

Astronomy at home: astronomical enchantments for the whole family

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Abstract. Why is it important to teach astronomy from childhood? In times of fake news, where charlatanism such as “anti-vaccination” or “flat-Earth theory” emerge, we need to resume some important questions of scientific astronomical literacy in all human instances, be it a child who, at two years old, already recognizes the Moon in the sky, or for an elderly person who has never observed the “Dawn Star” (Venus) in a telescope and does it for the first time, discovering that that bright and flirtatious point that cherished his sunrises when working, or returning from it, was actually a planet. Situations like these make us understand that Astronomy is movement beyond the stars, it moves our mind and imagination. We cannot avoid teaching in the most varied sciences and knowledge, because it is no longer enough to say that that trail in the sky is a shooting star, we need to ‘en-signar’, that is, give meaning and sense to what we propose to teach formally or informally, in this case, putting astronomy into signs within our own home.

Resumo. Porque é importante ensinar astronomia para toda a família? Quem pode aprender astronomia? Em épocas de desfalecimento da ciência, em que tópicos antivacina e terraplanistas emergem, precisamos retomar algumas questões importantes do letramento científico, nesse caso o astronômico. Desde uma criança que com dois anos que já reconhece a Lua no céu, seja para um idoso que nunca observou a “Estrela D’alva” (Vênus) em um telescópio e o faz pela primeira vez, descobrindo que aquele ponto brilhante e galanteador que acalentava seus amanheceres ao trabalhar, ou voltando dele, era na verdade um planeta e que além da Lua e do Sol é o único astro a aparecer de dia. Situações como essas que nos fazem entender que a Astronomia é movimento para além dos astros, pois, movimentam nossa mente e imaginação. Não podemos nos furtar de ensinar ciências, pois já não basta dizer que aquele rastro no céu é uma estrela cadente, precisamos ‘en-sinar’, dar sentido e significado ao que nos propomos ensinar formal ou informalmente, nesse caso colocar em signos a astronomia dentro da nossa própria casa.

Keywords. Teaching of Astronomy – Sociology of Astronomy

1. Introduction

In this workshop we discussed the processes of astronomical literacy in the most varied contexts, mainly about the family context that introduces the individuals in the culture of astronomy in the most varied ages, such as mothers, fathers, grandparents, children and young people.

But what is scientific literacy? It is to introduce someone into the scientific culture. It is to provide the other with new eye-glasses, because sometimes we start to use only a few religious or pseudoscientific lenses and we end up distancing rather than bringing the science community closer together. It is necessary to teach how to observe. Otherwise messages from tablets, cell phones and computers will run faster and we will not be able to compete with such stimulation and ease of access to information that is not always legitimate. It is more comfortable to read erroneous statements in groups and social media than to pause and reflect on whether the way we are deciphering nature is really enabling considerations on our relationship with the environment and with ourselves. For the teaching of astronomy, and science in general, it is understood that a process of “scientific enculturation” is necessary from childhood, promoting conditions to introduce individuals, regardless of age, in a culture, in this case, astronomy. Such a conception can also be understood as a “scientific literacy” (Sasseron & Carvalho 2011).

They accuse science of repressing the imagination with its development, when, in fact, it opens up incomparably wider areas for its creation. Astronomy levitates in the eternity of time and space. It sees the birth of worlds that, at first, twinkle like an opaque nebula light,

which, later, transforms into bright and blinding suns [...] (Vigotski 2009, p. 39).

By promoting educational actions that introduce children from an early age into the astronomical scientific culture, we are giving meaning to what we understand as human conscientiousness, because, when we come across people who think and reflect on their actions and reactions towards nature and with others, we can say that we really started a process of scientific literacy. It’s no use showing the grandiosity of the universe and the beauty of the stars if we don’t at least teach that this encounter with the infinity, particularly to astronomy, is our encounter with ourselves. We need to recognize our littleness and insignificance so that we can recognize ourselves as great when we are faced with something as far beyond our eyes as astronomy, which tells us, through light, our past, but also enables us to propose new hypotheses about our future. No knowledge exists without first having a whole historical process or even if “[...] the necessary material and psychological conditions for its emergence occur. Creation is a process of historical inheritance in which each succeeding form is determined by the previous ones (Vigotski 2009, p. 42).

But why does astronomy matters so much in the process of appropriating the world? Perhaps this is due to its maieutic view of sciences. Before writing, in any form of record, there was already someone looking at the sky and working out fundamental questions. Astronomy is movement, whether from the stars that surprise us, or from our curious gazes that seek to remedy previously unimaginable concerns. The chaos and order of astronomy place us in the abyss of who we are, it reveals what is great and insignificant in humanity, it reveals our anxieties, our desires, our fears, our humanity, our shortfalls. As psychoanalysis incites us,

astronomy shows our real insignificance in the face of all of this and our restlessness in the world. However, it also shows that with a little light, research and a lot of creativity we can explore the frontiers beyond what our eyes observe.

When we are faced with a sky far from us, but at the same time so close, we realize how much astronomy connects the people with nature and with themselves, guiding them in the search for our stories, memories. Each encounter with a planet, a star, a nebula, removes us from the superficiality of everyday life and makes us giants by relating something so magnificent in the Universe with something as small as humanity and that is what sustains the desire to look at the sky, find there refuge and comfort for our anxieties. And one of the proposals discussed in this workshop is precisely the need to recover tales from oral tradition, narratives - but what does storytelling have to do with astronomical enchantments in our homes? Because it works through charm, through the fascination that stories promote, enabling the development of the symbolic function. And it also favors the development of the capacity for abstraction, for the fantastic, for the wonderful, for the dream, for exchanges between equals, for the creative imagination: "Fantasified, with all the colors that she captures reading and seeing, the child enters the middle of a masquerade and also participates in it [...] When inventing stories, children are scenographers who do not allow themselves to be censored by the "meaning" [...] these illustrations awaken the word in the child" (Benjamin 1984, p. 56). That is why we dialogued about the need to recover the creative word in our family contexts. It is through imagination, through the symbolic, that we learn to relate to the world and to our creative selves. And how to introduce the Universe to our family? For the most varied cultural and linguistic manifestations of humanity: literature, architecture, cinema, comics, series, games, theater, among many other forms.

A person who is restless with the stars and begins to seek more about the world around him will never feel alone. The most beautiful thing we can show from this knowledge is the ability to still wonder at the world, a fascination with the greatness and delicacy of each light that reaches us. A child who grows up learning to respect and seek what is beyond his eyes and imagination, such as astronomy, learns that it is in the constant faults that we exist and that it is in these fissures that we can give continuity to our humanity. If everything were so easily visible, maybe enjoyment would be different, maybe curiosity wouldn't be so devastating.

However, it seems to us that this ontological yearning that surrounds us with astronomy is being lost. If we do not teach, both in the systematized spaces of knowledge such as schools and in places of non-formal education such as observatories, planetariums even in our homes, communities, groups of friends, if we do not continue and teach children the habit of looking the sky, we will connect more to the pixels of a screen than to the magnitude of a star. Teaching astronomy is an interesting sphere, it is no longer enough to reach people with lectures full of content and show a tiny ball of light in the telescope and say: look, this is Jupiter! The process of giving meaning to knowledge, whether in formal education or outside it, such as science centers, observatories, astronomy groups and even in our homes, is essential; to teach astronomy is to teach about ourselves. The depths of the Universe are as inhospitable as ours, and 'ensinar', putting what we know about the Cosmos into signs, is as intense as trying to signify our own concerns (Lima 2020). Therein lies the satisfaction of this action of astronomically literating someone, in this profession of the impossible, teaching about a complex and profound universe for people who

are also complex and profound and who think and learn each in their own way.

References

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