

“Astrology Trap: Stargazing to promote pseudo-science”

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It was the first class of the Astrophysics course that I was teaching. As an introduction into the history of astronomy, I mentioned the fact that till a few centuries ago, astrology was indistinguishable from astronomy. But now, we treat astronomy as a science while astrology is not a science. One of the students immediately took issue with this arguing that astrology was also a science. What was more disheartening was that though he was the one who articulated this, there were many others in the class who agreed with him. This was a class of students who had spent 5 years studying science and some of them would go on to have a career as teachers and scientific researchers.

But then, they are not alone. According to a recent report the business of using astrology for advice and peeking into what the future holds is booming. Technology of course helps- no longer do you need to go to an astrologer to cast your horoscope and tell you about whether your current romantic interest would be fruitful. A few clicks on your favourite astrology App will do it all for you. And these are hugely popular. One Indian app has more than 8 crore users who use it to connect with 40,000 astrologers. Though there are about 70 crore smartphone users in our country, a majority of the users of these apps are Gen Z- just like the students in my class. Some of these apps have also incorporated AI to give personalized answers.

It is not just the Indians who are flocking to get their horoscopes cast. 70% of Americans believe in astrology. Even in a socialist country like China, astrology is wildly popular especially with youngsters. What could possibly explain this recent upsurge of interest in foretelling the future? Of course technology has made it easier, but that itself is paradoxical- one would imagine that technology (and hence science) would decrease belief in this kind of pseudo-scientific mumbo-jumbo.

We need to look at something more fundamental which makes us humans vulnerable to such beliefs. After all human beings have always been anxious about what the future holds for them and so would want to be prepared for it. Before the emergence of *homo-technicus*, natural disasters and consequent economic and physical distress was the main source of anxiety. But now that we live with this misguided belief that our scientific and technological prowess makes us immune to the vicissitudes of nature,

other factors have emerged as causes of mental stress. This is especially true for the younger generation today for whom uncertainties about future employment as well as the ability to meet their huge material aspirations are causing a lot of stress. Couple these factors with the age old angst of relationship issues and we get a fertile pool of anxious and gullible users.

The search for comfort during stressful times is natural. Hitherto, religious and social groupings were able to provide it. But with more and more of us leading an atomized existence, these support structures are less common. Many of these online apps saw a huge surge in their business during the Covid pandemic when people were isolated and uncertain about the future. This was also the case after the fall of the Soviet Union when suddenly social and economic institutions collapsed and people were very apprehensive about their future. Astrology, tarot reading and other forms of pseudo-science became very popular in the post-Soviet society which seemed to have lost its moorings.

I tried to explain to my students how astronomy played on human psychology and selection bias to fool us or that science involves prediction, falsification etc., but to no avail. I even used the example given by the mathematician John Paulos. Horoscopes use the planetary positions at the exact time of your birth. Science tells us that the only way heavenly bodies can have influence on earth is by gravity. The force of gravity of Saturn turns out to be less than that of the gynecologist delivering the child. Thus, the weight of the doctor should have a bigger influence on your life. This evoked some amusement in the class but failed to convince them.

Increasing belief in pseudo-science is of course a sign of decreasing scientific temper. Beating *thalis* and lighting *diyas* to ward off Covid is just one particularly egregious example of this. Oddly this seems to be happening when not only are we using more technology but also when the percentage of our population in schools and colleges, the Gross Enrolment Ratio (GER) is increasing.

India is the only country in the world to formally adopt scientific temper in its Constitution- as part of the infamous 42 amendment, “ ...developing scientific temper and a spirit of inquiry...” was added to the Fundamental Duties of our citizens. Alas, it will take much more than an increasing GER or constitutional amendments to promote this goal.

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