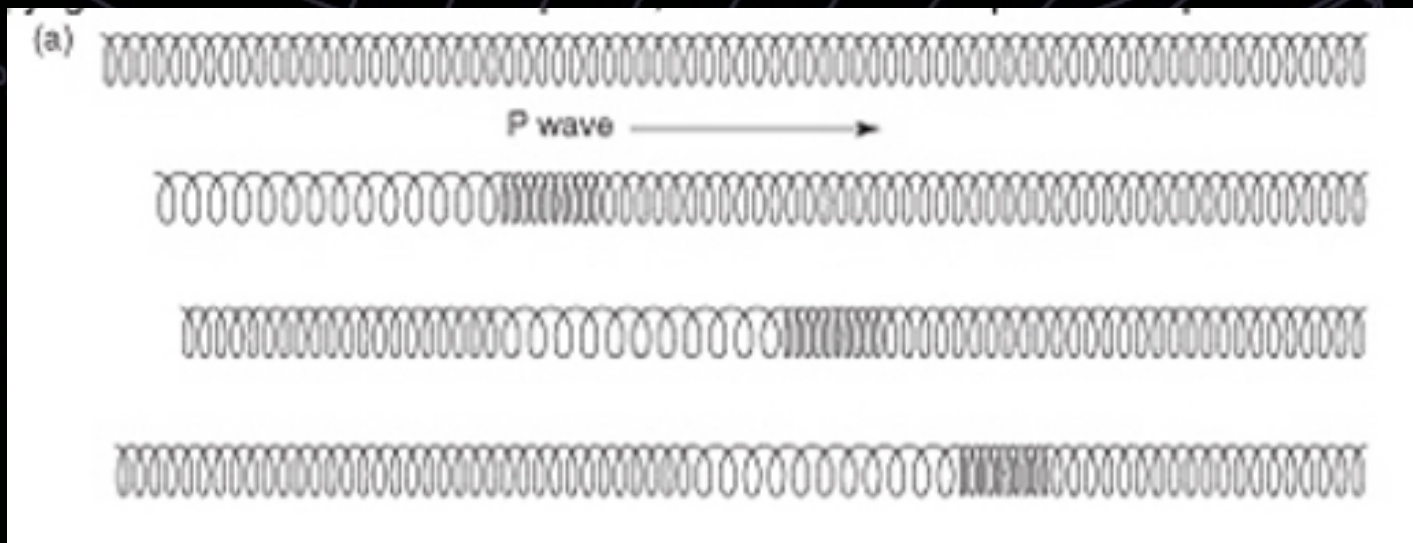


The Different Types of Seismic Waves

P Waves

- primary waves/arrive first at a station
- compressional
- particle motion in propagation direction
- like sound waves

Fig. 4.18

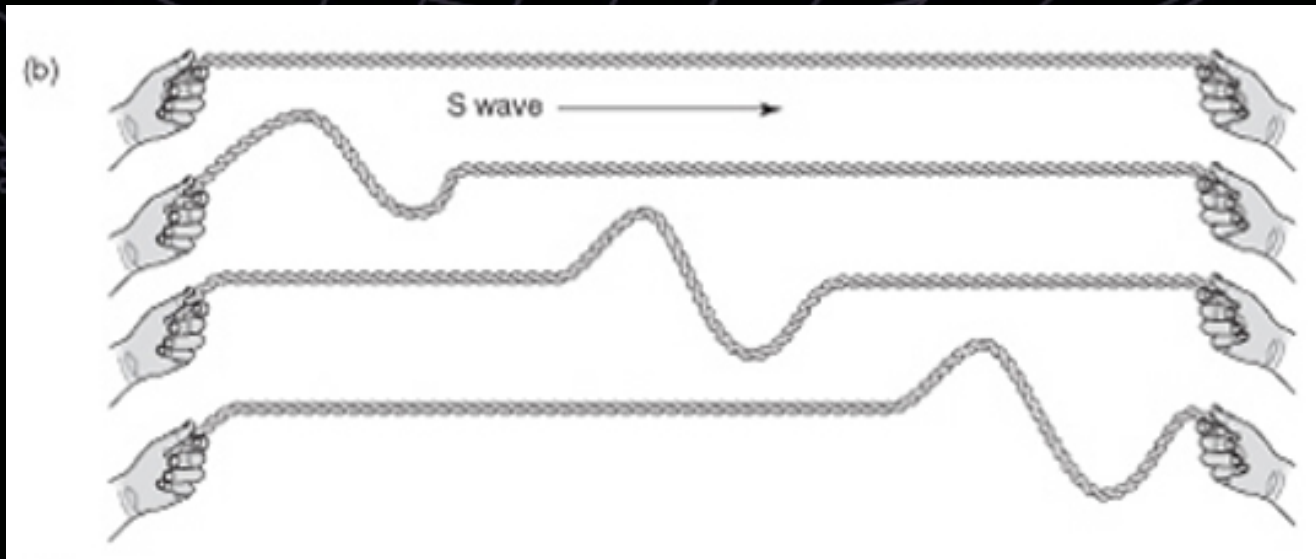


The Different Types of Seismic Waves

S Waves

- secondary waves/arrive second
- shear waves
- particle motion perpendicular to propagation direction
- like waves on a rope

Fig. 4.18



The Different Types of Seismic Waves

P and S Waves are body waves

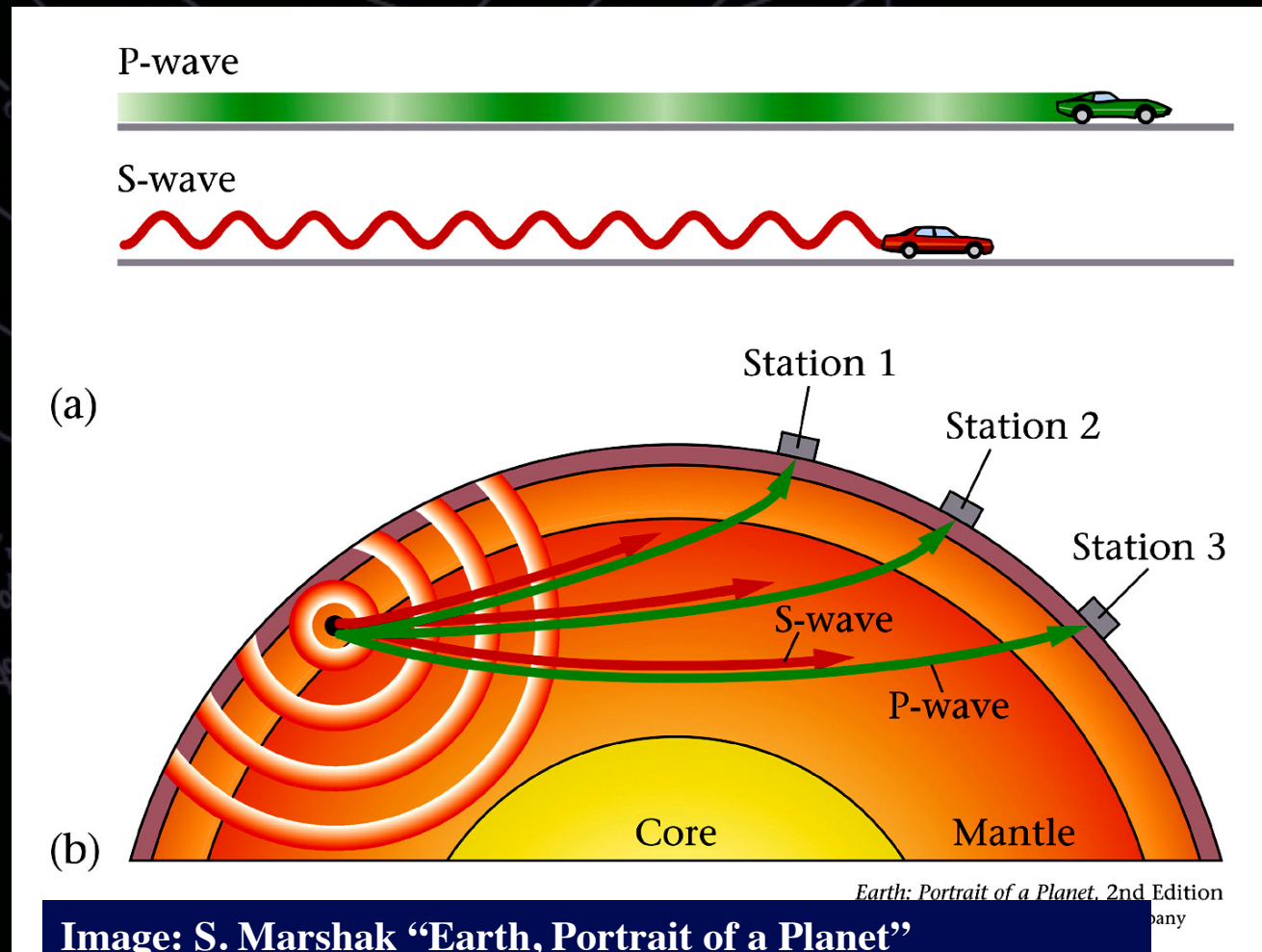
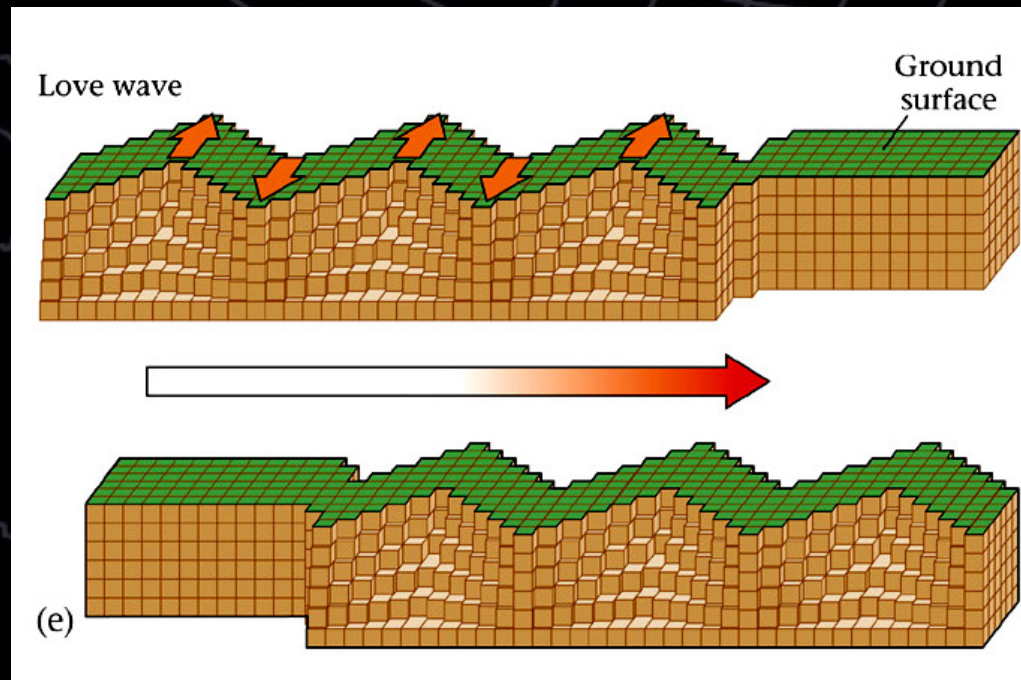


Image: S. Marshak "Earth, Portrait of a Planet"

The Different Types of Seismic Waves

Surface Waves: Love Waves

- arrive just after body waves
- combination of reflected S waves
- particle motion perpendicular to propagation
- motion decreases exponentially with depth
- like spikes in a wheat field

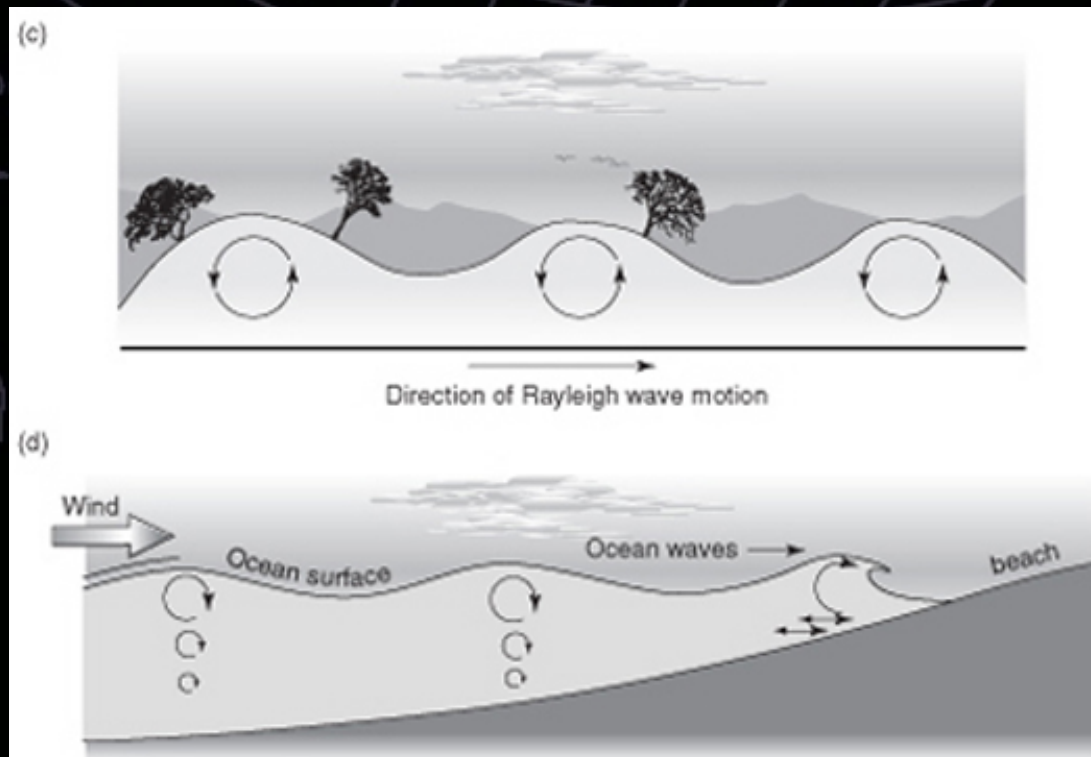


The Different Types of Seismic Waves

Surface Waves: Rayleigh Waves

- arrive last
- combination of reflected P and S waves
- retrograde elliptical particle motion
- motion decreases exponentially with depth
- like water waves

Fig. 4.18



largest signal
most damaging wave

retrograde R. waves

prograde water waves

The Different Types of Seismic Waves

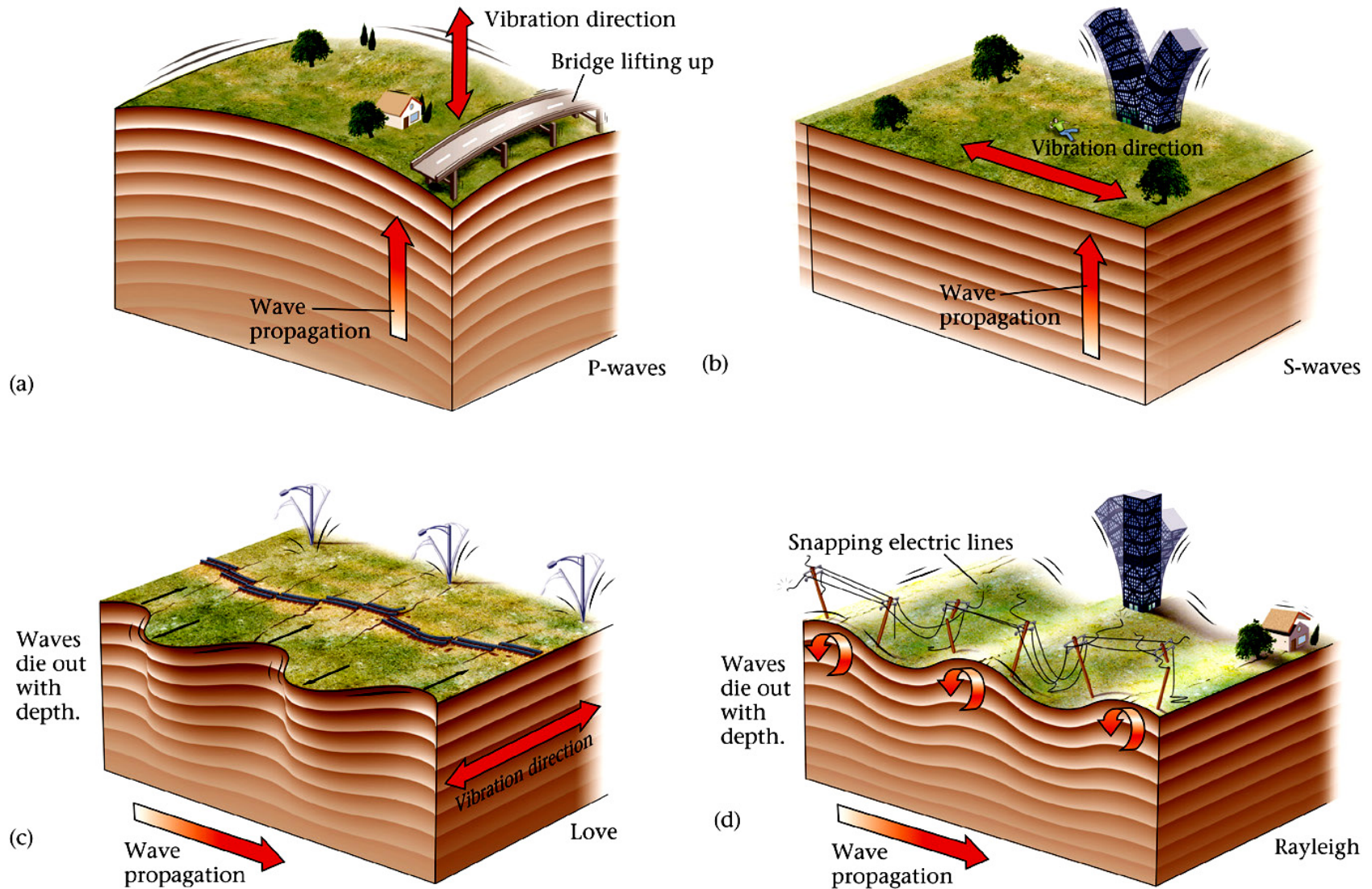


FIGURE 10.27

Earth: Portrait of a Planet, 2nd Edition
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