

**DO THE STARS TELL YOUR LOVE STORY?***Inés Rodríguez Hidalgo*

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**ABSTRACT**

A good alternative to traditional methods of passing on astronomical concepts is to use a 'collateral' story that catches the public's attention. It may also simultaneously give a vital opportunity to awaken the critical faculty that often seems so perilously close to extinction these days.... The recipe is simple: nothing but an actor or actress, his/her voice and hands, and a script on a topic of wide popular interest, with bits of magic and humour. A live example was shown during the Meeting (see the webcast). The text of that performance is presented in this paper, followed by an analysis and discussion of the proposed resource.

**NO INTRODUCTION:  
WELCOME TO "THE COMEDY CLUB"**

The Spanish TV program "The Comedy Club" consists of an actor or actress alone on stage, just with a high stool and maybe a drink, who performs a (usually very good) monologue. Although this author is not a professional actress and her mother tongue is not English, she welcomes you to "The Comedy Club", with the performance entitled "Do the stars tell your love story?"

*"When the producer of the program called to invite me to perform, I expected to receive a wonderful, clever script, with plenty of humour and irony from the director ... but, here I am, and I've been told that, due to late night spending cuts, I have to improvise. So, during the last couple of hours, I've been writing the exciting story of my love affairs for you.*

*My goodness... all through my life, I've been so unlucky with boyfriends... really, I'm not joking, even though I've always paid great attention to the compatibility of astrological signs. But, listen: I'm a Taurus. As soon as I became a teenager I carefully read the characteristics of that sign, checking that I was an authentic Taurus. You probably know that the 'Earth' signs are very stable, few circumstances can disturb us, we love the good things of life, and we take very good care of our money. In addition, my sign is governed by Venus, my metal is copper, my lucky day is Friday, my colour is green, my perfume is orange blossom, and my fortune stone is the emerald. But the most important thing is that, concerning relationships, we Taurans are really physical; sexuality and sensuality are very important for us and, when we decide to be faithful, boy, are we faithful.*

*Great: once this essential information was known, the next thing was to find a sign compatible with mine. It could be another Earth sign, that is, another Taurus, or Virgo, or Capricorn; or, a maybe Water sign, like Cancer, Scorpio or Pisces.*

*My first boyfriend was born on November 19th; as soon as we were introduced I thought: "wonderful, a Scorpio, a sign so passionate, apparently chaotic and destructive, but actually with mystique and deep feelings about sex!" So, of course, I threw myself into his arms, but we only stayed together a very short time. I just couldn't understand it - he was too well balanced and rational to be a Scorpio! Then, somebody explained to me about the true length of star signs.*

*Ah, don't you know this? Well, but, you do know, at least, what the Zodiac is, don't you? Mmmmm, I'd better start at that point: OK, very distant stars don't appear to move in the sky from Earth, and the Sun apparently travels among them on the vault of heaven - though it is actually because the Earth goes round the Sun in a year that the Sun seems to move. The Sun's apparent path is called the ecliptic, and is actually the line in which the plane of the Earth's orbit intersects the sky. The planets are always seen very close to the ecliptic because the planes of their orbits are close to ours. The Zodiac is a lane on both sides of the ecliptic, whose width is approximately the same as my open hand seen at arm's length.*

*You know there are groups of stars that, even if they may be very far away and have no relation to one another, seem to form drawings on the sky, called constellations. The ones lying on the aforementioned lane are the twelve Zodiac constellations: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces. The 360° of the Zodiac circle are then divided into 12 equal parts of 30°, each one corresponding approximately to one month of the yearly journey of the Sun. The most conspicuous constellation in each region gives its name to the astrological sign, starting at the spring equinox, March 21st. On that day, the Sun is on the intersection between the ecliptic and the celestial equator, rising exactly in the East, and, as indicated by the word equinox, day and night are of equal length.*

*So, the zodiac sign of a person is given by the constellation where the Sun was at the moment of their birth. But, in fact, the sections of the ecliptic occupied by the Zodiac constellations happen to be of different lengths on the sky, so the corresponding signs should also have different time spans; for instance, Virgo is enormous, and it should last for 45 days; Leo and Pisces are also quite large, with 37 and 38 days respectively; while Scorpio is actually tiny, corresponding to just one week.*

*Now I get it! My first boyfriend was not really a Scorpio, he was a Libra, an 'Air' sign, and they really don't get on with Earth signs, in particular with a genuine Taurus like me. That was probably the cause of the break up!*

*Some time later, I met another boy who I found really nice, and he had the gift of the gab... But, as you know, appearances can be misleading, and I wouldn't let myself be taken in. So, when I had the first opportunity, I asked him about his birth date. "December the 8th", he said. "Be careful!" I thought, "he is a Sagittarius, a sign of Fire - a very good communicator, with a way with words of course ... but surely too impulsive and a ladykiller". So, I had to let him go, but I have to admit I was really sad.*

*Later on, I realised that I should have tried, at least. And this was because of another astronomical dirty trick that I didn't know. It happens that the twelve Zodiac constellations we know are the ones considered most striking by the ancients, but there are many more! In fact, the zone where the Sun and planets are always seen includes no less than 24 constellations. And if you include Pluto, whose orbit is the most inclined with respect to the ecliptic, you have to add another four constellations!*

*Anyway, there is at least one constellation officially accepted: it has to belong to the Zodiac no matter what. Its name is Ophiuchus, and it goes from the 30th of November to the 17th of December. Therefore, my second boy was actually an Ophiuchus, and that sign is not classified nor described: perhaps he might have suited me very well, so now look at the mess I'm in!*

*When I got to know the one who became my third boyfriend, I was already much more knowledgeable. Above all, I had asked around to find out that he was born on October the 20th, that is, theoretically, a Libra. I already had a bad experience with an authentic Libra (remember the first lad), so I was surfing the Net to get a good table giving the right time-spans of the constellations, and including Ophiuchus. That way, I realised that the boy was Virgo (astrologically speaking, I mean). Virgo is an Earth sign, like mine: "Fantastic", I said. And quoting an Astrology manual, "Earth with Earth may turn into a colossal mountain of faith and vigour... or to an arid desert, it depends on the direction followed. When shaken, the result can be an earthquake with volcanic repercussions. The option depends on both lovers". This latter part was dubious indeed, but the former still had promise. We started going out and, at the beginning, everything went really well, until, that is, somebody told me about the precession of equinoxes.*

*Doesn't this sound familiar? Listen: maybe you know that the North Pole on the sky, indicated by the star Polaris, however incredible it seems, has not always been in the same place. The Pole is the extension of the terrestrial rotation axis; and the Earth happens to rotate like a spinning top, that is, it swings very slowly. So, the North Pole describes a circle in about 26,000 years, making the cardinal points move and, consequently, so do the constellations "visited" by the Sun along a year. In particular, a backwards shift of more than one constellation has been produced since the Zodiac signs were "invented". Currently, the Sun doesn't rise any more in Aries on the 21st of March, but on Pisces and, soon, in Aquarius. And the same is valid for the rest of signs.*

*Coming back to the poor boy of the 20th of October, he actually was a Leo, a sign of Fire—compatible, but only with much difficulty with a Taurus like me... In addition, it is also said that the signs have much to do with the animal they represent and, can you imagine a bull with a lion...? I stood him up, of course, no need to suffer again.*

*The fact is that, later on, I stopped to think that my actual sign should be shifted backwards as well, and I started suspecting that maybe I'm an Aries, a sign of Fire. Then I looked for the description of Arians and, to tell the truth, I don't understand how I could have believed I was an authentic Taurus. Being Aries, I fitted in well with that theoretical Libra that, in fact, was a Virgo that should be a Leo... Puffffff, this is making me to feel dizzy, and, finally, I don't know who to trust.*

*Anyway, it's better to be optimistic, and to think positively: just imagine if I'm only compatible with one single sign, whatever it is; there are about 6,000 million people in the world, and if these are essentially classified into twelve personality types, one per sign, there should still be about 500 million human beings, almost one half of them male, compatible with me. It will probably be a matter of time and patience to find the right candidate.*

*Otherwise, I can always change to the Chinese or the Indian Horoscope. At the end of the day, it seems to me that they have just as much validity as the occidental one..."*

The preceding text is the translation of the initial script of a live performance offered in a bar during a sceptical celebration of the 2003 summer solstice, in which several colleagues of the University of La Laguna tried to mimic "The Comedy Club". After the author's performance during the Meeting as a part of her oral contribution, it is presented in this paper as an example of a different way of popularising astronomy.

## FOOTNOTE

## NON-USUAL WAYS OF COMMUNICATING ASTRONOMY: A PROPOSAL

Before going into further comments and discussion, let me remark the on impossibility of a trustworthy translation, that is able to transmit the original sense of humour, as well as the many nuances, touches, and national or even local references. In fact, these cultural differences were apparent during the Meeting, as shown by some of the questions posed after the contribution. (ed's comment—and even this translation has been edited in some areas – so go see the webcast for the only true translation—and enjoy!)

A number of basic astronomical concepts can be found by the reader (or spectator in the case of a performance) in the previous script:

- the ecliptic
- the planets' orbits and their inclinations
- the Zodiac
- the concept of angular extent
- the constellations, including the Zodiac ones
- the rise of the Sun at different points of the horizon along a year
- the Equinox, the North (and other) cardinal points
- the precession of equinoxes.

All are properly named, briefly defined, and simply explained, using ordinary words and the help of gestures and dramatisation, within a text which, apparently, is far from an astronomy lesson.

Several features of the example presented deserve a mention:

- The author claims that, in addition to dealing with spectacular instrumental advances and late news on astrophysics, an important part of outreach should be devoted to explaining the rudimentary notions of astronomy to the non-specialised public. We cannot forget that scientific literacy is still scarce in our societies, and its future development can only be founded on a sound understanding of the basics.
- It is frequently reported by the staff of science museums and planetariums that live shows are always very welcome (even considered the favourite) by the public. Therefore, in the middle of the current proliferation of sophisticated images, movies and all kinds of audiovisual facilities as resources to communicate astronomy, I would like to promote the authenticity and proximity of an actor or actress, and the immediacy of a classical theatre performance.
- It is a matter of fact that, among the multiple attitudes to science, going from blind faith to an open rejection, is fear. Therefore, a subject that does not "sound" exactly like science may make the audience feel more comfortable.

- My suggestion is to introduce astronomical concepts (no matter if they are basic or complicated, old or recent) using a collateral story, a topic of wide popular interest that is able to catch the public's attention.
- Everything related to magic or mystery offers the additional advantage of touching the human hopes, wishes, and emotions, making the speech closer to everyone's interests.
- Humour is also a powerful tool that contributes to demythologize the scientists and their activity, leaving aside the dogmatism, and helping to relax the atmosphere.

Astrology can be a good choice to satisfy this aim: it sounds similar to astronomy but, since it is not an actual science, it is perceived as easier and closer by the public; it uses astronomical terms, thus allowing us to explain their actual meaning. The speaker may easily approach the personal space of the listener, mixing up astronomical facts with the claims of astrology concerning the personality and future of people, most particularly about love. It is possible, by making use of humour and irony, to show how those assertions turn out to be ridiculed by their own contradictions; this is an added benefit that helps to educate the critical sense and to spread a healthy scepticism, both unfortunately in danger of extinction nowadays. Summarising, the proposed topic has the double aim of communicating astronomy with the public, and fighting against irrational beliefs that, like astrology, are sometimes presented as scientific knowledge.

As previously shown, astronomical outreach can be done on the pretext of discussing some astrological predictions. But astrology offers many other possibilities as well. For example, with the aim of finding the physical cause of the cosmic influences, "rankings" of gravitational attraction, tidal forces, emission of electromagnetic radiation or particles, and magnetism exerted by different bodies at the moment of birth can be elaborated. Of course, when carrying out the calculations, objects like the mother, the doctor, the hospital building, or the delivery room lamp must be taken into account, as well as satellites, asteroids, comets, and other bodies of the Solar System, including Quaoar, Sedna, and who knows how many more...

After demonstrating that none of the known physical influences is capable of explaining how astrology works, it is still possible to show statistical examples of clear astrological failures; for instance, a review of failed predictions concerning politics, economy, religion, society, or the absence of correlation between the sign and the profession, or the sign and certain personality characteristics. This would serve to popularise other scientific topics rather than astronomy, so I will not go deep into this point.

## MORE ON THE RESOURCE OF ASTROLOGY

## STILL ANOTHER ASTRO- NOMICAL EXAMPLE

In addition to astrology, let me present another astronomical topic that can also inspire a performance: the search for extraterrestrial planets. It has an undoubted scientific interest and, moreover, in the recent times it has appeared relatively often in the news, thus becoming a really 'hot' topic for the general public. The related young branch of science—Astrobiology—finally connects with the old human wish of finding (intelligent) life anywhere in the Universe, no less, so, attraction is guaranteed. There is a wide set of astronomical concepts that can be presented and explained within a text related to exoplanets:

- the similarities and differences between planets of the Solar System and extraterrestrial planets
- the habitable zones in planetary systems, including concepts like stellar classification and evolution, albedo, planetary atmospheres, greenhouse effect, etc., and the conditions for life to appear
- the Drake equation, and the Fermi paradox
- the actual feasibility of intergalactic communications, discussed on the basis of the huge astronomical distances
- the enormous, but finite, speed of light
- its constancy, which results in the equivalence between time and space
- the concept that in looking at the sky, one is always looking at the past
- the feasibility of cosmic travel, which allow us to speak about actual space missions, their scientific goals and their technological development
- the SETI projects, its scientific foundations, and the multiple references in science-fiction literature, films, art, etc.

Rational discussion about the UFO phenomenon (misinterpretations of astronomical or atmospheric stimulus, ET visits, abductions, psychological and sociological aspects, etc.), may arise in a natural way. This is really necessary to compensate for the widespread dissemination of uncritical (and sometimes dangerous) information from journalists, writers, innocent 'witnesses' or not very scrupulous promoters, and even certain sects.

## SUMMARY

Many astronomical notions can be presented by an actor/actress during a live performance based on an impromptu script. It should deal with a topic attractive to the general public, related to astronomy, but with a non-scientific dressing, with spots of humour, irony, and magic, hopefully contributing to the fight against the alarming persistence of irrational beliefs. Of course, these concepts could be presented in a very sophisticated documentary essentially based on spectacular images, with an explanatory text, but I suggest that this alternative type of communication, more unusual, but quite straightforward, appeals both to people's hearts and minds, and is also efficient.

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