

# FROM PLASTIC TO FANTASTIC

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**T**he next time you're looking for fashion inspiration, check your recycling bin. Or farmyard. Or maybe a tropical rainforest. Those are just a few of the funky places fabric manufacturers go to find fibers used in many of our clothes. Your cozy fleece jacket might be made of plastic soda bottles. Your warm mittens might have begun life on the back of a goat. Your favorite T-shirt may have once been stalks of bamboo.

Bamboo? You bet. It grows very quickly and easily, especially in Asia and has become very popular for making clothing. But how does it get from the forest to your closet?

Most of the bamboo used to make fabric today comes from China. The stems and leaves are gathered and then mashed into a gooey, soggy substance called pulp. Next, chemicals are added that turn the coarse pulp into a finer paste. Often, the paste goes through multiple rounds of bleaching to turn it from its natural brown color to white. The paste is then made into fibers that are spun into yarn. The yarn is knitted or woven into bamboo fabric that's used to make everything from shirts to bed sheets.



While bamboo has only recently become popular for clothing, humans have been using wool since about 4000 BCE. At first glance, wool may not seem quite as exotic as bamboo—you probably already know that it often comes from sheep. But it also comes from the hair—or fleece—of other animals, such as goats, camels, and rabbits. And it's a long process to get it from the animals to your dresser drawer.



**Shearing is the act of cutting or shaving the wool off of a sheep. Don't worry, it doesn't hurt. It's just like getting a haircut.**

Let's look at sheep's wool because it's the most common type and its manufacturing process is similar to that used for other wools. Usually once a year, the sheep are sheared, that is, their long, luscious locks are shaved off. The wool, now called fleece, is sorted by quality. The best comes from the sheep's shoulders and sides and is used for clothing. (The wool from the legs is rougher and ends up in carpets and rugs.)

Understandably, the wool is pretty grimy when it's removed from the sheep—thick with dirt, sand,

and sweat. It takes a few rounds of scouring and washing to get it clean. Next, the wool is carded: passed through a machine with tiny metal teeth that help smooth it out and remove snags. From there, it's made into slivers, narrow ropes of fiber that are spun into yarn that can vary widely in texture and thickness. That yarn is knitted up or spun into your favorite sweater, mittens, or winter cap.

Speaking of winter warmth, what about those plastic soda bottles mentioned earlier? How do they wind up as cold-weather clothing? It all starts in your recycling bin. . .

After you recycle your plastic bottles they get taken to a processing facility. There, they are sorted to separate green plastic from clear plastic and to make sure there are no caps (which aren't recyclable) or other foreign objects on or in them. Then the bottles are washed, bundled together, and shipped to another facility for recycling.

At the next stop, the bottles are cut or crushed into tiny little chips that are put in vats and melted down until they're liquid. That liquid then goes through a device called a spinneret, which looks kind of like a shower head, with lots of tiny holes in it. As the liquid plastic shoots through the holes, it hardens into individual strands of fiber.

But it's not over yet. At this stage, the fibers are still too coarse to use for clothing, so they're lengthened and crimped to give them a smoother feel and better texture. Finally, a machine spins the fiber into a finer thread or yarn that is then used for making clothing. Next thing you know, you're keeping warm in winter with a fleece jacket made of soda bottles!

Next time you pick out a new shirt or sweater, take a glance at the tag to see what it's made of. Who knows what it went through to find you?