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PV speech

The history of Earth is an ancient and complex one.

The events of the past are engraved in the rocks of its crust. But, as it happens in the greatest archives, some chapters are destroyed. They were eroded, compressed, folded, and baked at high temperature. Others are overwritten. Others are still waiting to be found.

So, the annals of Earth history are incomplete, muddled and difficult to interpret.

Geologists and palaeontologists are the interpreters of this rocky archive.

Geologists study rocks and their distribution to understand the processes and causes that have shaped and changed the structure of Earth.

Palaeontologists instead focus on the sedimentary rocks and their fossil record to understand the history of life on Earth and reconstruct the environments and the climate conditions of the past.

Being a palaeontologist is an eclectic job: our knowledge includes biology, geology, mathematics, chemistry and physics.

We need to use picks and hammers; we need to be good hikers, explorers, photographers and artists.

But most importantly, we have retained the excitement of our childhood when we used to dig up sand at the beach or at the playground.

For palaeontologists the reading of Earth history starts out in the field.

A big excavation site looks like a busy scene of crime.

The signs that limit the area read "Palaeontological Excavation SITE: authorized personnel only". Researchers, students and volunteers busily move around in clouds of dust or sea of muddy clay.

The hard rock is usually removed by pneumatic hammers and disk saws, while diggers carry away the sediment.

Once the extension of the find is defined, the area is divided in grids.

On this map, recorded in the field book, the position of the finds and the samples are noted down. Everything that will be left behind needs to be sketched and measured. Small samples are placed in boxes and bags, sealed and marked.

The closer we get to the find, the smaller the tools become. We proceed slowly and carefully using hammers, picks, small shovels and knives.

Big finds are usually unearthed in blocks: each block is covered with wet newspaper, jacked in a cover of gypsum and toilette paper or kitchen paper or newspaper again and tied up for the transport.

“It sounds easy, doesn’t?” It is not easy, not always.

A block usually consists of the gypsum jacket and the find embedded in the rock or, if you are lucky, in the sediments.

I can assure you they can weigh several hundred kilos.

Not to mention the fieldwork conditions: the annals of Earth history are often found on rough slopes or in scorching deserts.

Just as a detective examines the scene of crime, palaeontologists look at every single hint to reconstruct the environment and its biological community.

The fossil association does not represent the diversity characterizing the community which lived hundreds of thousands or millions years ago.

Some organisms were not preserved, others got destroyed during fossilization, and others were carried away and are now part of a different association. False leads hide in the fossil record.

After the fieldwork, palaeontologists hold in their hand a piece of Earth history.

Their task now is to interpret and analyse it, to shed light on the events of the past, to understand the present and look into the future.