

Algebraic Conundrum

There is no gainsaying the fact that the word 'algebra' is derived from the Arabic word 'Aljabar – wal-Muqabala' (not Al-jabrwal), as suggested by Mr Mucheru), which is the name Muhammad bin Musa Alkhwarizme gave his book on his science.

It is not far to seek why the science became known as algebra in Western Europe; it was named after the book that was widely known among the Arabs, from whom Western Europe learnt this science. But this does not bear witness to Mr Mucheru's statement that the science of algebra is the contribution of the Arabs.

Before the Arabs, the Hindus studied it with great zeal and produced famous writers like Aryabhatta (from A.D. 476) in Patliputra, Brahmagupta (born A.D. 598) Bhasker Acharya and others. They knew how to solve equations up to the second degree. They could extract square and cube roots, called by them 'varga mula' and 'ghana mula' respectively, and they could solve simple problems by using algebra..

The following problem quoted from Bhaskara's book Lilavati will show the level of their progress in this science:-

'O beautiful girl with shining blue eyes! Tell me what is that number which when multiplied by three, then , then increased by three-quarters of the product, then divided by seven, then decreased by one-third of the quotient, the result then multiplied by itself, then decreased by 52, gives after extraction of square root, addition of eight and division by 10, the result-two.'

I wonder if the practice of blood injections which, as has been claimed, was current here in Kenya for immunising cattle against certain diseases was ever established on a scientific basis or if it ever led to further investigations in the field, but the rudiments of algebra worked out by the Hindus were established on a scientific basis and they inspired the Arabs to achieve, like , most apt pupils that they proved, greater heights in the realm of this science. (Nairobi, July 7, 1960)

Arab Algebra

While I have a deep admiration for the greatness of the Arab genius which has made a great contribution to the growth of human civilisation by its matchless advancement, in the heyday of its glory, in the fields of medicine, astronomy, mathematics and philosophy, I cannot agree with Mr. Al-Amoody that algebra was originated by the Arabs; nor can its origination be, as contended by Mr. Proya, ascribed to the Greeks.

It is a historical fact that algebra was born in India. This is proved beyond a pale shadow of doubt by Dantzig, who says: 'Is it that the Greeks had such a marked contempt for applied science, leaving even the instruction of their children to slaves? But if so, how is it that the nation that gave us geometry and carried this science so far did not create even a rudimentary algebra? Is it not equally strange that algebra, that cornerstone of modern mathematics, also originated in India, and at about the same time that positional numeration did?'

The invention of the zero was also the work of the Hindus, who called it 'Shunya' in their language. This is proved by the testimony of Prof. Halsted, who says: 'The importance of the creation of the zero mark can never be exaggerated. This giving to airy nothing, not merely a

habitation and a name, a picture, a symbol, but helpful power, is the characteristic of the Hindu race from whence it sprang. It is like coining the Nirvana into dynamos. No single mathematical creation has been more potent for the general on-go of intelligence and power'

But Mr Al-Amoody need have nothing to feel embittered over the facts of history, for nothing can detract from the greatness of the of the role that the Arabs have played on the stage of civilisation: one who builds a superstructure on an existing foundation is no less great than one who stumbles upon the idea of laying a humble foundation. (Nairobi, July 16, 1960)

Equality

Allow me to correct the erroneous statement made by Mr. Onan Mucheru, that Algebra is the contribution of the Arabs. The earliest traces of Algebra are found among the Hindus. The following problem illustrates the flowery style of the Hindus:

'The square root of one-half the number of bees in a swarm has flown out upon a jessamine bush, eight ninths of the whole swarm remained behind; one female bee flies around a male bee that is buzzing within a lotus flower into which he was allured in the night by its sweet aroma but is now imprisoned in it. Tell the number of bees.'

It is, however, true to say that the Arabs, who learnt Algebra from the Hindus, introduced it to western Europe.(Nairobi, 28 June 1960)