Professor figures out numeric roots.

By Jake Lloyd-Smith in Singapore.
353 words
14 June 2002
South China Morning Post
8
English

The numerical system in use today originated in ancient China, not the Middle East, a Singapore academic has claimed in a bid to challenge a long-standing belief about the origins of **mathematics**.

Lam Lay Yong, a retired professor from the **National University of Singapore**, said today's universal system - which uses numbers fr one to nine - was in use on the mainland a thousand years before anywhere else, the Straits Times reported.

"The ancient Chinese invented a notation system such that with the knowledge of only nine signs any number could be expressed. Without this, they would not have been able to develop **mathematics**," Dr Lam said.

Her theory is at odds with the belief that today's numbers are based solely on the so-called Hindu-Arabic system, which dates from the ninth century.

Dr Lam said ancient Chinese performed complex calculations using bundles of rods, which were rearranged to represent each of the numbers from one through to nine. A zero was represented by leaving a blank space.

"Just like people nowadays carry calculators around, officials, traders, astronomers and anyone who needed to do **mathematics** had a hexagonal bundle containing the rods," she said.

Travellers to China learned about the one-to-nine rod system and took the method back to South Asia and the Middle East, where scho adapted it into a revised written system that resembles today's numerals.

Dr Lam said that although the Chinese rod system enabled people to perform complex sums, it was time-consuming, with hundreds of rods laid out to represent numbers on tables or floors.

To speed up the process the abacus was adopted in China from the 16th century. But while the new tool was quicker, its rote-based use retarded people's ability to think problems through systematically, she said.

"The problem (with the abacus) was that it involved methods learned by rote. Because of this, step-by-step reasoning was lost, and wh the rods fell into disuse, mathematicians lost the ability to calculate advanced equations," she said.

Document scmp000020020614dy6e0006v