Ductile shear zones can develop as a result of shearing (simple shear strain) or "squeezing" (pure shear strain).
Shear Zones

Mylonite, or mylonitic zone is the central part of the shear zone where deformation is the most intense.

In a mylonite, the grain size is significantly reduced so that mineral clasts appear to float in a fine-grained matrix of recrystallized grains.
Upon shearing, zones of pressure shadows and zones of pressure concentration develop around these clasts that are more resistant than the enclosing matrix. Fluids and their solutes migrate from high pressure to low pressure zones.

Growth of a porpyroblast during shearing. As it grows the blast "freeze" the schistosity that develops in the surrounding matrix.
CS Mylonite

Foliation plane or S plane (S for schistosity) rotates and tends to become parallel to the shear plane or C plane.
sigma pressure shadow
Foliation results from the ductile flattening of grain aggregates (e.g. quartz), and/or the change in orientation of tabular minerals (e.g. micas), and/or the anisotropic growth of newly formed minerals.
Crenulation
Lineation
A plane perpendicular to the foliation and parallel to the lineation. Such a strong linear fabric is referred to as a constrictional fabric.

A plane perpendicular to the lineation. In this last picture, the flattening plane is barely visible.
Shearing evolves more pervasive/continuous fabrics as temperature/depth increases.

At relatively low temperature (250-450ºC) shearing is more localized and strong minerals such as feldspar are brittle.

At relatively high temperature (>600ºC) strain is more homogeneous as feldspar becomes ductile.
Folding

During folding, grains and minerals are re-oriented and flattened into a planar fabric called axial planar fabric.

This fabric may "refract" (i.e., change direction) across beds (picture on the lower right).
As temperature increases with depth, rocks become weaker and their strength contrast decreases. This explains the growing homogeneous character of tectonic fabric with depth.
melt shear
augen gneiss
The Concepts of Facing

The facing of a fold system refers to the geographic direction of younging (shown with an arrow).

Is this fold seen in map view a syncline or an anticline?
The Concepts of Vergence

Vergence refers to the general sense of shear involved in the development of asymmetric folds. The fold systems shown below is verging east as the asymmetry is the result of a shearing toward the east.
Parasitic folds: Z, M, S, W
Confusingly the world vergence is also used to refer to the direction of the next anticlinal closure.

For descriptions of such complex folds it is convenient to use the term "vergence" in a purely geometrical sense, to describe the asymmetry of the folds irrespective of the younging direction of the strata involved (e.g., Wood 1963). "Direction of closing" is also a term independent of younging, and indicates the direction in which a fold is antiformal. In our recent work, (e.g., Spörli & Lillie 1974), we have used the expression "facing" to denote the relation between younging and closing. Anticlines face and close in the same direction, whereas synclines face and close in opposite directions. Congruent minor synclines and anticlines of a major fold should all face approximately in the same direction if the fold axis is straight. Abrupt changes in facing direction of minor folds generally are indicative of re-folding.
Boudins and boudinage result from extensional deformation applied to rock formations made of alternating stronger and less strong layers.

A stretched metasedimentary rock showing alternating sandstone and pelitic layers.
Example of extensional fractures orthogonal to bedding in a nascent neck region, the photo is about 8 cm long (Photo credit: P. Rey).

Example of symmetric boudinage of a granitic vein in a psammitic schist (Broken Hill, NSW, Photo credit: P. Rey).
Asymmetric Boudinage

When extension occurs to an angle to the layering, necking and thinning in stronger layers can initiate via the development of shear fractures. The boudins evolve with a sigmoid shape.
Asymmetric boudinage can also evolve from shearing when the shear zone cut through a layered rock formation. In this case the sense of shear can be inferred by the sigmoid shape of the boudins.
Folding and boudinage are NOT characteristics of contractional and extensional tectonics respectively. Both types of structure can be found in any tectonic regimes. In fact boudinage can be the consequence of folding, as shown by the picture on the right.
Folding and boudinage
(Montagne Noire, France, Photo credit: P. Rey).

Folds and boudinage in ore body, the picture is ca. 8 cm long (Mt Isa, Queensland, Photo credit: P. Rey)
Core of the recumbent part of the Mondonedo nappe, Benquerencia beach, 10km east of Foz.
Fold styles

In Concentric or parallel folds, all the curves are parallel. They become tighter towards the core. The thickness of a bed measured perpendicular to bedding is constant.

Concentric fold with brecciated core.
Grosses Roches, Quebec
Concentric fold with a faulted core. Notre Dame du Portage, Quebec.
Similar folds have the same profiles along the axial surface. The thickness of a bed measured parallel to the axial surface is constant.
Similar fold. Notre Dame du Portage, Quebec.
Disharmonic folds in Precambrian Wallace Formation. Trout Creek, Missoula, MT.
Conjugate folds are paired folds with paired axial surfaces symmetrical to each other.
Kink fold

Kink foliation
Ptygmatite folds are chaotic, random and disconnected--found where single competent layers are in a matrix of low competence.
Refolded fold

next step

fold

next step

folded fold

flat layer
Diagram showing the development of folds, overturned folds, and thrust faults in horizontal rocks.

A  A block of undeformed horizontal rocks.

B  Lateral pressure applied causes the rock to fold forming a washboard-like surface.

C  The concentration of pressure deformed the weakest rocks into overturned (asymmetrical) folds.

D  Additional pressure caused the rocks to break along the fold crest and the upper layer began to slide forward over the lower layer.

E  Additional pressure caused further forward movement; in some areas the forward thrust is measured in tens of miles.
Structure sections of Marathon Basin, Ouachita mountains. Modified after King (1937, cross sections).