Figure 1 John Kenny playing the Carnyx.
© *National Museums of Scotland.*

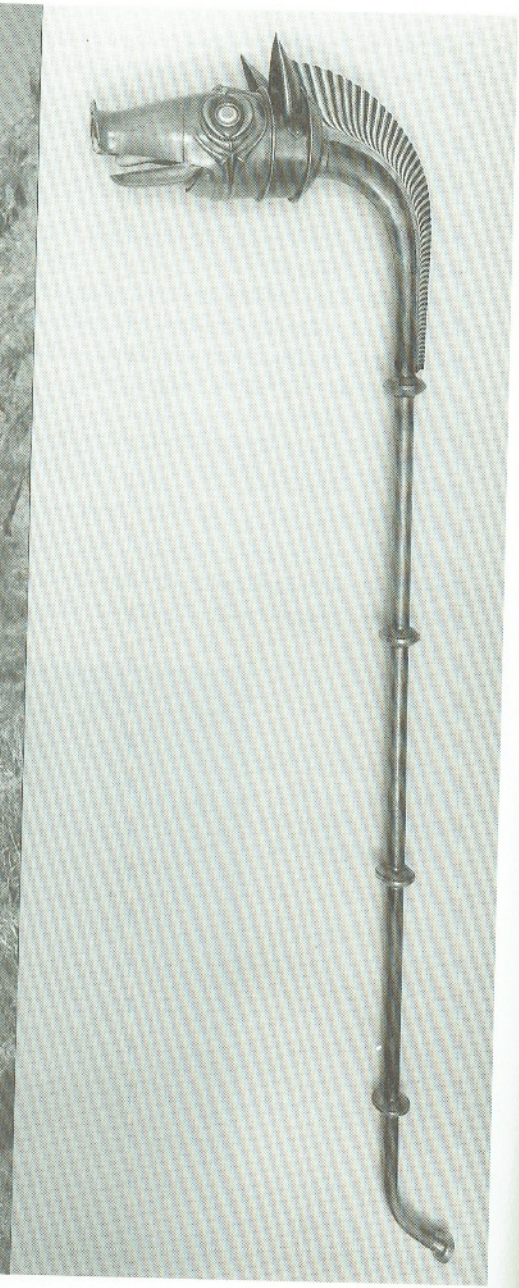

Figure 2 Replica of the Deskford Carnyx.
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HOMECOMING OF THE DESKFORD CARNYX
After 2000 Years of Silence

John Purser

Now and again the good dreams come true. A magnificent building like Chatelherault is restored; a long lost manuscript is rediscovered; a salmon spawns in a river cleansed of its infertility; a remote community survives, knowing its own true nature and being true to the best of it.

Perhaps the reconstruction of the carnyx does not have such a claim on our delight, but it does allow us to hear the sounds of two thousand years ago, and it was one of my best dreams and it has come true, and already it has proved itself to be a vital and fascinating link with our past, for all sorts of different people. The archaeologists became skittish, craftsmen rubbed their pates with hands expressive of wonderment at the beauty of its manufacture, acousticians sucked meditatively on their lower lips, metallurgists got lost in the mines of their enquiries, players of brass instruments wounded their embouchures to make it speak, musicologists gurgled insanely in the corners of their studies, and the ethnologists woke up to the presence of a matter of import on their own doorstep rather than in the depths of Amazonia; and children in schools, as children do, took to its re-emergence with the natural acceptance of, and rather less caution than birds at a feeding table.

The reconstruction was made possible by a Glenfiddich Living Scotland Award (on which account we should regularly toast the directors' healths in their own product), the balance being provided by the National Museums of Scotland for whom the replica was destined. Their co-operation in the scheme was not only essential, but was given unstintingly (especially from Fraser Hunter and Mike Spearman) so that the whole process was a pleasure from start to finish, not least for the superb craftsman, John Creed, who made it; the brilliant musician, John Kenny, who first played it; and myself as consultant musicologist.

The Carnyx was a Celtic trumpet/horn type of instrument made of beaten bronze (as well as brass in the Scottish example) and known probably throughout Europe and wherever else the Celtic tribes went into battle. Fragments of carnyxes survived in what are now Germany, France, Scotland, and England in which latter country the artefact they discovered in Tattershall, Lincolnshire, was examined in the 18th century and then melted down in order to determine its composition, no English jokes please.

The most substantial surviving fragment is the *bell* end, in the form of a boar's head, which was discovered at Deskford in Scotland, and now housed in the Royal Museum, Edinburgh. It provides the only evidence that the instrument once possessed a hinged wooden tongue, though it did not survive its excavation and no trace of it now remains. Here is the report of its finding in The New Statistical Account, Volume 13, 1845:

> There was found, about twenty years ago, on the confines of a farm called Leichestown, the resemblance of a swine's head in brass, of the ordinary size, with a wooden tongue moveable by springs. It had also eyes, and the resemblance in every respect was wonderfully exact.

ITS FORM DEDUCED

It was Professor Piggott who was the first to demonstrate that this object was part of a carnyx, suggesting how the original would have been attached to the missing tubing and placing it in the context of other finds. Deducing the rest of the instrument, at least in broad outline, was therefore not too difficult.

In particular there are three carnyx players depicted in magnificent repoussé work on the famous Gundestrup Bowl (circa 200BC), found in Denmark, but thought to have originated in the Danube basin. Although the scale of the instruments and the humans cannot be taken too literally on such small and fine work, it is clear that the carnyx was nearly as long as a man is tall and was held vertically with the zoomorphic head facing forward. The joints in the main tubing are clear, and these involved reinforcing elements which were also decorative and could serve to assist the player in raising and holding the instrument, much easier than is usually imagined, the instrument being nicely balanced almost directly above an erect person's centre of gravity. In this position it can not only be held and played with one hand, but it is possible to do so while marching forward, which allows for hands to be swapped when the blood drains too much out of the one in use. That there were carnyxes of various length is clear from a number of depictions of it on coins, Roman, French and British, in which the zoomorphic element is frequently prominent, with raised crest, pricked ears and gaping jaws.

Figure 3 The Gundestrup Bowl showing contemporary images of the Carnyx in use.
By kind permission of the Danish National Museum.

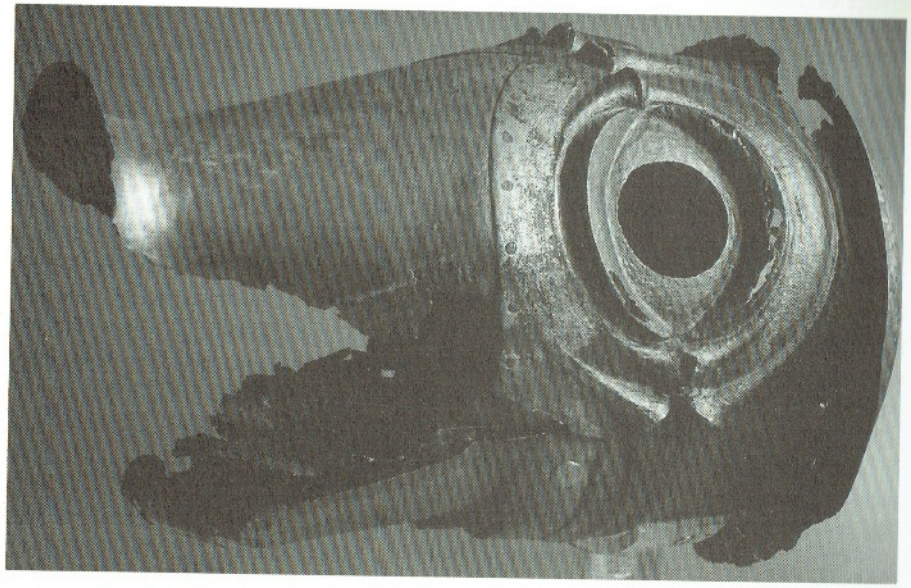


Figure 4 The original relic excavated at Deskford 200 years ago.
© National Museums of Scotland.

The carnyx was contemporary with the Roman invasions and was also known to the Romans, but it was not a Roman instrument. In fact it terrified them, according to Polybius, when describing the battle of Telamon in the second century BC:

> The Romans were terrified by the fine order of the Celtic army and the dreadful din, for there were innumerable trumpeters and horn blowers, and, as the whole army were shouting their war-cries at the same time, there was such a tumult of sound that it seemed that not only the trumpets and the soldiers but all the country around had got a voice and caught up the cry.

There is no question that the instrument was used in battle. On the coins it is shown in the hands of mounted warriors at full gallop (arguing for great integral strength in the design of the instrument), in association with shields and Gaulish warriors. That the Deskford carnyx was used in similar situations by the proto-Picts is made likely by the interesting discovery by the Museum that, on analysing the metal, brass had been used as well as bronze. Brass was a Roman metal. The proto-Picts, though sophisticated metallurgists, had yet to produce it and must have imported or stolen the material from the Roman invaders, melted it down and incorporated it in their own design, using its colour contrast with the bronze to heighten the effect of the head. Fraser Hunter has observed that this gives a date for the construction of the Deskford Carnyx between the 2nd and 4th centuries AD, and this fits in with the decorative and design style which is typical of North-East Scotland of the period. He has suggested that the development of local design types, especially using a Roman metal, can be seen as 'a way of displaying and enforcing an independent identity in the face of the Roman threat.' (National Museum of Scotland exhibition, 1993).

The carnyx is capable of producing a sound of immense power. It can be as loud as a modern trombone, the most powerful instrument in the symphony orchestra. What is more, the manner in which it is held means that the sound travels unimpeded from the instrument well over the heads of the surrounding armies and could have been used to terrify the opposition, encourage the lads, or to convey signals. Indeed, we could imagine a sneaky proto-Pict making his way at night to the bottom of the Antonine wall, raising the head of the carnyx over the wooden pallisade which surmounted it, and scaring the Roman sentries into rapid involuntary bowel evacuation with a few fearsome blasts, before disappearing into the mists. In my more fanciful moments I like to think of the carnyx as the weapon which turned the tide against the Roman empire, the proto-Picts being the most expert musicians compared with the Celts in the rest of Europe, but this opinion is sadly open to the suggestion of bias and downright chauvinism, so we had better let it pass.

Of course aggression and defiance need not have been the carnyx's only function. It is capable of producing sounds of warmth and beauty, even delicacy. The Gundestrup bowl shows it in a quite different context from that of war, even though it is being played at the rear of a procession of warriors bearing shields and supporting a tree (the tree of the clan?) on their spears. At the left hand end of this procession, a figure so much larger than the others as to suggest very much greater power, heroic or even god-like status, is either lowering into or withdrawing a person from a cauldron type of vessel. This has been interpreted as a sacrifice, but could just as well be a ceremony of healing or rebirth, or even the boiling away of the flesh from a body to leave only the bones for burial. The most likely seems to be healing or rebirth as the top half of the scene shows mounted warriors proceeding in the opposite direction from those with the tree. The horse was regularly used to symbolise transition to the other world, but could also be a simple device to illustrate the increased power of the warriors after being immersed in whatever was in the vessel.

We know from the *Tain Bo Fraoch* (a Celtic tale popular in Ireland and Scotland, appearing in early mediaeval manuscripts and quite possibly contemporary with the heyday of the carnyx) that horns, of a type unspecified, were used to accompany a healing ceremony. In this ceremony Fraoch, suffering from multiple abrasions, contusions and cuts after being mauled by a water monster, was immersed in a bath of pork and calf's flesh. If these animals were recently slaughtered and cut up, the traumatised flesh would have produced high quantities of clotting factor which could have assisted recovery, albeit marginally and at a price which would not have been readily met by the then NHS. However, Fraoch was a hero and was no doubt on an expensive private medical insurance scheme which will also have covered the nine horn players who played so beautifully that thirty of King Aillil's warriors died of rapture. A price of a calf, a pig and thirty warriors to one hero, is indeed expensive medicine, unless it was simply that the thirty warriors swooned away. It is possible that the warriors on the Gundestrup Bowl are singing, their mouths being quite distinct from the narrow slits shown for the carnyx players. This being the case, they may well have been using techniques, still practised in the Middle East, which involve hyper-ventilating in order to induce a trance-like state which can lead to swooning.

It is also very unlikely that an instrument such as the carnyx, of highly developed design and sophisticated beauty and imagery would have been used in one context only. Of course the imagery of the wild boar bears upon the qualities of ferocity, courageousness and cunning. Pigs are intelligent, and the wild ones particularly so, and very fast. But they were an important part of diet (vide Obelix) and, according to many Celtic tales from Ireland and Scotland, were regularly herded if not partially domesticated. Some had magical properties, notably the wild boar whose poisonous bristles caused the death of Diarmuid, again a tale common to Ireland and Scotland.

Magnificent images of boars feature prominently in Pictish and Celtic artwork.

John MacQueen has convincingly argued that the wild boar could be understood to act as an intermediary between this world and the next, citing examples from Welsh mythology as well as from Jocelin's *Life of St Kentigern*. This would allow for the use of the carnyx at other ceremonies such as funerals and initiations, possibly even at births. Interestingly, the people of the Orkneys take their name from that of the pig, the *Arcaibh* or pig people, it being their totemic creature and traditionally featuring in their dreams, an association which would give extra force to an artefact from North-Eastern Scotland, assuming association between the two peoples of those parts.

THE SPECIAL QUALITIES OF THE DESKFORD CARNYX

The first and most striking thing about the Deskford Carnyx is the wonderful sense of animal life which it conveys. This is true of the original artefact, though it is missing its tongue, its ears, its bristling mane, and has only holes for its eyes.

But the hinged jaw is a unique feature, the only other surviving carnyx head from Mandeure (Musee du chateau des Ducs de Wurtemberg), having the jaw fixed open, and being zoomorphologically unclear.

When it comes to the reconstruction, the effect is almost of a living thing. We know from the original that not only was the jaw hinged, but there was a free-moving tongue operated by springs. In the reconstruction, it takes scarcely any movement of the instrument to set the tongue and jaw in motion. The instrument seems to breathe and speak, and in less solemn moments it looks as though it desperately wants a drink. The original palate survives, and this is ridged (as are our own palates) to reflect the dramatically deep ridging in the palates of pigs. The eye sockets were clearly designed to hold enamel eyes and, a pig's eye being red in appearance and red enamel being in common use at the time, we are able to recreate the eyes with a fair degree of accuracy.

The exquisite and technically brilliantly executed repoussé work around the eyes and jaw are not only of beautiful flowing shape, but reflect the natural lines of the bristles of the wild boar around the eyes and fold of flesh under the chin. Given this truth to life, albeit refined and abstracted with stunning artistic confidence, the reconstruction of the ears and bristling mane which the wild boar raises when angry, could be undertaken in the same spirit. So John Creed who has met these challenges with great skill and sensitivity, wended forth to an estate in the wilds of the Trossachs to meet up with some wild boar, and produced a final object which has its own character and integrity while being a natural growth from and extension of the original.

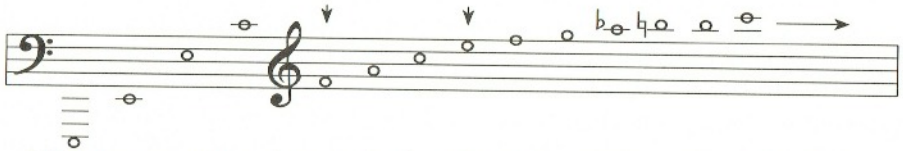
WHAT CAN BE PLAYED ON IT?

People always ask me how we can possibly know what music was played on the carnyx. The answer is that the instrument itself can teach us. Clearly there must be an element of speculation, but only a limited number of notes is available and how they are used is more a factor of the skill of the individual player than a question of picking a tune out of it. It is reasonable to assume that such valuable instruments were not played by amateurs. Whoever had the right to perform on them, especially given their role in military and ceremonial and other functions, must have been good enough to add something to the occasion rather than detract from it. Almost certainly these players will have been basically full-time professionals although, as with pipers and drummers today, they will have carried out other functions compatible with their speciality as musicians. If this is accepted, then it is reasonable to explore a wide variety of techniques on the assumption that the musicians of the past will have done so. It may well be that there were different styles, even schools of carnyx playing throughout Europe, just as there are among, say, horn players today.

That the instruments were played in consort is known to us from the Gundestrup Bowl where there are three playing simultaneously. That there may have been comings and goings between musicians from different tribes, even races, is as reasonable as it is today. That there may even have been a standard pitch to which instruments over a wide area were tuned is made at least worthy of consideration by the fact that the 8th century BC bronze age horns of Ireland were all tuned to a standard pitch, although recovered from widely different areas of the island. That techniques such as circular breathing may have been used is made possible by the knowledge that the end-blown bronze age horns cannot be successfully played without the technique. Whether that technique was remembered through the centuries is another matter, but the possibility should not be discounted, especially since we know the technique must have been used by Pictish triple pipe players in the ninth and tenth centuries.

A critical problem had to be faced with respect to the actual form of the tube and, in particular, the mouthpiece. The decision with the present replica was to make the lengths of tube cylindrical, but each one slightly wider than the last, thus creating a slight degree of expansion which, over the five foot length decided upon, married up nicely with the head at one end and the natural size the tube needed to be to accommodate a mouthpiece at the narrow end. This seemed to fit in with the appearance of the instruments on the Gundestrup bowl as well as with the 18th century illustration of the melted-down Tattershall carnyx. The resultant note spectrum comes sufficiently close to the natural harmonic series produced by most instruments, to suggest that any future reconstruction should actually aim to produce the series.

As presently constructed, the carnyx produces the following notes:



Of course we cannot be certain that the harmonic series was intended. It is fairly readily produced from the Scandinavian lurs, but the earlier bronze age horns do not approximate to it. Nor does the Caprington horn, a cast bronze conical instrument from Ayrshire which, despite possible shortening when repaired at some unknown date, is still eminently playable. It is probably contemporary with the Deskford carnyx, and has an integrally cast mouthpiece of cup form with sharp rim and narrow hole leading into the main tube.

On any lip reed instrument the mouthpiece is crucial because, as the classification indicates, it is human lips which activate the air column to produce the sound, rather than a piece or pieces of reed. The shape of the mouthpiece affects the shape of the lips, the embouchure, as well as the way in which the vibrations are transmitted into the main tube, so that although the acoustic properties of the main tube remain in theory unchanged unless it is altered in design, a change of mouthpiece can change the apparent acoustical properties simply because it can permit or deny certain possibilities to the lips.

No carnyx mouthpiece survives. It may be that, as with the bulk of the bronze age horns, they were ritually destroyed when deposited, so that they could never be played by the profane. However, we know from surviving mouthpieces on Scandinavian lurs (late bronze age) as well as Roman lituus and other mouthpieces, that a wide variety had at one time or another been in use in Europe. In the event, the decision was to make several types of mouthpiece and select the one which seemed to work best with the instrument and the player, a practice which is normal among today's musicians and which allows us to explore the potential of the instrument more thoroughly than would a cut-and-dried decision.

When it comes to an assessment of the quality of the sound, it has to be borne in mind that the carnyx was made of beaten bronze, whereas with the exception of the Irish Loughnashade Trumpet, and a similar instrument found in Nice (neither of which can be played or has been reconstructed), all the surviving bronze and brass instruments of this period are cast. Despite great refinement in the casting techniques, such instruments cannot possibly be made as thin as beaten metal, which naturally vibrates more freely if properly designed and executed, the metal being no thicker than 0.7 of a millimetre, the general average being half a millimetre. The power of the carnyx is certainly partly a consequence of this lightness, which also makes holding it vertically much easier. The relative ease with which it can be set in

vibration also allows for the production of a rich warm and gentle sound which can be sustained without much difficulty.

John Kenny, an outstanding trombone player, as well as performer on a wide variety of esoteric wind instruments ranging from didgeridoo to alp horn, was an ideal person to try out the instrument. He was vastly impressed with its musical potential, and we all believe that further reconstructions could be made to produce even better results with more, rather than less truth to the assumed originals. We very much hope that funding will be found to commission more reconstructions, not only in order to refine the instrument, but also to enable us to hear it played in consort.

ITS IMPORTANCE TODAY

The above descriptions of the carnyx should already have made it clear that it has relevance to a wide variety of disciplines. Archaeology, music, metallurgy, jewellery, bronze smithing, acoustics, ethnology, European military history, Roman history, religion, medicine and, of course, local history. John Kenny and I were invited by the Rector of Milne's High School in Fochabers, near Deskford, to demonstrate the instrument, both in the school and at the site where it was found. We also took part in a play based upon its use against the Romans. Dressed respectively and scantily in sacks as Asterix and Obelix (we declined the role of Cacofonix) we had the greatest of fun, and so did the children. Their interest and enthusiasm was the reward we had most sought for our efforts in bringing the carnyx to life. The rector, Mr Matheson, thoughtfully sent us copies of letters he had from primary school children who had been bussed in to share in the carnyx mania of the day. At the risk of breaching copyright, I reproduce part of a letter from Willie:

> The carnyx was very very very very very very very loud. When I was watching the play I saw how it was then. it was fun. felt like I wanted to jump on to the stage and blow the carnyx. The mu[s]ic was lovely . . I say GREAT.

As the only playable carnyx replica in existence, beyond its local community value, it represents an important national icon of Scottish culture. It is an evocative symbol of a culture that was, and still is, shared with the rest of Europe, and it could therefore also be said to be of international significance. It resides in the collection of the National Museum of Scotland to be on show to tourists from overseas and local residents alike on suitable occasions. This paper has enabled me to put it on the agenda of an international conference held to debate cultural tourism, and it is hoped that those who attended the 1994 Heritage Convention in Elgin will long remember the 2000 year old sound of the Deskford Carnyx as artfully produced by John Kenny. The last time it was played in North East Scotland

to an international audience, was when the Picts chased the Romans out to sea for their voyage home. This time it was played in honour of old scars and in defiance of the wounds of time.

Acknowledgements

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The Author

Dr John Purser is a polymath of Renaissance stature. A highly respected composer, musician, poet, dramatist, broadcaster, writer and university lecturer, he is most widely known for his BBC Radio Scotland programmes on the history of Scottish Music, and he wrote *Scotland's Music (1991).*

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The most complete bibliography of the carnyx is to be found in the Catalogue of the exhibition *Le Carnyx et la Lyre*, Besancon Musee des Beaux-Arts et d' Archeologie, 4 septembre – 22 novembre 1993; Orleans Musee Historique et Archeologique de l'Orleanais, 18 decembre 1993 – 23 fevrier 1994; Evreux Musee de l'Ancien Eveche, 26 mars – 30 mai 1994.

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EUROPEAN CULINARY CAPITAL
The Subversive Sausage

Elisabeth Luard

Of all the arts associated with cultural tourism, cookery is perhaps the least understood. As a cookery writer, I have noticed a curious phenomenon about my line of work. When I am asked what I do, in the way that modern manners require, by my neighbour at dinner, and I confess how I earn my daily bread, my questioner usually says nervously: 'How interesting. You must talk to my wife: she has dozens of cookbooks.'

'Ah yes,' I reply politely – and we talk of lighter matters. Politics. History. Philosophy. But sometimes, if I am in combative mood, I reply: 'You imagine my subject to be frivolous – a mere ribbon on life's petticoat. It is no such thing. Food is the only serious subject.'

It seems to me that the area most neglected by historians and students of world affairs has always been the lives of ordinary people, and how they are affected by what might seem to be pure domesticity. Politically, it can be a dangerous area to ignore. At the time the Soviet Union was falling apart, Mikhail Gorbachev discovered this in Lithuania when he sought to defuse the situation with a joke. 'Shall our great Union,' he enquired, smiling, 'be broken up because of sausage?'

'You bet your hobnailed boots it shall.' the angry crowd replied, and meant it.

The Union could be broken up not for porridge, not even for bread or potatoes, but for just one link of that spicy larder-store which transforms mere belly-fodder into a dish worth a thousand bowls of gruel. At the most basic level, a starving nation cannot ferment revolution, any more than Napoleon could storm Moscow with his supply lines overstretched. Real hunger leaves no strength for politics. But once the stomach is comforted with the bare essentials, then what goes into the pot becomes the stuff of insurrection.

An examination of that same subversive sausage which the leader of all the Russias dismissed so lightly reveals that this basic larder-store takes many