The Learning Curve

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Simulators

You often hear about simulators these days. What are they and why do we use them?

In the beginning

The late Peter Cummins* was the father of the modern simulator. Peter's machine was not the first to ring changes - Carter and Woodhouse came much earlier - but Peter's was the first that was designed for a ringer to ring with it, on the end of a rope (or holding a pair of handbells). It was not something to be listened to and marvelled at - it was a practical training aid.

Initial reaction was mixed. Many saw it as a gimmick, but far sighted trainers saw huge potential. *Tail End* first rang with a Cummins simulator in 1978 - Cambridge Major in the tower and Tenors in hand to Bob Royal.

The benefits

A single bell is but a part of the musical instrument used for changeringing. Once you can safely handle the bell, you must learn to fit your bell with the rhythm of the others. That requires other ringers, and to give you a high quality experience, everyone else must strike well. In many towers this is difficult, and in most it is not feasible to provide enough hours to meet the needs of a trainee ringer.

In contrast, a simulator can provide high grade practice for an unlimited time, much earlier than a learner would normally ring rounds. Instead of a whole band, all you need is an instructor and the simulator. The fact that the other bells strike perfectly simplifies the learner's task - there is a clear rhythm into which to fit, and any errors you hear are your own bell not any other.

When first ringing rounds, the absence of the other ropes and ringers is an added bonus. Describing something missing as a bonus might seem odd, but it is so for two reasons.

The most important is forcing you to ring rhythmically, to listen, and to use what you hear to correct any inaccuracies. This is the only way to strike properly, and removing the visual element when you first learn to do it, avoids the temptation to rely solely on the visual cues, rather than listening. Relying on the visual cue can also encourage sudden corrections, which undermine the steady style you need to ring rhythmically.

The second benefit is that ringing in a tower full of ringers and moving ropes is a more stressful experience. Ringing with a simulator means you don't have to face this until you can reasonably confidently ring rounds.

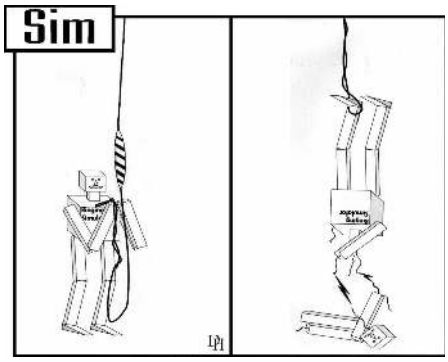
Simulators at different stages

A simulator can be used effectively at several stages of training. At the beginning, even if you must tie the clappers for solo bell handling practice, you can still provide a sound as part of the initial experience. That helps to to engrain the significance of the moment in the cycle when the bell strikes, not just when it comes off the balance. (You can provide the sound by using an untied bell if you have sound control, but most towers do not have sound control.)

As soon as the learner can handle the bell safely, the simulator provides a rhythm with which to ring rounds, as described above. Depending on the type of simulator that you use, there are several other exercises you can use as introductory steps. They are described in Phil Gay's book *Simulators and Teaching.*

When learning to hunt, the need to be able to change speed accurately as required, underlies the difficulty many people meet, but it gets lost amongst concerns about ropesight and knowing who to follow. Hunting with a simulator removes these other complications and forces a focus on speed change and how to achieve it.

Simulators can be used to practice advanced methods - they can ring more methods than most of us can. The absence of ropesight can be a problem as you do not have the cues that would normally enable you to correct the the odd hesitations or moments of confusion that we all have. (Of course if you know what you are doing, ropesight is unnecessary.) If you go badly wrong with a simulator, it is much harder to put yourself right. Of course when you can ring the method properly with the simulator then you really do know it, rather than getting by leaning on other ringers.



A ringing simulator?

Complementing the simulator

The simulator is an invaluable training tool, but like all valuable tools it has its limitations and should be used as part of a balanced training diet. Ringing with a simulator will not develop ropesight - the ability to extract useful information from the pattern of the other ropes. In the early stages, visual exercises, eg dodging over and under another bell, should complement ringing with the simulator. You should also practise ropesight while standing out, with no bell handling problems to distract attention. (This is more effective than slavishly following a single rope while trying to learn to hunt).

Covering is also excellent practice for developing ropesight, and anyone who has learnt to cover with a simulator will have no worries about any initial weakness in ropesight since it won't affect his or her own ringing.

What about the clapper

When ringing with a simulator, the clapper of the bells is tied to silence it. This has a small but often perceptible effect on the way the bell handles. When the clapper is free, it strikes the bell on the leading edge as the bell rises, so as the bell goes over the balance, it has the weight of the clapper to help it stay over, and to give it a slightly more positive feel as it is held or set. With the clapper tied (normally central in the bell) its weight does not go so far over, so the bell feels lighter, and is lighter set (ie the distance between balance and set is reduced). If the bell is light set already, this means it will require more delicate handling, but if it normally goes heavily over the balance, it could make it slightly easier to ring. It isn't better or worse, just different.

All singing, all dancing

As time went by, other simulators appeared. David Bagley introduced a cheap plug-in kit for a BBC B computer that made a simulator cheaper than a new rope. He also introduced the RingLeader, with a simpler control panel than Peter's machines, and with the option to fit sensors to more than one bell. This offered the flexibility to ring different bells with the simulator, and also introduced a completely new possibility. As well as ringing with the simulator it could be used to generate the sound when all the bells were rung as normal. In effect, it was electronic sound control that was cheaper to install than effective mechanical shutters. (It is less convenient to use though, since instead of pulling a few cords in the ringing chamber to make the bells silent or open outside, you have to climb among the bells to tie and untie the clappers every time.)

In due course, people came to expect this feature, and other software being used for simulators, for example the later versions of Chris Hughes' Abel, also have it as standard.

An unforeseen side effect of using simulators for such 'silent practice' is that people are forgetting the original purpose of the simulator. Indeed many people introduced to it in this way believe that is all a simulator is. The term 'simulator practice' is often used to mean an ordinary ringing practice with the sound is generated electronically. That is an almost irrelevant detail to the ringer on the end of the rope. So despite the number of simulators now installed in many towers, it seems likely that the number of occasions when trainees who benefit from ringing 'with' the simulator is still quite small. This is a pity - it ignores a valuable teaching asset that our forbears didn't have.

Nothing new under the sun

Many years ago, some enterprising young ringers (*Tail End* among them) improvised a set-up that provided an experience similar to ringing with a simulator. They lengthened one rope down into the church below, with a streamlined joint so the bell could be rung full circle.

One person rang down below, with 'go' 'bob' and 'stand' communicated by stamping on the floor. It worked! As well as the experience of ringing entirely by rhythm and listening, the rope control had to be immaculate, with knuckles close to the font, and a long rope containing two sallies, one prone to sit on the clock winding platform.

Do you use a simulator?

Have you ever rung with a simulator? If not, it is an experience you should seek out. Translated into your your ordinary ringing, the technique it develops gives added confidence. Do your learners have the benefit of ringing with a simulator? It could provide a valuable additional dimension to their teaching.

Tail End

* See RW 1997 p 467.

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