

The pull-out in this issue is provided by Leif Kragh

# CHRISTMAS HEARTS A Danish Tradition













The decorated Christmas tree comes, as far as we know today, from Southwest Germany or Switzerland, and the tradition goes back to around 1500, when

the different guilds carried decorated trees to the town square, where people danced around them.

From here the trees started to appear in private homes, and we have written evidence from a manuscript dated 1604 telling about a decorated tree in a home in Strasbourg. This tree was decorated with apples, cookies, gold and, what is more interesting in this context, with gaily coloured paper cut-outs.

The art of paper cutting was already popular in Europe when the idea of the decorated Christmas tree came about, and it is no wonder that people combined these two ideas. The woven paperheart is the most popular Christmas tree decoration in Denmark. Every child has made one or more, and it is part of the preparation for Christmas to gather around the big table and make some decorations for this year's tree. As far as we know this particular basket has its origin in Denmark, and the oldest known example is kept

in the Hans Christian Andersen Mus e u m i n Odense, Denmark. It was made by the fairytale writer himself, in the 1860s, and given to a certain Mathilde Ørsted as a token of affection. It was made in green and yellow paper.

The basket is hung on the tree and most often filled with sweets.

It is also part of this Danish Christmas tradition, that you are allowed to strip the tree on the third day of

Christmas. In most familics we have to refill the baskets before the stripping!

The cover of John Bibby's *The fun maths calendar*, 1992, from QED Books was an inspiration for this Fibonacci heart.













# How to weave a Christmas heart

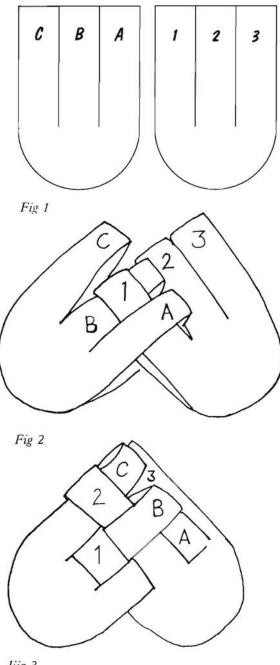


Fig 3

The last strip is always the hard one.

For best results use a good quality glossy paper, and start with two pieces, preferably a bright and a darker colour.

The simplest form is the three by three basket. Take the two pieces and fold them down the middle, glossy side inwards, so you can draw the pattern you want to follow, on the outside.

Draw the lines for the strips from the fold towards the open end. In most cases you will want to make the two pieces exactly alike, so you will have to be careful, when you draw the lines. (Only the red and green heart with the flag in the centre is made from two not identical pieces – and these are for experts only).

The length of the strips should be cut the same as the width of each piece, and a little more to make the weaving a little easier. Draw the arch as a semi-circle with the centre at the bottom of the middle strip. (Fig.1)

Before you start the weaving turn the glossy side outwards. I have marked the strips A, B, C and 1, 2, 3 on the drawing here in order to explain the process...

Start weaving by putting strip 1 through strip A, then strip B through strip 1 and finally through strip C. (Fig. 2)

Having done that you must push this first strip as far as you can towards the arch on the letter-piece.

Continue by pushing A through strip 2 and strip 2 through B and finally C through strip 2, and again push towards the arch and strip 1. (Fig. 3)

In this case it goes like number 1, and the hard part is to do the weaving without tearing the paper. When strip 3 is pushed into C you have done it, and it's time to do a little pushing and pulling to make the whole thing look neat.

You can finish the basket with a handle cut from the same piece of paper, folded and glued to the inside.

### Hints

The different patterns shown here and on the cover are made by me, and they build on a long tradition. If you should want to make Christmas hearts with children, start with the simple ones and do these for some time. There are many variations coming from different coloured paper and few or more strips. After some time you can introduce the variations coming from strips of different width and keep that going for a while. The Fibonacci one made in blue and yellow is a nice variation on this theme and made specially for mathematicians. I tried to make the narrowest strip two millimetres wide and failed, therefore I have to recommend three millimetres as a minimum.

> On some of the patterns there is a small \* in one of the corners. These hearts should be woven so that the \*s meet in the bottom corner, when the weaving is done. Don't show the fancy ones to children who have never tried to make a simple one. It may ruin the whole idea of Christmas and peace on earth. Nothing is worse than a frustrated child, who wants to make a complicated heart, and thereby misses the joy and beauty of the simple ones.

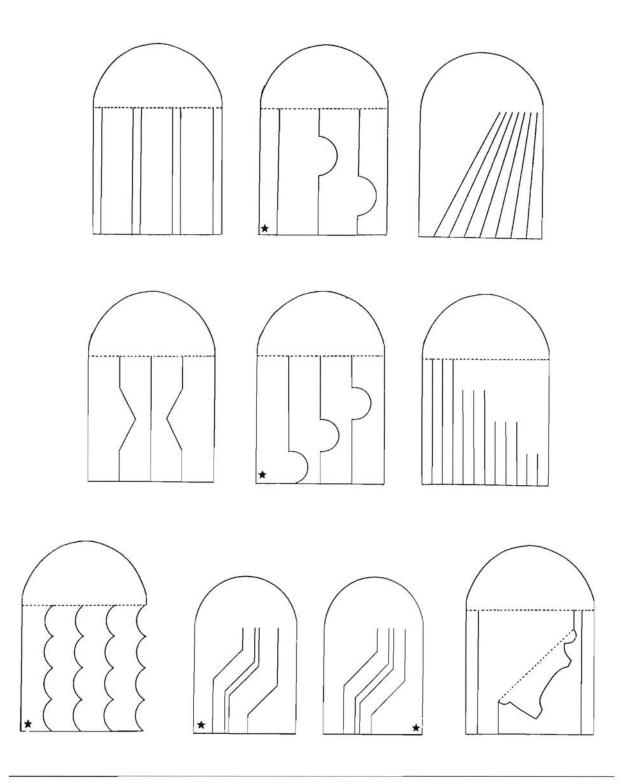
Last hint: If you are not patient, don't.

#### Reference:

Hjerter klippet med en saks by Arne Holsborg, 1992, Olivia ISBN 87-89019-64-4 Bo Bedre, Issue 12, 1991. (A Danish 'Better Homes' - monthly).

## PATTERNS FOR THE HEARTS

The nine hearts on the front and back covers are made from these patterns



Leif Kragh has been coming to the ATM conferences for the last 15 years and he is currently working as a maths adviser to the schools in Albertslund, Denmark.