When Mercy Seasons Justice

Basant K B

Kerala Engineering Research Institute, Peechi, Kerala, India

When Mercy Seasons Justice

Cover Page Footnote
To the Unseen Catalyst.

When Mercy Seasons Justice

K. B. Basant

Hydraulic Research Division, Kerala Engineering Research Institute, Kerala, INDIA
kbbasant@gmail.com

The mathematician's initial problem

As he climbed the rickety wooden stairs to the abode of the yogi, the mathematician wondered whether his decision to do so had been wise. He had come to India to attend a conference and his Indian colleague had insisted that he meet this yogi from Varanasi. So despite the oppressive heat he had undertaken the journey. Soon they were both face to face with the cross-legged figure seated in the middle of the room. The skeletal figure did not inspire his confidence, though the piercing eyes could not be ignored. The yogi spoke in a strange tongue, which his brother mathematician had to translate. The yogi began to recount a story, or rather, few stories...

Emperor Alexander's problem

Into the court of Emperor Alexander came three brothers with a queer request. Their father had bequeathed them 17 horses to be divided among the three in the ratio, 1/2 for the eldest, 1/3 for the middle one, and 1/9 for the youngest. Since they were finding the task difficult, they had brought their problem to the royal court.

The emperor was certainly not lacking in mathematical acumen and immediately understood the real problem. To resolve the issue, the eldest should get $8\frac{1}{2}$ horses, the middle one must have $5\frac{2}{3}$, and the youngest, $1\frac{8}{9}$ horses.

The emperor suddenly recalled the knotty problem he had once solved using the sword. He tapped his fingers on the scabbard. Just then he noticed the costly carpet spread in the royal hall. He asked with some annoyance, "Do you want me to solve the problem here itself?" All the brothers recognised the displeasure in emperor's voice. The eldest among them humbly submitted, "With Your Majesty's permission, we shall solve it at the abattoir."

King Solomon's problem

Into the court of King Solomon came three brothers with a unique request. They had been gifted 17 horses by their late father with the condition that the brothers should receive their shares in the ratio, 1/2 of the total for the eldest, 1/3 of the lot for the middle one, and 1/9 of the patrimony for the youngest brother. As they had difficulty in arriving at a correct distribution, they had approached the wise king.

King Solomon knew the eldest brother's claim was $8\frac{1}{2}$ horses. The King gave him 8 horses and announced that he was going to cut the ninth one into two to give him one half. On hearing it the eldest brother pleaded with the King to spare the life of the quadruped. "Even if I don't receive my full share, let it live, O, wise king," he said.

Next, he gave 5 horses to the second brother and prepared to cut one horse from the common pool to make the second brother's share $5\frac{2}{3}$ horses. But this brother also pleaded with the King to spare the life of the horse. "O, noble King, let this horse bequeathed by our late father be not killed," he said.

For the third time, King Solomon attempted to cut a horse to ensure that the youngest brother would get $1\frac{8}{9}$ horses. But the young man also declined the offer and expressed his satisfaction with the possession of a single horse. "O, wise King, please don't kill any of the horses that our late father had maintained with so much care," he said.

Thus it came to pass that three brothers together came to possess 14 horses. And the balance 3 horses were attached to the King's stable.

Emperor Ashoka's problem

Into the court of Emperor Ashoka came three brothers with a strange request. They had received 17 cows as patrimony and had to apportion them such that the eldest would have 1/2, the middle one 1/3, and the youngest 1/9 of the bounty. They were finding the task difficult and so had come to the royal court.

The emperor looked at the court mathematician who immediately rose from his seat and pronounced the solution: "$8\frac{1}{2}$ cows, $5\frac{2}{3}$ cows, and $1\frac{8}{9}$ cows for the three brothers starting from the eldest." The emperor was aghast. He asked, "$8\frac{1}{2}$ cows, $5\frac{2}{3}$ cows, and $1\frac{8}{9}$ cows?" "Yes, Your Majesty," insisted the royal

mathematician, "that is the solution to the problem." "So you want to butcher 3 cows to satisfy your solution?" asked the emperor. "I say your solution is worse than the problem," he did not hide his displeasure.

The emperor was upset and adjourned the durbar for the day after asking the brothers to come the next day. That evening he prayed to Lord Buddha to enlighten his understanding. The same night he had a dream in which an Ethereal Voice commanded: "Gift the royal cow." The emperor immediately sensed that the Divine was testing whether he had the necessary detachment to let go royal privileges. So without any hesitation, the next day he gifted the royal cow to the startled brothers.

The brothers immediately understood that the emperor had punished them. For, if they treated the royal cow in royal style, then they would go pauper in no time. And if they treated the royal cow in an ordinary manner, then won't the emperor be displeased?

It was with a heavy heart that the brothers returned home. Seeing their dejected countenance, the wife of the eldest brother asked her husband what the matter was. On learning the facts, this intelligent and modest lady hinted to her husband tangentially, "The emperor has gifted you the royal cow to solve your problem. Not trying to do so would be tantamount to disobeying the royal fiat."

So they reluctantly got about dividing the cows. This time there were 18 cows. The eldest brother got 9 cows, the middle one 6 and the youngest one 2 cows. $9 + 6 + 2 = 17$. One cow was left over. Each of them was intelligent enough not to claim the royal cow in his share.

The same day the brothers hurried to the royal durbar: to thank the emperor and return the royal cow.

The mathematician's final problem

It was twilight when the brothers-in-profession came down the stairs. Neither of them spoke. In the guest mathematician's head many thoughts swam around. He thought of integer division, infinitesimals, 'ghosts of departed quantities', and catalysts. And later, as they walked on the bank of Ganga in the moonlit night, he pondered over two comments that the yogi had hinted at, towards the end of their visit: who was the better mathematician, the one in the durbar or the one in the kitchen? And what is a correct answer, if not the most appropriate one?