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NOTE: placement is the biggest concern of those involved with the standardisation of steelpan instruments. The pan tuner has always been a loner by nature, the rigours of the profession pre-determine the type of character needed to pursue this kind of activity. Styles thus developed in isolation, and only became popular if the band using it was very successful.

Even so, each band had its resident tuner, and when a band "borrowed" another's style of instrument, the tuner was sure to adapt it by changing the position of some of the notes. Thus not only defeated the purpose of the original design, but made the instrument unplayable by people who were accustomed to it.

Early tuning was done by a method of trial and error, and was influenced by the demands of the music to be played. The scientific approach to pan tuning did not take place until the 60s, and this was being done by three very advanced tuners, in isolation from each other.

Bertie Marshall, Anthony Williams and Ellie Mannette discovered the secrets of harmonics at about the same time through their own research, while developing techniques of tuning.

Whole Length

Harmonics deals more with Physics than music. A vibrating body does so as a unit through its whole length, or in aliquot parts ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and so on). In musical notes the vibration of the whole length gives the lowest (fundamental) tone, or "first harmonic." The other tones or "upper partials," that is, the second, third, fourth and higher harmonics are at fixed intervals above the fundamental, an octave above it, then a perfect fifth above that, and so on.

Every note of normal instruments consists not of a



ANTHONY WILLIAMS
—harmonics



ELLIE MANNETTE —research

pure note (like that of a tuning fork), but of a blend of the fundamental and certain upper partials, the precise blend differing between instruments.

In fact this difference in blend determines the difference between tone-colours of instruments, and makes a C on a piano sound different to the same pitch C on a violin, or second pan.

This information given, requires a knowledge of Physics. Yet these gifted pan tuners arrived at it on their own accord through trial and error.

Sound Sweeter

They more or less kept their findings to themselves, but the pan world soon began to notice that they were independently tuning instruments far superior to those of their peers.

The discovery that each musical note contained other notes within it, made

a major breakthrough in the development of the art of pan tuning.

The note middle C for example will contain G, its perfect fifth and its octave in the fourth space of the treble clef, as well as E among its upper partials.

The skillful tuner will include these as well as other partials in his note to make it sound sweeter than that of another less advanced tuner.

It is no coincidence that most of the styles of pan in common usage today were originally designed by either Anthony Wil-

liams, Bertie Marshall or Ellie Mannette, and herein lies the basis of all attempts at standardisation of the instruments of the steelband.

Styles have almost standardised themselves on the basis of popular usage. The problem lies in hybrids which have different and sometimes illogical and erratic placement of notes.

Most of the lead pans or "tenors" in any given band are based on the the Tony Williams "fourths and fifths" design, yet differences of note placement present difficulty in playing individual pans. Double Tenors are predominantly the design of Bertie Marshall, while Second pans are of Ellie Mannette's design universally.

For practical purposes front line pans have standardised themselves, and maybe in five years time a common standard of note placement will evolve.

The question is should we wait for that to happen or try to force the pace by insisting on enforcing a definite pattern.

Pantrnago has been concerned about the problem of standardisation for years now, and we more than anybody else realise that this could only be resolved through the direct co-operation of the pan-tuners themselves. The first pan tuners convention took place at the Murcupo Senior Secondary School on August 16, 1981.

Green Light

Most of the top tuners and arrangers were invited. I was asked to prepare a document on existing styles of steelband instruments in popular usage. I was surprised to discover that standardisation was almost a reality, and that it only needed a consensus on certain instruments to set it in place.

The three frontline instruments were given the green light with the concession that the Ellie Mannette second pan be allowed to continue in usage as an alternative to the Bertie Marshall Style.

This was because many

bands found it convenient to do so by just tuning the second a few notes higher, which did not pose any problems for players already accustomed to playing that style.

The criteria used for selection of styles were:

(1) A musically logical sequence of notes, that is, it must be easy to play and make sense.
(2) Popularity of the styling, and its acceptance by the general steelband body of tuners, arrangers and pan players. The three styles agreed to all met the qualifications, and we can safely say that they are standardised.

The problem of differences in note placement and range should soon be ironed out.

Bertie Marshall's Quadrophonic is a fairly new invention already in popular usage. Guitar pans of-

fer a challenge as there are quite a few different styles.

The triple cello, a design of Ellie Mannette, is tuned in diminished chords which lend themselves to the three pan set up, as there are basically three diminished chords in music.

The Anthony Williams design of four cello in fourths and fifths is one of the leading contenders for standardisation while the tenor bass or four set high bass, tuned in an augmented pattern, is almost universally used. Most bass drums are tuned in fifths, the problems arise with range and setting up the instrument.

Standardisation is almost a reality. Perhaps we need to draw lines at this stage instead of waiting for it to sort itself out.

In my next article which will be the final on this topic of standardisation I will present diagrams of

the leading candidates for standardisation and discuss their virtues and shortcomings.