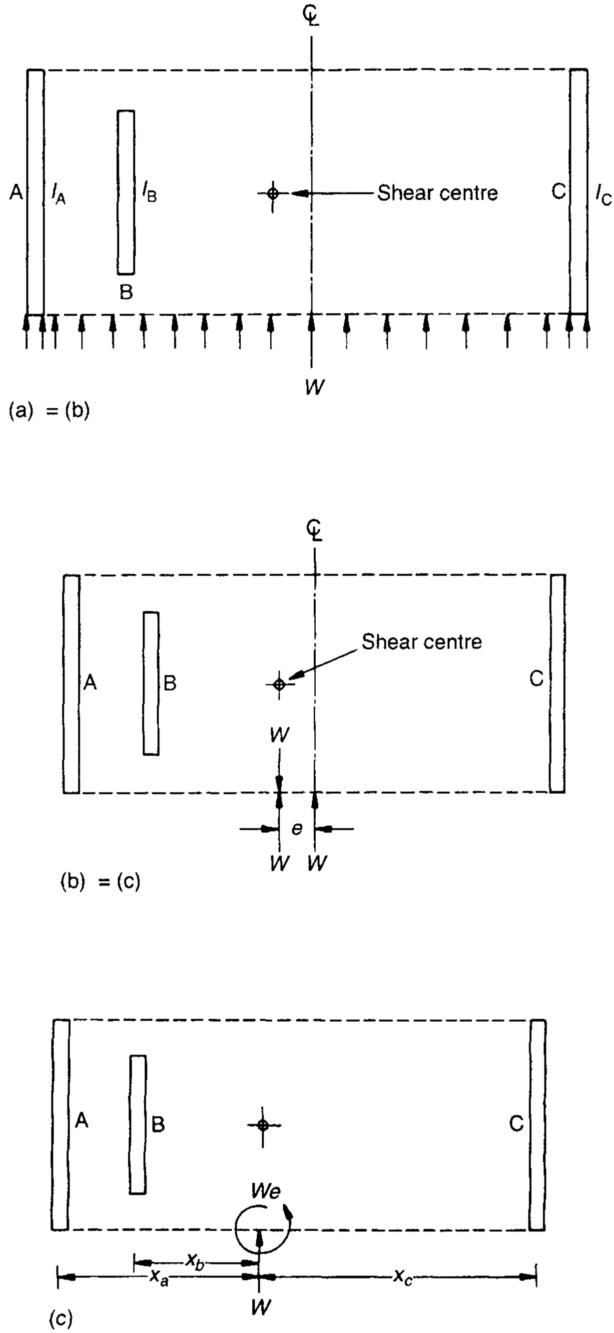

Fig. 6.7 Unsymmetrical shear walls, subjected to wind loading.

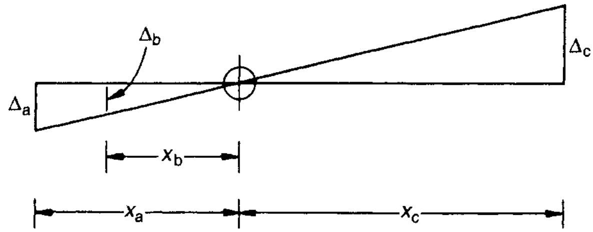

Fig. 6.8 Deflection of walls due to twisting.

or

$$W'_{A} = \frac{We\, I_{A}\, x_{a}}{I_{A}\, x_{a}^{2} + I_{B}\, x_{b}^{2} + I_{C}\, x_{c}^{2}} = \frac{We\, I_{A}\, x_{a}}{\Sigma\, I x^{2}} \qquad (6.15)$$

Similarly,

$$W'_{B} = \frac{We\, I_{B}\, x_{b}}{\Sigma\, I x^{2}} \quad \text{and} \quad W'_{C} = \frac{We\, I_{C}\, x_{c}}{\Sigma\, I x^{2}}$$

The load in each wall will be the algebraic sum of loads calculated from equations (6.7), (6.8) and (6.15). In other words, the load resisted by each wall can be expressed as

$$W_{n} = \frac{W I_{n}}{\Sigma I} \pm \frac{We\, I_{n}\, x_{n}}{\Sigma\, I x^{2}} \qquad (6.16)$$

The second term in the equation is positive for walls on the same side of the centroid as the load *W*.