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resource

Ngā Taonga Pūoro

Treasured musical instruments have been revived in the last 30 years, and it is not hard to find proponents to talk with students about them. NZASE Science Communicator Mike Stone learnt more about these instruments at Mt Albert Grammar School from Mark Dashper, kaiwhakaruruhau at Tui Tuia Learning Circle. She also researched other experts to add to the picture of these treasures.

Atua

From the creation story, Ranginui is widely known as the sky father and Papatūānuku as earth mother. Rangi is also the Māori word for tunes, as melodies are thought to drift up to the realm of Ranginui, while the heartbeats of Papatūānuku provide the basis for musical rhythms. Māori musical instruments are regarded as gifts from the descendants of Rangi and Papa, especially Tāwhirimātea, Tangaroa, and Tāne.¹

Instruments of Tāne

Tāne and his daughters Hinepūtehue and Raukatauri govern instruments derived from forest and earth materials.²

The **kōauau** is a small cylinder, 10-20cm long, open at both ends, usually with three fingerholes along its length.¹ Its tone sounds like a flute and it is played by holding the pipe at an angle, and directing the breath across the sharp inner edge of the upper aperture.

Formerly made of dog or albatross bone, wood or stone,¹ today they can



Kōauau made of deer bone, top, and pōhutukawa. Otago Museum Education Collection.

also be made of bamboo or clay.³

Kōauau are used in entertainment, for healing and grieving, to ease pain and to connect with the spiritual world.¹ Te Arawa pūrākau tell of Tūtānekai playing his kōauau to entice Hine-moa to swim to him across Lake Rotorua.

The **nguru** is a flute with a tapering shape, and an up-turned end. These are five to 15cm long, with three fingerholes and can be made of wood, soapstone or whale tooth¹ and in clay.⁴ It is played like a kōauau, when blown over the widest end.³



Pūtōrino from the collection of Horomona Horo.

The **pūtōrino** is a long pipe (20-50cm), tapered at both ends, so has a bore that is thicker in the centre. It is made from a solid piece of wood, split in half lengthwise, hollowed out and bound together with gum and flax cord.¹ A large mouth-shaped māngai hole is bored in the centre.

This instrument can produce two different sounds. It can be played like a horn with closed, pursed, vibrating lips placed at the pipe's narrowest end – this gives a deep note. Blowing at an angle across the same end or blowing across the central hole produces more of a flute-like sound.¹

Hirini Melbourne has described the sound as a pining voice of grief.⁵ The pūtōrino is said to be shaped like a tūngou ngou, the chrysalis of a case moth. Pūrākau tell how Raukatauri, the atua of Māori flute music, changed herself into this shape.¹

The **pūkāea** is a wooden trumpet, up to 2.5m long.¹ It is made by splitting a length of mataī, hollowing out each half, then binding them together, often with the aerial roots of

Bone nguru. Photo by Richard Nunns.



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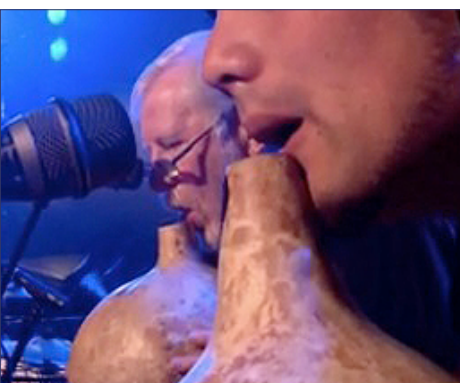
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Richard Nunns blowing a pūkāea.

the kiekie vine. The narrow end has a carved wooden mouthpiece and wooden flares are often attached to the wider end. The player blows into the mouthpiece with pursed, vibrating lips, the sound being amplified by the long pipe and wide opening.

In the past the pūkāea was used to welcome people, for significant events and during warfare.¹ Today it has multiple uses for important events, e.g., a welcome for international sports fixtures or opening rituals for ceremonial occasions.³



As Hinepūtehue sang to calm a quarrel, she became the goddess of **hue** (gourd) instruments.¹ The hue gourd is a marrow-like vegetable and had many uses.⁶ As an instrument it is dried out and has its top cut

Richard Nunns playing the hue with Green Fire Islands.

off. Large hue are blown over to make booming sounds; tiny ones are played with the nose; hue filled with seeds or pebbles become rhythmic shakers.¹

Instrument of Tangaroa

Pūtātara used in Matariki celebrations, Le Loi, Wikimedia Commons.

Shell instruments are used across the Pacific to herald significant events, as their loud, clear note can be heard over long distances.¹ Introduced triton or native conch shells¹ are rarely found in Aotearoa, only occasionally washing up on beaches in the far north.⁶ As



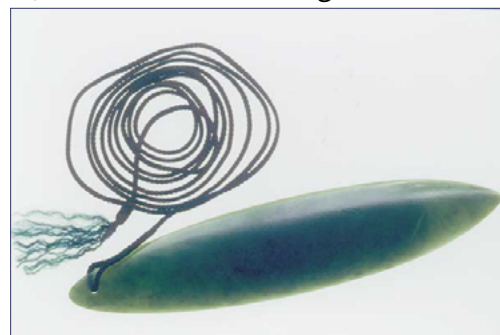
our climate is not tropical, conch shells are smaller, so a mouthpiece is used to extend the shape.⁷

A **pūtātara** is played like a trumpet by puck-

ering the lips (called embouchure). The sound of the pūtātara may be used to announce significant events, such as the beginning of a ceremony, the birth of a child or to the rise of Matariki in the dawn sky.¹ In the past the sound was also a call to arms. In pūrākau, two pūtātara were sounded to announce the successful return of the atua Tāne from the heavens with ngā kete mātauranga, the baskets of knowledge.⁶

Instruments of Tāwhirimātea

Pūrerehua, also called turorohu or bullroarer, are flat blades of bone, wood or stone swung in a circle on a long cord to produce a loud, deep whirling sound as the blade spins and flutters. It can be used to lure lizards, call tears and summon rain.¹



Porotiti are small discs spun on a threaded, looped cord, which create special rhythms as they wind and unwind.¹ Their vibrations are used as healing aids with arthritis, and to clear the sinuses of infants.¹ They are also used to calm children or clear the air after heated discussion.⁷



These two are classed as rhythm instruments of the family of Papa, as well as wind instruments of the family of Tāwhirimātea.

Instruments today

Many of these instruments were originally the

Pūrerehua, top, and porotiti, by Richard Nunns.



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preserve of tohunga and had a predominantly spiritual function, so they were regarded as tapu. Because of this, taonga pūoro are treated with great respect.

After Europeans settled in Aotearoa New Zealand and Christianity spread, many of the ceremonies at which taonga pūoro were played were discouraged.¹ The instruments became rare and the numbers of those who could play them dwindled. From the first wānanga in 1985, Hirini Melbourne led a revival of these instruments and their playing. This movement grew under the name Haumanu, which means both 'breath of birds' and 'revival'.¹

Today, taonga pūoro are used more frequently at Māori ceremonies and the purposes for their music have broadened. Their sounds are heard in orchestral and modern music, in film scores and music written by New Zealand composers.¹ Taonga pūoro have become re-established as a living treasure.

Activities and questions

- Try to make and play some instruments.
 - Kōauau blanks can be made from bamboo lengths, with hole spacing carefully marked. [Richard Nunns' 1997 article](#) in *School Journal*, Part 4, No. 2, shows how to use the distance between your finger joints to space the kōauau holes.
 - A porotiti can be made by taking a cardboard circle 5cm wide and piercing two holes about 1cm apart in the centre. Then thread one metre of string through the holes, tying the ends together to make a large loop. Hold the loop at each end, twirling the central disc so the string winds up, then pull your arms apart to hear it sing.
 - A [pūrerehua](#) (or bullroarer).
- Listen to some instruments being played, e.g. from [RadioNZ](#) or [Otago Museum](#), and try to imagine the natural sounds being imitated.
 - Explore the resource [Music to Māori ears](#).
 - Find an image of a case moth chrysalis. Compare its shape to a pūtōrino.
- Find and read the story of Hinemoa and Tūtānekai. What does it tell you about kōauau?
- Explain the physics involved when:
 - Playing the kōauau with all holes open, and then all holes blocked.
 - Twirling the porotiti or pūrerehua.



A Year 13 MAGS student playing a bamboo kōauau, with Mark Dashper looking on. Photo: Mike Stone.

C. Blowing over the hole of a hue gourd.

- Investigate variables which may affect the sound: for example, length/diameter of kōauau or position/size of its holes; length of string, length of disc/blade, or speed of movement of porotiti or pūrerehua.
- Listen to Māori experts. [Warren Warbrick](#) (Palmerston North) does face-to-face demonstrations and Jerome Kavanagh has [a series of online videos](#). There are also podcasts, e.g., from [Ruby Solly and Awhina Tamarapa](#), or about [Hirini Melbourne](#).
- Music students may find this [Voices of Tāwhirimātea resource](#) helpful.

References

- Brian Flintoff, 2014, [Melodic instruments](#), Te Ara.
- Howard Davis, 2018, [Taonga pūoro](#), Rob Thorne, and the NZSQ, Scoop.
- Mark Dashper's presentation at MAGS.
- Mark Dashper, 1996, [He nguru, he koauau: A user's guide to Māori flutes](#).
- Jerome Komene's thesis: J. Komene, 2009, [Kōauau auē, e auau tō au e! The kōauau in te Ao Māori](#), University of Waikato.
- Te Papa, [Taonga pūoro](#).
- [Jerome Kavanagh's videos](#).

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Ngā Kupu

Hīanga – Drop in pitch
Kai hi – Scale
Maui mua – Top note of kōauau
Maui roto – Middle note of kōauau
Maui taha – Bottom note of kōauau
Pū (~hia) – To blow gently
Tapu – Sacred, restricted
Wenewene – Fingerhole
Whakataanga – Breaths in a waiata.

Te Aka Dictionary and Paekupu



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