

## Dulcimer Fast Track

### Case 1: Where Did the 6+ Fret Come From?

By Gwen Caeli

Once upon a time there was no 6 ½ fret. Then came Howie Mitchell, who said he did not know enough about the instrument when he built his first dulcimer right after college. In his extremely limited experience, he thought dulcimers were always tuned to DAD (1-5-8), as in the first one he tried. But, he could *not* get a major do-re-mi scale, as there was an annoying flat note in the mix. So, he set out to fix it, not realizing the tuning should be DAA (1-5-5) to play the major scale starting at fret three!

Born in 1932 and raised in Lexington, VA, Howie started learning guitar in the 1950's, and continued with it while studying electrical engineering at Cornell University in New York (he later found his true calling teaching experimental versions of algebra, trigonometry, physics and chemistry at The Hawthorne School in Washington D.C.). During his Cornell time, he attended a Pete Seeger folk concert and shortly after heard dulcimer recordings by Jean Ritchie and Andrew Rowan Sommers. Having not yet seen a dulcimer, he was hooked by its sound. Within days, he decided to build one. I had the pleasure of meeting Howie and spending festival 'down time' picking his brain when we worked at several dulcimer events in the late 1990's. He was gracious enough to continue correspondence to help me increase my dulcimer knowledge base. He sent me his story in 1999, along with educating me on musical temperament (coming up in Dulcimer Fast Track - Case 2):

"I began building plucked dulcimers in 1955, and at that time I knew little to nothing about not only musical temperament, but also the dulcimer instrument itself. I had heard recordings of the lap dulcimer, and had seen and played for a short time on two of them owned by a Dr. Asher Treat of Dumont, New Jersey. The plucked dulcimer as I knew it was basically simple in design and construction. It was set up with three strings and had frets placed under the two lightest strings. The frets looked like heavy staples, and they were spaced in an apparently erratic pattern consisting of some gaps larger than others, with the gaps becoming generally smaller as one's view moved from the tuning peg end to the tail block end. The instrument was tuned "do-sol-do" (DAD, 1-5-8) and it produced what sounded like a major scale with a slightly minor touch, due to generating a flatted seventh note. The scale worked well for the Old Joe Clark tune, which uses a flatted seventh note, but it was incomplete as an ordinary major scale. ***When I began building dulcimers, it was easy enough for me to add an extra fret***, enabling me to get a regular major scale containing the additional flatted seventh note. The extra fret made a visible difference, producing a cluster of four more-or-less evenly spaced frets near the middle of the string.

Had I been a bit more alert or knowledgeable at the time, and had I retuned the instrument to a more traditional "do-sol-sol" (DAA 1-5-5) relationship, I would have discovered that I already had the desired major scale just by using the existing frets in sequence! Since I had a good ear for relative pitches, I fretted my first few instruments by ear. I remember having to repeatedly play and adjust the instrument using temporary frets at first, as some intervals would sound better, while at the same time other intervals would sound worse. I

eventually had to reach a kind of compromise in which most intervals were O.K., but not really ideal. It was only later that I learned that it is mathematically and theoretically impossible to get all the musical intervals true." Which is the focus of the upcoming **Dulcimer Fast Track – Case 2, "Having Trouble Tuning?"**!

So, when Howie accidentally invented the 6 ½ fret, little did he realize at the time that he was changing the course of history for the traditional dulcimer. Chording possibilities were greatly expanded, as well as varying the modes and keys with the added benefit of a capo. So thanks, Howie!