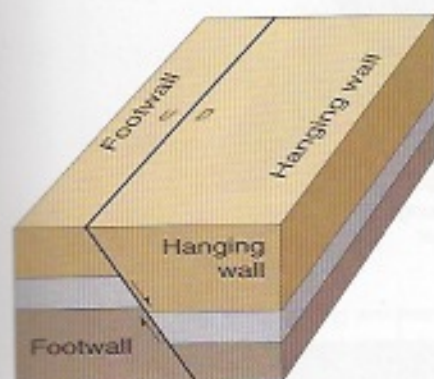


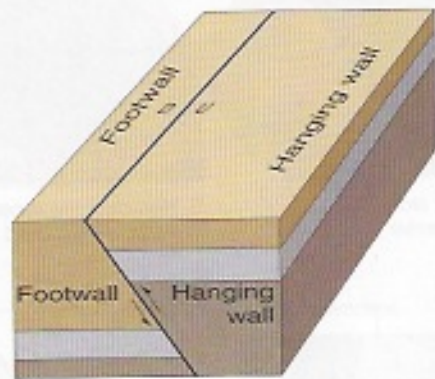
plane is steeply dipping (more than 45° ; Fig. 14.11B) or a **thrust fault** if the fault plane has shallow dip (less than 45° ; Fig. 14.11C). **Lateral** or **strike-slip faults** have almost vertical fault planes and show

offsets in a horizontal plane (Fig. 14.11D). *Right-lateral strike-slip faults* are those in which the block on the opposite side of the fault has moved relatively to the right. Thus, if you stood on one side of a

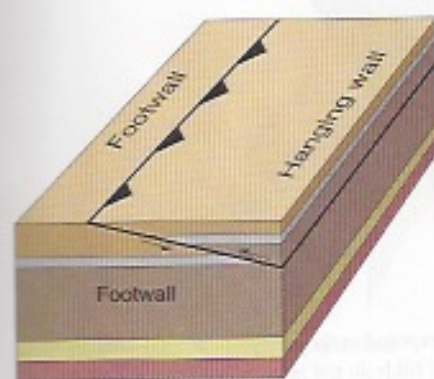
right-lateral strike-slip fault, and looked across the fault, the rocks on the other side would be displaced to the right, as in Figure 14.11D. In *left-lateral strike-slip faults*, the block on the opposite side of the fault has moved relatively to the left. Whereas the other faults are most obvious in vertical outcrops, offsets along strike-slip faults are best seen from the air.



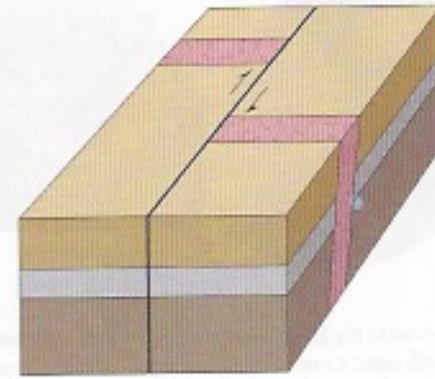
A. Normal fault



B. Reverse fault



C. Thrust fault



D. Right-lateral strike-slip fault

FIGURE 14.11

Four types of faults are illustrated in these block diagrams. If the fault plane is inclined, the side above the fault is the hanging wall, and the side below is the footwall. Displaced marker beds show the direction of movement. Note that in a map view, shown by the top surfaces of A, B, and C, the faults dip under the hanging wall, and in C the barbs or "teeth" are on the hanging wall.

Table 14.2
Stress/Strain Conditions of
Common Geologic Structures

Strain	Stress		
	Compression	Tension	Shear
Brittle strain or rupture	Reverse fault or thrust fault	Normal fault	Strike-slip fault
Ductile or plastic strain	Folds (anticlines and synclines)	Not discussed in text	Not discussed in text

Clues to the Past

Folds and faults record the history of geologic stresses in a given area. Such stresses may result, for example, from continental blocks pulling apart, sliding by one another, or colliding. Table 14.2 summarizes the types of stress and strain that are recorded by folds and the different types of faults. Assessing the type of stress and the directions from which it was applied helps us to unravel the long and complicated series of events that have shaped and reshaped large areas of especially eastern, southern, and western North America.