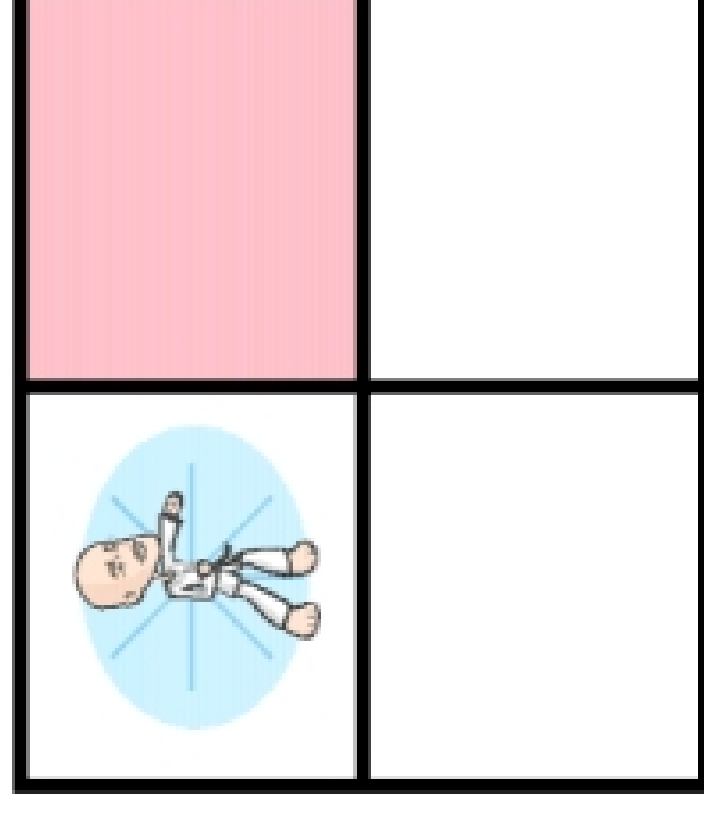


Update

- ❖ What is fatigue?
- ❖ Types of Fatigue Loading
- ❖ Empirical Data
- ❖ Estimating Endurance/Fatigue Strength
- ❖ **Strategies for Analysis**
 - Uniaxial Fully Reversed
 - **Uniaxial Fluctuating** Uniaxial
 - **Multiaxial**

$$\sigma_m = 0 \quad \sigma_m \neq 0$$



Multiaxial

Does Mean Stress Matter?

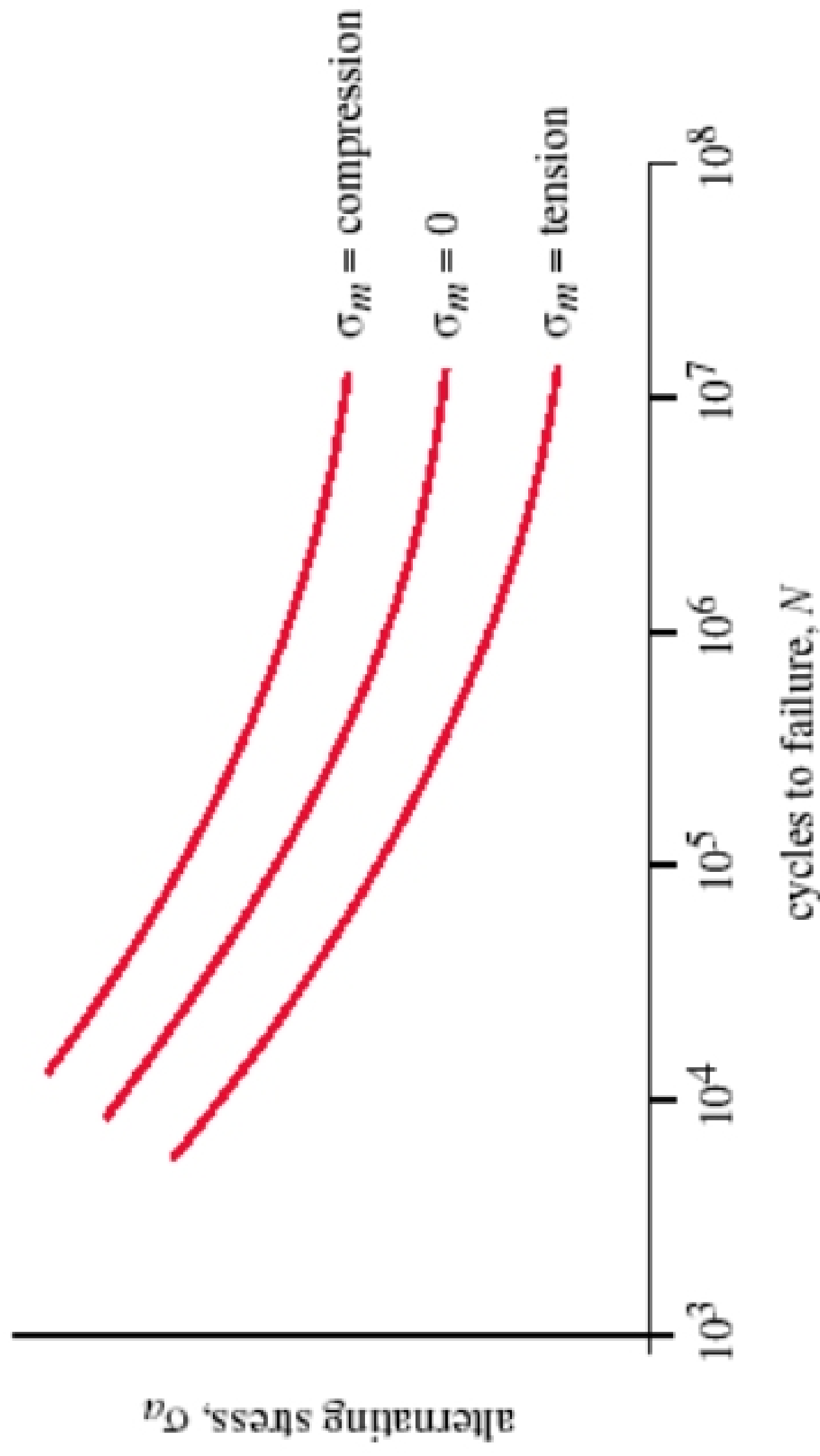


FIGURE 6-18

Effect of Mean Stress on Fatigue Life (From Fuchs and Stephens, *Metal Fatigue in Engineering*, New York, 1980, reprinted by permission of John Wiley & Sons, Inc.)

Fluctuating Stress Failure Plot

constructed for a given number of cycles N

