The Cyclic Journey of an Atom

Three children are playing in a meadow. They come across a dead pheasant in the grass. They wonder why the pheasant died and what will happen to it now. They agree to check in the coming days.

The next time they look for the pheasant, they can't find it at first. Then they see it a few feet away. What they don't know is that a red fox found it, dragged it to a comfortable spot, and fed on it. The children flip the pheasant over with a stick and notice little insects and larvae on the other side. The fox, insects, and larvae have been using the pheasant's body for food.

The children can't see the very tiny organisms called microbes that are also eating the pheasant. Microbes are decomposers. Decomposers break down dead plants and animals and recycle the material they were made of back into the ecosystem. Bacteria, fungi and other microbes are helping the pheasant's body to break down into little parts that can be used again by other forms of life. Some of the microbes were in the pheasant before it died. Others came from the ground and the air.

Everything on Earth is made of elements. All living things have elements in common, such as carbon, hydrogen, nitrogen, and oxygen. Elements are made of atoms. An atom is one of the tiniest things on Earth. Each element has one specific type of atom, for instance, carbon is made of carbon atoms. Atoms can form into groups called molecules. The microbes decomposing the pheasant are breaking apart the molecules into the atoms. When the molecules are broken down into atoms, energy is released. This energy is food for the microbes, the fox, the insects, and the larvae.

After a few months pass, the children go to look at the pheasant again. All they can find are bits of feather and bone. They think that it is disappearing. But the pheasant's body isn't really disappearing. Some of the atoms are now in the fox, the insects, and the larvae. Some atoms broken down by the microbes went into the ground and into the air. The atoms that went into the ground went into the root of a blueberry bush near the pheasant and then up into its leaves. From there, the atoms grouped into a sugar molecule in the blueberries growing on the bush. A pheasant came by and ate some of the blueberries so now atoms from the dead pheasant are in another living pheasant.

The children's mother picked the blueberries and put them in pancakes that the children ate for breakfast. So now, some of the atoms from the pheasant are in the children. This might surprise the children. They would be more surprised to know that the atoms in their bodies could have been part of a dinosaur once or even a meteorite! The atoms on Earth have been around for billions of years. All the atoms on Earth get recycled and become part of something else. It's sort of like atoms are borrowed--to be used during our lifetimes. They go back into the ecosystem upon death. Death is natural and necessary for healthy ecosystems. It is one of life's many cycles where organisms die but the atoms that they were made of continue on as part of the living and non-living environment.

This story is based on a concept from Death is Natural by L. Pringle.

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