Distinguish, differentiate, compare and explain what is the difference between Orthogonal metal cutting and Oblique metal cutting. Comparison and Differences.

Differences between Orthogonal metal cutting and Oblique metal cutting

S.No.	Orthogonal Metal Cutting	Oblique Metal Cutting
1	Cutting edge of the tool is perpendicular to the direction of tool travel.	The cutting edge is inclined at an angle less than 90^{o} to the direction of tool travel.
2	The direction of chip flow is perpendicular to the cutting edge.	The chip flows on the tool face making an angle.
3	Produces sharp corners.	Produces a chamfer at the end of the cut.
4	The chip coils in a tight flat spiral.	The chip flows side ways in a long curl.
5	Smaller length of cutting edge is in contact with the work.	For the same depth of cut greater length of cutting edge is in contact with the work.
6	For same feed and depth of cut the force which shears the metal acts on smaller areas. So the life of the tool is less.	The cutting force acts on larger area and so tool life is more.
7	Generally parting off in lathe, broaching and slotting operations are done in this method.	This method of cutting is used in almost all machining operations.