

Dale Cozort's

Alternate History Newsletter

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What Is This?

For the last fourteen years I've participated in an alternate history APA (Amateur Press Association) called Point of Divergence (POD). POD is a cross between a snail-mail forum and a writers' workshop for people who are seriously into alternate history. We share stories, ideas, facts and reviews on alternate history. This is a subset (about 40%) of the zine I did for POD in February 2010. I stripped out most of the fiction, but there are a few snippets and excerpts of fiction in here. This is one of several dozen alternate history newsletters that I'll eventually make available in e-book formats, so if you like this one, watch for more.

Who Am I?

I'm Dale Cozort, novelist, alternate history buff, and computer guy. I'm married, with two grown daughters. My first novel, *Exchange* is available in trade paperback and a variety of e-books formats. I also have a book-length compilation of American Indian-related alternate history essays called *American Indian Victories* out in trade paperback. If you like what you see here, feel free to stop by Amazon.com or Smashwords and do a search on my name. You can also stop by my website, www.DaleCozort.com, or my blog at <http://dalecoz.livejournal.com>.

So What Have I Been Up To?

I have three completed novels so far, and two at around seventy percent of the rough draft done. Here is the status of the five novels:

- ***Exchange*** is done. Edited. Ready to be printed. Will be published by a small press called The Armchair Adventurer in late June or early July. Official print date is July 6, 2010. Yay!!! *Author's note:* By the time you read this, *Exchange* should be available on Smashwords at <https://www.smashwords.com/books/view/53028>. The first few chapters are available for preview in a variety of formats. If you like what you see in this newsletter, feel free to stop by and see if you like the novel too.
- ***Char*** (An alternate reality/police procedural cross-over) rough draft is done, as you know, and it has gone through numerous edit passes. It still needs yet another edit pass. That's coming as soon as I get a couple of other things out of the way.

- ***All Timelines Lead To Rome:*** rough draft is done, and I've done one complete edit pass. I went ahead and entered it in the ABNA contest, but it still needs more work. I'm looking for Beta Readers in case any of you are interested in seeing the whole thing in one swell foop.
- ***Mars Looks Different:*** Rough draft still not done—probably at about 80%. There are some good things in there, but it'll need a lot of work once I finish it.
- ***Snapshot:*** Rough draft maybe three-fourths of the way done. This is my top priority for the rest of February. My goal is to get it finished by my birthday, February 25. That will take some doing.

As you may have noticed, I've gotten serious about this being a novelist thing. I have a big birthday (one with a five or zero) in about 16 days, and I feel like time is wasting. If I'm going to do this thing now is pretty much the time to do it.

Of all the stuff I've written, I think Snapshot has the most potential. I could easily write twenty novels in the "world" and barely scratch the surface of the possibilities.

What are the highlights of this issue? I have quite a bit more Snapshot. I also unenthusiastically included more of ***Mars Looks Different***. This section definitely needs work. There is a large section of Scenario Seeds this time, which I hope will inspire you, and an AH challenge which I hope you accept. There is also a short story fragment that I wish I knew the rest of the plot for. It's called ***Martian Upload***, and has nothing to do with ***Mars Looks Different***.

This last paragraph is a bit of a cheat. I'm writing it after I've seen all of the zines for this distro. Based on what I've seen, it looks as though a lot of people took my advice on the way to approach reading ***Snapshot***, were totally baffled about what was going on, and gave up on it. If that was the case, please do give it another shot. It will grow on you as you figure out what is going on. I honestly believe that it is the best thing I've ever written by far. If you're baffled by what is going on, try reading page 44 of my zine for last issue first, then see if the story makes sense. I'll have to figure out some way to make the first part of the story more accessible.

Dollhouse, Joss Whedon's latest, got cancelled. Grrrr. Aargh. I was getting into that show. I'm going through the first four seasons of ***Supernatural*** and enjoying it. Surprisingly good stuff. I like the fact that they show up in non-generic places outside of New York and LA. There was an episode in Rockford Illinois and a couple in Lawrence Kansas

Fiction Section

Martian Upload

Note: Fair Warning-this is a fragment that may or may not go any further than it already has. This first part came to me all in one swell foop at one sitting. There are no guarantees that

I'll figure out a rest of the plot. My subconscious is still working on this, but I don't know where it'll go with it if it goes anywhere.

I'm not really on Mars. The real me is probably asleep now, snoring softly. It's two in the morning back there, on a cool January morning, with the blankets pulled up around my neck. If the me back there wakes, the bed will be warm and comfortable and the room cold. He/I will stir, snuggle closer to Elaine, savoring the feel of warm, soft female flesh next to him and go back to sleep, never opening his/our eyes.

It's cold here too, frigid, Antarctic by earth standards. The sun is rising, dim and distant in the eastern sky. My core functions switch from battery power to solar, and the batteries begin to recharge. The batteries are still young and strong. As they get older, my consciousness will go away entirely during the depths of the night, stored in non-volatile memory, and be rebooted when the sun comes up. For now I have the luxury of something very like human sleep, with dreams functioning to edit memories and choose the ones to store semi-permanently.

I cling to the tactile memories, of fingers touching, of toes squishing in the mud or arms and face caressed by soft breezes, of chocolate or tart candies on the tongue, the pleasant fatigue that comes from a long run, the warm sun on my body on a cool morning. Oddly, it's the little everyday sensations I miss most, not highs of danger or sex. The hard metal and plastic of my current body is coated with sensors that give a crude approximation of those feelings, and I try to imagine them as the real thing.

I try to imagine myself with a human face, with legs and arms, with nose and mouth, with hunger. I'm just like the others I see roaming the Martian surface around me, though. Twelve thin, insect-like legs. Long, sensor-filled antenna front and back to feel the ground, test the winds, and feel the heat, or more likely the frigid cold. Faceted eyes like an insect, eight of them scattered on my head and body, though I can only focus on two of them at the same time. Look mom, I have eyes in the back of my head. They tried models where the input from all of the eyes went to central processing simultaneously. The uploaded minds quickly did the cyber equivalent of curling up into a fetal ball and sucking their thumbs. Info overload.

They say the Mars survey and preparation robot bodies are cute, and from a distance, from the perspective of the me back on Earth I can see that. Mars exploration has to ultimately pay for itself, either financially or politically, and putting our uploaded minds into cartoon insect bodies works. It's a mesh of the practical and public relations. There is a reason why insects are so common. Their body plan works, and works with low processor overhead. Of course the program managers back home did make a few modifications to the design. More legs for better traction on the treacherous Martian surface. More eyes so that I can record more of the surface as I wander. Retractable hand-like appendages, though I can vouch for the fact that they don't hold a candle to a real hand. A beetle or armadillo shape to cut heat loss and shield the vital bits from the many things that can go thud on Mars.

And I volunteered for this. At least my original did. The one safely asleep back on earth. The one who sometimes wishes he could spend a day or two in my place, exploring and building over here. Tell you what, dude: let's swap for a day or two. I promise I'll swap back. Yeah right. Of course I would. In reality, swapping isn't an option. The upload is one-way, and apparently a subset of the original. So, they sent a subset of my mind to Mars in a two-foot long plastic beetle and I didn't even get a lousy T-shirt. Well, maybe the original me did, the one sleeping back home.

When I say that Mars is cold, dim, and windy I'm understating the issue. When I say that the work here is ninety percent boredom and ten percent terror I'm exaggerating only slightly. There is the one or two percent where Mars shows a cold and alien beauty. No Dejah Thoris. None of those tentacled thingies with death rays and crappy immune systems. Just a harsh, dry, cold, dangerous landscape shaped by wind and chemical processes. And maybe the things that flit at the corner of our eyes, the things that move at night but never close enough or clearly enough for us to identify them.

Of course they could be a mass delusion, something that we see, or rather half-see because we expect to. If they really are there they leave no signs behind them, and so far they have not interfered with our transformation of this tiny corner of Mars into a logistical base for the true humans that may or may not eventually follow us.

The broadcasts from home haven't talked too much about that lately, which I take as a bad sign. I worked until my batteries went dead building a house on Mars, and nobody came? Not too catchy, but it could happen. The program isn't subject to the whims of congress, thank god, but the whims of a corporate bottom line can be almost as bad. Oh well. We're building to last. If someone comes in fifty years or a hundred years they'll still find a nicely constructed, pressurized greenhouse with carefully tended rows of partially Mars adapted plants. They'll also find living quarters, along with arrays of Mars-built solar panels, and tanks for hydrogen, oxygen and purified water. That all assumes that we get our jobs done, which is a struggle, but not an unwinnable one.

We're the best of both worlds from the point of view of the people back home, the ones snuggling in bed with their wives. Put a human brain with human experience right at the construction site all those millions of miles away on Mars. Do it without having to ship the fragile human body and all of the expensive consumables—food, water, air. Takes a lot of the expense out of building here. And if no real human ever sets foot on Mars to take advantage of that building, oh well. Nothing much lost. Not too much expense.

Do you detect a tiny note of bitterness in what I'm saying? Don't dwell on it. At worst what we're doing is a tiny insurance policy. If something really bad happens back on earth—a dinosaur-killer asteroid of the like—there will still be a tiny remnant of our earth on Mars until the Martian winds grinds the last of our tough bodies and our works to dust.

Mars Looks Different (Continued)

Note: Near future Earth has suddenly found itself it's self in a different and more interesting solar system, one with terraformed and inhabited moons, Mars, and Venus, and a history of interplanetary travel that may stretch back over a million years, with rises and falls, civilizations and dark ages that stretch over a solar system. We're a little over halfway through the novel at this point.

"I don't know." Henry said. "I think the bad guys are time jumbling us."

"Huh?"

"Think about it. No cars on the road. No tractors in the fields. A new roof on a house with no electricity and no indoor plumbing. It doesn't fit together. So it doesn't belong together. We may be the only living humans on this world."

“There’s got to be some other explanation. You’re scaring me.” Katrina looked at him more closely. “And you’re trying to keep from laughing. What’s funny?”

“You! I finally had you going and I couldn’t keep it together,” Henry said. He laughed out loud.

Katrina punched him on the shoulder. “That was mean.”

“You don’t get geek humor. You should have seen the look on your face. Priceless. Absolutely priceless. Actually you can see the look on your face. I got it on my cellphone.”

“I don’t care. I don’t want to see. That never happened. So how do you really explain all of this?”

“Someone’s sentimental. Doesn’t want to see the place they grew up in fall down. They probably know someone in the area and have them come by a couple of times a year to make sure the place doesn’t fall down.”

“What about the pump?”

“Whoever farms the land probably uses it when they need to wash up.”

“You are mean.”

“Yeah. But I’m funny.”

“And I’ve got to call in so I don’t get fired.” Katrina paced through the dusty house, looking for cellphone reception. She found nothing. “I’m going to check upstairs.”

Henry nodded.

“Come with me.”

He shrugged and followed her. There was no reception, not even by the upstairs windows, but it was several degrees warmer on the second floor, so she found a worn out old broom and swept the worst of the cobwebs out of a corner of the upstairs. She sat down with her back against the wall, turned so she could see out the window

Henry sat beside her and thumbed through the law book. “It’s copyrighted in 1930.”

“I’m not buying the time-jumble thing again.”

“I know. I’m not trying to set you up for it.”

Katrina watched the raindrops hitting the window. The sky got darker and lightning flashed, followed closely by thunder that seemed much louder in the silent house. Raindrops hit something metallic out in the yard, making a surprisingly pleasant rhythmic sound. “I wish a car would go by.”

Stan and Ward wandered back to the room in back of the wall. Stan moved another of the stones away from the other and played his light on it. A sound like nails on a blackboard filled the room. He shifted the light and suddenly spheres seemed to appear near the ceiling of the room, spinning slowly and revolving around--

"The sun," Stan said. He pointed to a much smaller ball. "And Jupiter. And debris. If we didn't live on one of the pieces of debris that's how we would see the solar system.

Ward cautiously approached the globe that represented the earth. He ducked involuntarily as the moon swung by, just over his head. The earth-globe seemed to get disproportionately larger as he approached it. "Does it look bigger to you too?"

"What?"

"Earth. Did it suddenly get bigger?"

Stan shook his head. "Nope. Not from here."

The blue and green ball of earth rotated slowly in front of Ward, seemingly the size of a baseball. The illusion of a miniature earth seemed startlingly lifelike, down to clouds obscuring part of Western North America. A narrow band of water separated North and South America. He moved closer and the ball seemed to get even larger. Now he saw Greenland, mostly ice free and green.

"This isn't exactly our planet." Ward looked over at Ardith. "Are your North and South America separated by a couple of dozen miles of water?"

"No."

"Were they at one time?"

"Yes. But they connected around two million years ago."

"They aren't connected on this globe." Ward shifted his attention to Mars. The large moon emerged from behind the planet, rotating slowly toward him.

Stan slid his flashlight in the path of the moon. It went on in its course with no apparent change. "Holograms or something like them, but more sophisticated."

Ward kept moving his head toward Mars. As he got closer, the globe seemed to expand until the curve filled his vision. The view abruptly shifted to ground level, and he seemed to be in a city--a subtly inhuman city of overhead walkways too narrow for a human to comfortably walk. He came face to face with one of the inhabitants, seemingly so close that he tried to move aside to let the being pass. It was slightly shorter than him and lightly built. It resembled the giant spider monkey they had seen earlier, but the forehead was higher and the face somehow more expressive. The monkey, if that's what it was, didn't react to him. It moved along on its business, followed by hundreds and then thousands of its like. Some of them rode on large open carts. Ward saw no sign of what was moving the carts.

"Turn it off!" Ardith said. "Turn the light off. This is dangerous. It's OldTech and we don't know what it will do."

Ward reluctantly backed away from the Mars globe. "It looks like BuilderTech to me. But you're right. It may be dangerous."

Stan held the flashlight to the rock a while longer. "You're asking a lot when you ask an Astronomy geek to turn something like that off." He finally moved the flashlight away, but quickly moved toward the outer solar system. "I'm going to catch a quick look at the Kuiper Belt before it fades out."

The globes slowly faded. Ward turned to Ardith. "Do you know what this is? Have you run into this kind of thing before?"

"Not exactly. Any OldTech and especially anything BuilderTech is hoarded, so I wouldn't necessarily know if there was something like this."

"Fabulously valuable," Stan said. "I saw your eyes when you looked at the. We saved your life and you saved ours. Are we still on the same side?"

Ardith didn't say anything for a long time. Finally she said, "For now. My loyalties are to my people and that may bring us into conflict."

Stan nodded. "Thought so. At least you're honest about it. At the moment it won't be a problem because we're a long ways from getting out of here. Do you have any reason to think these things are dangerous or are you just reacting to them being something powerful that you don't understand?"

"I have no knowledge that tells me they're dangerous."

"I was watching our little captive and she didn't look like she expected anything dangerous to happen," Mallory said. "You might want to question her about where she came

from and what this stuff is. How to handle it information would be good too. We need the information in those rocks or holograms--survival of Earth-type need it."

"I can barely get a little bit of communication with her," Ardith said. "Gestures and a few words are all we have in common. I'll try though."

She spent the next several minutes questioning the woman without getting any response. Finally Mallory said, "Point the blaster at the rocks and threaten to pull the trigger."

That got a response. "I'm not sure what she said, but she really doesn't want blaster bolts going into the rocks."

"I don't either," Ward said. "I'm not going to burn the equivalent of the library of Alexandria."

"But as long as she doesn't know that we have a nice little motivational tool," Mallory said. "Ardith, ask her to show us where she came from to get to this room."

Ardith spoke and gestured. The woman seemed relieved at the change of subject. She led them into the corridor and pointed to a section of wall. Ardith pushed an unobtrusive button and a panel lurched upward about six inches with a grinding metal on metal noise. It paused, then worked its way upward, agonizingly slow. It finally reached waist height and went up smoothly the rest of the way, revealing a wide stairway that led to another living room-sized room high above the first one.

A woman in the same kind of uniform their captive was in huddled at the other end of the room. She appeared unarmed. She yelled something at the captive woman. The captive replied and the new woman slumped.

Four chairs apparently made of a hard stone like marble sat in the room, along with a bulky piece of machinery that Ward mentally classified as a power source of some kind. Two of the chairs were occupied, one by an obviously dead man, his head sitting in his lap facing up as though looking for a way to climb back onto its proper place on his body. That place was occupied by a two-foot chunk of rock or concrete which had apparently fallen from the ceiling. The man in the other chair appeared intact, but inert--motionless.

"Is he dead?" Ward kept his blaster pointed at the man while Stan checked.

"He's--" Stan paused. "I don't know. In stasis or something. He's rock hard to the touch. No breath. No heartbeat. No damage though, at least not anywhere I can see it."

Ward belatedly noticed that the room seemed brighter than the light from their flashlights should have made it. He examined the top of the room and spotted a ragged hole that seemed to seep light. "Did you notice the hole--"

"Yeah." Stan rushed over. "No joy. Unfortunately it's maybe four inches high and two feet long. One of the explosions must have shifted the ceiling, but not enough to help us."

Ward held his blaster on the other woman while Ardith tied her up, then walked over to the hole. The oversized morning sun was just peeking out and it faced the hole, making it nearly impossible to see out. He squinted and saw that the hole looked out over the western part of Pateel. There still appeared to be fighting going on in the town. He could hear distant shouts and arrows arched across his field of vision. He looked away. "The sun's in my eyes so I can't see much, but they're still shooting down there. Ardith, do your eyes handle Venus sunlight better than ours?"

"Maybe a little bit better." She stood on her tiptoes and peered out. "The Taranians seem to be holding the west side of town. They're still getting shot at though."

Stan went to the hole. "Hand me the blaster. I think I see some targets of opportunity."

He fired over a dozen shots in quick succession. Ward squeezed in beside him and looked out. Taranian bodies smoldered outside huts on the outskirts of town.

"I think I knocked out a batch of high-rankers, based on the headdresses," Stan said. His voice sounded calm, matter of fact. "The rest are in regrouping mode."

"Sometimes you scare the hell out of me," Ward said.

"What? Oh, shooting the Taranians? It had to be done. I'll pay a price when this is done though. Some night I'll wake up screaming like a little girl and not be able to get it out of my mind. Or maybe not. I've never just blazed away at someone who wasn't shooting at me before. Maybe it won't bother me."

The sun was a little higher now, and Ward saw movement deeper inside the town. There was brief pause, then Pateelian warriors boiled out of the central part of town and charged the Taranians in a thick wedge of swordsmen. The Taranians retreated, pausing and firing arrows as they went. Stan fired the blaster again and again. The retreat became a rout, and the Pateelian swordsmen efficiently ran down and killed any Taranians that tried to stand and fight or were too slow to get out of their way.

The figures below seemed tiny and something less than human, and the distance made the deaths and flowing blood somehow seem less real, but Ward's imagination filled in the details. He turned away from the window. "So the Pateelians win for now. But they're weaker and they'll still blame us. Where do we go from here?"

Stan kept looking out, but he didn't fire the blaster any more. "I don't think they know about these rooms. They must have built on top of some kind of First Wave building. We don't need them to find out that it's here, both because they'll claim it and because it's too big for them to handle. Word will get out and someone will take it from them. They'll get bug-squashed in the process."

Ward nodded. "That makes sense. Minor problem. How do we keep them from finding it?"

"Patch the wall as best we can, ask to be allowed to stay here while we're patching up the plane, then sneak as much as we can out under some pretense."

"Sounds possible. They'll have other things on their minds. Of course all of that assumes that a mob doesn't form and lynch us. It also seems like a rotten way to reward their hospitality."

"That it does, but so does bringing down half a dozen groups like the one that attacked us on them," Stan said. "This could be major. It could alter the balance of power in the solar system."

"Or it could be what's left of some teenage First-waver's CD and DVD collection. The equivalent of a bunch of teeney-bopper songs and a Buck Rogers video. Not everything old is worth anything."

"Point taken. I guess we'll just have to see."

They took the two captured women down to the room behind the wall, closed the door to the upstairs room and gave the women water and a little food from the dwindling stocks. Ardith explained the plan to them as best she could with her stock of common words and gestures. "They're terrified, but I think they know that we have a common interest in not having anyone else know about the rooms back here."

They each took a couple of the black stones and hid them away in their clothes, then went out and rebuilt a veneer of rock over the hole in the back wall. They took up positions well away from the hole to wait for the Pateelians.

Ardith walked over to the captive Taranian and slit his throat in one quick move. Ward and Stan stared at her. She turned to them and said, "It had to be done. He wouldn't keep the secret of the rooms. The guilt is entirely mine."

"You're showing a bit of a ruthless side," Stan said. "Normally I like that in a woman, but it does raise the question of whether or not you're planning to do that to anyone else."

"I hope the situation doesn't force me to make that decision."

"Yeah."

Stan pulled Ward aside. Ward said, "Yeah, I know. Watch her."

"That too, but I also figured out something. The two women; they're first wave aren't they? Put in stasis for some reason and they didn't wake up until the blast in the OldTech fort knocked out part of the power to the mechanism."

"How could anything mechanical last tens of thousands of years?" Ward asked. "It would have to be self-healing in some way."

"So they made it self-healing. It's not impossible. If I'm right about who these women are, they may be more important than the library. The stakes are getting high, my friend. We need to get them out of here and have a serious chat with them."

Diego's ring felt cold and heavy on Ron's finger. He half-expected metal tentacles to pop out and embed themselves in his skin. Instead, the ring sat silently on his finger. He sat looking at it, glancing up at the television from time to time. "Okay. You wanted this on. Now what?"

Half an hour passed. The television glitched, going blocky. The picture froze. "Great! Now what?" The picture came back with a retired general doing commentary on the implications of the martial law declaration. A few minutes later the ring vibrated and a slightly transparent image of Diego was across the table from him, seeming to sit in a non-existent chair.

"Good. You put it on. So, we're in business."

"Is this two-way?" Ron asked. "Can you hear me?"

"Of course. How else could we do business?"

"What did you do with the woman?"

"What one does with disposable things. That isn't important. What is important is that your government got hit with a soft coup a couple of minutes ago."

"A soft coup? What is that?"

Diego smiled. "Something your relatively unsophisticated political system hasn't encountered before apparently. One of the lunar factions has wedged themselves into your communications systems. What they want to get through goes through. If your president or congress or military tries to do something that this faction doesn't want them to do the orders don't go through."

"That won't last long. We have redundancy. We can just reroute."

"Except they control the redundant communications, and if they're smart they can control things so well that no one on either side of the communication ever knows that communication didn't take place."

"That sounds kind of tin-hat."

Diego's image frowned. "I don't understand."

"Woowoo. Nuts. Umm—crazy."

"You think so?" Diego grinned, then his image and voice shifted to that of President Baker. "Enough computer power can make almost anything possible." He switched back to his own image. "Any of the major players could take over your government and leave its members going through the motions with all of the communications and levers of power shifted somewhere else. The question is, why does one of them want to?"

"And do you have an answer to that?"

"They're looking for whatever transported your world here so they can switch it back with their version of earth."

"One of the lunar factions I assume."

"No one else wants that version of Earth back. A lot of the lunar factions don't want them back. Your Stalin would have considered their leadership bloodthirsty and paranoid."

"But someone wants them back?"

"Someone always benefits from that kind of power structure and wants it back."

"So why shouldn't we let them find what they're looking for and let us go back where we belong? This version of the solar system has nasty claws."

"What? Oh. This English you speak needs to die. Remember, if you go back without a cure you're extinct when the last of your women reaches menopause."

"What do you want me to do about this?"

"Answer a question. Why did the switch happen when it did? Someone had the ability to switch a planet between two dimensions. Who did it? Why didn't they do it earlier? Why did they do it now?"

"Why do you think I know any of that?"

"I don't. But I think you have ways of finding out that I don't. You have insights on how your version of this planet works that I don't."

"So what do I get and what do I have to give?"

"A ship was coming in fast from the outer solar system toward Earth, with two Martian warships hot on its trail. The two versions of earth switched just as it hit the outer atmosphere. It's possible that the dictatorship found something out there that was valuable enough that the Martians used a weapon they were holding back—something they didn't want to use because they were afraid of the consequences of using it. Whatever the ship was carrying may have ended up on your version of earth. Find it and you can have a cure for your plague."

"Why didn't you just ask in the first place instead of going through all of this intrigue?"

"There is a way of doing business," Diego said. A look of distaste flitted over his face. "Sometimes time pressure makes it impossible to do things the way they should be done. We'll have to reestablish the proper relationship later."

"I prefer it this way."

"Because you are not a true businessman. A bureaucrat with a bureaucrat's soul. You can't possibly understand."

"So you're saying that some faction on the moon is using our intelligence resources to find whatever device the Martians may have used to switch dimensions. Why couldn't they be looking for whatever you want me to look for? Or maybe they're looking for both."

"Both is possible. Knowing the faction involved they do want their version of the planet back."

"And what am I looking for?"

"Something important. Something OldTech or maybe BuilderTech."

"Look for reports of something in the sky the night of the switch. Be cautious in the way you look for it. If you attract the attention of the faction that is looking for the same thing, you won't like what happens next."

"What you'll do or what they'll do?"

"Both. Find genuine, verified reports of unexplained objects in the sky the night of the switch and your government will receive a course of treatments for twenty-thousand women."

"That's nowhere near enough."

"But it's what I'm offering. It will be palliative care only. The disease will still be able to spread, and it will hit more women and more animals. However, it will save twenty-thousand babies."

"How can I start asking for information on lights in the sky without letting these supposed puppet masters know that I'm doing it?"

"You're an intelligent man. That's why I chose you. Use that intelligence." Diego's image vanished.

Ron sat looking where the image had been. He closed his eyes and thought. He's looking for something. What? Something he lost when the worlds switched places? Maybe a ship caught in the switch and damaged. A ship from out there that crash landed on earth? Maybe, but how could something like that not generate a lot of interest?

President Baker called about half an hour later. "No bites yet?"

"Yeah. He sent a hologram and we chatted. Assume that he can hear anything you say in this conversation."

"Hmmm. The security people say you've just been sitting there the whole time."

"Not even talking to someone they didn't see?"

"Nothing."

"Which means someone has the ability to spoof the feed from the cameras. Which leads me to wonder why they would exercise it. It also leads me to wonder if something he says is true. Have you noticed an unusual number of the orders you send out getting ignored or misplaced?"

"You think someone from out there is deliberately getting in the command stream and messing with it? That would be hard to pick out from the background noise."

"What did I say that made you think that's where I was going?"

"I don't know. It seemed logical."

"Really. That doesn't quite sound like you. Is there something wrong? Something you're not telling me?"

The line went dead. Ron stared at his phone. "Now that's starting to get scary."

Scenario Seeds

Stalin Heads East: In the late 1930s, Stalin faced the possibility of a two-front war, with the Germans invading from the west and the Japanese from the east. In 1939 he postponed the threat in the west by his pact with Hitler, and made the threat from Japan less likely by the Soviet victory at Nomanham.

Stalin was in a position of near total control of Soviet policy. Historically he decided to shore up the Soviet position in the west in late 1939 and early 1940 by seizing the Baltic states, parts of Romania, and part (original intent was all) of Finland. What if he had decided to deal decisively with Japan while Germany was tied up fighting the western Allies. He, like almost everybody else except the Germans, was expecting a repeat of World War I on the western front, with the short front lines and massive amounts of firepower on both sides leading to a prolonged war of attrition. Why not take advantage of the Allied and Germany preoccupation with that war to settle things once and for all with Japan?

That seems more logical than a lot of his decisions. One problem though: While Stalin probably didn't realize the extent to which his purges had gutted the Soviet Army, if he went ahead with his attack on Finland he would quickly figure out how badly disorganized his army was. The only way this would be feasible is if the decision to attack Japan precluded an attack on Finland for some reason--maybe logistics reasons or not wanting to risk hacking off the Germans before they were fully involved in their attack on France.

In any case, the Soviets quietly build up in the Far East, bringing in their latest tanks and the units they regard as elite. In the weird political/military environment the Soviets were operating in during this time period that could mean anything from truly elite forces to forces led by Stalin's favorite toady. On May 10, 1940, the Germans launch their war in the West. A day or two later, Stalin launches a surprise attack against the Japanese in Manchuria, presumably spearheaded by a handful of KV1s, though without the Winter War the Soviets might conceivably have gone with one of the two-turreted monstrosities that they tested alongside it in the Winter War.

So how does the invasion go? Would the Soviets be able to manage a surprise 'bolt from the blue'? What would happen next?

More Destructive Battle of Jutland: The British Home Fleet and the German High Seas Fleet clashed briefly but destructively in the Battle of Jutland. As I look at the way the battle developed, I can see several ways where the two sides could have mauled each other much more severely. I'm visualizing a result where the bulk of the High Seas fleet still makes it back to base, but both sides lose several additional capital ships sunk or severely damaged.

What happens next? Pretty much the same course of the war and postwar? Or does the time-line spiral out in a different direction? One issue: If both Germany and Britain have weaker fleets, the US becomes relatively stronger. What does that do to the late war and postwar balances of naval power?

Japanese Go On Kamikaze Ship-Building Spree: Right after World War I, the Japanese committed themselves to an economically suicidal course of capital warship building that would have given them an enormous fleet of battleships in the six to ten years before the program bankrupted the country.

The Washington Naval conference cooled off their ship-building ardor for a decade, but the Japanese military felt humiliated by being forced to accept a ratio of 5-5-3 compared to the US and Britain in terms of capital ships. Let's say that something derails Japanese agreement to the terms of the conference. Maybe they figure out that the US is reading their codes and react negatively to that. They go about building madly and the US and Britain are forced to follow suit.

What happens next?

The China Incident Delayed: War between Japan and the Nationalist Chinese really wasn't in either party's interest when it broke out. The Nationalist Chinese had a full plate of enemies with the warlords and Communists. The Japanese had plenty of enemies too, with the Soviets getting stronger in the Far East, a buildup that would eventually turn the balance of power against the Japanese in Manchuria.

Both sides went into the war partly because of illusions. There was a strain of thought among the Nationalist Chinese that said that if they fought back against the Japanese, the western powers would intervene. There was a strain of thought among the Japanese that defeating the Nationalists would be as easy as defeating the various warlord armies had been. Both strains of thought were clearly and obviously wrong, and it should have been obvious to the participants that they were wrong.

The challenge: how do you keep the Chinese and Japanese from full-scale war until at least 1940, and what would consequences be? I have some ideas on both fronts, but would love to see what you think.

Given how out of control the Japanese Army was, delaying the war would be difficult. At the same time, an all-out war was not in the Japanese national interest in 1937. It weakened them relative to the Soviets. It also diverted resources from a planned Japanese build-up in heavy industry. True, the Nationalists were building up militarily and industrially, but given the limited financial resources of the Nationalists, the planned military and industrial buildup wouldn't necessarily lead to a Japanese preemptive war. It would be logical and probably correct to question how much of the planned buildup the Chinese would really be able to afford.

From Chiang's point of view, Japanese advances in northern China were regrettable and damaging to prestige, but he didn't really control that area anyway. From a purely military point of view, a Japanese advance in the north actually could be viewed as strengthening the Chinese center versus the northern warlords. Politically, it did weaken Chiang's pretensions to be the ruler of all of China, but that could probably be handled by a propaganda campaign pointing out the military incompetence of the warlords and the extent to which they enabled the Japanese.

A Japanese attack on the Soviet Union in 1941/42: The Japanese were still toying with the "Northern Option" (an attack on the Soviets) until the US imposed the oil embargo. That effectively made any attack on the Soviet Union impossible.

Without the oil embargo whether the Japanese went north or south would have depended more on internal Japanese politics than on any rational consideration of Japanese national interest. It would have also depended on Japanese perception of Soviet power. The better the Germans did in the initial offensive, the better the chance of the Japanese joining in.

Historically, in spite of (or to some extent because of) the butt-kicking that the Japanese got at Nomonhan in the summer of 1939, the Japanese army did seriously consider going after the Soviets. They launched a build-up in Manchuria that they hoped would give them an option of going after the Soviets.

There was also the possibility that the local Japanese military would simply make their own foreign policy by attacking the Soviets without authorization, acting in somewhat the same way as they did when they seized Manchuria and several times in the lead-up to the China incident. One thing that historically inhibited that from happening was a very large ammunition dump explosion in August 1941 that left the Japanese army locally more dependent than usual on the center.

What would have happened if the Japanese had attacked the Soviets in the fall of 1941 or the spring of 1942? Well, to make such an attack plausible the US would have had to refrained from imposing the oil embargo on Japan. That's not too implausible. The Roosevelt administration could easily have figured that putting the Japanese in a fight or surrender situation at a time when the US could have really used another year to rearm and the British already had their hands full elsewhere wasn't too smart.

So the US doesn't impose the oil embargo--at least not yet. At that point the Japanese are divided between a "Go South" faction that is primarily though not exclusively Navy-based, and a "Go North" faction that contains some but not all of the army. Both factions see the potential for easy victories. Neither faction can realistically hope to defeat the opponents that their plans will bring into the war, but as the attack on the US proved, Japanese foreign policy in late 1941 wasn't realistic.

So, in late summer of 1941 the "Go North" faction wins out. The Japanese have already been building up in Manchuria. They accelerate the build-up. Historically they created 3 armored divisions in Manchuria in March of 1942 if I recall correctly. I don't know if they could push the formation of those divisions forward into late 1941. In any case, they wouldn't be particularly powerful divisions. The main tanks would be an outdated light tank with 37 mm main gun and a pretty decent medium tank that suffered from having a low-velocity 57mm gun. They were planning to upgrade the medium to a higher velocity 47 mm that would have been effective against most Soviet tanks of the era, though I wouldn't want to try that out against a KV1. I don't know if any of the upgraded tanks had been fielded by the time-period in question.

Presumably the Germans would have had the same initial successes against the Soviets that they did historically. The Soviet spy-ring inside the Japanese government would let them know that, yes the Japanese will be coming north. Does that have any impact on the fighting against Germany in 1941? To some extent. The Soviets did pull a few divisions from the Far East over the course of Autumn 1941, and more in the winter, though the extent of that shift has often been exaggerated.

Having the Japanese as probable active enemies would rob the Soviets of a few experienced divisions in the fall of 1941 and a few more in the winter of 1941-42. It would also put more stresses on their ability to supply their armies with ammunition, spare parts, and trained specialists--including pilots. War stocks in the east would have to be maintained and added to, rather than being available as a reserve. How much impact would that have in the fight against the Germans? My guess is that it wouldn't make a whole lot of difference, but I would have to look at the details before I could say that for sure.

So the Japanese enter the fight, maybe in September/October 1941. Not a pleasant time to be fighting in Siberia. Maybe they wait until the spring of 1942. In any case, how would that go?

We have two clashes between the Japanese and the Soviets to give us some indication of their relative strengths. The Soviet seizure of Manchuria at the end of World War II was impressive, but it came after four years of learning how to do armored warfare at a time when the Japanese had pulled many of their best troops out of Manchuria to fight elsewhere and starved their army of equipment to keep the navy in the fight against the US. It doesn't tell us much about how the Soviets would have done against the Japanese in late 1941/early 1942.

The battle of Nomanhan in the summer of 1939 tells us some things, but the Soviets had a much larger number of divisions (at least 5 and possibly 7) against one inexperienced Japanese division and elements of a second one--at least 3 to 1 odds and even greater odds in terms of firepower and tanks. In addition, the Japanese command back in Tokyo worked hard to prevent

the Nomanhan fighting from becoming another open-ended adventure like the "China Incident". That meant that the Japanese made it clear that they would not escalate to other parts of the border and for the most part they kept their airforce from raiding outside the immediate area of the fighting.

The Nomanhan fighting did show some things: The Soviets had better firepower, better tanks, and knew how to use them better. Ironically, even after Nomanhan the Soviets broke up their large armored formations for internal political reasons and then hastily reformed them too late in the game for them to regain their effectiveness in the early fighting against the Germans.

The Japanese showed some good and bad traits. They had gotten sloppy against poorly-armed Chinese armies, and that cost them. At the same time, they were tough, aggressive fanatical fighters. Nomanhan was not a cakewalk for the Soviets. Casualty figures for the battle are still murky even after all of these years, but as near as I can figure the Soviets lost almost as many men killed or wounded as the Japanese did--that when the Japanese division was enveloped and defeated in detail. The Japanese were already displaying the fanaticism that they showed later in the war, with officers sending "human bullets" out to knock out Soviet tanks--with a surprising amount of success in the early going.

The Japanese would probably quickly establish air superiority if they went up against the Soviets. Japanese pilots of this period were superb. They would eventually lose it if the Soviets survived. The Japanese didn't have the depth of pilots or aircraft production for a long war.

The Japanese would obviously have naval superiority as long as the US didn't enter the war, cutting off Lend Lease to the Soviets from the Pacific side. That wouldn't have much impact in the early going, but would pinch if the war lasted into 1943-45. Without as much Lend Lease, the Soviets would have had to produce more trucks and fewer light tanks. They would have had tighter food rations, less aviation fuel, less synthetic rubber, etc.

On land, the Japanese would have had a constant fight to keep their tanks and artillery competitive. If they stayed out of war with the US, they would have been able to concentrate production on tanks and artillery as opposed to ships, which would have meant that better designs made it to the battlefield in larger numbers. At the same time, they would have had major problems in 1942 if the Soviets sent even a few hundred T34s and KV1s to the eastern front. Going up against a KV1 with a Shinhoto Chi-Ha or a Chi He if it had gone into production would have been an act of extreme bravery.

One thing to keep in mind: the Japanese had been fighting in China since 1937, and building a navy far too big for their economy. They would have probably run out of money for imports sometime in 1942 unless they were able to seize valuable commodities from the Soviets and find a market for them.

So: no definitive conclusions, but hopefully some insights into some of the constraints both sides would have had to deal with.

Another related possibility: The Nomanham fighting in the summer of 1939 escalating into a full-scale war is certainly plausible, probably more so than the idea of a Soviet attack in 1940. For that to have happened, something would have had to change in Europe. A lot of people claim that the Soviets trounced the Japanese at Nomanham and put the fear of--hmmm the godless I guess? into them.

The Soviets did essentially destroy one green, low-quality Japanese infantry division. To destroy that division the Soviet pitted either five or seven divisions, plus some independent armor formations against that one division and a few formations loaned from surrounding divisions. The Soviets took heavy casualties--from old and possibly faulty memory they lost

over ten thousand dead. The Japanese may have lost a few thousand more, but casualty ratios were by no means lopsided in spite of the fact that the Soviets cut the Japanese division to pieces and defeated it in detail.

The local Japanese army was quite willing to continue fighting after the initial defeat. As a matter of fact they were adamant that the army's honor required it. The home government, in a rare assertion of its power, overruled them.

Why did that happen? The Japanese had been counting on the Germans to counterbalance the Soviets, forcing them to keep the bulk of their army and their best equipment in the west to guard against a German attack. From the Japanese point of view, when the Germans signed their pact with the Soviets in late summer of 1939 they betrayed their Japanese allies. The Japanese were actually in the middle of a fair-sized war with the Soviets and all of a sudden the Germans made a pact with the enemy. That had a huge impact on the Japanese. It made it clear to them that the Germans were not reliable allies. It also turned the balance of power against the Japanese in a major way. They had little choice but to accept a humiliating end to the Nomanhan mini-war. The Soviets were willing to end the Nomanhan incident because they wanted to be free to grab their share of the loot in the west, and make sure the Germans didn't just keep going when they reached the agreed-upon demarcation line.

So, if you're going to have the Japanese continue and escalate the border war in late summer of 1939, you would have to have the German/Soviet pact fail for some reason. At the same time, you would need to have Germany not tied up fighting the western allies. There are ways that could have happened but they lead a long ways away from the original question.

Lithuania in the German sphere of influence? Lithuania was originally supposed to be in the German sphere of influence, not the Soviet one. They traded it to the Soviets for a hunk of Poland that they took in the invasion of Poland and didn't want to give up if I recall correctly. I wonder how much of a difference it would have made if the Germans had been able to step off from Lithuania instead of having to go through it.

Preventing the French collapse in 1940: Why the collapse happened: I would say that some overlooked factors would be:

The French reduction of the length of military service in the late 1920s. That resulted in a lot of French reservists not having much training, which accounts for much of the poor showing of the French B-series divisions.

The Germans were able to bit their best troops, such as their seven best panzer divisions and elite infantry, against the worst French troops, mainly B-series reserve divisions with the lowest priority in terms of equipment.

The French view of war was a bit more sophisticated than the stereotype of 'refighting World War I', or 'cowering behind the Maginot line', but it was vulnerable. The French saw the war as composed of three phases: (a) A phase of rapid movement before the front lines hardened, (b) A period where the concentration of firepower and the limited maneuvering room on the Western Front imposed a World War I-like stalemate on the Western Front, and (c) A period where Allied material superiority allowed them to push the Germans back.

Given that mindset, Gamelin was willing to take risks in the first part of the war because territory not grabbed in the initial stages would have to be paid for in blood later. That's why the French pushed deeper into Belgium than it was safe for them to push, and why they ended up putting a dangerous concentration of poor troops in the Ardennes, where the Germans were able

to rout them, which eventually led to them cutting off the best British and French armies in Belgium.

Some little things that would have made a considerable difference:

- Keeping the 3 DLMs (sort of a light armored divisions that grew out of French cavalry) together and in central reserve rather than using them as screening forces for the advance into Belgium, and sending the best of the three DLMs, along with 6 of the better French active divisions north nearly to Holland. The idea was that when the Germans poured through Belgium, these guys would hit them on the northern flank. That little brainstorm put half of the French strategic reserve (and the best of it) in about the worst possible position to intervene when the Germans came through the Ardennes.
- Building more DLMs rather than DCRs. A little explanation: The French had two types of armored divisions. The DLMs grew out of the French cavalry, and were built around the S35 tank, probably the best French design of the war. They were quite mobile and a pretty good match for a German panzer division if they were on the defensive, though they didn't have the offensive punch of a panzer division. They were designed to help the French seize as much territory as possible in the early stages of the war before the front lines hardened and gains started to be measured in yards rather than miles. The French had three DLMs as of May 1940, with another one in the works. Given a political decision to do so, they could have probably had at least six DLMs by May 1940. Instead they poured effort into building DCRs.
- DCRs were essentially the infantry answer to an armored division. They were built around the B1-series of tanks and were designed to provide a lot of power in a limited area. Once the front lines hardened, the French figured that the DCRs would provide the punch to push the Germans back in a series of offensives that would gain a few miles at a time. The French had three DCRs, with another one coming online shortly after the German invasion started. They were powerful, but poorly suited to the war as it actually developed. The last two DCRs to come online were also poorly trained, and hadn't been together as units long, which made them weaker than they might otherwise have been.
- The bulk of the French light tanks had good armor but poor guns, especially the ones with the short-barreled 37mm guns--which was all of the H35s and R35s, and a large percentage of the H39s and R40s. The French made matters worse by giving most of their light tanks more high explosive shells and fewer armor-piercing shells than it turned out that they needed. Give more of the R40 and H39 light tanks the longer-barreled 37mm guns and more armor-piercing shells and the French would have done at least somewhat better.
- Giving the French infantry some final capacity against tanks. Most armies of the era equipped themselves with anti-tank rifles, with limited but better-than-nothing capability against the tanks of the time. The French didn't. They depended on anti-tank artillery. In the absence of that artillery the infantry felt helpless against tanks, which didn't help morale. Anti-tank rifles were more security blanket than effective weapon, but they helped fight the morale impact of tanks.
- Get the bugs out of the AMC-35 and get it into production. The AMC-35 was supposed to be the light tank for the DLMs (the cavalry-derived light armored divisions). They

had a two-man turret and on paper should have been a reasonably effective tank. Unfortunately, they had a lot of issues, including apparently very short cross-country range, and the French built a lot fewer of them than they initially wanted to, and only issued the few that they did build to improvised units in the last desperate days of the war.

The French cavalry really did want a tank with a two-man turret, and would have probably have been happy to have AMC-35s (also called AMC G1s) instead of an equivalent number of H35/H39s if the tank had worked as intended. As near as I can tell, the AMC-34 and then the AMC-35 were the only candidates for the role, though the Somua S35 ended up taking on some of the roles intended for the AMC-35. Maybe the what-if should be what if maybe FMC or one of other minor French tank suppliers had competed for the cavalry tank order. Of course even with one-man turrets the French light tanks would have been much more effective if they had gotten the longer-barreled 37mm gun into them in larger quantities.

- Keep units together long enough for them to develop unit cohesion. As a rule of thumb, a division takes at least a year to function effectively as a unit. The French over-mobilized, taking key skilled labor out of the defense industry. Then they demobilized about half a million men in stages, breaking up units when those units should have been learning to work together. Then, to make matter worse, the French realized that they had a lot of young, fit men in Maginot line fortress units. They pulled a lot of those guys out and put them in their poorer quality reserve units to stiffen them. Not a bad idea, but it meant that a lot of French units were collections of strangers rather than a team. That explains the way a lot of French units fell apart.
- Either accelerate or delay the changeover of French fighter units from the Morane-Saulner fighters to the Dewoitine ones. A large number of the fighter wings were transitioning at the time of the German attack and weren't available for the crucial first few days.
- Spend less effort on the R35 tanks and more on--well, just about any of the other tank options. R35s were designed to accompany infantry and really weren't suited to much else, including supporting infantry against tank attacks. The French built a lot of them, and spread them out among a lot of independent tank battalions, which meant that while the French had a lot of tanks, most of those tanks were spread out in units that weren't designed to fight in large units. That meant that the Germans were able to concentrate roughly 70% of their armored power at the crucial point, and at best the French might have managed 30% of theirs there.
- It might also have helped if the French had come up with a more effective organization for their cavalry divisions. They had 5 DLCs, light cavalry divisions that each had a mechanized component (including a dozen or so tanks) and a horse-mounted component (though the horses were to get the units to battle, after which they would dismount and fight as infantry). The two components of the DLCs didn't work very well together because they moved at very different paces, and the mechanized component couldn't cover the rough territory that was where the horse cavalry did well. By the way, retention of horse cavalry at the beginning of World War II wasn't unusual. The Germans had a horse cavalry division in the early part of the war, and

the Soviets had a LOT of part mechanized/part horse-mounted cavalry units in 1941 and 1942.

Germans Build a Smaller Surface Fleet: While I'm pretty sure this wasn't the intention, allowing the Germans to do the naval expansion actually hurt the German war preps. The three most important constraints on the Germans were (a) Steel, (b) Number of workers, and (c) Oil. The German capital ships took up an enormous amount of steel and workers, and when the Germans briefly gave shipbuilding priority in the lead-up to the war it screwed up war preps badly. And of course it takes enormous amounts of oil to move a battleship around, which was why the Italian battleships (and to a lesser extent the German heavy stuff) spent a lot of the war in harbor. If the Germans had put less resources into building battleships they could have built more tanks, artillery, and to some extent aircraft.

On the other hand, not having the battleships would have meant that Germany wouldn't be able to tie up a large number of British battleships to keep track of the German ships. That would have made a major difference in the Mediterranean and possibly in the Pacific. If the Brits had been able to pit the bulk of their capital ships against the Italians in late 1940/early 1941 and against the Japanese in late 1941/early 1942, that would have been a very different war.

US/British naval arms race in the 1920s: I could see a Japanese/British alliance against the US as an outgrowth of a post-World War I US/British naval arms race. Historically the US was in a position to easily win any such race after World War I, which is why the British were willing to accept equality in capital ships with the US instead of their traditional insistence on being able to match the next several navies.

The peaceful transfer of predominant naval power from Britain to the US was an unusual phenomenon, and I could see it coming unglued if the British were less drained by World War I, or if it hadn't been so obvious after World War I that if they tried to maintain superiority the US could out-build them.

Delaying the Bazooka? Let's say that hand-held HEAT anti-tank weapons were delayed a couple of years. What are the implications? Probably an extended tour for anti-tank rifles. Anti-tank rifles were capable of penetrating the side or rear armor of most tanks through the war, but I get the impression that the main use was psychological--keeping units shooting rather than running when tanks approached and keeping tanks from moving too aggressively against infantry.

Given that, I'm guessing that armies would keep anti-tank rifles on tap until something better came along. Delay the advent of HEAT rounds and armies would try to keep anti-tank rifles at least marginally credible--tungsten cores, sub-caliber penetrators to increase velocity. The limiting factors are, of course, weight and the amount of recoil a person can stand up to, especially without flinching from anticipating the recoil after a time or two.

That pretty much limits you to around 14.5 mm caliber unless you do something really exotic and expensive.

What would it have taken for Sea Dragon to have actually been built, and if it had been built, would it have made a Mars expedition more feasible?

Going for the Lunar Poles in the 1960s? What if someone in either the US or the Soviet Union figured out that there was a high probability of there being water at the lunar poles in the mid-1960s? There are several ways that could play out. Here is one possibility: The Soviets figure out or suspect that the lunar ice exists by the mid-1960s. As Apollo gains momentum, they realized that they are unlikely to win the race to be the first on the moon. To avoid the hit to their prestige, they decide to try to reset the goalposts. They develop a propaganda line that says that landings anywhere except the poles is just a stunt, and that they'll be first to the poles. They work on the mission and roll out the propaganda line a few months before our first landing.

Things I should probably have looked up before I wrote this: (1) How difficult would it be to adapt Apollo/Saturn hardware for a mission at the lunar poles? (2) How long would it take to do that adaptation? (3) Were the Soviets capable of getting to the lunar poles (a) at all in the early seventies? and (b) before the, US given a four or five year head start at that specific mission? (4) Let's assume that the Soviets are able to precipitate a race to the lunar poles that they win, but with the US close behind. Both sides establish bases, either permanently or sporadically manned. Given that, does the availability of lunar ice make a Mars mission significantly more feasible? My initial guess is that it would, but that probably depends on details like the extent and purity of the lunar ice, and the orbital mechanics of getting there, along with how much effort it would take to get it into earth or lunar orbit from the moon.

As to the mechanism of a Mars mission incorporating lunar ice, I'm not sure. I'm not even sure it adds much to the mission's feasibility beyond keeping Saturn class boosters in production.

In any case, what do you think? Does a detour to the lunar poles make a continued robust space program more feasible?

I kind of suspect that the only way it could be useful would be if there was a LOT of ice there and someone could figure out a way to get it into a trajectory that allowed it to be used for the Mars mission. I doubt that doing that would be worth the hassles involved.

BTW: Since there are a lot of space buffs in this APA, I'm going to ask something: Several years ago, I read an article somewhere on line that claimed that in the aftermath of Apollo, one aerospace firm advocated scaling up the engines on the lunar lander as a way of making a less expensive way into space. They supposedly proved the feasibility and were a bit surprised that the US went with the shuttle. Now I can't find the article again and have no idea if it was for real or just someone blowing smoke of some kind. Anyone know anything about this?

Different First Close-ups of Mars: It seems to me that a Mars mission would require two things: Motivation and enough financial resources.

You can tweak the financial side three ways: (1) Drop the cost of a Mars mission via some kind of tech twist--maybe a working Big-Dumb Booster if that would really drive down costs, and/or (2) Make sure that there was enough money to cover the mission. For the US, that means no large-scale involvement in Vietnam and probably no large-scale expansion of social programs as part of the Great Society. Whether or not the Great Society programs were helpful, they did compete with space exploration for dollars. Another possibility: (3) Embed the technology and the spending in something the country has to have. For example, if the military had needed Saturn/Apollo technology for some reason, the tech could have remained in production during any temporary slump in support for space and been available for missions

once support picked up again. The US airforce had a manned program, but it was scuppered by a combination of NASA resistance and technical advances that allowed unmanned surveillance satellites to do the jobs less expensively. If those advances had been delayed a bit, and if the military had had more money available to it in the late 1960s, I could see the airforce doing something like a Blue Apollo program, using the Saturn/Apollo/Skylab tech with some of their own twists to put up and maintain an airforce space station.

Finally, whatever else happened there had to be motivation for a mission. This doesn't help us get there, but it might help with motivation: The first reasonably close-up pictures of Mars made it look a lot like the moon--craters, lifeless looking. I was in grade-school at the time, but I remember how discouraged I was when I saw those pictures. Mars didn't seem interesting to me anymore. Then I became aware that Venus was essentially hell, and I went from budding space buff to disinterested (at least until later discoveries gave a better and more interesting picture of Mars). I think a lot of other people went the same way.

People lost interest in space in the late 1960s because the planets we could realistically get to didn't seem to have anything of interest or value. Given a different and more interesting part of Mars in those initial pictures, I think there might have been more sustained interest in space exploration. As to how that interest could have manifested itself in terms of hardware and missions, I don't know, but I suspect that continued motivation would have eventually led to at least some additional unmanned Mars missions, whether it be using Saturn/Apollo tech or something else.

There could have been a favorable feedback loop, with motivation to explore space leading to retention of the Saturn/Apollo tech, which makes faster/better unmanned exploration possible, leading to discoveries that increase motivation to explore space. That does lead to a question: would availability of Saturn 1b or Saturn V lead to better/faster unmanned exploration?

Subtle impacts of Lend Lease: In the case of the Soviets, some of the bigger ones were locomotives to help keep the Soviet railroad system functioning, good quality synthetic rubber (the Soviets could make synthetic rubber, but the quality stunk), high octane aircraft fuel, explosives to help the Soviets make munitions, and aluminum for a variety of uses.

In the case of the Brits, they would have been effectively out of the war in early 1941 without US financial aid (having run out of foreign exchange), and of course the Lend Lease weapons didn't hurt.

The Philippines Holds Out Longer: The US could have probably held out considerably longer on the Bataan peninsula if food, gas, and munitions stocks had been moved inside defensible positions in a timely manner. What if MacArthur and company had done that? The Bataan Peninsula held out until April 9, 1942 and Corregidor until May 6. Let's say the US forces have enough additional food and ammunition to hold out an extra three months.

Now granted, their food and ammunition isn't the only consideration. As the Japanese cleaned up the rest of the loose ends of their perimeter in the Pacific, they would undoubtedly focus more power on the Bataan peninsula. In the April/May 1942 time-frame they had a lot of additional firepower and manpower to call on if they needed it. On the other hand, a limited front would make it difficult to use very much additional power, and the spread of 'victory disease' might delay the realization that Bataan was not going to crack in an acceptable time-frame without additional forces.

The key date to watch is early June of 1942. Assuming that holding the Philippines longer doesn't somehow butterfly away the US victory at Midway, the US would emerge from that battle with something approaching naval parity with the Japanese, and with US forces holding out precariously in the Philippines. That would probably lead to intense political pressure on the Roosevelt administration to try a rescue effort, especially with the 1942 midterm elections approaching.

So, what happens? My gut feeling is that any attempt to rescue the Philippines in the aftermath of Midway would result in the US Navy getting its butt severely kicked. Just no way to get there without going through too much strongly held Japanese territory. And I think the top commanders of the navy were smart enough to figure that out. At the same time, the longer those guys held out, the greater the political pressure to rescue them would get. At some point it might divert resources from Operation Torch toward building toward a rescue effort. Where do you think this would go? How long could the Bataan Peninsula hold out given a best case scenario in terms of getting weapons and supplies there? How would the US react in terms of trying to rescue US forces there? What would the political consequences of any actions be?

The Germans Continue Using Salami Tactics. One of the reasons the Germans were able to take as much territory as they did before provoking a war was that they really did have a case that the boundaries drawn up after World War I were unfair. Was it really worth another war to keep Germany and Austria as separate countries? Was it really worth another war to keep ethnic Germans in Czechoslovakia? He played the self-determination card well in those early moves. Those tactics went out the window with the annexation of the Czech-speaking part of Czechoslovakia and the attack on Poland. What if Hitler had played the self-determination card a while longer? He could have excused the invasion of the rump of Czechoslovakia as being necessary to avoid violence when the Slovaks declared their independence, promising elections for an independent Czech Republic once boundaries and division of weaponry and finance were settled. Give Chamberlain and the French a fig leaf. Maybe offer to withdraw when German colonies in Africa were returned or Germany was compensated for them in some way.

They could also frame their next set of demands in terms of self-determination. As I recall it, the Poles ended up with several sections of disputed land between the two countries in spite of plebiscites that the Germans won. Of course the Germans cheated on those plebiscites, but they at least had a case that the territory really in all fairness should have been German. The Poles also seized some Czech territory in 1938 at the same time the Germans took Sudetenland. The Germans could demand that back for their Czech puppet state. Most importantly, they could back Ukrainian demands for an independent state in the predominantly Ukrainian-speaking areas of eastern Poland. Legally and morally that area should have become an independent state in the aftermath of World War I, and the Allies dropped the ball in a major way by allowing the Poles to take and hold it. It would be very hard to morally justify going to war to keep that territory in Polish hands.

At what point would Britain and France have fought? I'm not sure. It might not have been possible for the Germans to have gotten much more than they did. On the other hand, the British and French really didn't want to fight. They feared, correctly, that fighting Germany would bankrupt them and leave the Soviets holding most of Central and Eastern Europe, even if they won.

Delay advent of synthetic rubber by 3 to 5 years. Germany and the US both built synthetic rubber industries sufficient to supply their militaries in the first couple of years of World War II. What if the technology hadn't been ready? Germany would have been hit first, with a great deal of dependence on getting natural rubber transshipped through the Soviet Union. I wonder how that would have impacted their plans to attack the Soviets. If things progressed on schedule, the western Allies would have been hit starting in 1942, as the Japanese seized regions producing something like 90% of the world's rubber. Oops.

That might actually account for part of the willingness of the Japanese to attack the US. Sure, the US was overwhelmingly powerful industrially, but try keeping that industry going without rubber, real or synthetic and without the many plastic substitutes we have now. Rubber was a chokepoint until synthetics became available. Try building a tank without it. The Soviets actually did try economizing heavily on rubber on their tanks briefly. The resulting tanks shook themselves to pieces in short order.

We could have economized and recycled and stretched the worst of the impact out, but at some point we pretty much would have had to have more rubber, real or synthetic, or the wheels would have fallen off of our industrial machine.

More On Moving Major Volcanoes Around

I found a website that supposedly listed every known large volcano (ones with a Volcano Explosive index or VEI of four or above). As near as I can figure, the ones with the potential to cause noticeable global climate impacts are (a) Those with a VEI of 5 or above, (b) That are near enough to equator to cause Sulfur Dioxide to spread to the stratosphere of both hemispheres, and (c) A high percentage of Sulfur Dioxide in the material ejected.

The configuration of the explosion can also make a difference in the climate impact. The last Mount St Helens explosion sent most of its force sideways rather than up, which meant that little of the sulfur reached the stratosphere.

I haven't found any figures on the amount of sulfur these things actually send into the stratosphere, so the following is based on high VEI and being close to the equator. That means it probably overestimates the number of climate changing volcanoes.

With that in mind, in the last little under two hundred years there have been ten volcanoes with the potential to make a noticeable difference in the temperature for a couple of years. It works out to one every 19.4 years, though the periods between big volcanoes are all over the place, from a few months to forty-eight years. It's been seventeen years since the last one (Pinatubo). There have only been two big tropical volcanoes since we got enough satellites up to observe their behavior in depth, and both of those have been partially offset by El Ninos.

Bottom line, it isn't unreasonable to put a year without a summer just about anywhere in the last couple of hundred years. Here is one interesting option:

Rabaul (New Britain) May/June 1937. Historically there was VEI 4 volcano in Rabaul then. Let's make it big enough to significantly mess with the weather. There would be some impact in the fall of 1937 and the winter of 1937-38 would be nastier than normal. The biggest impact would be in the summer of 1938, which would presumably be a nasty year of crop failures. So, how does that impact the lead-up to World War II? Presumably resource-poor and hard currency poor countries like Germany and Japan would be hurt, with lower food stock at

the end of the year and less hard currency because they would have to import more food and food prices would be higher. How would that impact their ability to fight or threaten to fight? The Chinese and the Soviets might also be hard-hit. They're generally close to food self-sufficient, but that's fragile and neither would have a lot of hard currency to buy food on the world market.

How long would the impact last? Based on historical volcanoes, temperatures would get back to close to normal in about three years. There would be at least some long-term impact. World climate is buffered by the oceans. One of my physics geek friends recently calculated that it takes a thousand times as much energy to increase the average temperature of the oceans by one degree as it does to increase the average temperature of the atmosphere by the same amount. Not all of the ocean is relevant to the temperature of the atmosphere in the short term, but enough of it is that the ocean acts to some extent as a flywheel, giving up heat to the atmosphere when atmospheric temperatures are lower than normal and absorbing heat from the atmosphere when the atmosphere is warmer than normal. The ocean also absorbs energy from sunlight directly, of course.

Implications for this scenario: during the two or three years that air temperatures are lower than normal and the ocean is absorbing less energy from sunlight, average ocean temperatures decline somewhat, both because of the lower energy input and because the ocean is giving up heat to the atmosphere, keeping it from getting colder. That means that after the sulfur dioxide dissipates, ocean temperatures will be somewhat below normal, keeping average air temperatures slightly below normal until the ocean regains its heat. As to how long that takes, I've never seen any analysis, but I suspect that you would find a gradually decreasing small impact over a decade or so.

POD Member Comments

The Cover: I don't usually comment on the covers, but the last two take a bit of explanation. POD #57 is supposedly a real Soviet tank prototype, designed to fight in an environment where tactical nukes are getting tossed around.

The cover for POD #58 is intended to represent the cover of a young adult series book from North America-53. See POD #58 to get the background. I thought it would be fun and maybe feasible for Phillip Jose Farmer to fail to be published as a science fiction writer due to the more conservative social climate in the North America-53. At the same time there is demand for young adult series books with adventures set in the new environment of the snapshots. Phil Farmer takes a gig as author for the "Snapshot Explorer" series, aimed at kids from 11 to 16—sort of like the Hardy Boys and Tom Swift, only with better writing. Historically, he didn't do too well in the science fiction realm for 15 or so years after his 1952 success with *Lovers*. He worked for most of those years as a technical writer for the aerospace industry. What a waste of very considerable talent!

I never met the man, but I always felt a kinship with him because he was also from Illinois. He lived in Peoria much of his life and I grew up in Rockford. The two were long-time rivals for the title of second-largest city in Illinois, and both were frankly rather dreary manufacturing cities, very subject to every recession. Rockford hit an ungodly high unemployment rate in the early 1980s—Depression-era levels--as I was entering the job market, and I think Peoria had a similar though less severe bout of unemployment. I also felt a kinship because he was heavily into alternate history and associated stuff like his Riverworld series and World of the Tiers series. Excellent world-building. Ironically, he died on my birthday, February 25.

Would he be able to write under his own name? I have my doubts about that, but forcing him to use a pen name would make the cover impossible and I wanted to do it as a tribute to the man.

Young adult series books in this era were dominated by the Grosset & Dunlap publishing company. They published mostly, but not exclusively, young adult series books by the Stratemeyer Syndicate; series like the Hardy Boys, Tom Swift, and Nancy Drew. Grosset did publish series books by non-Stratemeyer authors, though to the best of my knowledge they all wrote under pen names.

One of the longer-running non-Stratemeyer Syndicate series was Rick Brant Science Adventures, written by Hal Goodwin under the pen name John Blaine. Grosset published 23 Rick Brant stores, one per year, starting in the late 1940s and ending in the late 1960s or early 1970s.

Dale Cozort: The Snapshot story had an embarrassing number of line-edit problems. It was very close to exactly the story as I wrote it at an average of over 3000 words per day. I knew there would be some typos when I put it in, but on review I was surprised at just how many there were. Sorry about that. It seemed much cleaner than it actually was on a first read-through. Hopefully I did better this time.

Please excuse the political digressions in the comment section. I'm not usually political in the traditional Republican versus Democrat sense, but I've grown increasingly concerned about the world I'm going to be passing on to my daughter and grand-daughter. This isn't the appropriate place for expressing those concerns though, and I'll try to avoid it in the future.

Tom Cron: Thanks for the reprints. I hope you can get a zine out again soon. You have interesting stuff to say.

Robert Gill: Interesting Turkish wishful thinking map. I guess I'll have to check in to Strange Maps. Your review of District 9: I was never tempted to watch that one. I'm not sure why. Sounds like an interesting enough concept, though based on your review it sounds like they kind of copped out with Apartheid and black-white antagonism just sort of going away to be replaced by hatred for the non-humans. Your review of Inglorious Basterds: I'm glad you tiptoed around the spoilers. I haven't seen it yet, and probably will.

Kennedy and Vietnam: That's a tough question. The political consequences of having the South Vietnamese fold on his watch, probably in an election year (1964) in a country as anti-communist as the US was in the early 1960s would have been horrific. I'm not sure any US president of the era could have stood by and let the South Vietnamese fold. He would have faced a revolt of his own party in Congress when refugees started pouring out in a disorderly

stream. I suspect that the Republicans could have won both houses and the presidency in 1964, even with Goldwater at the top of the ticket. Goldwater was so political inept and opposed so many popular programs that JFK might survive, but even then I don't think you would have seen the Democratic majorities that allowed the Great Society programs.

As to Vietnam, the fundamental problem was that the country was not defensible without expanding the war to Laos and Cambodia. The border was too long and the defensive depth too shallow. It was horrible terrain for a modern army to fight. Most importantly, there was no way to actually win. Go across the DMZ and you risked a war with China. Bad idea. Going after supply lines in Cambodia and Laos would help in terms of depth but expand the amount of difficult to control territory that we would have had to defend. Ultimately, Johnson wasted a lot of US lives and treasure to keep the political consequences of a South Vietnamese defeat from happening on his watch, something that I still have trouble forgiving him for. Given the political situation in 1963-64, I'm not sure the JFK would have done anything much different. Hopefully he would have at least fought the war more intelligently than the Johnson Administration did. It would have been hard to have done a poorer job.

Boilerplate sounds like a lot of fun. Another one I'll have to keep my eyes open for. I've been meaning to try to catch *Flash Forward*. Saw part of one episode, but my wife and daughter both hated it, and since we have limited time together I gave in and watched something else. Family politics. I'll get it on DVD and watch it on Saturday mornings when everyone else is sleeping in.

Your comments to Sidaway: Ah yes. Dr Who Britain just seems to take a licking and keep on bouncing back as recognizably Britain of the 21st century. The Master as Prime Minister was delightfully demented. I saw an interview with the actor where he said that he played the Harold Saxton part with an element of Tony Blair and quite a bit of Caligula. He's quite good, and I wouldn't mind seeing more of him. These last few years of Dr. Who have been excellent for the most part, with some truly exceptional episodes.

Your comments to me: Yeah, Edgar Rice Burroughs did some interesting future histories and oddball books as well as the better known Tarzan and John Carter of Mars series books. There was one written in the early part of World War II where a pseudo-Britain has rebuilt it's cities so that they can lower them into vast underground bunkers when the pseudo-Germans come over to bomb them. Cool stuff.

By the way, most if not all of the Edgar Rice Burroughs books are available as free e-books thru the Gutenberg project and some of them seem to be available as full text through Google Books, though most of them are partials.. Just type:

<http://books.google.com/books?q=edgar+rice+burroughs&lr=&sa=N&start=0>

On the simulated Panzer/Israeli armored division fight: yeah, they would have to let the Israelis win. I would like to think that they would anyway. It might depend on the time period both divisions came from. In terms of quality of manpower the Panzer divisions probably peaked in mid-1941. The equipment peaked later, though I'm not convinced that the Panthers and Tigers were as good of tanks as a lot of people think. They were hard to manufacture and maintain.

On a Japanese invasion of Europe. Hmmm. I'll have to think about that. Can't come up with anything plausible off the top of my head. The big problem is a reason. Why would the Japanese want to go beyond maybe at most attacking the European colonies in Asia? I'm not sure. The idea is cool enough that I'll keep playing with it though.

The *Charlie Jade* article was interesting, but depressing. I would love to see a real science fiction channel, and sometimes the Science Fiction channel—I refuse to use its new name—can be that, though much of the time it misses the boat.

By the way, I've noticed that the quality of your zines have been improving steadily over the last several issues. I've been enjoying them.

David Johnson: On the fires: It's got to be scary seeing fires that close on that scale. That's something we don't have to deal with much in the Midwest, along (generally) with earthquakes. We do have state financial problems similar to yours.

As I understand it, California is in the worst financial situation, with Illinois a close second. (Thanks yet again, ex-Governor hair dude). One of my friends worked until recently at the local university and discovered to her chagrin that no doctor in the state would take her medical card from the university. The state wasn't reimbursing the insurance provider, so the insurance provider stopped paying claims, so once the word got around, doctors stopped accepting patients with the insurance. Nice huh? That same kind of thing happened at a company I worked for many years ago. They were in desperate financial condition, and though they were still deducting money for health insurance from their workers' paychecks, they stopped turning that money, along with the company portion, in to the insurance company. People found out about it when they got medical care and found out they didn't have insurance. Great stuff. The company finally went Chapter 11, a year or two after I left. At that point they owed something like \$75 million and had assets of \$25 million—owed every one of the utilities over \$100,000.

I do wonder what being in a state with as much financial baggage as Illinois will mean to us. The state is failing to pay money that they budgeted for the local university and the university can only guarantee making payroll through this March. Not great for the local economy since the university is the biggest local employer by far. And, I'm straying quite a ways from alternate history. I feel personally touched by the big historical forces more now than I have any time since the early 1980s, or maybe during the Soviet coup—very big things going on. We're either witnessing the world barely skating past another Great Depression or we're in the 'which way will it go?' stage before one hits. Scary stuff, and on my mind way too much lately.

But you didn't sign on for my economic views. The ongoing struggle for a usable library: I like DeeDee's comments. She sounds fun. Your jury duty adventures: Sounds like the usual total waste of time. I've been on jury duty twice and both times actually ended up as a juror. Lawyers from both sides seem to like me or something. Maybe I look dumb or gullible or maybe just open-minded. With me, both cases were criminal trials and both were "Why on earth did this even get to trial" types of things. The only thing I can think of is that there were things the prosecution knew but weren't allowed to bring up in the trial. Either that or they were really stupid.

DeeDee's acting career: I'll keep her in mind if they make *Char* a movie.

Your comments on my POD 56: Good stuff. I'll have to tweak a few things.

Your comments to me POD 57: The family scene was a lot of fun to write. I'm trying to write Scott's dad as a throw-back, but not an unintelligent one. I want the novel to have a subtext of cultures reaching a goal or a level and then stagnating, devoting their energies to maintaining an idealized version of the way things are 'supposed to be' rather than dealing with reality in a more rational way. The Romans do that, and so do some parts of the old industrial

working class in the Midwest. Jim White is smart enough to sort of make it work, but his energies would have been better used dealing with the world as it actually exists. There is also a theme of people minimizing the costs of that idealized past that they are clinging to. Jim White's 'golden age' had its costs that he is aware of, but minimizes. I'm trying to walk a tightrope here. He's not a stereotype. He's smart and capable of defending his view of reality even when it's wrong, which it is in a lot of ways. Does that make sense?

Your point about Darla taking over after Scott reveals that they know the guard is watching them is a good one. I've adjusted it so that Darla does the whole thing rather than having Scott initiate and Darla take over.

Your take on the best that Italy and Japan could do. You're probably right that tying themselves to Germany pretty much ended their chance of survival with any power. Given the challenge, with someone in charge with hindsight, you're right about the probable best course.

Without the benefit of hindsight, I can see the leaders of Italy and Japan doing what they did. The West seemed weak during the lead-up to war, with the truly reprehensible and stupid betrayal of the Czechs at Munich, and a number of other signs of apparent weakness. The quick fall of France seemed to confirm what the leaders of Italy and Japan wanted to believe: that the western Democracies were weak and decadent—incapable of fighting effectively.

Your comments on the *Mars Looks Different* segment. Yeah, there is a ScoopyDoo feel to it, isn't there? Hopefully things move along better in this installment.

Your comments to Gill: Yep. That's been pretty much the Turtledove formula for the past at least fifteen years, which is why I went from buying his books automatically to pretty much not buying them at all unless I've seen a lot of good reviews.

Your comments to Kawato: Yep. Taking Midway would have been a negative for the Japanese, probably almost offsetting any conceivable US ship losses in the battle. The worst possible outcome for them would have been landing and getting into a Guadalcanal-like slugfest with the US forces on the island. That's probably unlikely if they took out all of the US carriers, because they would have had too much firepower, but, the second-worst alternative, taking the island, would have been bad enough. It would have been a massive drain on already scarce shipping and either the Japanese garrison would have gradually starved to death or the war would have been shortened by the effort of keeping that from happening.

Wesley Kawato: I hope you don't mind, but I digitized your zine and made it available to the members with on-line access so that they could give you timely feedback. It's going to be a little strange having the issue and some of the comments in the same zine, but that was the best solution I could come up with. Again, sorry about the situation. I do, of course have the paper zine in front of me, and I'll go ahead and comment on it.

To be honest, of the Aaron's Emporium series endings, number three doesn't seem plausible for the reasons you mention. Not sure which of the others would work best.

Congratulations on another issue of Nova SF. I don't know where you are going with Backfire, and I hope I'm not tromping all over your story line, but it seems to me that stopping (actually just delaying) World War II is about the worst thing you could do to stop a nuclear war. Atomic weapons were going to be developed, with or without World War II. The technical feasibility of A-bombs was pretty clear in the physics community by late 1939, with scientists in multiple countries, including at least France, Britain, Germany, and the Soviet Union aware of the possibilities.

Depending on how you stopped World War II, the first country to get the bomb would vary, but there would almost certainly be a race between the major powers to develop it. If you somehow eliminated the Nazi rise to power, and the subsequent chasing away of many of Germany's best scientists, the first bombs might come from Germany. I could see a German nationalist, but non-Nazi government in power in the mid-1930s. They would probably move considerably more cautiously than Hitler did on rearmament and on foreign policy. Germany would rearm, but the secret phase of rearmament would be longer, probably a year or two longer.

Germany never stopped developing clandestine arms, even during the most strenuous periods of Versailles treaty enforcement. The scope of the rearmament grew considerably after the French pulled the last of their troops out of the Rhineland. I'm guessing that without Hitler, Germany would have rearmed more thoroughly without formally going out of the Versailles treaty until maybe late 1935. They probably wouldn't have tried to reoccupy the Rhineland until they were reasonably capable of fighting off the French if the French challenged them, probably mid-1938 or later.

The scope of the German conventional rearmament would have probably been smaller than it was historically, because the historic build-up was a crapshoot. It would have bankrupted Germany in about mid-1938 without a succession of conquests and ruthless exploitations to keep the economy going. It would have bankrupted them even before that without the fruits of the Spanish Civil War, with the Nationalists sending the Germans some key raw materials at nice low prices.

In any case, stop World War II and what do you have? You have a number of competing advanced technology states and a technological prize that could make any of them the dominant power. It would take longer without wartime urgency, but I could see the bulk of the Great Powers approaching having nuclear weapons by the early to mid 1950s. Let's see: Germany, Great Britain, France, the Soviet Union, Japan (assuming it doesn't bankrupt itself in China), and maybe the US and Italy.

Try keeping a balance of terror when you have that many powers scrambling to get to nuclear weapons on a small continent with a long history of bloodshed. If the have-not powers (Germany, Italy, Japan) got there first, things could have gotten extremely ugly. We actually got a bit lucky in that most of the technological powers had scuppered themselves right before a-bombs got possible. That bought us a lot of years of no nukes flying around.

Your comments to me: yeah, I find my stories getting darker lately. Not sure why.

Kurt Sidaway: Sorry to hear about your break-in. The computer loss had to sting, not to mention the time it took to rebuild stuff and protect yourself against identity theft. The Staffordshire hoard sounds fascinating. So a wealthy, well armed group got taken down in some unnamed and forgotten battle. Someone, presumably the victors, stripped the losers of their valuables, stashed them, and then never came back the treasure. So many mysteries and unanswered questions. Who were the original owners? How did they get taken down and by whom? Why did the victors never come back for their loot? Fascinating stuff.

Your comments to me: You nailed it when you pointed out the difference between writing for publication and writing as a justification for research that you would have done anyway. I started out doing the same thing and in the same way you are doing it, but I got the getting published bug and that leads me to do things very differently. It also pushes me away from depth of research to some extent, though as you've probably noticed I love to research. I

find myself setting a deadline for the research to be done and then backfilling the missing details or leaving question marks where I can't quickly find out the info. That leads to a different approach to writing, better in some ways and worse in others. If it isn't essential to writing the story, I put it down as a question and move on.

Your comments on the *Bear Country* segment: I understand what you're saying about the radio broadcast being less informal and chatty. I'm not sure how they would go on this. If they were smart they actually would try to do the "aftermath of a storm in Smallville" thing. You are right that they would ask for people with certain skills to present themselves. I should have thought about that. On whether or not the Marines would help Sharon: given everything on their plates, my guess is that they would send her to some clerk who would act concerned and take notes, but not actually do anything. Resources were stretched too thin. We do find out later that Elroy did tip off authorities after Sharon left.

Your comments of *All Timelines Lead to Rome*: Yeah, I do need to distance views a bit more effectively from the views of Scott's dad. To be honest I put the disclaimer in mainly to avoid offending you. I don't know how much different the culture is in Britain and how that affect your reaction to these passages. Thanks for your tip on how Peter would phrase the bit about Oxford. Tis changed in the current version. The bit about Jeni and the curtains is also fixed.

Your comments on *Mars Looks Different*: Yes, it has been five years, since I wrote most of the novel, unfortunately. I'm determined that I'll have the novel finished by summer, and polished by the end of the year. You aren't wrong about the "lights on at the Frankenstein house" comment. This is a familiar and potentially overused situation, though I take it in a different direction than you would expect.

Your comments to David Johnson: I've been lucky enough to avoid having to read anything by Dan Brown, though my wife did drag me to see *Davinci Code* and hinted broadly that she wouldn't mind seeing *Angels and Demons*. She still doesn't understand why the whole 'direct descendent of Jesus and Mary' thing makes me want to shake the guy. I think I finally convinced her that it's impossible for anyone to be a direct descendent of someone who lived 2000 years ago in any genetically meaningful way without a whole lot of inbreeding going on. She just doesn't see why basing the bulk of the plot on scientific rubbish should keep me from enjoying the story.

She actually bought *The Lost Symbol* last night. Grrrr. Aargh.

Shameless self-promotion Section:

If you enjoyed this, check out my novel *Exchange*. Here's the blurb: When her town is temporarily thrown into a wild alternate reality where sabertooths, giant bears and even more dangerous creatures still roam, computer guru Sharon Mack has to fight giant predators, escaped convicts, and a mysterious cult to rescue her kidnapped daughter before the Exchange ends, trapping them forever in an alternate reality where humans didn't make it through an ancient bottleneck.

Exchange is an alternate history novel that blends science fiction, intrigue and mystery, setting a breakneck pace as a piece of our risk averse society meets the wildest of wild frontiers, a beautiful but dangerous place where people can start a new life if they're brave or crazy enough.