

A professorial riddle

By Our Geometry Correspondent

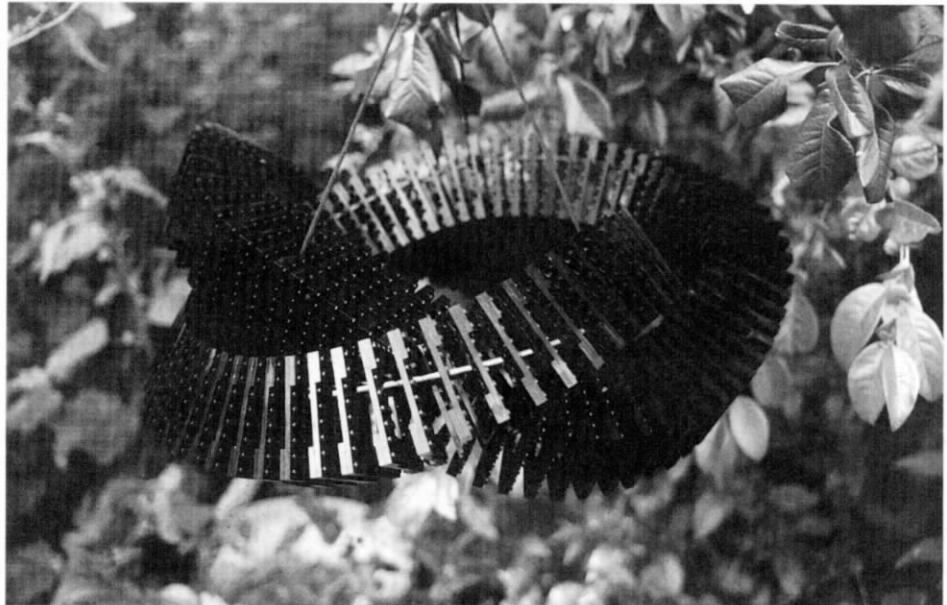
We recently received a rather special letter. It was from Professor Sir Michael Berry, a LEGO model builder who is also a professor at the University of Bristol in Great Britain. The picture shows his Möbius* trefoil spring ring. As Sir Michael points out, it is a rather special LEGO model. "Objects made LEGO," he writes, "are usually rigid and rectilinear. This one is spring and curved."

He has kindly provided building instructions: "First, the individual LEGO plates are wound into a long square spiral spring. Second, the spring is tied into a trefoil knot. Third, before the knot is tied, one of the ends of the spring is twisted by a quarter-turn; this converts the four faces of the spring into one "Möbius" face, in spite of the square cross section."

Sir Michael then poses a question: Is the object left-handed or right-handed? –



August Ferdinand Möbius was an 19th-century mathematician who discovered the "Möbius strip" – a one-sided surface bounded by a single line.



and then gives the solution. "There are three answers," he says, "because the coiling at each of the three levels (spring, knot, Möbius) can be left-handed or right-handed. This shows that the handedness of an object depends on the scale on which it is viewed. (Everyone's DNA coils the same way and most people have their hearts on the left, wheth-

er they are left-handed or right-handed.)"

Perhaps the best way to work out what all that means is to make your own trefoil spring ring. If you haven't time, you can always visit the Hewlett-Packard Basic Research Institute for Mathematical Sciences, where Sir Michael's model is on display. ♦

C'EST LA VIE LEGO

500 LEGO Maniacs in an aircraft hangar

On 8th December, LEGO Systems, Inc., the KISS FM radio channel and WVIT TV-30 teamed up to raise money for the Salvation Army's Marshall House Shelter.

The Aero Center, a former aircraft hangar in East Hartford, Connecticut, was turned into a massive building area for some 500 LEGO Maniacs (young and old). Teams of up to four people were asked to donate US\$ 5.00 per person to compete for prizes.

Radio personality Jeremy Savage hosted the event. Judges included Bob Nielson of LEGO Systems, Inc., Salvation Army representatives and Janet Peckinpaugh from WVIT TV-30.

Four teams were awarded LEGO sets and movie ticket prizes. A good time was had by all!



Janet Peckinpaugh (left) and Jeremy Savage (right) present awards at the 11th annual LEGO Construction Zone contest.

Shannon Hartnett, LEGO Systems, Inc.