the flood plain would begin. Thus the flood plain was formed gradually up the valley from its mouth, and always, where the old **V**-shaped valley changed into a **U**-shaped valley, there was left a trail of gold beneath it.

The gold which was collected and stored in the bottom of the **V**-shaped valley had been derived from the rocks of the adjoining country. At the same time the lighter material derived from the