Modes, Ragas, Half-Holing, and Other Ideas for the Ancestral Puebloan (Anasazi) Flute

by Richard Ball

The resurgence of ancient flute replicas provides us with many questions, but also a lot of opportunity. In the past 20 years, one of the flutes that has made a comeback is the Ancestral Puebloan (Anasazi) flute, modeled on relics found in the Four Corners region dating back to the 600s (August, 2010). The Four Corners is an area of the United States consisting of the southwestern corner of Colorado, the northwestern corner of New Mexico, the northeastern corner of Arizona, and southeastern corner of Utah. Because we have no record of how these instruments were played, or the scales that were used, we are left with numerous questions. However, we also have an opportunity to view this flute as a "new" instrument, utilizing it to create our own traditions and sounds.

There are five different techniques that could have been used to play these ancient, end-blown flutes known as Anasazi flutes. The most commonly used technique today is the shakuhachi method of blowing across the blowing edge, while resting the lower part of the flute on the chin bone. Many modern Anasazi flute makers create a notch on the flute's rim in order to make this sound-producing method easier; although, I have been advised by various flute makers and scholars, who have seen the original instruments, that there is no notch on the rim of the ancient flutes like is found on the *utugachi* or blowing edge of the shakuhachi.

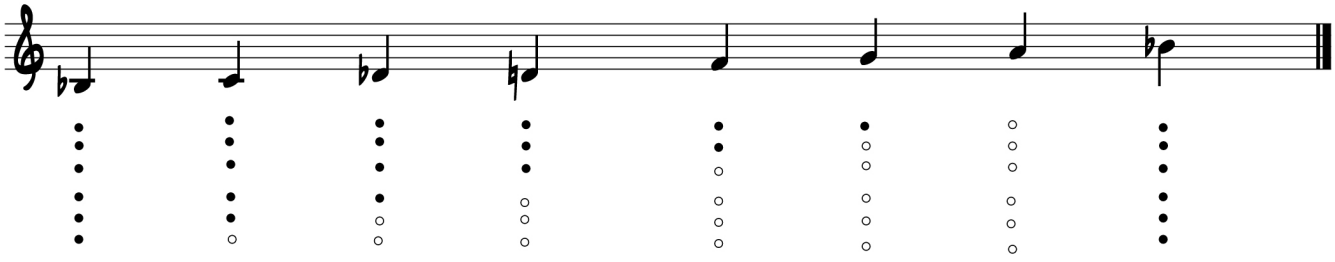
Another likely sound-producing possibility for the ancient Anasazi flute is the trumpet or *kaba* method. Kaba is a method used in Balkan kaval playing in which only the upper lip is vibrated, unlike the trumpet method where both lips are vibrated. In my experience, this does produce a pleasing, clarinet-like tone, but this method yields a very limited scale.

A third sound-producing possibility for the ancient Anasazi flute is the Persian ney technique, in which the flute is placed between the middle, upper teeth. Air, guided by the tongue, is reflected off the palette over the rim of the flute. There is some evidence of this playing technique, as Dr. Richard Payne has noted that Hopi flutes have been found to have "toothmarks on the embouchure of some of these instruments ... [indicating] using the 'nay' embouchure" (Payne, 1993). The relationship between the Hopi and the Ancestral Pueblo has been well-documented in that the tribal Hopi elders have indicated that they are the direct descendants of the Ancestral Puebloans, and one can think that this technique may have been handed down (Britannica, 2013). A similar sound-producing technique to that of the Persian ney is referred to as the *tsuur* or *khobrakh* technique, in which the rim of the flute is placed between the second and third teeth.

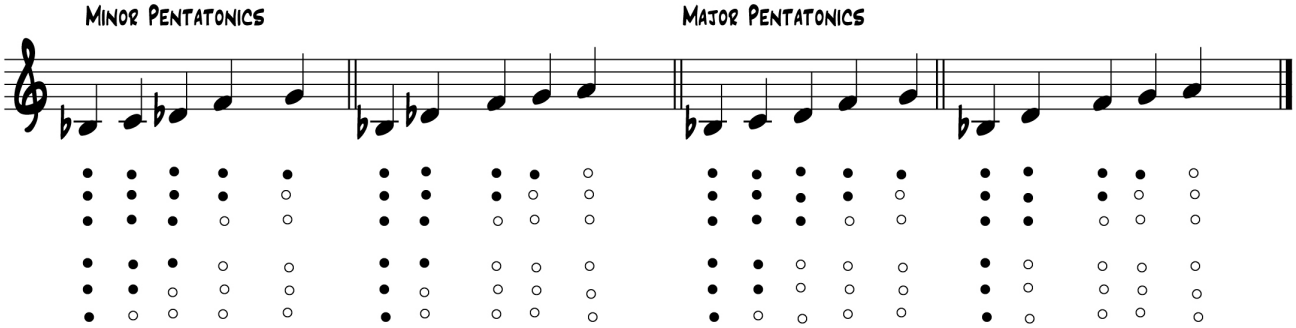
The final possible sound-producing technique for the ancient Anasazi flute is the Turkish ney or kaval technique, in which the lips are pursed and the stream of air is directed over the rim of the flute as it is held at an angle. I have successfully played the ancestral Puebloan (Anasazi) flute using all of the five above-listed techniques.

As far as the scales played on the Anasazi flute, there is a naturally occurring scale that lends itself to both major and minor scales. As Dr. Richard Payne points out, "these end-blown flutes tuned with six finger holes in groups of three exhibit an increased interval between tone-holes three and four allowing an approximate natural diatonic scale, thus clearly representing musical sophistication in aerophone construction" (Payne, 1993).

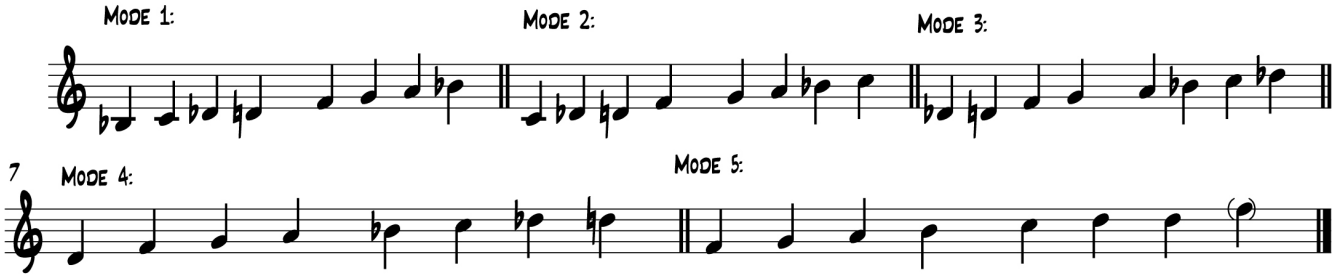
Below is the naturally-occurring scale of the Anasazi flute in *B*-flat. Flutes in *A* will be one half-step lower.



We can also look at this scale pentatonically, using the same, naturally-occurring scale but creating different interval structures within each grouping. This yields a different interval structure for each pentatonic scale. As a result, each pentatonic scale has a unique sound.



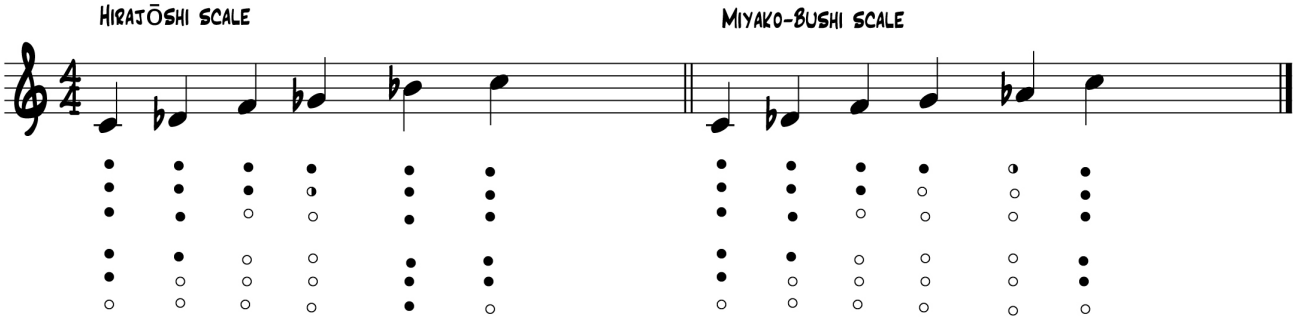
I have found that when playing with modes, it is important to use a drone or tone generator set to the *tonic* or first note of the scale that one is playing, in order to shift the ear's normal musical reference point. Our natural tendency is to aurally seek the scale fundamental or tonic, the note of resolution to the new tone. Here are the naturally-occurring modes of the ancient Anasazi flute:



Although these are the modes that may have been appealing to the ancient Puebloan people, I find that they are not pleasing scales to my ear. The natural inclination is to create pentatonic or five-note scales. It is interesting that, worldwide, pentatonic scales typically precede *heptatonic* scales or seven-tone scales. The variety of pentatonic scales has an almost universal appeal, and we find them in almost all the traditions of world music (Day-O'Connell, 2012). There are some very nice pentatonic scales that occur within the Anasazi flute's naturally-occurring scale. I challenge the reader to think modally, starting these scales on other pitches which will result in other pentatonic scale forms. Typically, I find the scales that I enjoy most on this instrument start on the pitch *C*, with all but the last finger down. Starting a scale on other pitches opens up almost endless scale possibilities on the Anasazi flute.

The Anasazi flute also easily allows one to use half-hole fingerings to create additional chromatic tones. Half-holing, as the name implies, is the act of gently rolling the finger slightly off of the lowest finger held down to let out an additional amount of air. This creates a note slightly sharper than the one played with the finger firmly down. Despite the technique's descriptive name, half-holing does not always mean uncovering exactly half of the hole. Sometimes, just the tiniest amount of rolling produces the desired pitch. In this case, it is good to practice with a chromatic tuner, as it can guide you to the desired pitch until you get a good feel for the technique.

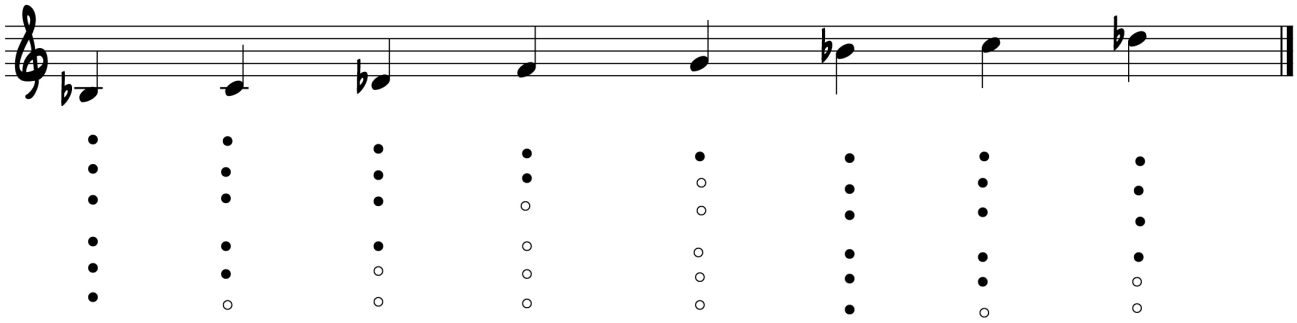
Using the half-hole technique, it is easy to play several Japanese scales on the Anasazi flute. Here are two of my favorite Japanese scales. Look carefully for the half-holes within the scale.



Ragas are the system of scales and modes in East Indian music, although many of my friends proficient in Indian music insist that ragas are neither scales nor modes; rather, they are *sets* of tones. Thousands of ragas exist that suggest moods. The raga system alludes to seasons, time of day, and other specific uses of these tone sets. For more information about ragas, I suggest the book *The Raga Guide* by Joep Bor. This book

contains several hundred of the most common ragas, information about their use, and includes several CDs with samples of the ragas played by amazing performers. There is an entire, well-developed science inherent in the raga system that takes years to master. Below is a raga to play on the Anasazi flute.

Raga Shiva Rangini



Since the Anasazi flute is an end-blown instrument, there are various techniques that players use to bend notes intended to extend the range of the flute. In shakuhachi playing, there is a technique called the "jaw drop" that players use to lower the pitch of the flute by up to a half-step. This technique works well on the Anasazi flute. To do the jaw drop, the player keeps the flute at the same level with the hands, but essentially looks down with the head, dropping the jaw while maintaining the same embouchure and connection with the flute. This can allow the lowest note of the instrument to move from a *B*-flat down to an *A*, thereby given another option for scalar and modal playing. This technique is illustrated as follows:

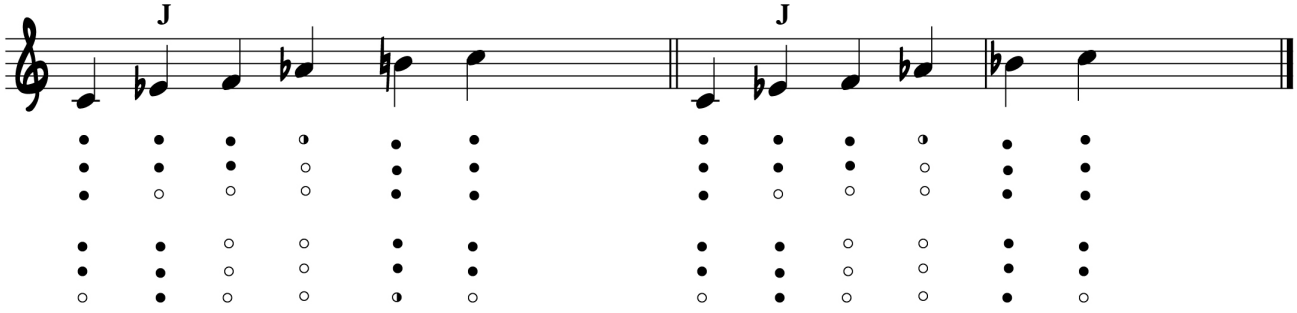
Natural Playing Position

Jaw Drop Position

The next two ragas are very similar, but the natural and flatted seventh scale degrees give each raga a unique character. You will have to use the jaw drop technique to get a good sounding *E*-flat in these scales. I have indicated the jaw drop to be used by putting a "J" above the note. When working with these techniques, I highly recommend using a chromatic tuner to make sure that you are sounding the correct pitch.

Raga Chandrakauns

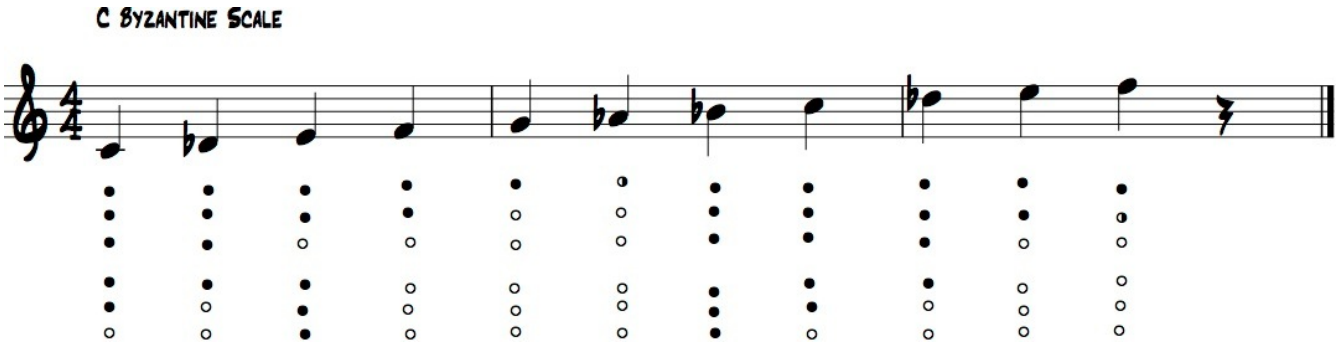
Raga Malkauns



There are no end to the number of scales and sounds that you can achieve from an Anasazi flute, given these techniques and a few creative cross-fingerings. A helpful hint about cross fingering: If you are unable to achieve the note you want by half-holing, then go to the tone above, leave the finger below that open, and put down one, two, or three fingers until you come up with the desired pitch. This is illustrated in the above raga example where the *E*-flat - with the jaw drop - employs this strategy. Remember, every time that you come up with a workable scale, you can use modal theory to start the scale on different notes for more unique aural patterns.

The fact that we have the Anasazi flute, but no real tradition to go by, opens up the doors to a vast opportunity for musical exploration. I have heard many people play this flute with the same scale as the Native American Plains flute, but why stop there? After playing the Anasazi flute, I have begun exploring playing half-holed notes and ragas on the Native American Plains flutes, as well. In music, as in all things, we are limited only by our imagination.

Below is my favorite Anasazi flute scale that I use when playing with my flamenco band. It is a modification of the Phrygian mode and it is called the Byzantine scale.



Certainly, this is just an introduction to the hundreds of scalar possibilities on this instrument. Combining the techniques and ideas described here, one can generate a multitude of sounds. The Anasazi flute is one of the most versatile instruments in my flute bag, and it is one that I am using more and more to play many different styles of music. I hope that employing these techniques for this flute will allow you the opportunity to be expressive in your own, unique way.

Happy fluting!

References

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