

## Clyde Tombaugh: 1906–1997

Notwithstanding the recent demotion of Pluto from the rungs of ‘planets’, the life of its discoverer provides an inspiring story for any amateur or professional astronomer. Clyde Tombaugh was born in a family almost destined to produce an astronomer – his father was an amateur astronomer, and they had a 2¼ inch telescope in their farm house. Born on February 4, 1906, Clyde moved during his high school days to Kansas with his family, and soon made a 9-inch telescope of his own, from discarded parts of farm machinery, a shaft from his father’s car (a 1910 Buick), and a mirror he ground himself. He had made some sketches of Jupiter and Mars with the help of his telescope and sent them to the Lowell Observatory in Arizona.

Percival Lowell, a businessman turned astronomer, had founded an observatory in Flagstaff in the late nineteenth century. Although his ideas about ‘artificial canals’ on Mars had received a lot of criticisms, he had plunged into another research programme in the last few years of his life. Astronomers at that time did not know the correct masses of Uranus and Neptune, and had believed, from the motions of Uranus and Neptune, that there was another planet which was tugging at Neptune. With the modern measurements of the masses of these two planets, such a hypothesis becomes unnecessary. But in the early years of twentieth century, it was a hot topic of research. And Lowell observatory was looking for an amateur astronomer to operate a new photographic telescope it had installed.

Clyde Tombaugh might have sent his sketches for some advice from professionals; instead he was offered a job at the observatory. He joined in 1929 as a junior astronomer to look for the ‘Planet X’ as Lowell had predicted. He worked through nights in a cold dome – (the present author had the opportunity of working as a graduate student in the same unheated dome that Tombaugh had once used, and vividly remembers the numbness of his feet and fingers at nights) – and took pairs of photographs of regions of the sky with intervals of two to six days. Then he analyzed them under a device called a Blink-comparator to look for small shift in position of one of the numerous specks in the photographs. Such a shift would signal the existence of planet moving through the background of distant stars.

Tombaugh’s patience was rewarded on the nights of 23 and 29, Jan 1930, when he took two exposures of the region of the star Delta Geminorum. Later, on 18th February when he analyzed these plates, he spotted the shift of a faint point of light. He had found the Planet X – the discovery was later confirmed by more observations, and was announced on March 13, 1930. Tombaugh went to college after that, and got his masters degree ten years later from the University of Kansas. (Apparently, when he tried to register for a freshman astronomy course, the professor in charge refused to enroll him in his class, thinking that Tombaugh had already



#### ARTICLE-IN-A-BOX

achieved something only a handful of astronomers had ever done!) He continued to work at the Lowell Observatory for 13 years after the discovery of Pluto. He could not find any other 'planet', but he discovered several asteroids, two comets and other objects like star clusters and so on. Later, he joined the New Mexico State University in 1955, founded a planetary astronomy research programme there, and received an honorary doctorate in 1960 from Northern Arizona University, Arizona, USA.

Tombaugh never lost his passion for stargazing even after retirement. Once, the Smithsonian Institute in Washington D.C. requested him to lend them his old 9-inch telescope that he had used in his childhood. He replied to them that he was still using it! In his extensive lecture tours, he would recount his childhood days as a farm boy, comparing the discovery of Pluto to finding a needle in a haystack. He would say that it was a tedious job, but better than pitching hay on his father's farm, adding that he'd had his 'hay day'.

He died on January 17, 1997 at his home in Las Cruces, New Mexico, USA.

*Biman Nath*

*Raman Research Institute, Bangalore 560 080, India.*

*Email: biman@rri.res.in*

