



## Visualising methods

Experienced people often take for granted things that to an outsider seem strange or incomprehensible. We don't choose to belittle things that seemed quite hard when we learnt. Our perception changes we are not conscious of some of the things we do, and ways we think.

The *Learning Curve* has several times discussed the physical skills that ringers develop and that become almost automatic for experienced ringers. This month we look at an aspect of mental skill - how we learn, and in particular how we visualise methods.

A method is an abstract thing. You can't touch it or see it. Nor can most of us hear it. We can certainly hear the result of ringing a method, and if we listen hard some of us might be able to work out what method it is, but few of us could claim to recognise much more than plain hunt by 'hearing' it like we would recognise a tune. So what is in our minds when we think 'Yorkshire' or 'Plain Bob'?

That's easy you might say, reaching for your diary and pointing to a page of numbers. But the numbers are not the method. In the middle of a peal you are still ringing Grandsire, but if you transcribed the sound into numbers you wouldn't get what is in the diary. The method is not about the numbers themselves, but about how they change - hence 'changeringing'. Ringing pedants will know that a change is not a sequence of numbers - like rounds or 214365, which are rows - but an operation that changes one row into another. Plain hunt consists of two changes alternating. One swaps over as many adjacent pairs as possible and the other swaps all except the first and last (see figure 1). (On odd numbers the alternating changes have places in first and last place.)



Figure 1: Changes in Plain Hunt on eight

A method is a sequence of changes so we need to visualise the changes not the numbers. If you join up the lines representing the changes in Figure 1 and continue the process, you get the pattern shown in Figure 2.

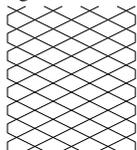


Figure 2: Structure of Plain Hunt on eight

This gives a good overall impression of the nature of hunting. Compare this with Figure 3, which shows Plain Bob as blocks of hunting punctuated with periodic bursts of activity.

Of course most of us don't ring all the bells, and ringing just one we feel more comfortable with that rather restricted view we call the blue line (after Snowdon's 1881 *Diagrams*) see Figures 4 & 5. The blue line is simpler but loses information; for example you can't see that the dodges fit together or that they come at the same time for everyone. You learn this separately.

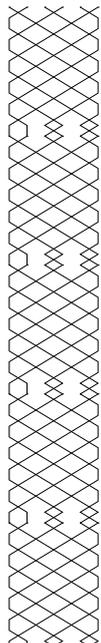


Figure 3: Plain Bob Minor

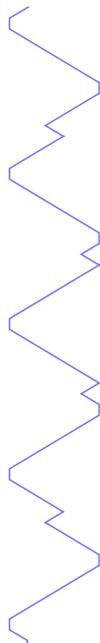


Figure 4: Blue Line - Bob Minor

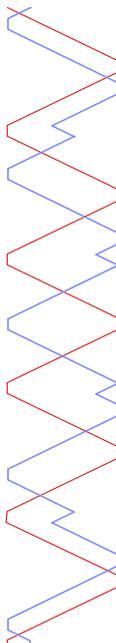


Figure 5: Blue & Red Lines - Bob Minor

Most books draw the line running from top to bottom of the page, as shown in Figure 4. It is consistent with deriving it from the numbers but does not fit very well with the way we talk about things when ringing. We hunt 'up' and 'down'; the Tenor rings 'over' the others. To make sense of that you have to draw the line running from left to right on the page, like Figure 6 (see *The Follow-on Book* for more examples). Then up is up and down is down. Even when the line is printed running down the page, some people turn the page round to view it the other way. They wouldn't do that if it didn't make it easier for them to think about.



Figure 6: Plain Bob Minor 'lying down'

A plain course starts and ends in rounds but the method itself repeats in a cycle, with bells starting at different points. You can't show this with a conventional line since it must start somewhere, normally 2nd or Tenor.

This concept is so important that *The Tutors Handbook* shows a picture of Plain Bob Doubles drawn on a cylinder. It gets the idea over but is not very practical because half of it is invisible round the back of the cylinder. You could draw it out on a strip of paper and glue the ends together but it would not be very practical to carry round in your pocket, and you still could not see it all at once.

Two people have recently been exploring ways round this. Jenny Cornwall experimented with drawing methods in a circular annulus, as shown in Figure 7. This example which shows Bob doubles with the Tenor covering.

She found that people using them found it harder to understand the principle of bells swapping places to hunt. There are practical difficulties too with more complex methods because of lack of space. Figure 8 shows Cambridge Major, with the grid lines omitted.

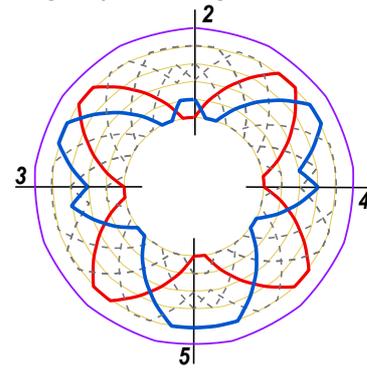


Figure 7: Plain Bob Doubles as an annulus

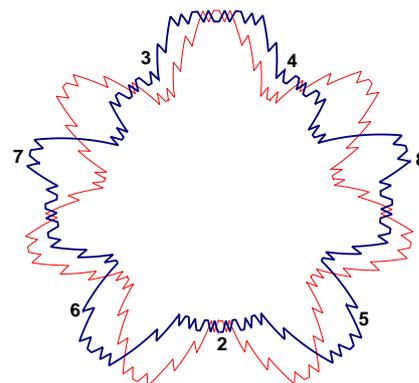


Figure 8: Cambridge Major

Janet Lee, with her *Circular Lines* (RW 125) introduced the idea of a different colour for each lead, as in Figure 9. The colours she chose were intuitive for her but might not be for others. There is a standard colour code for numbers in electronics that some people might find more natural (as used for Malvern Link sallies).

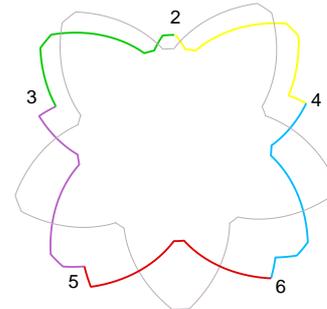


Figure 9: Plain Bob Minor, coloured by lead

Which way is best? The traditional blue line has stood the test of time but it is not the only way. Different people think in different ways, so if a technique works for you, use it. Have a look at some of the others too though. They might lead you to some new insights.

Tail End

*The Tutors Handbook* is available from CC Publications, see regular advertisements. *The Follow-on Book* is obtainable from Pam Copson, copson@btinternet.com. Copies of multi coloured circular lines are available from Janet Lee, janetlee2000@lineone.net