

I have written this blog post as part of the final assignment of the [online and media writing module](#) offered by the University of the West of England (UWE Bristol, UK). The module was taught across 10 weeks of online content between April and July 2022. The targeted audience are teenagers (16 – 18 years of age) who are studying science in school and are interested in astronomy, but not necessarily knowledgeable about the topic (for the standards of the age). The goal is to further stimulate their interest in astronomy and help them to develop critical thinking, and ideally to make them consider pursuing a career in the field.

Sorry, your zodiac sign is wrong

You probably know the answer to the question “What’s your zodiac sign?”. But is that answer correct, and does it really define who you are?

“Scorpios are brave and determined”, while “Cancers are moody and sensitive”: you may have engaged in similar conversations many times already, and you have been told that your birth date defined your zodiac sign and the traits of your personality. But perhaps they did not tell you the astronomical facts in this post, which may make you see things in a new light.

To start off, let’s talk about constellations.

Constellations are groups of stars, and each zodiac sign has one. But there are many other constellations, for a total number of 88. They cover the whole sky and some are quite famous, such as Orion and the Great Bear.

However, constellations are not real things. Their stars seem to lay close together when admired from the Earth, but in fact, they are very far from each other. If you looked at them not from the Earth but from another direction, you would see them in different positions and could not recognise the constellation. It’s a bit like watching a football match from behind the goal or from the gallery: you would have very different impressions of the same game!

Hence, if the ancient people who saw a lion in the stars in Leo had gazed at them from a distant planet somewhere in our galaxy, most likely they would have seen a very different animal. And centuries later, their descendants would have not assigned to babies born under that sign the traits we think fit the king of the jungle, such as proudness and confidence.

Plus, the stars in a constellation move in different directions. This means that if we could wait long enough — hundreds of thousands of years — the constellations we know today will have disappeared from the sky even if observed from the Earth.

So, constellations are an illusion due to our vantage point, have been arbitrarily imagined by ancient people and only exist for a long but limited time. And there are even more serious hassles.

Historically, the twelve constellations of the zodiac were picked as the Sun seems to move across them over the year (an effect caused by the motion of the Earth around the Sun). This is how you get your zodiac sign: it depends on the constellation that the Sun was in when you were born.

For example, I was born on September 29 and should be a Libra, the constellation the Sun is in from September 23 to October 23. But that was two millennia ago: the Earth wobbles while rotating, and after centuries, the result is that on September, 29 the Sun is in Virgo, not Libra, so I should be a Virgo. The same holds for you and anyone else alive now: your zodiac sign is wrong.

Another inaccuracy with zodiac signs is that they all span one month: Aries from March 21 to April 19, Taurus from April 20 to May 20 and so on. However, the zodiac constellations have different sizes in the sky, meaning that the Sun does not cross each of them in one month. For example, it stays in Pisces for almost 40 days, but for only one week in Scorpio.

We could go on with other similar facts. For example, by mentioning that we should have thirteen, and not twelve zodiacal signs — the Sun also crosses Ophiucus (“the snake”), a constellation between Scorpio and Sagittarius. But by now you are already aware that the question “What’s your zodiac sign?” is way trickier than it seems.

And probably, not even that important. After all, your destiny and who you want to be is not a business for inanimate balls of hot gas hundreds of lightyears away, but for one person only in the whole Universe. And that is you.