



Magic Show

by G. Siu

**ANSWER:
LADY MONDEGREEN**

When the magician cuts out the ribbon, folds it in half, and twists it into a ring, he creates a Möbius strip. On the left side of the strip is the word LADY. Cutting between the A and D, and continuing all the way around, leaves two rings, one twice as long as the other. The small strip is still a Möbius strip, while the longer strip now has two twists – and two sides.

Take the longer strip and flip it around so that the 'outside' edge becomes the 'inside.' Align it with the shorter strip to recreate a larger Möbius strip. When you rotate the strips, you'll notice that the outside letters are fixed in place with each other; for example, XC __ LA or CH __ YL. Some of these seem like they might form women's names:

C	H	E	R	Y	L
Q	I	V	P	C	Z
L	B	L	J	P	K
A	J	P	K	F	I
D	L	U	L	U	G
F	Z	K	W	A	Q
H	T	H	C	W	M
M	A	R	G	O	J
K	W	A	N	D	A
M	N	D	Y	N	D
C	R	Y	S	T	A
P	G	O	Q	B	L
R	O	S	E	Z	P
S	F	Q	O	S	F
E	S	T	H	E	R
U	E	Z	I	V	O
V	D	M	X	I	H
B	M	X	U	G	N
F	P	C	V	J	C
C	Y	N	T	H	I
T	V	J	Z	K	A
X	C	W	B	L	A
J	Q	B	A	R	B
W	X	I	F	Q	L
G	K	F	M	X	Z
I	U	G	D	M	W

The magic trick is over! But where are the keys? With the strips aligned, each pair of letters along the cut in the yellow stripe is a pair in a substitution cipher. For example, Y = N on both the 'left' and 'right' cuts. Using this to decode the ciphertext yields "LAIDHIMONTHEGREEN", which is famously misheard as "LADY MONDEGREEN." The lady emerges from the chest, in one piece!