

A Material Matter

The casual observer steps into the noonday sun, feels the warmth radiating throughout the air and concludes, "The sun brings warmth to the earth."

Using the same rationale, the same observer steps into the midnight moonlight, he feels the chill of the night air and concludes, "The Moon brings cold to the earth."

In the first instance, the observer is clearly correct. In the second instance, he is not. The observation is accurate; it is cooler while the moon is out. But it's not due to the moon. The moon is irrelevant in this scenario. It's the lack of the sun that allows the temperature to drop. Keep this analogy at the forefront of your mind. It is important in understanding how easy it is to draw incorrect conclusions in general and, more specifically for music lovers, in assembling a truly satisfying and accurate sound system.

It's become somewhat vogue for the active system tweaker to invest in so called "natural" materials. It started with reviving the age old practice of using cotton as an insulator between current carrying conductors. If you find a house old enough, you may find remnants of this practice hidden within the walls and attic. And it continues with some companies charging very large sums of money for custom made wire and various other electric components that are made of silk, mineral oil, paper, wood and all sorts of other naturally occurring or earth grown materials. The conclusion is that "natural" materials make the music sound more "natural". But is this observation more akin to concluding the sun warms the daytime or the moon cooling the nighttime? We shall attempt to explain this, and other observations, in some detail.

But first, let us define exactly what a "natural" material is. Well, the most obvious answer is that it is a material that resides on the earth without the influence of man. I.e. It is specifically NOT a "manmade" material. Okay, we'll go with that. It's a reasonable and sound definition. So then, let's ask what exactly is so wrong with manmade materials?

Well, obviously, manmade materials don't (or can't, if you prefer) sound natural! To which we ask, does a trumpet sound natural? Does a Saxophone sound natural? How about a cymbal? These are important questions, because all of these instruments are made out of a "manmade" material. Yes, the defining characteristic of all of these instruments comes from the unique and desirable qualities of that manmade material known as brass! Sure, brass is made up of two naturally occurring materials, namely copper and zinc. But brass does not occur naturally, it is distinctly manmade. It is the intelligent combination of these materials that results in an instrument that rings out with beautiful sustain!

Here's another more extreme example. If you are not already familiar with them, take a moment to do a Google search for "Carbon Fiber Cello". At first it might seem absolutely sacrilegious to a Luthier to even consider a cello made of carbon fiber! I mean, wouldn't Stradivarius roll over in his grave? And yet, there is a huge benefit to just such a design. It turns out that they are far less prone to detuning and even breakage when exposed to temperature changes. Not only that but, properly designed, can ring out with

all the dynamic impact of the best old world wooden designs. They are so good, in fact, that great cellist such as Yo-Yo Ma has chosen to play them at times!

So, obviously, it's fine to use manmade materials when it comes to the objects that actually make music. Musicians and makers of instruments do so because the correct and intelligent combinations of materials into things otherwise manmade can have profound benefits when it comes to making music! So let's consider another simple combination of two perfectly naturally occurring elements.

Let's start with carbon, one of the most fundamental organic elements. Humans are made up of carbon! It is the second most prevalent element in the human body, next to oxygen. So it doesn't get much more "natural" than that! And let's combine it with another natural element called Fluorine. If we combine these two naturally occurring elements in the proper way we end up with a compound with a big and scary name called "Polytetrafluoroethylene". Or, we could just refer to it by it's much less scary and more common name, Teflon.

Teflon is practically a miracle material. Its usefulness is proven all around us! And when it comes to electronics, its benefits are just as vast. Without getting too technical, it's practically the perfect material for insulating signal carrying conductors. It stands up to very high voltages without changing. It has extremely low absorption. What absorption it does exhibit it releases in, by far, the quickest and most linear manner. AND, contrary to some belief, it does NOT have a signature "sound" to it. All of these things are extremely desirable traits when it comes to carrying a highly complex electrical signal from one stereo component to another! And nothing, no matter how "naturally" occurring, (or any other material, for that matter) can come close to the overall lack of influence imposed on a musical signal.

It is practically accepted as fact that we want our speaker enclosures to be as solid and inert as possible. There are a tiny few who disagree with this. But for those seeking true fidelity it goes without saying that we want a speaker cabinet that exhibits zero of its own influence on the music it is reproducing. In the world of electricity and signal propagation, it simply doesn't get any more inert than Teflon. Teflon is perfectly akin to the most robust and complex speaker enclosures in existence. So why would we even consider anything other than Teflon?

The answer to that question brings us full circle. It is because, for far too long, Teflon has received the blame for aspects of a cable design that it has very little to do with. In other words, saying Teflon has a profound sonic signature is like saying the moon cools the earth at night. In fact, if you wanted a cable that simply got out of the way of the signal and sounded as transparent as possible, it would require the use of Teflon. Of course, it would still need to be applied in all the correct ways, taking full advantage of its strengths. This goes, practically, without saying considering the many existing Teflon based designs that DO exhibit an identifiable sonic signature. However, if you are seeking true fidelity, starting with Teflon is a must. Otherwise, all one is doing is playing around with slightly (or many times grossly) compromised materials that impose all sorts of their own flavor onto the signal.

So, while we respect that there are many who enjoy the process of mixing and matching various components and materials in order to mold their stereo system into all sorts of different “flavors”, it has always been our greatest ambition to achieve a system that was absolutely transparent. It is our belief that this pursuit, judiciously and intelligently applied, leads to a far greater emotional connection to a far greater swath of music. It is why we always spend countless hours simply asking if we are even asking the right questions when it comes to material selection. And this applies, not just to the insulator material we select, but to every design concept we employ. We are always checking to make sure we don't blame the moon for the cold. And we believe the effort has paid off.

Now we revel in the emotional enjoyment of music reproduction that sounds more live than not.

As though basking in the noonday sun.

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