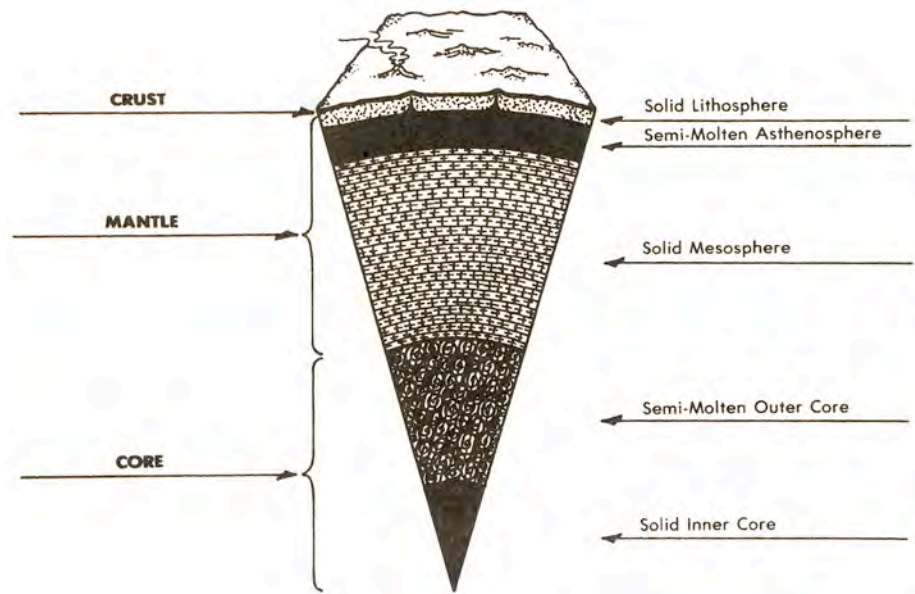


FIGURE 5.3.

The Earth's interior with new geologic descriptions on the right. The older terms on the left, which are still useful, are: the core; the mantle, which is comprised of the mesosphere, the asthenosphere, and all of the upper lithosphere except the crust; and the crust, the top skin where the obvious action takes place



## PLATE TECTONICS

The other part of the answer to the question of why the surface of the Earth isn't flatter is to be found in the dynamics of plate tectonics. This theory also explains why the continents change their shape and geographical positions over time.

Plate tectonics and the ideas of continental drift came into prominence in the field of geology in the 1960s. Geologists now use this term to explain the dynamic movement of the Earth's upper layer and many bizarre observations that have been puzzling for centuries.

The Earth's upper layer (lithosphere) is divided into about eight major plates and a dozen or so smaller ones. They extend into the Earth for distances that vary between thirty to ninety miles where they float on the semi-molten underlayer (asthenosphere). Most plates bear both continents and oceans, and a few are essentially oceanic (see figure 5.4).

The plates are best visualized by imagining the cracked shell of an egg with the plates being separated along the lines of the cracks but able to move in relation to each other. The movement of the plates is