

Addressing the problem of metals

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trinbago.

ON August 25 I had reached the point of discussing the standardisation of note placement and metals.

The steelband was born out of a need of the people to express themselves musically. Because conventional instruments were not readily available, they had to improvise, using whatever material that could be easily obtained.

The 45 gallon drum seemed to be put in place by providence for the birth of the steelband. Wartime activity, and the presence of the US Armed Forces in the colony, provided the initial supply, which was to remain with the development of the petroleum industry.

Thus by an act of destiny the instruments of the steelband were pre-determined to a particular shape, size and metallic quality.

Experiments with shapes have been going on, and engineer Jomo Wathuse has been successful with designing oblong and elliptical shapes.

Fifths Tenor

Some people, in an effort to create an instrument that is easier to play by orthodox standards, have been trying to design the notes to follow the sequence of the keyboard, where each tone is followed or preceded by the one next in pitch to it in the western chromatic scale.

The problem with this pattern lies in the tuning, as it is almost impossible to block the notes from

running into each other on the metal surface. Notes a major second apart or less produce bad harmonics and tuners have learnt to stay away from this problem.

The circular shape of the instrument has lent itself to styles being evolved which are suitable to this particular shape. There is a musical phenomenon called the circle of fifths and this has been utilised by the genius of Anthony Williams to design the most acceptable style of pan to date, the fourths and fifths tenor.

I believe that the pan has evolved sufficiently to prevent much experimentation with its present circular shape. Size is a completely different bag.

Anthony Williams was the first to recognise the limitations of the 45 gallon oil drum in making proper

instruments. He designed a mould to make a larger instrument with sheet metal of a specific grade. He was able to tune a lead pan from the note A, last line of the bass clef, which is the range that most mallet instruments fall into.

The demise of the great Pan Am North Stars and Tony's own ill-health prevented further experiments in this field, but panmen have always been yearning for more notes, especially on solo instruments.

Larger drums are available in Europe and the US where they are specifically produced for storing nuclear and industrial waste. It is ironic that the foreign based tuners have been obtaining these and continuing the work

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Experiments with pan shapes

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stopped by Anthony Williams over 20 years ago. To obtain a jumbo tenor we have to check the foreign based tuners.

Sound Spectra

The problem of metals is one that is being addressed continually. Some work has been done at Cariri by Denis Paty and Richard McDavid, but we lack facilities. Thomas Rossing, head of the Physics Department of the University of Northern Illinois has done extensive research on the metallurgy of the steeldrum, and has presented papers to the Acoustical Society of America on his findings in the area of harmonics, sound spectra, and so on.

This research is available to us, but until we establish a proper research centre capable of dealing with this type of experimentation, it will just be wasted. The metal used

for our drums is commercial steel provided for containers, and does not conform to rigid standards.

Steelbands often endure unnecessary expense after tuning instruments, only to discover that they cannot be used because of inferior quality steel which does not produce a clear metallic sound.

Van Leer Containers have made their position quite clear that they are only willing to provide the two sided drum for the purpose of tuning, the quality of the metal is not their business. The Trinidad and Tobago Bureau of Standards has taken up the gauntlet by convening an Ad Hoc Specifications Committee on Steelpan.

We meet every six weeks to discuss and implement standards on all aspects of the steelband. The committee has representation from among the pantuners, Van Leer and Metal Industries, Cariri and other interest groups.

The first project in-

volves a glossary of terms in common usage, in other words 'documentation' of the lingo or jargon of the steelband world. This committee would have its limitations, but is a progressive step towards complete standardisation.

The area of metallurgy is still relatively virgin territory for steelband research.

Best Metal

We have no evidence that steel is the best metal for tuning of the instruments, and then we have to become involved with the different specifications.

Metals behave differently under varying conditions. This is the area that research is most desired in.

I have run out of space without even touching the most important area of standardisation, note placement. This will have to be dealt with in the next article.