The Learning Curve

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Chiming

It is very tempting for full circle ringers to neglect the skill of chiming, and indeed it seems that it is neglected, since many people have difficulty doing it well. Compared with full circle ringing, chiming does seem very simple. You only have one stroke to contend with, and there is no catching and releasing of the sally or worries about badly behaved ropes.

That is all true, but chiming requires skills not normally needed for full circle ringing.

• Striking the bell requires a positive act - it doesn't just happen like it does when the bell is up. If the action is wrong, the bell can strike erratically or not at all, something one would never think of when ringing normally.

• Chiming can sometimes require substantial effort, with bells of any weight, or those with awkward clappering habits, even if they present no handling problems when up.

Why should the skills be neglected?

• Chiming is inherently safe, and so does not attract the safety related attention that bellhandling normally does.

• Chiming occupies a tiny fraction of total ringing time (and none in those towers that have not developed the skill of raising and lowering in peal).

Although chiming accounts for so little of the time we ring, that final minute or so is rather important - it is the last thing the audience hears. With many bands, there might have been a little unsteadiness during the lower, and the ability to settle into crisply chimed, confident rounds before the end makes all the difference to the overall effect.

Why the bell strikes

Let us start by understanding how chiming works. To make a bell strike, the clapper must hit the side of the bell. The ringer does not have direct control over the clapper, so it is all to do with the dynamic interaction between bell and clapper, which is different when chiming.

When the bell is up, each stroke starts with the clapper resting against the lip of the upturned bell. The bell accelerates downwards, with its trailing edge pushing the clapper. Then as it rises on the opposite side and slows down, the clapper, travelling faster than the bell, flies across to hit the opposite side. Then the process repeats the other way. The clapper has no escape, swung hard from side to side of the bell.

When the bell is down things are rather different. The clapper's natural tendency is to hang somewhere in the middle of the bell. As the bell swings, it moves the clapper suspension point, a bit below the bells pivot line, and gives the clapper a small push. So the clapper swings a bit, but it might not move in time with the bell, and there is no guarantee that it will hit it. Unless it hits the side of the bell, the clapper swings to and fro at its own speed, and could therefore be almost anywhere as shown in Figure 1. (This dithering when the bell is first raised can allow the clapper to start swinging the wrong way, so that the bell goes up wrong.)

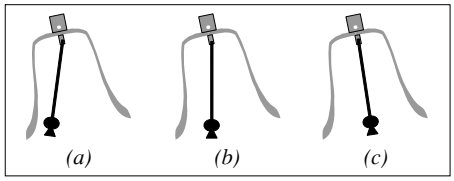

Figure 1: Uncertain position of clapper

When the bell hits the clapper, it interrupts its movement, forcing it away from the edge of the bell. At that instant, the clapper is synchronised to the bell's movement, but whether it remains so depends on what happens next.

If the bell hits the clapper hard, then it will swing briskly away and back again. This makes it easier to hit it with the bell on the following stroke. If the bell hits the clapper more gently, it swings away less vigorously, with more risk of returning to dithering, in which case it it might not be there ready to meet the bell for the following blow.

Striking on one side

While we are thinking about what happens aloft, have you ever wondered why the clapper only strikes on one side of a bell being chimed, whereas when ringing full circle the clapper strikes on both sides to give handstroke and backstroke? If you look at a bell and its clapper hanging mouth downwards, everything is symmetrical. Swinging the bell gently back and forth by hand probably won't make it strike at all, and if it does, it could strike on either side, and probably rather erratically.

What is not symmetrical is the rope (and ringer) attached to one side of the wheel. It is the ringer's action on the rope that biases things one way. If you were to watch a bell being chimed, you would see that it does not swing equally in either direction, but swings more away from the rope than towards it. One side of the bell (nearest the rope) comes down further to meet the clapper than does the other, and it is this side that strikes when the bell is being chimed properly, as shown in Figure 2.

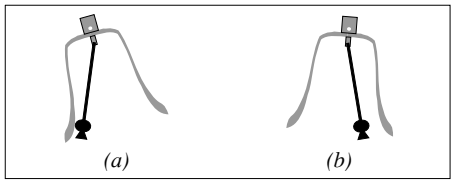

Figure 2: Asymmetric swing when chiming

Striking the bell

Now we know what the bell does, how does that relate to the ringer? The 'positive act' mentioned above must come from you, the ringer. Swinging the bell is not enough - you need to check it with a small jerk to make it strike the clapper. You might find it helpful to think of the clapper as a ball hanging on a string, and the side of the bell is a tennis racket. Your aim is to hit the ball every time, hard enough to ensure it comes back for you next time. As long as you can keep up this pattern, the clapper will swing in time with the bell, and will always be there when you want the bell to strike it.

If you let the pattern of movement break, then it is harder to reestablish. The longer the clapper swings freely, the less likely it is to be in the right place at the right time for the bell to hit it. The golden rule is not to miss any blows.

Controlling the speed

To fit in with everyone else when ringing rounds, you must be able to vary the speed slightly. That is as true of chiming as it is of full circle ringing, but how you do it feels rather different from ringing a bell that is up. The principle is similar - the bell takes a little longer if it swings a little higher, and vice versa.

Unfortunately letting the bell swing higher interferes with the checking action you need to keep the bell chiming. If the bell swings further away, then the clapper might not hit it. The solution is to pull extra hard on the previous blow to make the clapper swing further as well, then it will swing back to where the bell can still strike it, even though the bell is further away.

Making the bell swing not so high can be problematic too. You need to pull less hard on the previous stroke, but still check it enough to make the bell chime. You can combine this with 'stopping' the bell, ie checking it even earlier in the rise than you would normally (but don't stop it dead and kill the following blow).

Making big corrections is much harder than making small ones, so the golden rule, as with much else in ringing, is to make small corrections early, and avoid getting badly out.

The effect of size

Size affects chiming. The main difference is how far you can move the bell to impose the bias mentioned above. Continuing with the ball and racket analogy, it obviously helps if you can swing the racket a bit further if needed to meet any ball swinging short, but you can't swing a bell like a tennis racket. The bell's weight limits how far you can pull it from rest. With a light bell, you might be able to move it far enough to meet even a stationary clapper, but with a heavy bell you are more limited, as shown in Figure 3.

This has a big effect on how easily you can start the bell chiming, or restart chiming if you let it stop. It causes Tenor ringers problems at the start of a raise, and is why they try so hard not to lose the clapper at the end of the lower.

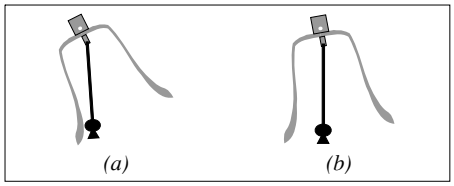

Figure 3: Smaller bells can be moved further

Bigger bells also swing more slowly (as they do when up) so the smaller bells have to swing a bit higher to compensate.

An interesting exercise

Here is something you might like to try, to show your prowess and impress your friends. Start a bell chiming. Then see how small you can make the rope movement while still keeping it chiming. Can you get it almost stationary, apart from the little twitch to make the bell chime? The secret is to keep some weight on the rope rather than letting it swing freely, ie to keep the bell biassed to one side. There is little margin for error, so you must be very even.

You won't be able to do this on every bell, but see how close you can get to the ideal and for how long you can sustain it. Remember, if you miss a blow, you start counting again.

Tail End

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