To repeat, this extremely simple solution is not the equation of the actual bending curve (8–20) but gives an excellent qualitative picture. This can be seen by drawing the graph of (8–27), with $x$ replaced by $-x$ for negative values of $x$: a central depression surrounded by very small waves of decreasing amplitude.

### 8.1.4 Attraction of the Compensating Masses

As a preparatory step for computing isostatic reductions, to be discussed in sec. 8.1.5, we need the attraction of the compensating masses. For simplicity we consider the problem in the usual local plane approximation, replacing the geoid by its tangential plane. The spherical approximation will be used later (sec. 8.2).

We shall assume a basic definition concerning our three-dimensional local Cartesian coordinate system (Fig. 8.6): The $xy$-plane represents sea level, the $z$-axis points

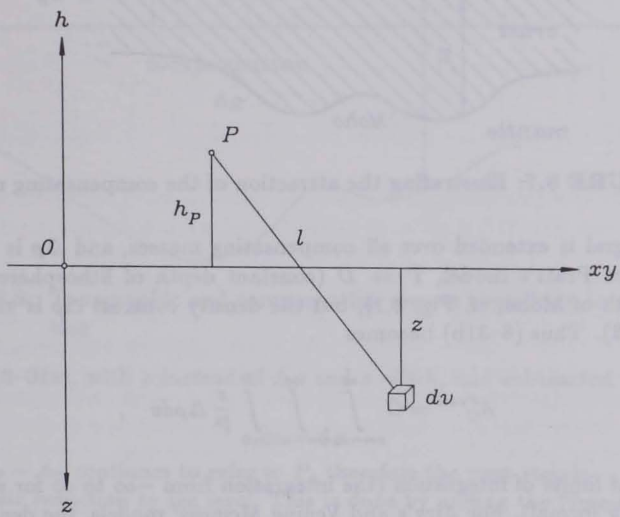


**FIGURE 8.6**: The basic coordinate systems $xyz$ and $xyh$

vertically *downwards*, whereas the $h$-axis points vertically *upwards*, so that, for an arbitrary point,

$$z = -h \quad . \tag{8–28}$$

Keeping this definition in mind, the distance $l$ between the computation point $P$ and the volume element $dv$ becomes

$$l^2 = (z + h_P)^2 + (x - x_P)^2 + (y - y_P)^2 \quad . \tag{8–29}$$