Multiple 2-d & 3-d plots

As with MDS, use of **Graph>Special>Main**>Axes, with (Plot type•2D or •3D), allows any pairs or triples of axes to be plotted: (PC1, PC2), (PC1, PC3), (PC1, PC4), (PC2, PC3), (PC2, PC4), …; or (PC1, PC2, PC3), (PC1, PC2, PC4), … etc. By default, PCA is drawn with (*x*, *y*) or (*x*, *y*, *z*) axes rather than the full box used by *n*MDS, but either or both can be chosen – you need to select both (✓Draw axes) and (✓Draw box) to get the axis scaling and the box (the first, the second and both, are the defaults for PCA, *n*MDS and *m*MDS, respectively). Taking **Tools>Duplicate** when the active window is a plot will allow multiple copies to be displayed on the PRIMER desktop, and neatly arranged with **Window>Tile Horizontal** or **Vertical**, having first taken **Window>Close All Windows** and clicked on the series of plots to redisplay them (or the multiple plots could be placed into a new Multiplot, see Section 7). While the three 2-d plots from PC1, PC2, PC3 give, arguably, a more accurate way of publishing a static 3-d plot, the 3-d PCA graph in PRIMER is certainly the better way to view the structure on screen, and this can be manually rotated with the  icon, i.e. **Graph>Rotate Axes** (rotating the data itself, within a static box – as in MDS – is not allowed since PC directions in relation to the points are fixed). Automatic rotation is with **Graph>Spin** and this can be saved as a movie file (*.mp4 or *.gif), as for MDS. **Graph>Zoom In** () on a 3D plot is often a good idea, since it is usually better to see the points clearly than display all the box corners.

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