

Bowed Instruments

The bow and arrow hanging on the wall had been quite forgotten in the interest of its various musical descendants until one day I took down the bow and handed it to a child who was playing the cocoanut banjo. Without my suggestion he drew it across a string, making a thin squeaky sound that interested him very much. I put rosin on the bow string, and the sound was clearer. Then I produced a real violin bow and the sound was much more pleasing. One difficulty, however, prevented its use on any string of the banjo except an outside one, for the child could not pull the bow across the middle string without striking all three. Accustomed to finding a way out of difficulties, he contrived a new bridge, one that was higher in the middle than at the sides. When the three strings were stretched over this he found that he could draw his bow over each of the strings separately. Thus, by merely changing the bridge, he had converted his cocoanut banjo into a *cocoanut fiddle*. Then he wanted to make a *horse hair bow*; so I procured a bunch of horse hairs from a bow maker and he fastened them to a curved stick, rosined them well, and his bow was ready. A loop

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at one end allowed him to relieve the tension on the stick when the bow was not in use.

The logical result of the discovery of the use of the bow on the cocoanut banjo was the desire to make an instrument especially for bowing. The children were content to have only one string at first until they learned to use the bow with good results, for by this time they knew how to manipulate one string to produce several tones. Following the natural development of musical instruments, this new instrument was destined to be a *Monochord*. We used a large, deep cigar box, and put a strong stick through it; cut *f* holes (like other bowed instruments we had seen) and stretched a violin D string over a high bridge. (See Figure 37.) In the last stages we were almost breathless with the impatience to see what the monochord's tone would be. Finally it was ready to speak for the first time, and we stood around it in ceremonious awe. Its maker (a little girl of eight), radiant with excitement, drew the bow slowly across the string. "Oh!" everyone cried at once. "How beautiful!" "What a lovely tone!" And there on the workbench lay that wonderful singing Thing, ready to give out its voice to any child who wished to draw the bow across it. No other instrument we had

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made had been quite the revelation that this one was. There seemed something quite human about it, and the children danced around it in ecstatic glee, taking turns at trying its tone. We found that the easiest way to play this instrument was to hold it firmly between the knees. This gave room for free arm movement.

Soon after this a little maid of six had an inspiration. She also would make a monochord, and would bring it to me as a surprise! So she set to work to find materials. Her little "Tilly Tinker" (toy) box seemed to have possibilities, but she had no cover for it. Never mind, she knew there were scraps of sheepskin left from the banjos, and surely there was a piece big enough to cover this small box. She took the dimensions and shyly asked me for a scrap the right size. Other difficulties were overcome; she asked for help in nailing the skin to the box, and finally it was finished and strung with scraps of violin strings tied together! She proudly presented it to me and was delighted when I gave her a string for it all in one piece. It had a funny little tone and she found much pleasure in trying to see how many different sounds she could get out of it. In experimenting with this, she discovered the use of the *movable bridge* and

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thereafter played her tunes on it by slipping the little bridge up and down to places she had marked on the neck of the instrument, while with the other hand she plucked the string over the parchment (see Figure 31).

Inspired also by Florence's monochord, Charles (age nine) would go even further and make an instrument with three strings to be played upon with the bow. He would make a *cigar-box cello* out of the biggest cigar box he could possibly find! The cello proved as satisfactory as the monochord, and its three strings made its possibilities greater. Many three-stringed cellos were made in the studio, of varying sizes and with great varieties of tone. The deep cedar-wood cigar boxes seemed to give the best tone.

The success of these cigar-box fiddles seemed to stimulate the children's ambition to make other kinds of bowed instruments. Elizabeth was the first to attempt a violin to be held at the shoulder. She found a small flat cigar box, and following, with my assistance, the same plan that was employed in making the cellos, she soon had a *cigar-box violin* which she could hold under her chin and play—real violin fashion! This instrument also had three strings. It seemed to me that four strings

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would make the playing a little too difficult for children until after they had acquired some experience in the use of an instrument with strings that were more easily separated than four strings could be. The holding of the instrument and the proper use of the bow seemed, to my mind, hard enough at first, without having undue complications in keeping the bow from striking more than one string at a time. However, since they had used the bow on the monochord and cello, its use in the violin position did not present any great difficulty, and three strings were easily managed. The cigar-box violin was tuned in fifths (as were the cellos). After Elizabeth had tried out her new violin and played a few melodies on it, she spontaneously hugged it to her, saying, "Oh, I just *love* this little fiddle!" The fiddle was truly hers, for she had made it. Of course she loved it.

This little violin served as a model for other children to follow. The musical possibilities of these instruments were patiently investigated by their makers, who found that very pleasing results could be obtained.

As soon as there were two instruments to be played with a bow, the children were eager to play them together, and by the end of the second year

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of the experiment, we had a delightful quartet of home-made stringed instruments. This quartet played folk songs in unison and in four parts; classic melodies, and original compositions.

After a few months' use of her cigar-box violin, Santa Claus brought Elizabeth a "real" one, and this marked an important point in her musical development. She now had a professionally made violin in her hands for the first time in her life, and yet it seemed almost a well known friend. She not only knew at once the reason for every part of its construction, but was able to appreciate all the advantages it had over her own crude instrument: its fine polish, slender neck, graceful curves, and especially the "scooped out" places at the sides where the bow could have freer play. The instrument fell naturally into place under her chin, and when she drew her bow across it for the first time, she was conscious of the richness and fullness of tone which she had not been able to produce before and she marveled at the violin maker's skill. She possessed the background of knowledge and experience which gave her the ability to appreciate at once its finer tone quality and greater musical possibilities, and to discriminate between its own good and bad tones. Although nothing but a "real"

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violin of good make will now meet her musical needs, she still holds an affectionate regard for the object of her own handiwork—her first little violin.

When the time came for Margaret to make a violin, she wished to try to make one more nearly like the new violin which she had heard Elizabeth play. She used thin boards of Spanish cedar wood, and made the box instead of using a cigar box, for she thought that a deeper box might have a fuller tone, so she made it just deep enough to fit under her chin without the use of a chin rest.

A peep into the “real” violin showed a sound post to intensify the sound. She decided to try a sound post also and see what happened. A little round post was glued to stand behind the bridge under the smallest string, and under the largest string, a small sounding board was glued to the box cover. The effect of these additions was very pronounced, and Margaret’s violin proved to be a definite step in advance of the simpler cigar-box fiddles. Its tone quality and power make this instrument worthy of a place beside many of professional make.

After all this experimenting and developing of stringed instruments, the children began to mani-

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fest a genuine curiosity about how the piano came to be. So I procured for them a *Dulcimer*, an instrument which represents a stage between the psaltery (which they knew) and the piano. The dulcimer is, like the psaltery, a set of strings of different lengths, stretched over a flat sounding box, but the wires are struck with a hammer, which makes it a more direct ancestor of the piano. The children were able to play their melodies on the dulcimer with ease after they learned the scale arrangement. They could easily realize that after people began using hammers on strings it was natural to expect them to develop a mechanical means of using the hammers and to improve the effect in various ways, the modern piano being the eventual result.

Although there are hundreds of other kinds of stringed instruments in the category of music's development, it seems to me that those described above cover the field sufficiently for the child. He passes from plucked strings without a resonating body to plucked strings with resonating bodies, of which the lyre and harp are conspicuous examples; thence, in one direction to strings played with a plectrum, and the honored representative