We gradually edge back to the standard monthly cycle. Of course, with a spate of frequent newsletters, there is less news to fill them, but Map of the Month will hopefully make up for that.

On the web
The Vienna Schematic Mapping Workshop continues its winding up process; there is an interview of me (in German) for Digital City Wien.

Date for your diary
The third Schematic Mapping Workshop will be held on 15th/16th April, 2021, at Universität Würzburg, Germany. We are currently working on the new workshop website. Once this is completed, the generic web address, www.schematicmapping.org will be redirected to the new pages, which will, in turn, link back to previous workshops. More details as they are finalised.

Map of the Month: Maps meet music
Readers will know about all sorts of applications of the transit map metaphor to other domains in order to visualise relationships. The reasoning behind these is that the positive aspects of the London Underground map bring clarity and insights (and popularity) to other topics. There are so many creations that I have a large chunk of lecture devoted to them. Indeed, I have worked with these myself, for example the Brexit maps in Newsletter 55. However, care is needed: often, applying the metaphor does not achieve any of the intended benefits, and sometimes it is inappropriately used.

Anyone who has tried to learn to play the recorder will know that its reputation as a children’s pretend-instrument is unjustified. Yes, it is easy to play a half-reasonable tune, but the more that is desired from it, the harder it gets. This is an instrument that faded into the background after the Baroque era of classical music, meaning that the newer developments such as extensive keywork passed it by. The fingering is a challenge and, at first sight, makes little sense.

Maps meet music. On a recorder, the musical notes and the fingers necessary to play them give a two-dimensional matrix and, in theory, this can translate into a transit map-style representation: one of the dimensions as the lines, the other as the stations. There is no a-priori basis to allocate the dimensions but intuitions can give some leads. Eight fingers = eight lines seemed a good starting point (28 notes-lines seemed too many). Each finger calls at certain notes, showing which holes must be closed to sound them. My first attempt in this way was a mess. No obvious structure, no assistance in making sense of fingering. At that point, this newsletter was all set to be about bad applications of the transit map metaphor.

My design philosophy is always to develop an idea exhaustively. We know so little about effective transit map design that very few concepts can be written off before they are fully explored. I decided to try the map the other way round, one line for each note. This time the notes call at different holes, showing which of these should be closed. The result now looked really messy, with a chaotic tapestry of lines calling at stations then twisting away again. Then it struck me: the map needed an extra step to get organised. Open holes were just as important as closed holes; the notes didn’t only call at stations where the fingers closed them, they also called at stations where the fingers left them open. I tried this with the first octave and now the lines suddenly organised themselves. With some careful bundling a rather lovely repeating pattern of two-up-and-one-down revealed itself.
So now, for the first time ever, recorder fingering makes sense to me. The basic recurring pattern is clear, and finally I understand the compromises necessary to make the instrument playable by human beings: an acoustically, aerodynamically perfect design created by a physicist would have something like fourteen holes and need ten fingers on the right hand to play! Where the pattern breaks down, this indicates the trade-offs that are needed to play notes in tune on a necessarily imperfect instrument.

I wasn’t expecting any extra insights when I mapped the full range of notes. High E-flat is an obvious bodge, and you can imagine Renaissance pipers struggling to find a combination of fingers that would play the note in tune. Even so, the take-home message from this exercise is that the decisions made by the designer are crucial for revealing (or failing to reveal) the patterns that aid understanding. There may be yet more insights waiting to be unearthed if the problem were to be tackled by someone else.

Playing a recorder is no easier than it was before; I still have to memorise notes on an individual basis, but now I understand why fingering is so disorganised, and also that there is hidden order behind the chaos.

Of course, there are many other woodwind instruments that might also benefit from a music map, but I will leave creating these for my readers. My target is the next newsletter dispatch is early-to mid August, and I am currently in a pastiche mood. To find out what is in store, subscribe to my newsletter at www.tubemapcentral.com.

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