



## **SYMMETRY IN METHODS**

These notes assume an understanding of **place bells**.

When the plain course of a regular method is studied lead by lead (as when learning to ring a method by place bells) the symmetrical nature of methods is more apparent and this can help when learning new methods. In the blue line of methods there are two 'pivot points' where the blue line reverses on itself. In even-bell methods one pivot point occurs as the treble leads, the other point, in minor, is  $2\frac{1}{2}$  leads later or halfway through the plain course when the treble is at the back.

For simplicity, start by looking at the 2nd in Plain Bob minor. Making second's place (in this case coming into rounds) is a pivot point. Two and a half leads later 2 is leading between dodging 5-5 down and 5-6 up, when it is sixth's place bell. As this a pivot point; the second half of this lead is symmetrical with the first half lead. The place bell order in Plain Bob is 2-4-6-5-3. You will note here that 6 is centrally placed. Look at the blue lines either side of sixth's place bell. Fifth's place bell work is the reverse of fourth's place bell and third's place bell is the reverse of second's place bell. So the entire blue line is symmetrical about its pivot points.

Look at the dividing lines for even-bell methods in the 'Diagrams' book; they are drawn between the two rows of each treble lead, that is, between each lead end and lead head. This marks the true symmetry points. (Odd-bell methods will be discussed later.)

Now using Cambridge minor as an example, making seconds place over the treble is a pivot point and  $2\frac{1}{2}$  leads later, the middle of the back work is a pivot point, where a bell makes fifth's place under the treble. (Here, it is doing the work of third's place bell.) The blue line of that bell through the second half of the lead is the reverse of the first half lead. In Cambridge the place bell order is 2- 6-3-4-5. Pivoting about thirds place bell, fourth's place bell work is the reverse of sixth's place bell and fifth's place bell is the reverse of second's place bell. (Study the blue lines!) Up till now we have studied the path of the 2nd because it is convenient to start from rounds; however each bell follows this symmetry, with one pivot point as it makes seconds place over the treble, the other  $2\frac{1}{2}$  leads later in the middle of its back work. This can help in learning methods.

Not all methods are 'second's place' methods. Norwich Surprise minor is a 'sixth's place method; sixth's place is made at each treble lead so here it is convenient to use 6 as the demonstration bell. One pivot point is at rounds as 6 makes sixth's place.  $2\frac{1}{2}$  leads later 5 is second's place bell and the other pivot point is in the middle of the Norwich front work. The place bell order in Norwich is 2-3-5-6-4. Shuffle that round to put 2 central and we have 6-4-2-3-5. Thus, third's place bell work is the reverse of fourth's place bell and fifth's place bell the reverse of sixth's place bell.

'Double' methods have an additional quirk. All work done from the front is repeated in mirror image from the back and this means that the blue lines of 'Double' methods have a 4-way symmetry. Look at Double Oxford minor; 2 is the blue line bell. Having done front work it moves to places up. Halfway through the places it passes the treble; this is a 'reflection' point where the work reverses itself from front to back. The middle of the back work is a pivot point and the middle of places down is another 'reflection' point where the work reverses from back to front. Thus the blue line of a true Double method can be defined in a quarter of its length.

Odd-bell methods using a second hunt bell (e.g. Grandsire and Oxford Bob triples) are a special case. Their symmetry is best explained by considering the treble and hunt bell as a single entity. Pivot points occur as the hunt bell takes the treble from lead and so, in the 'Diagrams' book, the dividing line for these methods is drawn under the treble's backstroke lead. The pivot points in Grandsire doubles are the making of third's place and the lead between dodging 4-5 down and 4-5 up. (In triples, 6-7 down and 5-7 up).

*With thanks to John Riley.*