

# Writing Technical Fiction

By Matthew R. White



If you are a writer who pens science fiction, military techno-thrillers, or police forensics, you will sooner or later have to tackle the subject of technical fiction, or *techno babble*, as it is sometimes called. This can be an intimidating prospect for even the most experienced writers, but this aspect of writing can be mastered by anyone. The keys are preplanning and research.

Technical fiction can fall into two categories, abstract concepts, and real world applications. The latter is self explanatory and I'll cover it first. In real world science fiction, all laws of physics apply, for instance matter cannot be accelerated to or beyond the speed of light. Time travel to the past is impossible. Every

action has an equal and opposite reaction, and so on. Notice that I didn't mention time travel to the future as it is theoretically possible, if we had the space travel technology to do it.

In my story *Glitch in the Machine*, Matt Hewett is discussing a problem with Commander Straker:

*“Could it be an incompatibility with our old equipment? We are still using some of the channel banks correct?” asked Ed.*

*“I'm afraid not Commander, the WAN side of a channel bank is a T1 or DS1 standard. And it works fine on the leased lines. Instead of going into a leased line you're plugging into a DSX3 multiplexer which multiplexes 28 T1 lines at 1.544 Mbps to a DS3 rate of 45Mbps. These are all industry standards, which the phone companies have been using for a while. If it*

*were an incompatibility the test sets would show it,” said Matt.*

This is an example of real world application, as the technology really exists and nothing stated here contradicts the facts. The important thing to remember when writing real world, is you have to do your homework. If you're going to write about a Saturn V rocket, you should know that it has three stages, it takes about twelve minutes from launch to Earth orbit, and certain events happen, at certain times, during the launch. Only use as much detail as you need to forward the plot. Remember the more detail you put in, the easier it is to get tripped up. Or, to quote my favorite engineer, “The more complicated they make the plumbing, the easier it is to stop up the works.”

An abstract concept is an area where we get to have some fun. Time travel to the past, faster than light travel, particle weapons, and FTL

communications and FTL radar all fall under this heading. To write convincing abstract concepts you must follow three basic rules;

1. Define what you want to accomplish in the story
2. Create a procedure or device to achieve that goal
3. Be consistent

For example, I need a way to track a UFO that is moving at many times the speed of light. In order to do that, we need to build a device that uses a beam of tachyons that travel, almost instantaneously, through space. The device will be called the utronic beam emitter and detector system. It's important to remember that the device uses a tachyon beam. You don't want to get to the end of the story and state that it uses neutrinos. Remember, you don't have to get over complicated, just put in what is needed to forward the plot. As the writer, you decide how something works, so it is important that you

have the concept clear in your head so you can convey it to the reader.

In the story *AfterMath*, my friend and fellow writer Louise wrote this passage;

*‘There are lots of theories, but it’s usually the simplest ones that are most likely.’ Straker sat back behind his desk, its Perspex surface tidy and organised. ‘It’s probably best to think of time as a piece of string. It goes in a line, but Janus made the string loop back upon itself, to rejoin the initial line and start a new path from where we managed to change history. May 19th to be exact. However, we travelled along the whole of the string, unlike everyone else, those who died. They were not on the string at the end of the loop, so they don’t remember. Because we survived, we still have those memories. Don’t worry too much about it. Just enjoy each day.’*

This was a brilliantly thought out example of an abstract concept. Louise has said to me that she is not technically minded, but you cannot prove it by her explanation of the time line given in her story. It is easy to read and understand and it makes perfect sense.

In my story *Distant Memories*, Straker and Reinhardt have the following conversation;

*“Take a look at this Edward,” said Reinhardt pointing to a section of the sensor map.*

*“A tachyon burst, and it coincides with the disappearance.”*

*“Yes so we know that the craft did not disintegrate, it did travel through time.”*

*“Yes, but where?”*

*“I might have an answer. I had Keith run a computer comparison of the sensor logs, to*

*look for related simultaneous events. Look at these sequential frames of this area.”*

*Straker examined the readouts noting a sensor reading that appeared in the area almost at precisely at the same time as the craft disappeared. He compared the energy signature of the two. They match!*

*“It ended up in Nevada! But there was no tachyon burst.”*

*“That’s correct Edward; the craft simply appeared because the timeline has been altered. We don’t see the tachyon burst because in this time line it has happened in the past. Our reality has been changed around us.”*

This example shows how consistency is so important. The tachyon burst did appear when the craft traveled through time but it appeared in 1862 not 1990. With time travel stories it’s important to remember what happens when.

The exchange is easy to read and doesn't overwhelm the reader.

Here is an example from *Soul Mates*;

*“Yes and creating a new alloy by blending titanium we prevent atmospheric deterioration. I’m glad the aliens haven’t figured that out yet,” said Ed. “They have to be able to control a gravity field, and somehow alter or warp the space time continuum. What kind of a power source would give them those abilities? Even the UFOs that have crashed on the moon don’t seem to have enough material to account for the size of the craft.”*

*Virginia looked at him suddenly and asked, “Ed, what if they are using a quantum singularity as a power source? Theoretically it would give them unlimited gravitational control, and ability to warp space.”*

*Ed looked at her, “It makes sense, and it also explains the discrepancy of material at UFO crash sites. The singularity collapses taking most of the craft with it. All that is left is a shell. No wonder we haven’t been able to find a power system,” he finished then added. “Let’s assume for a minute we’re right, and they are using a micro or quantum singularity as a power source, is there any way to passively detect it?” He let the question hang.*

*After a few minutes Virginia answered, “Most of this is hypothetical, we don’t even know if such a phenomenon can exist. As you know the standard model has been evolving for the past 15 years. While I was at Stanford I was able to get involved with some of the experiments being done at SLAC. We are just beginning to understand quarks and leptons, and now dark matter is being hypothesized. This opens a whole new dimension in quantum mechanics. If I had to guess, and keep in mind this is*

*purely speculative, we might be able to detect anti-neutrinos, and anti-tachyons from the source. In theory these particles never can slow down to light speed because of the barrier.”*

This is an example of mixed real world and abstract concepts. This story takes place in 1984 so I had to research the work being done at Stanford, in that time frame. A quantum singularity is of course a micro black hole and I used some poetic license here as the properties of such a phenomenon are unknown. But quarks and leptons are real and I only mention that they are being studied. Warping space to bypass the light barrier is actually being researched by NASA.

When writing for an established show, it can be easy to fall into the same traps that the original writers did. SOL speeds and travel times are a prime example. To explain let's look at the distance between the Earth and the Sun;

roughly ninety three million miles or eight light minutes away. In most of the episodes of UFO the aliens are approaching at a speed of SOL 8, or eight times the speed of light. At that speed the UFO could traverse the distance between the Earth and the Sun in one minute. SID will usually report a distance between twenty five and thirty million miles. That's about twenty light seconds away in a straight line. Hardly enough time to launch the interceptors. The only thing that would make sense is they are flying a circular course and not in a straight line. There was really no excuse for the writers not to do their homework on this one as it is simple arithmetic. This is another reason why consistency is so important.

Anyone can write good *techno babble* as long as they do their homework, and follow a few basic rules.