COMARCA MINERA
·HIDALGO·
GEOPARQUE MUNDIAL DE LA UNESCO
GEOPARQUE INFANTIL

Visit to the Institute of Geophysics, the Mexican Seismological Service and the Museum of Geophysics

N. 6

Lúa goes to the university

María Ruiz

Lúa went to the National Autonomous University of Mexico (UNAM), which is where higher education is done, what is studied after having gone to preschool, primary school, secondary school and high school.

UNAM is a public university, that means that whoever wants can go to study there. There are students from all over México and from many other countries around the world.

Lúa went to visit the Geophysics Institute, because from there they wrote to UNESCO, to request that the Mining Region be named a Geopark.

An institute is a center where specialized researchers meet; those who work in Geophysics study the earth.

Their studies are useful to society, through, for example: the National Mareographic Service, which measures tides, and

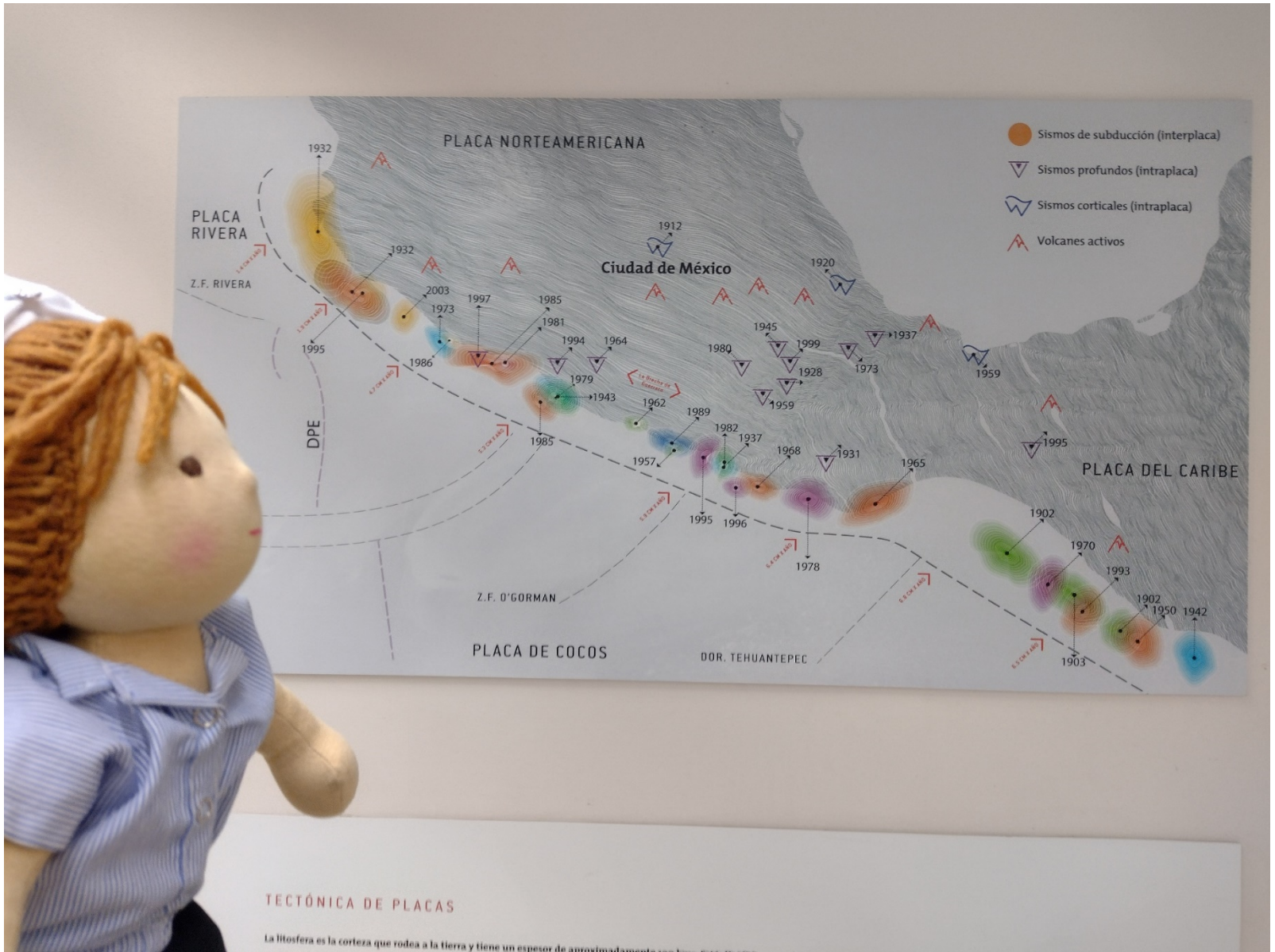
from the National Seismological Service; that monitors earthquakes.

Monitoring is observing monitors that are connected to instruments, in this case, those that measure movements in the earth, that is, earthquakes.

The measurement of earthquakes in México began in 1910, on September 5, so the instruments have been changing and improving over time.

With all these studies, maps have been prepared that divide the country according to its seismicity, that is, whether there are earthquakes with little or great frequency.

They have also made maps that show the plates of the earth that generate these earthquakes, the plates are like pieces of a puzzle, which although they are joined, are a little loose.

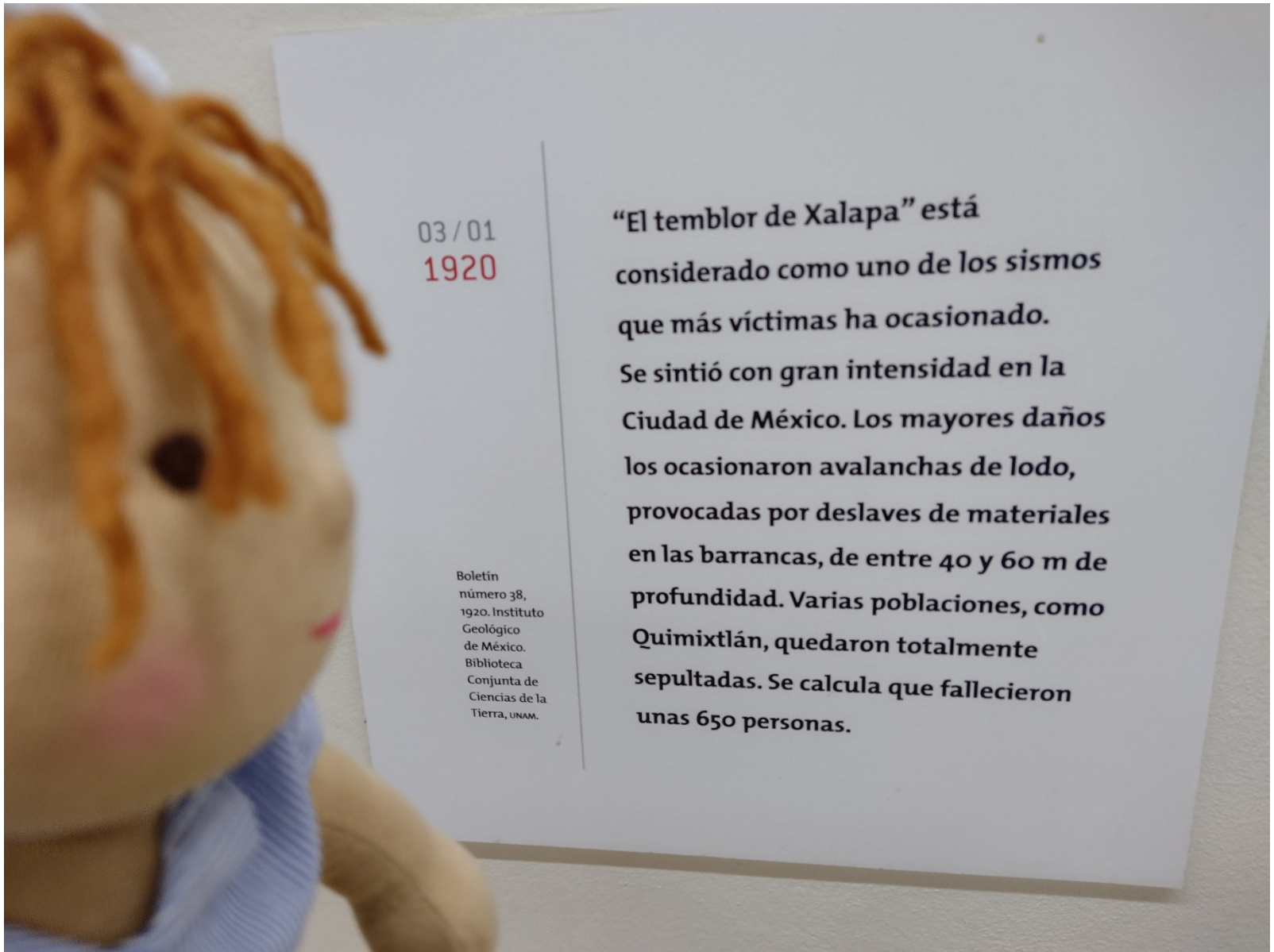


Maps can be of the entire country, or of smaller regions.

People who live in seismic zones; that is, places where earthquakes occur; they are vulnerable, they are in danger, but seismic monitoring helps protect them, with actions such as earthquake-resistant construction or seismic alarms.

Earthquakes in Mexico have their own history, which is also studied at the Institute of Geophysics.

An earthquake is a movement in the earth's crust, that is, on the surface of the earth. They are also called tremors, which means movement of any body.



On September 19, 1985, a very strong earthquake occurred in Mexico City, and it cause a lot of damage. Lúa saw the seismograph impression of that day and the next,
when there was a second earthquake.

What they discover at the Geophysics Institute is shared with society in many ways, such as with the Geophysics Museum.

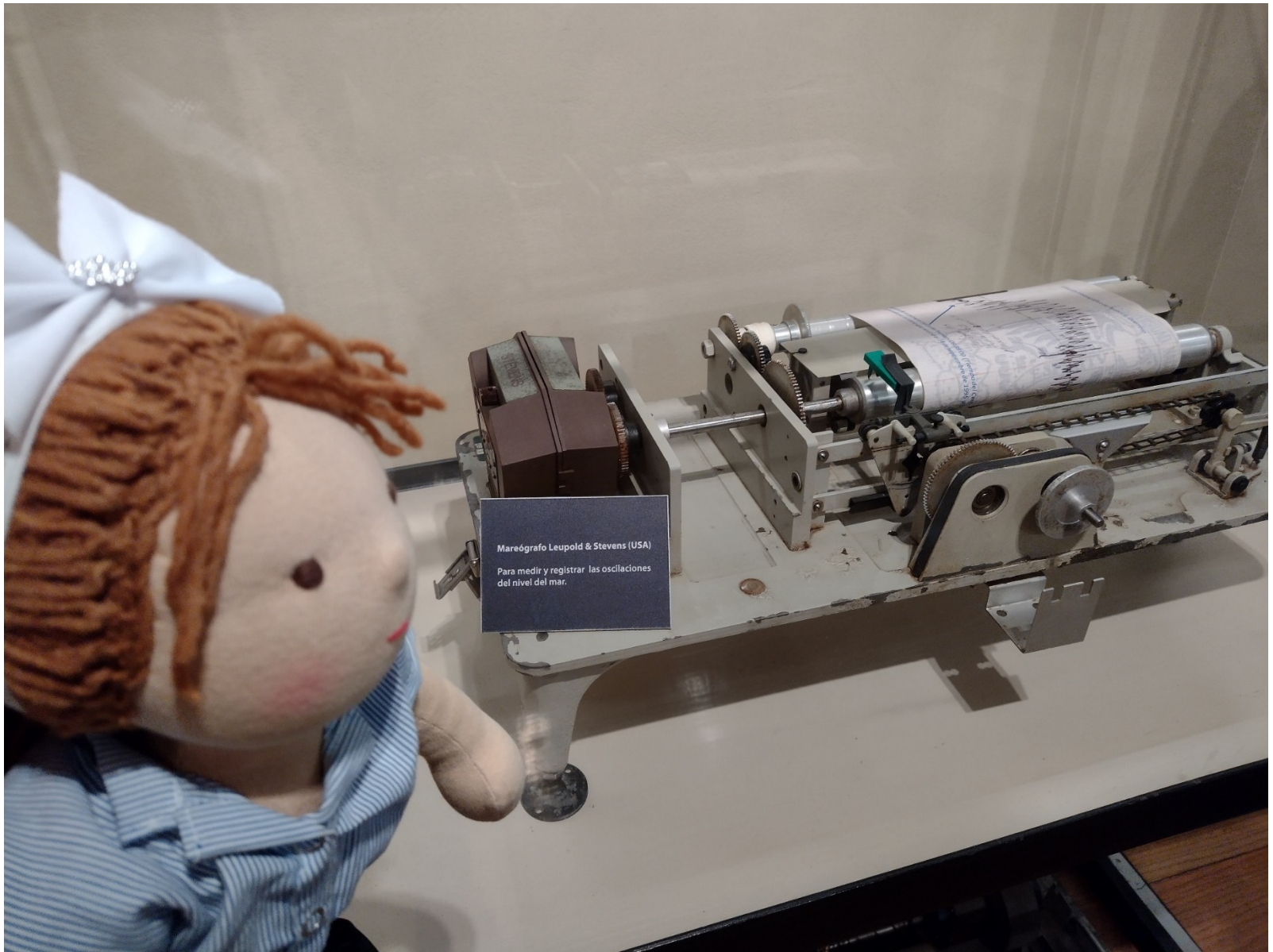
Museums keep history on some topic, Geophysics is about earth observation. Lúa loved it from the door! Upon entering, she was impressed by a replica of an earthquake detector from ancient China.

It made her realize that, for a long time, people have been aware of seismic activity.

In the museum there are instruments to measure the conditions of the country, and others, such as these sextants, which were used to know the position of the sun during boat or plane trips.

During the visit to the museum, a UNAM researcher accompanies you and explains the use and operation of the devices.

It is very interesting to realize how important it is to observe everything that surrounds us.



And how each of us can become a scientist, since we all have the ability to be attentive to what is happening around us.

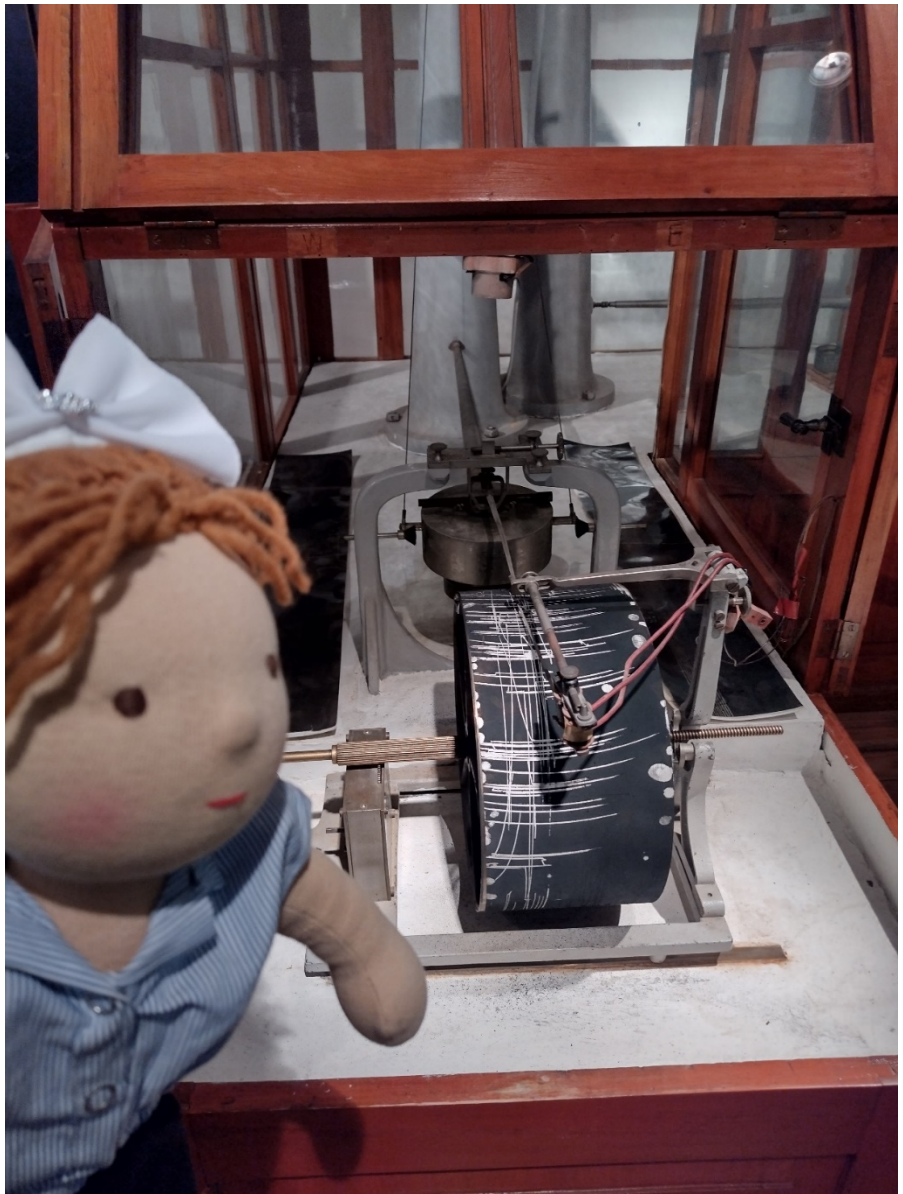
Just like Albert Einstein, who lived between the 19th and 20th centuries, who told Lúa that the most important thing about knowledge was to share it from the heart.

As usually happens when learning, Lúa saw for the first time devices and instruments that she never imagined existed.

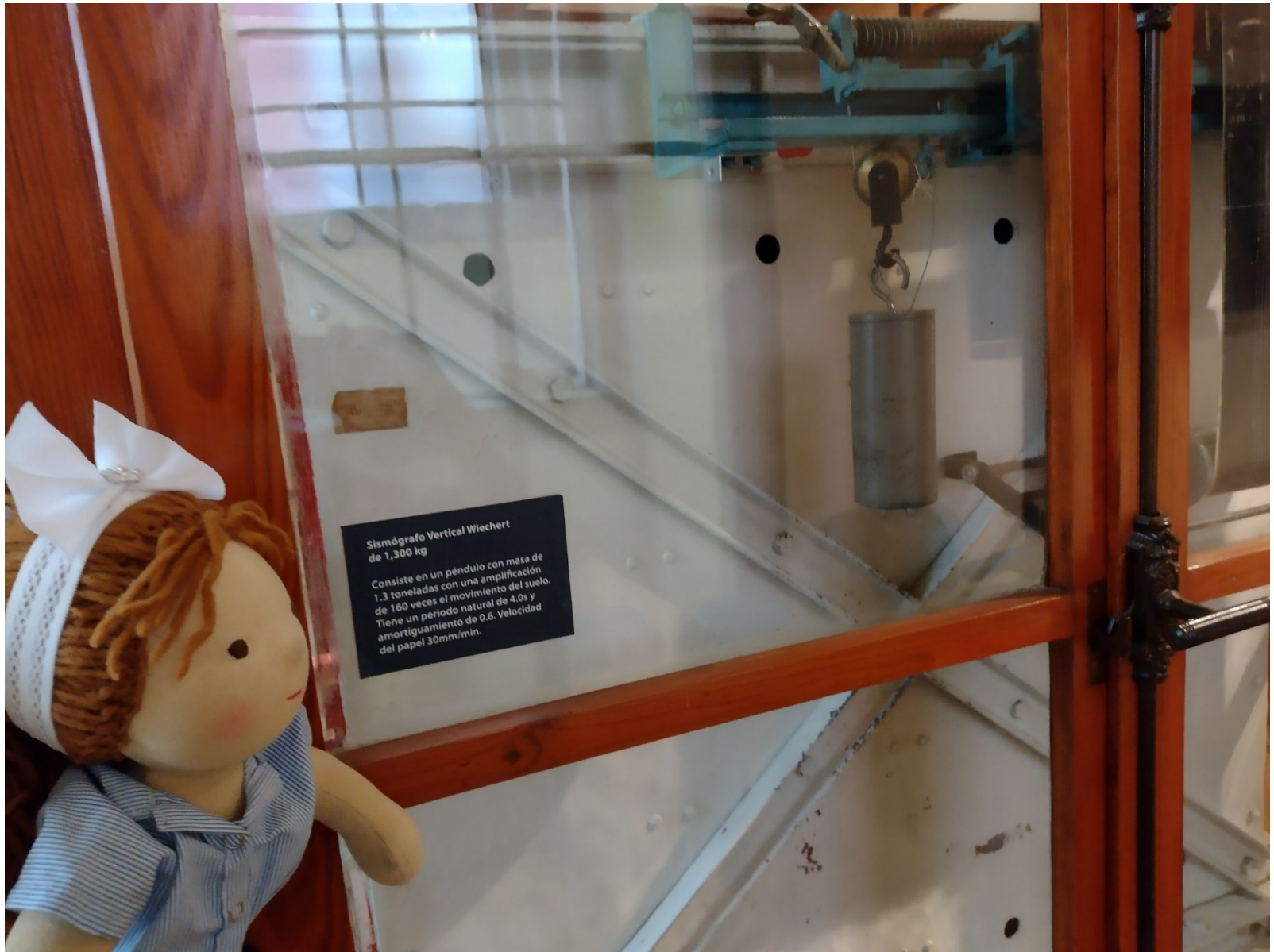
And she learned about jobs that she had never heard of, like the seismologist, who is a specialist in earthquakes.

Seismology is a very important science for society, which is why the instruments used to measure earthquakes are constantly updated.

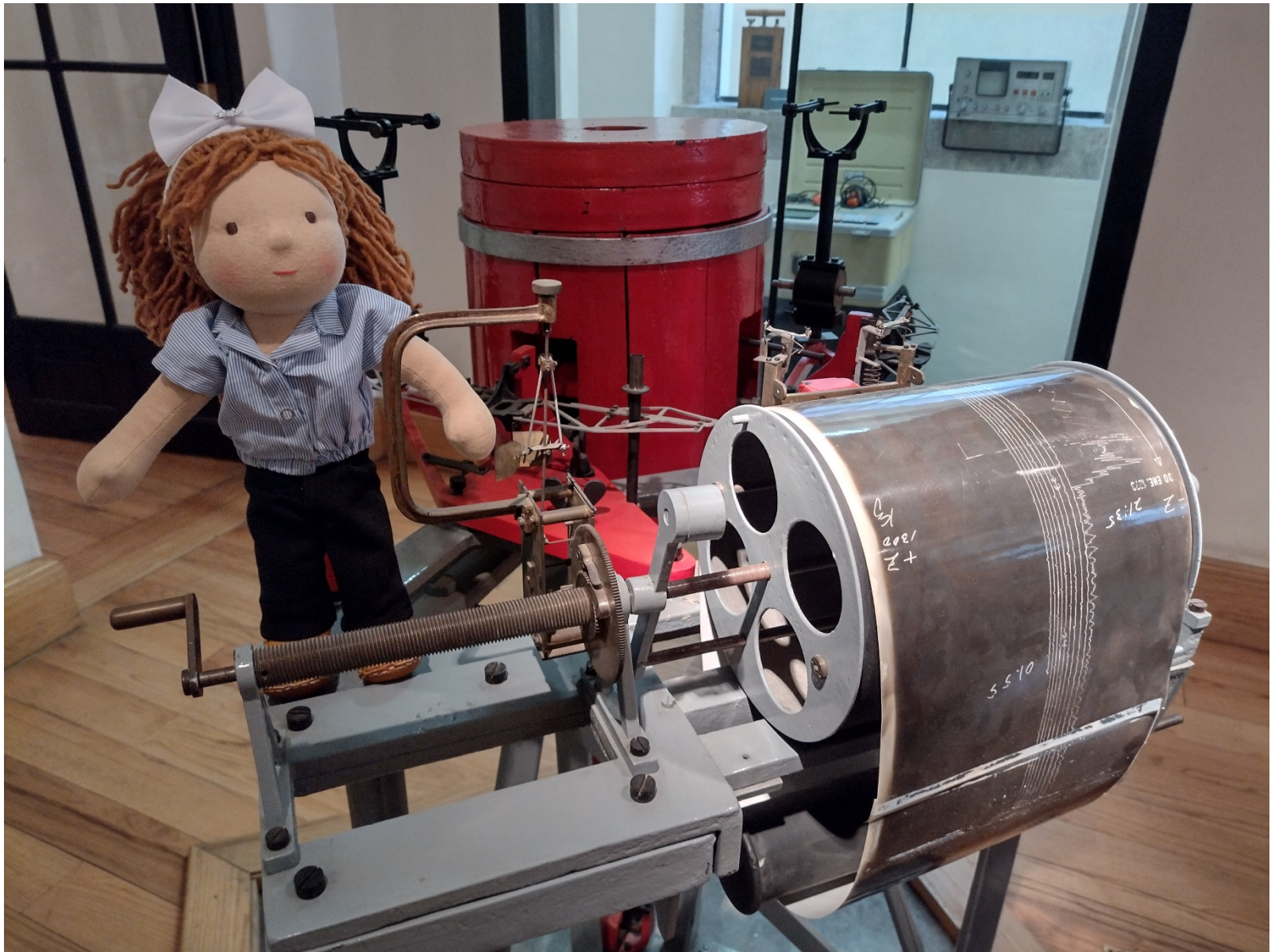
Having accurate clocks and seismographs is a fundamental part of observing and measuring earthquakes.



That is why throughout history, and in all parts of the world, many seismographs have been built.



Lúa thought that behind each instrument there was a person,
who spent many hours thinking about how to solve that problem.

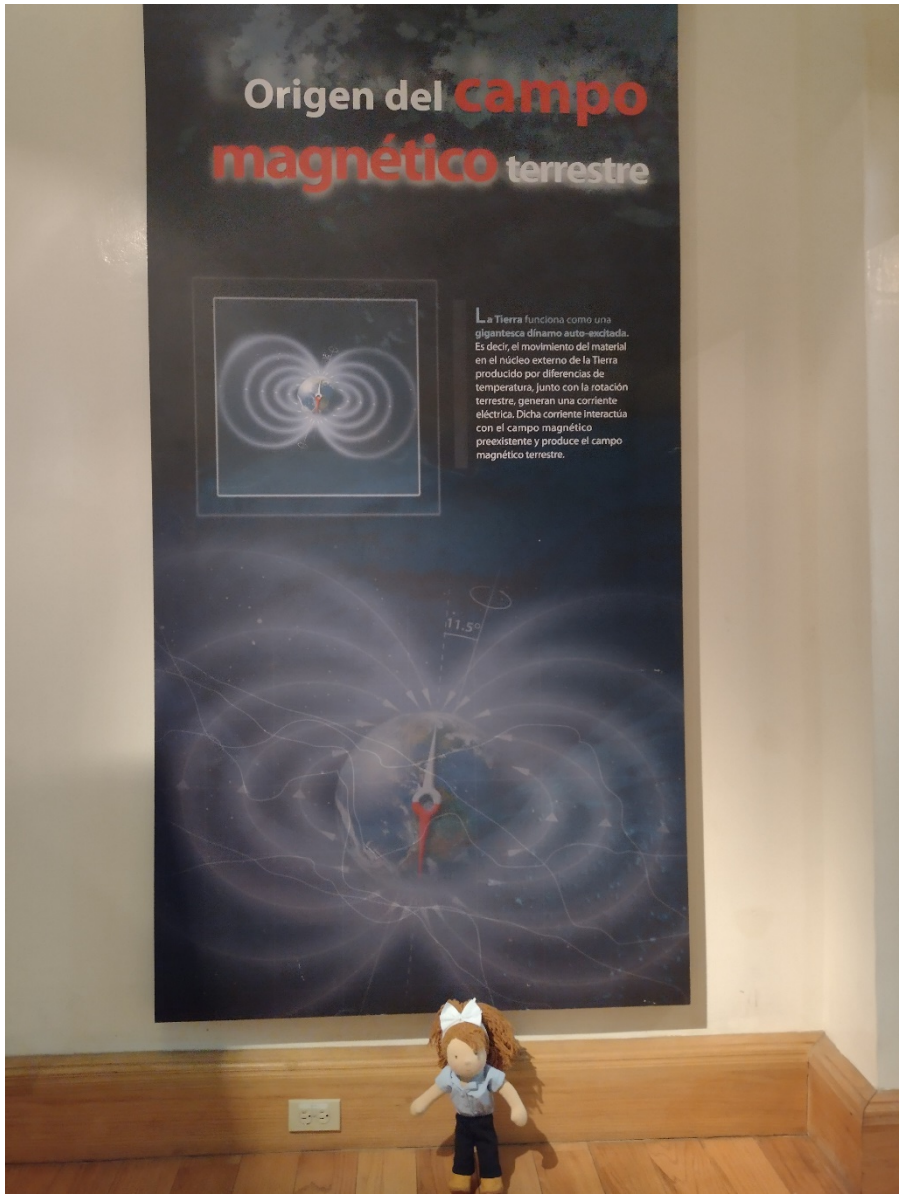


Earthquakes have magnitude and intensity, the first is measured with instruments and the second, according to the damage they cause.

Observing the sun and its effects is another research that they do at the Institute of Geophysics, which helps the safety of the population, and they explain it in the museum.

Galileo Galilei, who lived in the 16th and 17th centuries, told Lúa that you have to observe both the stars and yourself.

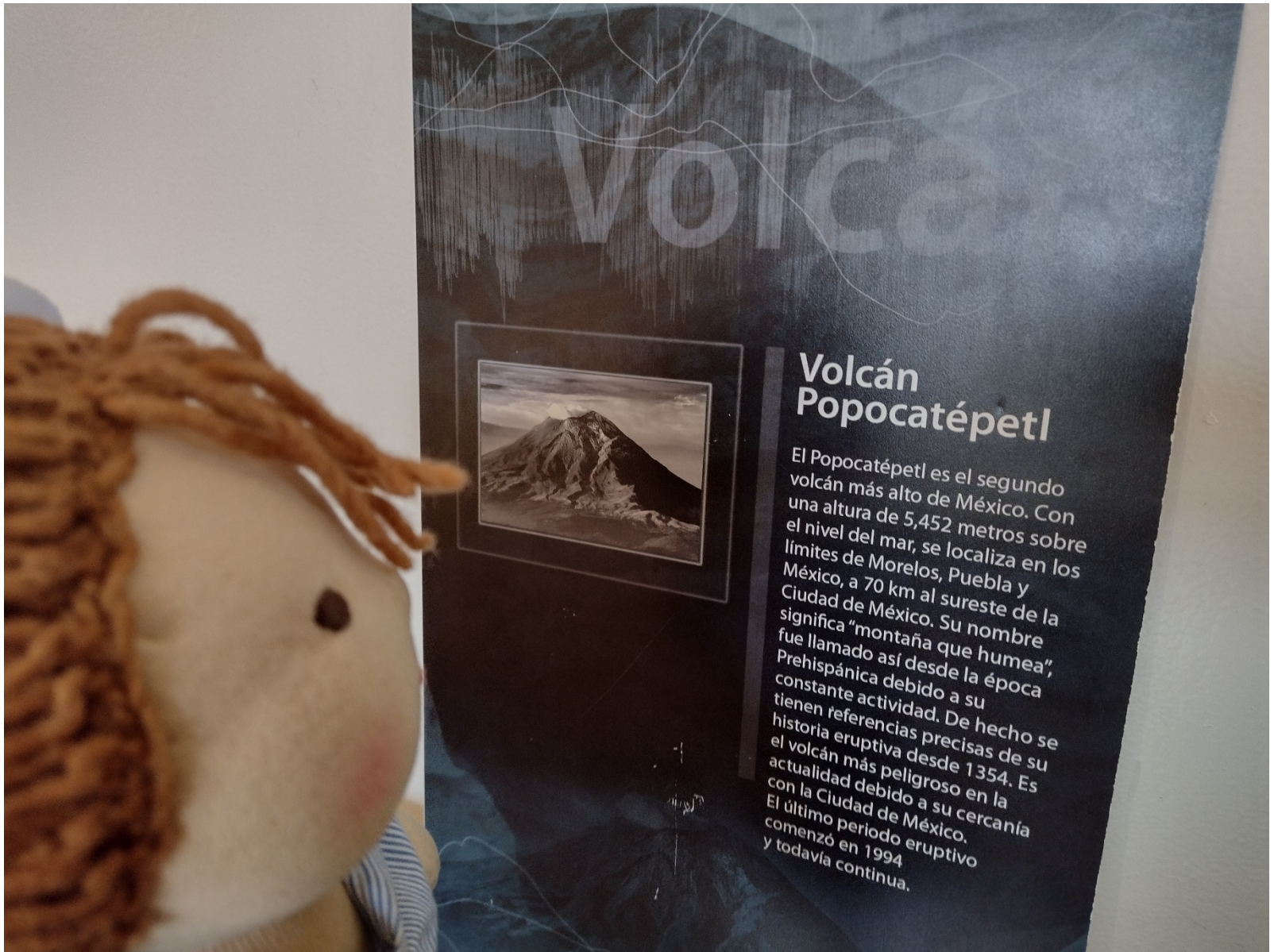
Geophysics is a science that studies physical phenomena that occur inside and outside the earth.



One of those phenomena are volcanoes, which are very beautiful, and which greatly influence people's lives.

Around the volcanoes there are building materials, forests, rivers and fauna, so many people will live near them.

But volcanoes are dangerous for people if they erupt again, that is why the Institute of Geophysics studies volcanoes to prevent possible harm to the population.



Before leaving the museum, Lúa met one of the greatest thinkers in history: Isaac Newton, who lived in England in the 17th century, who told her that observing, analyzing and thinking about the nature of things, it was something girls and boys should do.

But the Geophysics museum does not end there, as it is traveling; which means that its researchers visit places, such as Comarca Minera Geopark, to spread earth sciences.

At the Primas Basálticas geosite, they spoke with families about the eruptive activity of volcanoes, and other natural phenomena.

In schools in the territory, they periodically meet with primary, secondary and high school students to teach geophysics topics.

With these and many other activities, such as consultancies, conferences, workshops, publication of books, etc., the UNAM Institute of Geophysics supports the population of the Comarca Minera Geopark, as it promised to do before UNESCO.

Lúa especially thanks:

To the Institute of Geophysics, for being the cradle of the UNESCO World Geopark Comarca Minera, Hidalgo.

To the National Seismological Service, for generating the knowledge that protects all the people of México.

To the Museum of Geophysics, for disseminating science, especially in the Comarca Minera, Hidalgo Geopark.

And to UNAM, for being everyone's university.

Lúa is a Leyo doll, hand made by Andrea Rivera.