Elab 3.35 **[S2008/s2008-var1]**

Sometimes when making a graphic, you want to change some aspect of it or add new elements to it. The lattice graphics system provides ways to do this. To illustrate, make a simple density plot in the ordinary way.

```
galton = ISMdata("galton.csv")
densityplot( galton$height )
```

In looking at the plot, you realize that you want a better label for the horizontal axis. One option is to redo the plot from scratch:

```
densityplot( galton$height, xlab="Children")
```

Another option is to instruct the graphics system just to change the specific parameters you want, for example, to change the x-label and to delete the points plotted at the bottom:

```
trellis.last.object( xlab="Height (inches)",
  plot.points=FALSE)
```

Now suppose you decide to superimpose density plots of the mothers' and fathers' heights. To do this, you need to tell the lattice system that you want to *add on* to the plot. This is done with the `trellis.focus` command:

```
trellis.focus()
```

You'll notice that the original graphic is surrounded by a red line. Once this is done, you can add on to the plot.

To start, use `density` to compute the density curve for the mothers and the fathers. This will not plot out those curves, yet.

```
mother = density(galton$mother)
father = density(galton$father)
```

Now you can add those curves to the plot, using the `llines` command. This takes a series of x- and y- points, but those are already contained in the output of the `density` program:

```
llines(mother, col='red', lwd=2)
llines(father, col='black', lwd=2)
```

Finally, tell the lattice system that you are done adding to the original plot:

```
trellis.unfocus()
```

Use these commands to construct the graph comparing the distribution of the mothers' and fathers' heights to the children's heights. Describe how they are different and explain why this is. Enter Text Elab 3.35-1

Other useful commands for adding elements to lattice plots are `llines`, `lpoints`, and `ltext`.