The Learning Curve

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Speed

They say everything goes faster these days. Speed related expressions permeate our language - people live life in the fast lane, we are told we need high speed Internet access, and so on. Yet how often do we stop to think about speed and what speed means for us?

The Learning Curve asked this question in June 2001. Of the definitions considered then, the most important when you are actually ringing a bell is the rate at which your bell swings, normally quoted in changes per minute (cpm) or how long a peal (5000 changes) would take. It is adequate for describing the speed of a touch or a peal (and remarkable how little variation there is between different pieces of ringing on the same bells) but speed measured like that is an average, related to the progression of the ringing as a whole. It does not show the considerable speed changes made by individual bells as they hunt up or down. You might compare it with traffic on a road - the average speed (as reported on traffic broadcasts) is pretty constant, but look closely and you see individual cars accelerating to overtake, or braking when others pull in in front of them.

Something similar applies to ringing, but on a much bigger scale. What happens on the roads is a bit like call changes - every now and then the order changes. Method ringing is very different - its equivalent on the roads would mean that most cars spent most of their time either overtaking or dropping back to be overtaken - a frightening prospect (not to say wasteful of fuel).

In December 2002, *The Learning Curve* said 'Controlling a bell is all about speed control. There are three basic speeds, corresponding to hunting up, hunting down and making places'. This is so fundamental to changeringing that it seems ponderous to repeat it, but the story below reminds us that some people seem not to be aware of this very basic fact.

Overheard

The scene is a tower's weekly practice. The players are Timid Learner (TL) Tower Captain (TC) and Experienced Visitor (EV).

TC: "Catch hold for some plain hunting - TL is attempting it for the first time".

TC stands by TL, prompting him to hold up and pull in when required. She reminds him continually what places he is in and which bells to follow, pointing as required.

TL flounders, and is rarely anywhere near the correct place.

Several similar attempts follow, at the end of which TC utters words of encouragement.

TL just looks bemused.

A discussion breaks out among the other locals about whether or not it is a good thing to remember the numbers of the bells to be followed. They think it is, but apparently TC tells them that it isn't.

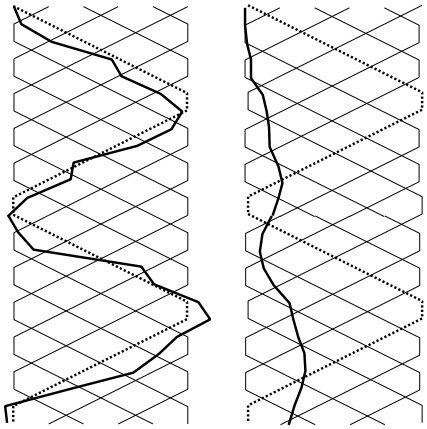
TC *(turning to EV who was standing in the background quietly saying nothing)*: "EV is an expert teacher, let's hear her advice?"

EV, somewhat put on the spot, does not wish to enter that particular debate. In any case, she dislikes being expected to give instant answers to complex questions. She had observed TL's effort. He showed no particular handling problems, but neither had he made any obvious attempt to move the bell. If the other ringers had been invisible, anyone watching him might have thought that he was ringing call changes. EV: "The most important thing you need when hunting is to be able to change the speed of your own bell to ring faster or slower - if you can't move into different places, then whatever bell you look at won't help you very much".

The others think this a novel idea - "So you need to be able to change speed?" says one.

What can we learn from this story? Obviously we don't know all the background - one rarely does. That is one reason why people like EV are sometimes cautious about offering advice. Nor can one be hard on TL for not succeeding at his first attempt - many of us don't. Two things are interesting: how TL was ringing and that the rest of the band were surprised by the mention of speed change.

We don't know how TL had been taught, or what preparation he had had. Physically he could have turned in a much heavier bell, so strength was not limiting him. Perhaps he found the experience a bit overpowering - many people at the base of the learning curve often do. Perhaps he panicked and his mind went blank, but TC was next to him, reminding him of his places, intermingled with helpful phrases like 'hold up over the third'. This is far from ideal, of course, because it takes effort to interpret what someone is telling you, and somehow it always seems to be just too late. But the symptoms of being badly directed are jerky ringing, often making a fuss and expending a lot of effort. Such a path is shown in Figure 1 (a).



(a) Jerky following *(b) Drifting*

Figure 1: Symptoms of different problems

TL was not like this - his speed, and his position, changed very little. Whatever he was thinking, his bell was drifting, as shown in Figure 1 (b). He might have been counting places and he might have been looking at the right bells (or the wrong bells). But there seemed to be no realisation that he needed to change the movement of his bell, to make it ring in a different place. Even if TL was attempting to go through the mental processes of hunting in his head, his body was still ringing steadily 'straight and level' (to borrow a piece of flying jargon that *The Learning Curve* has used before) when he should have been climbing and diving to hunt up and down.

A small diversion

There is another interesting parallel between bellringing and aviation. To make an aeroplane fly safely, it must be stable. *The Learning Curve* has discussed stability before - it is about being able to settle down again after a small disturbance. If an aircraft is not stable, it can't recover from small gusts that deflect it, and increasingly violent movement eventually causes it to crash. In the very early days of flying, some aeroplane designers took stability too far. Their planes were very good for flying in straight lines, but rather sluggish to manoeuvre. Other plane designers realised that being able to manoeuvre was just as important for safety as stability, and their planes were designed to be manoeuvrable, which made them both more useful and safe.

Method ringing is all about manoeuvring. Speed and position change all the time. It's no good ringing in a straight line when everyone else is manoeuvring, as Figure 1 (b) illustrates.

How to help

Helping people to develop hunting was recently discussed by members of the Network for Ringing Training (NRT)* with several practical suggestions about speed. You can help your pupils both by explanation and by preparatory exercises.

Before starting, explain what happens on paper, including the way bells swap place with each other, and that individual bells work their way progressively between front and back. Explain that hunting up and down involves ringing more slowly and more quickly. Your pupil should be able to demonstrate on paper, why it is so, and which speeds occur where.

Theoretical understanding is only part of the problem. To relate that to what it looks like, have your pupil stand by you while you ring plain hunt, and say what is happening blow by blow. At first this will be too difficult, so you will need to prompt and ask questions.

Even then, for a physical skill like ringing, one also needs to know what it feels like. Trying to hunt with other bells, without prior experience of the major speed changes needed, is a very big step. Call changes provide inadequate preparation, because the changes are isolated and small. Continuous dodging helps - the changes are more drastic than hunting, and it involves changing at the backstroke as well as handstroke, but it does not emulate the sustained changes of speed needed for hunting.

One good way to introduce the hunting rhythm is for pupil and instructor to ring together on two tied bells. The instructor rings at the speed required to hunt up and down and the pupil matches this. Either or both of them count the places and say 'slow' or 'quick' where appropriate. It is not accurate of course, but it is a lot better than nothing. Learning to switch between fast and slow, is a huge boost before trying it with other ringers.

Next time you see someone struggling in the tower, try to see whether speed change (or lack of it) is the root cause. If it is, can you help?

Tail End

* If you are interested in training ringers, details of the Network for Ringing Training (NRT) are on the CC Education Committee website. Go to www.cccbr.org.uk and follow links to the Education Committee.

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