

1.2 A Track Record in Reverse

Rocky and Plato are watching a basketball game and end up talking about the uniform nature of earth processes, track records, making predictions, and traveling backwards in time.

Rocky: I knew this game wasn't going to be close.

Plato: How did you know that?

Rocky: Their center is amazing. He scored at least 50 points in each of the last 8 games and has a terrific rebound record. It only made sense that he would do something similar in this game.

Plato: So the assumption is that he will play in this game much like he has in the games before.

Rocky: That is pretty much how it goes. Sometimes people refer to it as your track record. They predict that you will behave in the future similar to how you have in the past. My mom tells me that I have a track record of coming home late...and that isn't so good for me.

Plato: Interesting. In geology we use the same kind of thing but backwards.

Rocky: What do you mean backwards?

Plato: We look at things that are happening on Earth now and assume that they happened in a similar fashion in the past.

Rocky: A reverse track record? Interesting (*pausing*) but I don't get it.

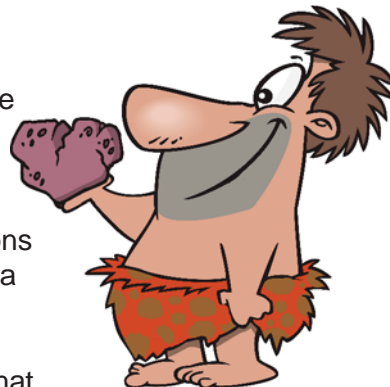
Plato: Sorry, that was kind of a big jump. You know that I am into geology, right?

Rocky: Everyone knows that!

Plato: The research that many geologists do is focused on trying to figure out what earth environments were in the past and how rock formations were formed.

Rocky: That sounds interesting. It also sounds really hard. How can they figure out what things were like millions of years ago when no one was there to write down a record of it?

Plato: The record is written in the rocks. At least that is what geologists say. But seriously, that is where the reverse track record comes in. There is a concept called uniformitarianism.



Rocky: I know what a uniform is. That is when everyone wears the same thing. But what is uniforma...what?

Plato: Uniformitarianism. And you were right to think about what the root of the word means. Uniform does mean "the same." In this case it does not mean clothes that are the same, it means earth processes that are the same.

Rocky: What kind of processes?

Plato: Gravity for one. Geologists assume that gravity worked in the past very much like it works now. That might seem obvious, but it serves as a good example.

Rocky: I don't think that anyone thinks that gravity just started up recently. Give me something else not quite so obvious.

Plato: How about the way that sediments are deposited. When we look at sediments that are currently being deposited in a stream we see certain distinctive patterns. When geologists see those same patterns in sedimentary rocks that are very old, they assume that a similar process was at work when the sediments that make up those rocks were deposited.

Rocky: In other words, what is happening now probably happened then.

Plato: Exactly! Geologists have a saying "the present is the key to the past," and by that they mean just what you said. We look at what is happening now to give us ideas about how things functioned in the past.

Rocky: Do you think that if I tell my mom that I am behaving according to uniformitarianism that she will not expect me to show up on time?

Plato: I don't think that moms are bound by the same rules as geologists. Go ahead and try it and as soon as you are no longer grounded you can tell me how it went.

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