2018 Week 1: The Week Ending Saturday, January 6th

Paul R. Potts

Monday

Note added during editing on September 27, 2018: the kids spent January 1st assembling a LEGO set, a tie-in with The LEGO Ninjago Movie. *I think it was the one called the "Temple of the Ultimate Ultimate Weapon" — yes, doubly ultimate. And, following our Potts House tradition for New Year's Day, we also watched* The Lord of the Rings *movies. And in the midst of all that, I began my blogging for 2018.*

I originally published the material for Monday in a separate blog post called "Read It, Watched It, and Heard It, 2017 Wrap-Up." But since I immediately switched to daily entries beginning on Tuesday January 2nd, I think it makes more sense to incorporate that text into the daily journal format, and call it the entry for Monday the 1st.

Today is Monday, January 1st, 2018.

Well, we made it. 2017 is gone at last, and good riddance. It's been a year from hell. There were bright spots — we managed to close on a house and move — but there were so many difficulties, including my infant daughter's open-heart surgery. (She is doing very well, fortunately, off all medications, and practically walking.)

Looking back over my notes, I realize that I've been sick to some degree for nearly half the year. It's gotten better and worse, but through some combination of allergies and respiratory infections, I've been coughing every day for months. I am now seeing a doctor and I've been using an asthma inhaler for a couple of weeks. That has helped, and in combination with some extra rest over the holidays, it seems like I'm getting on top of it. I've had ten days off, and that's been a great blessing. Tomorrow morning I head back to work.

Pottscasting Hardware and Software

One bright spot this year has been my collaboration with Grace on The Grace and Paul Pottscast. We've produced over 24 hours of new conversations this year. We're putting the show on hiatus until January 21st so that we can spend

some time doing behind-the-scenes preparation. Grace and I both want to do some writing for the show, and I want to work on our technical capabilities. For example, I want to get us set up to have live guests over Skype, in a way that allows us all to hear each other clearly, and record everyone with the highest fidelity I can manage on my shoestring budget.

I don't have much of a budget for new hardware, and I've been trying to use my existing gear as much as possible. My existing recording setup is an antiquated 2009 Mac Mini, with an old Roland FA-66 interface. The interface is "prosumer" rather than "professional" quality, but it doesn't sound too bad. When I get it all set up and working, I just leave it that way, and don't even power it off. It's perfect for the recording setup as it is now. I have two Heil PR-40 microphones, that go into a two-channel Cloud Microphones CL-2, and then into the two XLR inputs of the FA-66. Logic Pro 9 records the raw audio from these inputs. My Logic project also has some compressing and panning on these channels, to make a "control room mix." This goes to the computer output channels 1 and 2 of the FA-66, which drives the headphone output.

From the headphone output jack of the FA-66, I'm using a stereo (1/4" TRS) cable to drive the stereo input of my ART HeadAMP V headphone amplifier. This takes advantage of a nifty feature of the HeadAMP V: it is rated to handle unbalanced line-level inputs all the way up to +18dBV. The nominal level for consumer audio gear is -10dBV, or about 0.316V. Professional audio gear usually uses +4dBu, which translates to +1.78dBV, or about 1.228V. +18dBV is almost 8V RMS, which is much higher. That's a lot of gibberish to most people, but what it means is that I can use the FA-66 headphone output, which is meant to drive the small speakers in a pair of headphones, not line-level inputs, to drive the headphone amplifier input instead, without overloading it. (I wish more headphone amps had this feature, because my used HeadAMP V isn't going to last forever.) This means that Grace and I have a decently loud and clear control room mix in our headphones while we record, but I still have access to the line outputs for channels 1 and 2 on the back of the FA-66.

It seems like it ought to be easy to run Skype on the same computer I'm using to record, and configure Skype's *input* so that our guest hears our voices, and Skype's *output* to go to our headphones so we can hear our guest. There's some additional nuance, though. Grace and I want to hear our compressed, panned voices along with our remote guest in our headphones, so we need a "Paul + Grace + Skype" mix. And we want our guest to hear our compressed, panned voices in his or her headphones, so we need a "Paul + Grace (but no Skype)" mix to send to Skype. And I want to record all three tracks in raw form, so I can use different compressing, panning, and EQ on the finished track, and edit extra noises from individual tracks without affecting the other ones.

In practice, it's not really that easy. This is because both the hardware and the software are not as flexible as we might want. Some sound-producing and sound-consuming applications let you choose which audio device they use. Some programs even let you set the input and output device separately. Some programs

let you choose which *channels* on a given device they will use. Skype is not one of them. The developers assume that most people will be using the built-in microphone and speakers (or headphone jack) on their computers, and there is not really an "expert" mode.

Software Mix Busses

There used to be some programs you could use to create a special *software-based* audio device, a special configurable mix bus just to solve the problem of sending arbitrary channels of audio from one program to another, entirely in software. There was a free program called Soundflower, and I used to use Soundflower a lot, but years ago it stopped working right. Since I have some experience developing Mac audio drivers, I always intended to take a look at it and see if I could fix it, but it's one of those things that always got pushed down the priority list; besides, my MacOS X driver development experience was back in 2003 or so, and a lot has changed. I see there is now a 2.0 beta 2 version of Soundflower that came out in 2014. It *might* work. There's also a program called Jack, and a MacOS X version exists. I used to use Jack with some success, but that was a long time ago. I see there is now 0.9 beta 32 version of Jack that came out in 2014. That also *might* work. Given that MacOS X is a moving target, and it's been several years since these beta versions were released, I don't have high hopes for either of these programs.

It looks like Rogue Amoeba has a commercial product called Loopback, and I like their software, but it seems like I would need to update my 2009 Mac Mini to MacOS 10.10 to use Loopback, which would very likely break everything. It seems more like the kind of thing I would want to try if I was setting up a new computer and updating everything in the process. But new computers don't have FireWire interfaces, so I'd have to replace my recording interface anyway. And so I'm back to "Hey, it's old, but like my 15-year-old Honda Element, it's paid for, and it is working reliably, so enjoy it while it lasts, and try not to break it!" Because even if I get the software-routing concept working, there's an element of risk. This audio routing uses CPU time, and my old Mac Mini is not all that fast. And the failure mode of these software audio routing tools is usually like this: it works fine in testing. On the day you are doing a critical recording, you are partway into a great interview, and the audio locks up and starts buzzing or stuttering. Or, it just starts crackling a lot. If you are lucky, it crashes noticeably, so that you realize something went wrong immediately. If you are unlucky, it seems fine until you realize that the finished recording is unusable.

Other Recording Options

So, let's see what other options are available. We might be able to put a second audio interface right on the same Mac Mini, and configure Skype to use the second interface, and then hook them together. But again, it's an old computer,

and that might be pushing what it can handle. So I'm more inclined to do what I can with a second *computer*.

It just so happens that I have a freshly purchased ThinkPad T460s laptop with an SSD, running Windows 10. I've gotten it configured the way I like it and it seems to be very reliable so far. So I started considering adding an audio interface to this laptop (since it has only a headphone audio output, which will not support line level output, and no audio input jack of any kind, just a built-in microphone).

It doesn't have FireWire, so I can't use my *second* FA-66 (and besides, that's currently set up on the computer I use to do the actual production of the finished audio files). But it does have USB, and there are plenty of USB audio interfaces out there. It seems like I ought to be able to find a cheap used device.

Since I'm using the headphone output of the FA-66 to send my "control room mix" to the headphone amplifier, the FA-66 still has balanced +4dBu 1/4" TRS output jacks for channels 1 and 2, and I'm not currently using these. In fact there are also similar spare hardware outputs for channels 3 and 4. So it looks like if I sent the "control room minus Skype" mix out those jacks, I could send that mix to Skype's input — assuming I had something to plug them into. The balanced outputs of the FA-66 are industry-standard sockets for 1/4" TRS (tip-ring-sleeve) plugs, so it seems like it should be pretty easy to find an audio interface that will accept two balanced TRS cables as inputs 1 and 2.

The *inputs* to the FA-66 (for the Skype *output*) are a problem, though. I have unused jacks for input channels 3 and 4, but they are *unbalanced* RCA connectors of the type you usually find on a consumer audio receiver, for plugging in your record player or CD player. So I will need a way to accommodate the -10dBV input levels.

One option would be to find a USB audio interface that has balanced +4dBu *inputs* on channels 1 and 2, but unbalanced -10dBV *outputs* on channels 1 and 2. Why 1 and 2? Because Skype on the PC laptop is also not flexible in its audio routing: it looks like it will allow me to specify the output device, but will default to channels 1 and 2, with no option to change this selection. I have not looked into using Jack or some equivalent tool to create a virtual audio device, but for now let's not make things more complicated than they have to be.

I looked at a lot of used USB audio interfaces, but could not find one with those specs.

Finally, the FA-66 has S/PDIF digital optical connectors. I have played with S/PDIF over optical on my Mac Pro, which has connectors built-in, and they worked fine. Some Mac laptops used to have built-in digital optical connectors, and if I had one of those I'd be trying to get this working first, since I already own the correct optical cables. But I don't have such an older Mac laptop, and it looks like Apple has gotten rid of this hidden option on newer models.

There are USB audio interfaces that have S/PDIF connectors. I might have

been able to find something that was *just* a 2 in, 2 out USB-to-S/PDIF adapter. However, the two interfaces have to run at the same clock rate, and I'm not sure I want to limit my clocking options unnecessarily. I'm also not sure such a solution would really be reliable when using a USB adapter. Again, I fear being in the middle of a session and discovering that my audio is crackling because the clocking is unreliable, and having to try to diagnose and fix the problem on the fly. My fear of this kind of problem is not just paranoia, but based on many such actual experiences.

Used Audio Gear Shopping

So with all these issues, amounting to a huge and complex "mind map" of podcast production options, cluttering up my brain, I went to the Ann Arbor Music Go Round store to see if they had some used piece of gear that might solve my problem. I thought they would probably have a number of low-end USB audio interfaces to choose from, but in fact they didn't have much; maybe they had been cleaned out by people looking for gear for Christmas. But buried in a rack, with no tag on it, I did find a TASCAM US-2000. TASCAM gear is usually reasonably good-sounding and reliable, it seemed like there were recently updated drivers available for Windows and Mac, and they wanted only $150 for it, so I brought it home.

So far in my experiments I've determined that it works OK under Windows 10, and the outputs sound fine. I can leave it set up in my recording room and when I need to use Skype, plug it into my ThinkPad using USB. I have also confirmed that if I use the balanced +4dBu outputs for output channels 1 and 2, to drive the RCA connectors on the FA-66 inputs 1 and 2, it sounds like ass, even messing with the input level control on the FA-66. That's just a function of the difference in voltage range between +4dBu and -10dBV gear.

Level Shifters

To try to fix that problem, I also ordered from Sweetwater a couple of Ebtech LLS-2 2-channel Line Level Shifters. These are essentially direct boxes designed for use with line-level connections instead of instrument outputs. They are passive devices that just use transformers to convert between -10dBV and +4dBu signal levels. It's not always obvious, since direct boxes are usually used to convert *to* +4dBu audio levels, but most passive direct boxes will also work the other way, "backwards." Putting these in the signal chain should solve the audio level mismatch problem. If it sounds OK, I'll be able to configure the two mixes within Logic on my Mac Mini, and then the audio side should be taken care of.

See how complicated this audio side can be? In general, there is usually *some* way to make just about any two pieces of audio gear work together — and sound *bad* together. It's when you want to maintain the best possible audio quality that things get challenging.

Once the audio side works OK, I will have to try to verify that the Internet

side works OK. Right now we have a single coaxial cable drop running to our bedroom, on the ground floor. I have the cable modem and Wi-Fi router in that bedroom. But our recording room is downstairs. The Wi-Fi gives me decent signal strength and bandwidth in the basement, at least for things like e-mail and downloading files. I have an Airport Express in the basement, set up to extend the upstairs network. But I'm not entirely sure the bandwidth we have down there is really good enough over to maintain a high-quality Skype call. If it isn't, we might have to consider other options, like running Ethernet cable and/or relocating the cable modem and Wi-Fi router — potentially quite a bit more work just to get us up and running, recording conversations over Skype.

Lessons Learned?

Well, none to speak of. I've known for a long, long time now that:

- Hardware solutions are never quite as flexible as you want them to be, but at least if they follow some standard, like +4dBu balanced audio connections, you can generally make them work somehow.

- Software solutions are often *also* not quite as flexible as you want them to be, and on top of that, *much more fragile over time*, as operating systems, applications, and drivers are constantly updated out from under us.

My dream audio interface is fully configurable. For example, if it had six input channels, each of those channels should have an XLR connector, a TRS connector, and an RCA connector. Ideally there would be a hardware switch to convert between -10dBV and +4dBu. To do this without loss of quality might require separate signal paths to each ADC. Each output channel should have similar options. Each input should also have a very high quality preamplifier that can be switched in. There should also be an option for +48V phantom power on each XLR connector, switchable per channel. This all ought to be possible; there's no technical reason it isn't possible. It would just make the device a little bit more costly.

My dream OS is also fully configurable for audio. The functionality of Soundflower, Jack, and Loopback ought to be built in to the OS. The fact that these third-party solutions exist prove that it is quite possible. The defaults could be simple, but there ought to be an advanced mode that enables fully flexible audio routing including resampling and dither (with appropriate warnings about loss of quality and CPU use). Any application that uses audio ought to use a standard system facility for selecting its inputs and outputs. These should be at least as standardized between applications as the user interfaces for opening and saving files. Scratch that — they should be *more* standardized.

All this is quite doable, but I think there is little incentive for operating system vendors to provide this functionality. For one thing, it would give users the ability to record just about any audio, and so any company selling such an operating system could be considered in violation of the Digital Millennium

Copyright Act.

This is why we can't have nice things. (Well, it's one reason.)

So much is always broken.

The Bluetooth Disaster

For example, I have a nice powered Bluetooth stereo speaker that I quite like, the Altec Lansing BoomJacket 2. I like to use this when we're watching a video from the iTunes store on my iPad, for example, an episode of *Doctor Who.*

On the iPad, it works geat. It's very reliable. I paired it up once, and now if I turn it on anywhere near the iPad, the iPad will recognize it and connect automatically, in just a few seconds.

I tried to get it working with my old, battered, battery-less ThinkPad T410, running Windows 7. It is very unreliable. It takes several *minutes* to connect. Once it is connected, the connection will often stop working. When I tried using it to watch an episode of *Doctor Who* with my family, the audio dropped out in the middle of the show. I had to make the whole family wait while I tried disconnected it, reconnecting it, uninstalling drivers, reinstalling drivers, quickly following the instructions in "how-to" articles and YouTube videos, etc. Nothing worked, and so eventually I just had to give up using this very convenient little powered speaker.

When I got a brand-new ThinkPad T460s running Windows 10, I thought maybe this newer version of Windows, on a newer laptop, would work better with the Bluetooth speaker. But in fact it has exactly the same problems. Actually, they are even more severe. I once again turned off Bluetooth on my iPad and wound up making the whole family wait while I struggled to get the speaker connected to my laptop. And I only ever got it working once, for just a minute or two. From search results it seems I'm not alone in my frustration with Windows support for Bluetooth devices. This is the latest version of the most popular and widely adopted operating system in the world, running on an industry-standard laptop.

The reliability of the Bluetooth speaker, connected to my iPad, proves that the speaker is reliable. It also works absolutely fine with my Android phone. The problem isn't the speaker. It probably isn't the PC hardware either. It's probably Microsoft. And while the control panels look cosmetically different under Windows 10, it doesn't look like the underlying Bluetooth connectivity support has actually improved at all in the years between 2009, when Windows 7 was released, and 2015, when Windows 10 was released.

In fact, the biggest change I've noticed between Windows 7 and Windows 10 is the addition of all the garbage advertising that I've had to struggle to disable and turn off. The other big noticeable change is the fact that the Windows Edge browser wants to run at every opportunity, and supposedly can't be removed.

It seems like not much has changed.

Anyway.

I have some other ideas I want to try on the podcast, but for now I will keep quiet about them. If they work out, they will be a surprise. If not, I won't have disappointed anyone except myself!

Check back on January 21st. If all goes well and nothing breaks too badly, we should have the first episode of 2018 available! I hope it will be a good one.

Writing

I also had a chance to do some writing in 2017. I've had some work in progress — actually dozens of pages of notes and a couple of unfinished attempts at essays — about Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* for several years now, but I have not really been able to focus on it and create a coherent essay or monograph. This past week I was able to finish a reasonably coherent essay about the book, using some material from Dick's published *Exegesis* to support my ideas. A version of this essay might find its way into a print journal later this year. If not, I'll probably share it in my blog.

Books Completed in 2017

I've tried for the last few years to complete a book a week, on average. In 2015 I completed about 52 books. In 2016 I completed fewer, only about 48. This year was disastrous by comparison.

The previously mentioned chronic illness cut into my reading time in a couple of ways. Because my throat was constantly sore, reading out loud had a tendency to produce fits of coughing. So many nights I was not able to read bedtime stories to my kids. Sometimes I would try, and I'd just cough until I had to give up. Some nights I just knew it was not worth the effort. I also was mildly feverish many days, and woke up feeling exhausted; many mornings I tried to do some reading before work, as has been my habit, but found that because of the fever I just couldn't concentrate.

Second, the podcast — recording it, producing it, and writing for it — took up a significant amount of time. I don't really regret scaling back my reading for that reason. The podcast has helped me to focus my reading, and select and read more non-fiction, and read it in greater depth, to prepare to discuss it. That's been of value.

Third, I spent a lot of reading time on magazine articles this past year — I had a subscription to the *New Yorker* magazine, and managed to completely read every issue. I have decided, though, to let my subscription lapse, and focus more on books.

Looking through my stacks and shelves of books, and notes, it seems that I finished the following books in the 2017 calendar year:

1. *Essentialism* by Greg McKeown (unabridged CD audiobook)
2. *Great Expectations* by Charles Dickens (unabridged audiobook from iTunes)
3. *Washington* by Ron Chernow (abridged CD audiobook)
4. *Hamilton* by Ron Chernow (abridged CD audiobook)
5. *Wintersmith* by Terry Pratchett (bedtime story reading)
6. *The Wild Robot* by Peter Brown (bedtime story reading)
7. *Wollheim's World's Best SF Series 4*
8. *White Working Class: Overcoming Class Cluelessness in America* by Joan C. Williams
9. *My Struggle, Book 3* by Karl Ove Knausgaard
10. *My Struggle, Book 4* by Karl Ove Knausgaard
11. *My Struggle, Book 5* by Karl Ove Knausgaard
12. *Revenger* by Alastair Reynolds
13. *Redemption Ark* by Alastair Reynolds (re-read)
14. *Deep Navigation* by Alastair Reynolds (story collection)
15. *Absolution Gap* by Alastair Reynolds (re-read)
16. *House of Suns* by Alastair Reynolds (re-read)
17. *Hard-Boiled Wonderland and the End of the World* by Haruki Murakami (re-read)
18. *The Delirium Brief* by Charles Stross
19. *Proxima* by Stephen Baxter
20. *A Wizard of Earthsea* by Ursula K. LeGuin (re-read, bedtime story reading)
21. *Harry Potter and the Goblet of Fire* by J. K. Rowling (re-read, bedtime story reading)
22. *Secret of the Marauder Satellite* by Ted White (re-read, bedtime story reading)
23. *Our Revolution: a Future to Believe In* by Bernie Sanders
24. *A Fighting Chance* by Elizabeth Warren
25. *Listen, Liberal!* by Thomas Frank
26. *The Sword in the Stone* by T. H. White (re-read, excerpts used for bedtime story reading)

That only averages out to about a book every two weeks, not a book a week. That's disappointing. Maybe I should just try to set more realistic expectations for 2018, and try to focus more on quality than quantity. After all, it's an accomplishment of an entirely different order to finish a book like *The Selected Essays of Jean-Paul Sartre* than it is to get through an unexceptional science fiction novel like *Proxima*.

I've discussed some of the books above in previous blog posts in 2018, but it looks like some I haven't mentioned at all. Some of them were books that I have read before. In particular, the Revelation Space novels of Alastair Reynolds, although they are dark space opera, were "comfort reading" for me, because of their familiarity. Murakami's *Hard-Boiled Wonderland and the End of the World* served a similar purpose.

Rather than trying to rank them, I will just point out some that I didn't feel

were entirely worth my time. These are:

- *Essentialism*
- *Wintersmith*
- *Absolution Gap*
- *Proxima*
- *Harry Potter and the Goblet of Fire*
- *A Fighting Chance*

I've discussed most of these either in blog posts or in podcast episodes. *Goblet of Fire* is of course essential to read if you are trying to complete the Harry Potter books, but it seems to be one of the weaker books in the series, and it also just didn't work well as a children's story, because it moves along with painful slowness.

I also read most of William Hope Hodgson's Carnacki stories, as bedtime reading. (I'm not counting that as a book I read in 2017, as I had read the stories before.) You can find them in *The Collected Fiction of William Hope Hodgson, Volume 2: The House on the Borderland and Other Mysterious Places.* That book is out of print and hard to find, but they are also available for no cost in electronic form via project Gutenberg, and in many other print editions.

I still have *Last Call* by Tim Powers on my pile of books to finish. I should just start it over and either finish it, or give it back to the friend I borrowed it from.

Other Books of Note

In addition, I made at least some progress on the following books, and intend to finish them as I am able:

- *d'Aulaires' Book of Norse Myths* Ingri and Edgar Parin (bedtime story reading)
- *The Norse Myths: A Guide to the Gods and Heroes* by Carolyne Larrington (reference material for talking about the Norse myths)
- *Unspeakable* by Chris Hedges and David Talbot (Grace and I will probably review this book on the podcast)
- *False Choices: the Faux Feminism of Hillary Rodham Clinton* edited by Liza Featherstone (source material for the podcast)
- *The Complete Cosmicomics* by Italo Calvino (bedtime story reading)
- *Crime and Punishment* by Fyodor Dostoyevsky, translated by Oliver Ready (bedtime story reading, believe it or not)
- *Death's End* by Cixin Liu
- *Oliver Twist* (bedtime story reading)
- *Gödel, Escher, Bach: An Eternal Golden Braid* by Douglas Hofstadter (bedtime story reading)
- *I Shall Wear Midnight* by Terry Pratchett (originally intended for bedtime story reading, but I changed my mind)

- *The Compleat Enchanter: The Magical Misadventures of Harold Shea* by Fletcher Pratt and L. Sprague de Camp
- *The Once and Future King* by T. H. White (I read this as a child, so it's a re-read). I'm skipping the first part, *The Sword in the Stone*, and starting with *The Queen of Air and Darkness*, because I already re-read *The Sword in the Stone* in standalone form in 2017. The version in *The Once and Future King* is a slight rewrite of the earlier book to make it a bit less whimsical and so fit better with the more serious tone of the later parts.
- *The Speech: A Historic Filibuster on Corporate Greed and the Decline of Our Middle Class* by Bernie Sanders
- *The Reactionary Mind, Second Edition* by Corey Robin
- *Borne* by Jeff VanderMeer

Had things gone a little more smoothly this year, I probably would have finished all or most of these. As it stands, we are almost done with *d'Aulaires' Book of Norse Myths*. I'm not sure if we will finish *Gödel, Escher, Bach* as bedtime reading anytime soon — we've gotten to the last few chapters, and they are not really made to read aloud, as they are filled with mathematical notation, diagrams, and pictures; they also get pretty difficult for our young audience.

I'm almost done with *The Compleat Enchanter* and so I'll probably finish it, just for the sake of compleatness (ha, ha). I got bogged down in *Death's End*, and might need to start it over. I've barely begun reading *The Reactionary Mind* and *Borne*. Whether I make progress on *Crime and Punishment* and *Oliver Twist* will depend on whether I get my voice back, so that I can read long chapters out loud without triggering a coughing fit.

A couple of these books are unfinished because we have misplaced them — sometimes the kids take books from the shelves in my bedroom. For example, Sam borrowed *The Complete Cosmicomics* and now he can't find it. I suspect the next time he gives the boys' bedroom a thorough cleaning, it will turn up. (I guess that actually means it could be missing for a while.)

I started, and gave up on, *Doctor Who: The Pirate Planet* by Douglas Adams and James Goss. It certainly was not working to read it out loud as a bedtime story. I might try to finish reading it myself, but it was not promising — the story was *very* padded. In fact, I will probably give away all three of the recently published novelizations of Doctor Who scripts by Douglas Adams: the other two are *Shada* and *City of Death*. They just don't seem to be worth reading as novels.

I want to mention that I've also relied on the following books as reference material for my recent writing:

- *Do Androids Dream of Electric Sheep* by Philip K. Dick
- *We Have Only This Life to Live: The Selected Essays of Jean-Paul Sartre 1939-1975*, by Jean-Paul Sartre, edited by Ronald Aronson and Adrian van den Hoven

- *The Exegesis of Philip K. Dick*, by Philip K. Dick, edited by Pamela Jackson and Jonathan Lethem

Viewing and Listening

Finally, I'm almost certainly forgetting some, but here is a list of the movies and and TV shows I remember watching in 2017:

- *Doctor Who: The Pirate Planet* (BBC DVD)
- *Galactica 1980* (the complete series; notable for how hilariously awful it is, but it was a childhood favorite, so I feel compelled to re-watch it.)
- *Doctor Strange* (2016 DVD)
- *Thor: Ragnarok* (in the theater)
- *Blade Runner 2049* (in the theater, twice)
- *Star Wars Episode VIII: The Last Jedi* (in the theater, twice)
- "Twice Upon a Time" (The 2017 Doctor Who Christmas Special) (purchased from the iTunes Store)

I've written extensively on *Blade Runner 2049*. I haven't yet written a full review of *The Last Jedi*, but I enjoyed this one a lot. I side with the Tomatometer (currently at 91%) over the audience score (currently 50%). This movie made bold and unconventional storytelling choices and they paid off. I wrote a few notes for Facebook, and here they are, extended and edited a bit:

Preliminary Notes Towards a Review of *Star Wars: The Last Jedi* (2017 Film)

Note: this is the version of my review as it appeared in my blog, The Books that Wrote Me. I also included it in my e-mail newsletter, The Coffee Underachiever, in the December 22nd, 2019 issue. Things are getting confusing because I'm not editing and uploading this material in the order in which it originally appeared. I think the revised version is a little bit better, so I would recommend that readers go read that version instead of this one.

Episode VII (*The Force Awakens*) had to do three things:

1. *Reboot the story.* After the disastrously bad prequel trilogy, it was not sufficient to just try to continue the story where it left off in *Return of the Jedi*. And for practical reasons like the age of the original cast, it wasn't even possible to just do this. And so VII told a story inspired by the original 1977 movie, filled with fan-service moments, as a bridge between the original trilogy and the new trilogy.

2. *Pass the torch.* No one wanted to see any of the characters from the prequel trilogy in the new trilogy — and this wasn't even an in-universe possibility, given the chronology. But given the age of the original cast members, it wasn't going to be possible to just keep them on as the action heroes of the next three movies. So the film had to involve the old characters and also start to phase them out of the story, by having them hand off their

places in the story to younger actors who can actually be around for more movies.

3. *Raise the stakes.* So that the audience might actually feel dramatic tension, it was necessary to convince them that they were not watching a museum exhibit in which the venerable antiques were wrapped in cotton wool just so they could be objects of admiration and nostalgia. The film had to convince the audience that big things were actually at stake, and anything could happen. Dramatically, the death of Han Solo was entirely necessary and in context it felt perfectly right and fitting.

After *Episode VII*, it was not entirely clear to me what direction *Episode VIII* would take. Would it just remake *The Empire Strikes Back*, or would it do something bolder? It would have been a safe choice to follow the story arc of *Empire* closely, and a lot of fans probably would have enjoyed that, but to really open up the possibilities for future films, it needed to take more risks. It actually really impressed me and won me over emotionally in scene after scene. In fact I'd say it isn't just "good for a *Star Wars* movie," but actually a good movie even considered outside of the narrowed criteria of *Star Wars*, or even science fiction, fandom.

I can see how people who were very attached to the structure of the original trilogy found themselves offended. There are indeed some updated politics at play. But I wouldn't really call them radical. Basically, this film introduces 1990s-era "social justice" ideas into the script, including feminism, disdain for toxic masculinity, and tropes about success through collective action and mutual support rather than extremely high-risk, unlikely individual heroics.

People offended by the idea that *Star Wars* would have a political agenda forget that the original had a political agenda, not from the 1990s, but from a hundred years earlier. Agenda items in the original movie included toxic militarism, *dulce et decorum est pro patria mori*, the dehumanization of one's enemies (in order to make the murder of every person aboard the *Death Star* an acceptable, even heroic, act), and the idea that a person's importance in the galaxy depends primarily on who that person's parents are. If you were a fan of the original *Star Wars* back when it came out and have never heard of these criticisms, that's on you — you haven't been listening. They've been out there for a long, long time, and if it's appropriate to bring politics into an analysis *The Last Jedi*, it's certainly appropriate to do the same for *Episode IV*.

People have gotten angry about the treatment of the male characters, and the elevation of the female characters, as if this were a zero-sum game. That's an old "battle of the sexes" trope that suggests that if women gain, men lose, but the liberation of one doesn't necessarily imply the unfair treatment of the other.

Finn, who famously deserted the First Order, almost succeeds in deserting the Rebellion as well. Desertion in wartime is a crime punishable by death per United States Uniform Code of Military Justice; it appears that it is an unlawful act in the Rebel army as well, as Rose was shooting deserters (although, it

appears, only to stun and detain them). Rose does not hand Finn over to her superiors for punishment, though.

Poe disobeys a direct order and gets dozens of his fellow fighters killed, and a number of scarce rebellion ships destroyed. Poe is demoted. In any well-run military operation, Poe would have been facing not a slap in the face, but a court martial, and possible execution as well.

So miss me with rants about the humilating treatment of these male characters. Even with its new "social justice warrior" approach to the male characters, the movie is still a soft-hearted fantasy that handles its characters with kid gloves. So even as this movie raises the stakes, it doesn't even raise them to a realistic level.

For every angry reaction, it seems to me like people have forgotten what is actually *in* the original film. People are angry about the "jokes" in the movie. They forget that some of the most iconic scenes in the original 1977 film involve sight gags and bad jokes. People are angry about how Finn does not behave heroically. They forget that Han Solo planned to take his reward and get the hell out of danger. Reading complaint after complaint about the new movie, it really seems like people forgot what *Star Wars is*. Folks are complaining that the force doesn't work that way, and I hear them saying "but the *gleep glop* magic fantasy world doesn't have *glop gleep* magic! That's not canon!"

This is a little different than the disastrous retconning that George Lucas did in the prequel trilogy. He said that instead of *gleep glop* magic, your ability to feel and manipulate the Force came not from *any* kind of magic, but from the midichlorians in your blood, which is like saying that achieving sainthood just requires enough vitamins.

I get that arguing about it is not going to *fix* the movie, for people who went to see it and found themselves thrown out of the story by the iconoclasm of the new one. All I can say is that when I watched it, each time the director broke with the storytelling tradition, I felt puzzled at first, but then felt that he used the breaking of the conventional storytelling frame to tell a *bigger* story, and it worked for me.

The amazing battle sequence at the end of the movie takes place on a white plain of salt crystals with red underneath. When one of the ship's skis, or even a person's foot, touches the surface, it turns blood red. (This is not really a spoiler; it's in the trailer). In this sequence the sacrifices of all those who died fighting the Empire (and the First Order) are literally inscribed on the landscape in blood. It's moving, and jaw-dropping. If all you took away from that scene was "Rose should have let Finn die!" — I hear you saying that the best thing the black hero could do for the story is to nobly commit suicide. And you think that's not a *political* view? Can you hear *yourself*?

I saw *Star Wars* before it was called *Episode IV*, in the initial release — actually in a sneak preview showing before the film officially opened. I saw it at least a

dozen times over the next year. I imprinted like a duckling on the movie. But it's been 40 years. You can't keep telling the same story in the same way. I think this new movie does a fantastic job of breaking out of the limitations of the original film, bringing *Star Wars* to another generation, as a story that won't be constrained by the limitations of the original cast or the original story or its original ideologies. Now, *anything can happen.* And *Star Wars* is great again.

And Finally, Music

The album that most sticks in my mind as the soundtrack of 2017 for me is *For Emma, Forever Ago* by Bon Iver. It wasn't even released in 2017. It's not the only thing I listened to this year, by a long shot, and it's not even the only Bon Iver album I listened to, but it stands out for its fascinating lo-fi strangeness and uncanny beauty.

I also found the Philip Glass composition *Itaipu* to be cathartic, during this dark and strange year.

To the New Year! As Colonel Sherman T. Potter said, "May she be a damn sight better than the old one."

Tuesday

I'm back at work. Two Fridays ago, the last day I was in the office, I cleaned my whiteboard, then sorted through and recycled almost all the papers that were stacked up on and under my desk. That was tedious but it means I'm coming back to something that looks more like a clean slate and less like a mess of half-completed projects. Of course several projects are still half-completed, but maybe I can bring to them a perspective refreshed by thinking mostly about *other* things for the last ten days.

It was a good break. My chest still feels a bit funny and I'm still coughing a bit, but the improvement is real. Every morning and evening, and sometimes at random times during the day, I've had to cough up nasty green gunk. There was no green gunk this morning, just a little white gunk.

2017 me should have stocked up the office freezer so that 2018 me would have some food I could turn into a hot lunch, instead of assuming I'd be content eating some crackers and sardines on the grounds that it is "frugal." 2017 me was kind of a jerk, to be honest. Tonight or tomorrow I'll pick up some frozen burritos or pot pies.

Galactica 1980 (TV Series)

I was chatting with Rich about *Galactica 1980.* My family and I finished watching the ten episodes over my Christmas break. My reaction:

> Jesus Christ, I had forgotten how awful that final episode was. It's mind-blowing how strange and stupid it was.

The show keeps veering off in different directions. There is a time-travel plot, for a while, using a gag from the Superman movie. There's a gag that references the TV show *CHiPs*. There's a gang of cute kids. Then they nearly kill some of the cute kids, because the show just can't find its tone, in a show about toxic waste, involving UFOs. It seems for a while like the show is trying to be like *Escape to Witch Mountain* (the 1975 film is actually a great kid's movie, while the 1978 sequel is a good candidate for worst Disney film ever made). Then it's *The Bad News Bears.* There's an episode set in New York City and featuring Wolfman Jack — as himself — as a character. A Cylon is defeated by a microwave oven. It's hard to overstate how truly tedious and awful these shows are.

Here's my quick plot summary of the final episode, "The Return of Starbuck." Remember as you read it that Starbuck was unseen, AWOL for the entirety of the *Galactica 1980* series, prior to this episode.

> Doctor Zee has a dream and tells it to Adama. In the dream Starbuck's ship is damaged in a fight with the Cylons, and the fleet has to leave him behind. He crash lands on a planet and the Cylon ship he was fighting crash lands, too. Starbuck has to survive on the planet. For water, he apparently has a well, but we never figure out where he gets any food.

> After the crash the Cylons seem to be all "dead," but Starbuck takes parts from 3 Cylons and builds one working Cylon, so he has someone to play cards with. He becomes friends with this Cylon, calling him "Cy" (Yes, Cy the Cylon — how imaginative!)

> One night Starbuck is whining to Cy that he's very nice and all, but what he really misses is female companionship. Cy storms off in a huff and a while later returns with a human woman thrown over his shoulder. We never get an explanation where she came from. Oh, and she's pregnant.

> Starbuck manages to take parts from his ship and the Cylon ship and build a sort of escape pod with a "deep freeze," a hibernation chamber, not for Starbuck or the woman, but for her baby. The idea is that they'll be able to shoot the hibernating baby into deep space, and some day the pod will catch up with the *Galactica*, which will scoop up the baby and thaw it out. They seem to think this will improve the baby's chances of survival. (Sure, why not?)

> More Cylons land and Cy rushes to defend Starbuck, shooting the invading Cylons, but is shot himself and fatally injured. Cy has a touching death scene. Starbuck puts the baby in the freezer and shoots it into space. The woman seems to disappear (although I don't think we see this on the screen), and Starbuck is left on the planet with no hope of rescue, but seems content with this fate.

> The baby will be known as Doctor Zee, who somehow and for some

> reason is Starbuck's "spiritual" son.

I'm assuming that the storyline about the pregnant woman, who arrives from nowhere and vanishes into nowhere again, might make more sense to someone who is familiar with the theology of the Latter-Day Saints. I think they are big on "spiritual" children and family. But that might be too generous to the writers; this has the feel of a script written on cocktail napkins while shooting was already underway. There are a few funny lines, and some hilarious science gaffes (at one point Cy charges himself up by hand-cranking a generator that he has plugged himself into, which would create energy out of nowhere), but overall this is just terrible, the ridiculous end to an unbelievably dumb series.

Cy's Voice: Gary Owens

Here's a compilation of original Cylon voices. Note that by comparison, the voice of Cy is strange. You can hear the vocoded voice, but also the unprocessed voice of voice actor Gary Owens at about the same volume level. Give it a listen.

I'm honestly not sure if this is a mistake, or intentional. Did they leave the original vocal track audible to make Cy sound more human? Or did they just accidentally fail to mute one of the multi-track tape tracks when they were mastering the audio for the DVD? Did it sound that way in the original broadcast? I don't remember.

This show is a perfect example of the great weakness of most episodic science fiction television. A show may have a great premise, likable characters, cool sets, and nifty props. But if the writers can't come up with anything interesting and convincing for those characters to *do*, we wind up with hack work that makes no sense and which isn't convincing or emotionally interesting.

Apparently *Galactica 1980* was doomed from the beginning: the producers couldn't get very many original cast members back, couldn't get the budget they needed, and were repeatedly ordered to change the show's direction. It suffered from "too many cooks" syndrome. This web page, containing some notes on the history of the show, is far more entertaining (and educational) than the show itself.

The original *Battlestar Galactica* was quite a bit darker than *Galactica 1980*. This seems to be in part because *Galactica 1980*, which aired in the Sunday 7 p.m. time slot, had to be kid-friendly. Kids like me were watching. But this led to truly weird situations. In an episode that takes place in Nazi Germany during the Holocaust, we're shown boxcars full of people ready to ship out to concentration camps. Trying to make this content suitable for children also made it utterly, tastelessly, sanitized. The disconnect between the historical events and their portrayal is enough to make my head explode; it led me to MST3K the show with Anne Frank jokes. The deeply offensive setup had already been done; I was just commenting on it.

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Wednesday

Into the Vortex

After I left work last night I drove to Meijer on Carpenter Road and stocked up on some various frozen entrées including pot pies, chana masala, and pad thai. These items were marked down ("buy one, get the second for 50% off"), so I bought quite a few. They wouldn't fit in our freezer, so I just left the bags in the back of my car overnight — it was only a degree or two above zero. We are getting polar vortex weather again, and the temperatures are very unusual for late December and early January. Jeff Masters of the Weather Underground web site wrote:

> I've endured more than 50 winters in Michigan, but the relentless, intense cold that has gripped the Great Lakes State since Christmas has been remarkable, and will enter epic territory late this week. My backyard PWS *(note: "Personal Weather Station")* has seen lows below zero Fahrenheit an impressive six of the eight days since Christmas, with a notable minimums of -18°F and -19°F on December 27 and 28. Nearby Flint airport hit –18°F on December 28, which was their lowest temperature ever recorded in the month of December. The previous record was –14°F, set just the previous day.

> What's also remarkable is the extended duration of this cold wave. Both Detroit and Flint have failed to reach 20°F for eight consecutive days, going back to December 26. If current forecasts prove accurate, both cities will have streaks of 12 consecutive days with a high below 20°F by Saturday.

During the week of Christmas, Erie, Pennsylvania got 64 inches of snow, which broke records and reminded me of the Blizzard of 1977, which is one of the earliest weather events I clearly remember; I remember that epic snow storm, and an amazing ice storm.

I have heard that in Kalamazoo, residents are being asked to leave water taps running slightly, because the ground has frozen so deep they are afraid of broken water mains.

Strangely, because the first three weeks of December were so unusually warm, the average temperature for December may still be ranked above normal. I think it is this combination of an unusually warm unfrozen Lake Erie, and very cold air, that led to the blizzard in Erie, although the lake is freezing up now.

This is intense, but the recent weather is not as shocking as the event now known as the "Early 2014 North American cold wave." When that freeze hit, the sidewalks in my old neighborhood in downtown Saginaw, Michigan shattered overnight. They were stamped 1928: they had held up 86 years, but couldn't handle that shocking temperature drop. I was out walking on January 5th and actually recorded a podcast as a blizzard moved through. In that episode I

reported:

> Yeah, this is Michigan and it's winter and I've lived in Michigan for 23 years, or something like that, and another winter storm is not such a big deal, but there's something strangely ominous about this one. I think even the weather forecasters are a little freaked out, because they're looking at the pattern on the maps, the radar and satellite and all that, and it looks like the swirling vortex, like a giant tornado of cold air, that normally sits up in the arctic, above the North Pole somewhere, has slid off, and is coming down here to hang out across the Upper Midwest and East. And that's unusual. So the fact that we're having a storm with a lot of snow — you know, that happens. But the fact that they're predicting that temperatures here will be eleven, twelve, fourteen below zero, something like that — that's unusual. And this is not even the epicenter of the cold temperatures. I think the last time I checked, the prediction for Chicago was that the *high* on Tuesday would be eleven below zero.

I think on that day, I was in the middle of the fastest temperature drop I've ever experienced. The National Weather Service that

> Temperatures dropped by as much as 40-45 degrees from Sunday Jan 5th into Monday Jan 6th.

See this National Weather Service report and this report from NOAA.

Despite these chills, the bigger picture is still a picture of ongoing *warming*. Record snowstorms happen when cold air meets unusually warm air carrying an unusually high amount of moisture. In fact, on December 29th, temperatures across most of the world were well above the 1979-2000 baseline. But with the destabilized jet stream, it seems like these extreme and abrupt temperature swings, as the "polar vortex" air wanders around, may be the new normal. And our infrastructure really isn't ready.

Has Anyone Seen My Wife and Children?

Yesterday afternoon Grace drove with the kids to Lansing to visit her brother John, who is hospitalized. After they left Lansing, she drove up to Saginaw to visit friends. She did not let me know where she was going and when she was coming back, so I was left to guess. I noticed the transaction on our bank account when she paid at the hospital parking garage in Lansing, but figured she'd come home after that, maybe with some pit stops. But she was not home when I got home. I put on the original *Battlestar Galactica* movie and half-watched, half-listened to half of it while I cleaned up the kitchen a bit and cooked myself some eggs for dinner. Eventually I sent her a text:

> Are you secret? Are you safe?

That, of course, was a reference to a scene *The Fellowship of the Ring*, the movie,

when Gandalf surprises Frodo, to check on the whereabouts of the One Ring.

Grace did eventually text me back and told me that she was in Saginaw, and leaving shortly. I did not wait up for her. She had a cold drive, but the roads were clear. She got back about 1 a.m. The kids then had to roll the trash and recycling bins down to Crane Road in the cold (it was about zero degrees). I hope they didn't wake up the neighbors.

The Wrong Trousers

I think I may have worn my wife's jeans to work today. They were sorted into my clothes basket by mistake and so I folded them up and put them on my shelf, then put them on this morning. The odd thing is that they seem to fit reasonably well.

I've been reading *I Shall Wear Midnight* by Terry Pratchett. After a slow start, it seems like the book picks up considerably, when Tiffany Aching goes to Ankh-Morpork. Still, I don't regret giving up on reading it to the kids as a bedtime story — it was just too dark, and the themes were too adult for them.

I had a soak in the tub this morning while reading, and tried to cough up some goo, but could only get a little foamy white stuff out. Then I took a hit from my albuterol inhaler and got in the car to drive to work. The albuterol seems to loosen things up and so halfway through my 20-minute drive I was gagging on foul-tasting green goo coming up from my chest. So I guess the green goo is not gone, but can I dare hope that it's almost gone? Although I'm still coughing, I'm coughing a lot less, overall, and I feel a bit more energetic, overall. But my Facebook and Twitter feeds are filled with ads for lung biopsy devices and new treatment options for lung cancer, which seems a little ominous.

I see the doctor again next Monday.

Mice

We keep killing mice. They get into the stove somehow, from somewhere. They climb up inside the back of the stove, then run around on the counters, or sometimes on the floors, or sometimes inside the cabinet where we store cans. Last night I killed two using a couple of different types of trap: a Victor Power Kill trap, and a Tomcat Mouse Snap Trap. I try to get the dead mice into the trash before the kids see them, but it's disturbing. Even if they are killed cleanly by the wire trap, they may still take a minute or two to stop twitching. And sometimes they don't come at the bait head-on, but sideways, and aren't struck by the wire cleanly across the neck. I've had to finish them off sometimes, by crushing their skulls as quickly as I can with the base of a heavy drinking glass. Other times I've seen evidence that they lived for a while with the wire clamped across their skull, or their snout. None of us feel really good about killing them like this, but having tried in the past to use live traps, these actually seem more

humane. And we also don't feel good about cleaning up mouse poop all over the stoves and counters.

But I can hear their inner monologues in my head.

> Where's mom? Where's dad? Where's my big brother? Hey, are you guys up here? I came to look for you! Hmmm... what's this, then? Is that *butter*? I love butter! *[Wire trap comes smashing down on its snout] [Gasping]* Well, that could have gone better. Ouch. Yes, that's painful, that is. Oh my. Oh, what a world, what a world. *[Spraying a mist of blood from its snout all over the trap]* My life is flashing before my eyes. *[Final gasp]* Well, I have to say, that was short. *[Death rattle]* Wait... I can feel myself leaving my body... oh, am I going to a better place? Look, there's my little smashed mouse body. Oh, there's a human coming to give me a decent burial! My little feet are still twitching. Wait. Where's he taking me? He's... he's... he's dumping my poor little broken mouse body into the *trash can*?

Level Shifters, Continued

My Ebtech line level shifters arrived today from Sweetwater and I may be able to test them tonight, to see if I can get decent-sounding audio into the channel 3 and 4 RCA inputs of my FA-66.

Unpacking them, I was reminded of another reason I wanted to buy these relatively expensive, separate hardware components: they are made in the United States, like another piece of gear I really like, my Cloud Microphones CL-2, also known as a "Cloudlifter." It's a simple but very useful little preamplifier. I use this to help boost the gain on my two Heil PR-40 microphones, and it makes them sound great. Every time you listen to the podcast, you're hearing the CL-2 — it's the first link in the signal chain after the microphones.

Thursday

Pottscasting Hardware and Software, Continued

Last night I tried out the line level shifters. They work quite nicely. There is definitely a reduction in audio quality between what I can hear on the headphone output of the US-2000, compared to what I can hear if I send this signal out of XLR outputs 1 and 2, through the Ebtech line level shifters, into the FA-66 RCA inputs for inputs channels 3 and 4, monitoring the results via the FA-66 headphone jack. But that's not a very "apples-to-apples" comparison. A more "apples-to-apples" comparison might be to compare what the FA-66 hears on inputs 1 and 2 using +4dBu balanced connections from the US-2000 channels 1 and 2, with the level-shifted signals coming in on the FA-66 channel 3 and 4 inputs, but I did not want to unplug and rearrange everything to set that up.

The bottom line is that the level-shifted audio seems to sound about as good as it is going to get using inputs 3 and 4, which is not great. But then, the digital audio that comes out of Skype is pretty compromised to begin with, so a small amount of extra degradation is not really noticeable.

Comb Filtering

I was a little baffled for a while when I did these comparison tests, because I was hearing what sounded like severe phasing in midrange sounds like vocals. I swapped cables, to try to rule out a bad cable. Finally I realized that the FA-66 has a *mix* control, and with the mix control centered, I was hearing an internal direct monitor of inputs 3 and 4 mixed with a delayed digital signal from inputs 3 and 4, coming from my Mac Mini and Logic. The latency (time difference) between these two signals was producing "comb filtering" (see https://en.wikipedia.org/wiki/Comb_filter). The fix for that was to set the monitor mix control so that I was listening only to FireWire outputs 1 and 2, with no signal mixed in from the built-in low-latency monitor mixer.

I'm a bit embarrassed to admit my mistake, since not only is there a schematic in the manual, but it is also *printed on top of the unit.* It's one of those cases where, in order to make itself actually flexible and useful, with features like low-latency monitoring, a piece of "professional" or "prosumer" audio gear like this has to make it possible for the user to do stupid things. The ability to blend the low-latency monitor mix with the FireWire audio outputs can be useful — more useful than a simple switch allowing the user to select either one or the other. But it also lets the user create comb filtering. Consumer gear tries to protect you from mistakes like these, but the tradeoff is that consumer gear is very inflexible, supporting only simple options; each input can generally only be "soloed" (that is, selected as the only active input being sent to the output), or not.

A little latency on our headphone mix, or on the mix we send to Skype, isn't going to be all that noticeable. I am still scratching my head wondering how to get the best sound using Skype. With our headphones on, we are hearing our own voices through the air and through the bones in our heads, followed a few milliseconds later by the panned and compressed sound of our voices in our headphones. With a Skype call active, it seems like Skype is *also* returning audio of our voices to its audio output, which means we're hearing our voices again via a *third* path. Via that path, our voices are low-resolution, somewhat distorted, and not panned. I'd like to not hear this unwanted returning audio signal, but if we don't monitor the output from Skype, we can't hear our guest. And the only reason we don't get feedback via this path is, I think, because the Skype software suppresses it.

Even More Pottscasting Hardware and Software

I've been looking into whether any of the other services for conferencing might give us better sound. Is there anything better out there? Maybe we should even consider using a hardware device that connects to a phone line. Not a "plain old telephone service" (POTS) line — although of course Pottses using a POTS line would be appropriate — because we don't actually have working old-school phone service at our home, but a phone line connected to our Vonage VOIP adapter.

Anyway, I now have a reasonable "mix minus" setup for recording conversations using a third party over Skype. "Mix minus" means that I'm creating a second version of the "control room mix" to send to Skype. That second version is *minus* the audio *from* Skype, so that our remote guest isn't sent his or her own voice from our end, creating feedback.

I have it working using *both* the FA-66 and US-2000 connected to the same Mac Mini. The US-2000 doesn't work as a USB audio device using the standard CoreAudio driver. It requires a device-specific driver, and there are different versions for different versions of MacOS X. After installing the driver for OS X 10.9 (Mavericks) — yeah, my Mac Mini is a bit behind, since 10.13 (High Sierra) is the latest — it works, shows up in the Audio MIDI Setup application as two separate devices. One is called "Bit Accurate," and one is called "Core Audio." I'm not sure what the difference is. Is TASCAM implying the "Core Audio" device is somehow *inaccurate*? That sounds like a vendor carrying out a snarky dispute with Apple over a driver API. But whatever it means, Audio MIDI Setup does not seem to allow me to choose the "bit accurate" device for system sound. It also won't let me set any levels (the GUI appears to let me set the master volume, but it always pops back to zero). This seems to be a bug, but the interface puts out sound just fine. This just underscores for me how confusing and broken and poorly integrated this whole mess really is.

I could not get the Skype application to work anymore on the Mac Mini, even after updating the application — it would not sign in to Skype. But signing in through the web worked OK, once I installed the Skype plug-in for Safari.

It should also be possible to drive the US-2000 from my PC laptop, running Skype on the laptop. I still need to experiment, and see whether I might get better Wi-Fi bandwidth and so, possibly, better Skype audio, using a separate computer. If there is no audible advantage, I'll just do it all on the Mac Mini.

I may also want to configure my Logic Pro project to treat the Skype input and output as mono. I could make a mono version of the control room mix to send to Skype as the "mix minus." In fact, maybe I only need to send and receive the left channel. I'm not sure of the best strategy here. If Skype really is strictly mono, I certainly don't need to record two tracks.

Note added during editing on September 26, 2018: I'm doing it all on the Mac Mini now, and getting better audio quality by using Google Hangouts instead

of Skype. I am indeed only using the left channel, since experimentation has shown me that both Skype and Google Hangouts only send audio out to the left channel. So I'm running a 1/8" TRS cable from the Mac Mini's headphone jack into a Radial J+4 stereo line driver, a very useful and nice-sounding little box which turns consumer-level -10dBV signals into professional-level +4dBu signals, but running only the left XLR output from the Radial box into the input of the US-2000 that I've designated for "remote guest in."

With some experimentation, I also discovered that I could use 1/4" TRS cables from the channel 1 and 2 outputs of the FA-66 to drive the left and right 1/4" TRS inputs of the HeadAMP V. The manual is not really clear on whether these inputs handle balanced +4dBu connectors, but they seem to handle the balanced signals just fine.

This is confusing, since the HeadAMP V "sell sheet" says :

> The right 1/4" input will also accept a stereo TRS connector and stereo mix (tip = right, ring = left), such as the headphone output from a mixer.

and

> The left 1/4" input will also accept a mono connector and mono mix.

The two 1/4" inputs are marked "RIGHT/MONO INPUT" and "LEFT/STEREO INPUT," which seems to contradict the sell sheet, and the manual says:

> If you are connecting the headphone output of a mixer, use a stereo shielded patch cable and plug into the Left/Stereo 1/4 inch HeadAMP V input.

and

> The Right 1/4 inch input will act as a mono input if the Left 1/4 inch input is not used. In this manner both channels will receive the same audio.

And also:

> If you are connecting the separate L&R outputs of a mixer, use two shielded mono cables and plug them into the Right/Mono 1/4 inch output and Left/Stereo 1/4 inch input on the HeadAMP V.

This is all quite confusing because a 1/4" TRS plug carrying a balanced +4dBu signal *is mono*, but so is a 1/4" TS plug carrying an unbalanced -10dBV signal. So this is a case where a diagram of the different connection options would be helpful, specifying both the physical *and* electrical characteristics of the supported inputs.

In any case, it seems to work just fine with two separate left/right 1/4" TRS balanced +4dBu plugs, while using one TRS cable from the FA-66 headphone jack is actually a bit flakey. Small movements of the cables, even the headphone cables

plugged into the front of the unit, will cause the stereo sound to intermittently switch to mono. That's very annoying. It seems like the sockets must make special use of the contacts inside the jack, so that different circuitry is switched in or out depending on whether both inputs are in use, and maybe even whether the plugs stuck into the sockets are TS or TRS. This seems to be touchy and error-prone in practice, and the confusing, poorly-worded documentation certainly does not help matters. So I suspect I've discovered at least one or two reasons why the HeadAMP V is a discontinued product.

Note added during editing on September 26, 2018: Grace and I are still using the HeadAMP V, connected using two balanced TRS cables from the US-2000, rather than a single TRS cable from the FA-66 headphone output. This seems to work reliably. I'm able to do it this way with the US-2000, because the US-2000 has spare outputs I can dedicate to the monitor mix, while the FA-66 doesn't. So for the time being at least, I've got no good reason to replace the HeadAMP V, although in the future I might like a rack-mounted headphone amplifier.

La Rentrée

We got a pretty good start to the week on Tuesday morning, but then Grace got out late and stayed out very late, throwing off my schedule. We tried again last night to get to bed at a reasonable time, but we're just not quite there, which means I'm again struggling to get enough unbroken sleep to stay healthy. Transitions after a vacation are always hard. Fortunately the days are getting longer, so that should help.

Things are also picking up at work, with some new hardware designs in the works, which should help keep me engaged. Things are often a bit slow towards the holidays, in embedded software design, as no one wants to release a product right before Christmas.

Friday

Last night we had hash browns made with leftovers from our New Year's pot roast. I think this is the last of it. It was still delicious. Then, I had a little more of it for breakfast.

Cell Phone Minutes

This morning Grace wanted to talk again about how much we are spending on cell phone minutes and consider getting a plan. I am very skittish about plans — I really, really like "pay as we go" minutes. She talked about how she is sick of me blowing up at her for spending all her minutes.

It is true that I do that, but I reminded her that the times when I got angry were because she ran herself out of minutes, and then I could not get in touch with her. Sometimes she'd be out of town with the family and I couldn't even exchange text messages with her, and I'd have no idea what she was doing, what

she might be spending, or when she was coming back. *That* was the main source of my anger — losing track of my family.

Having her blow all her minutes with long conversations and text storms with her friends, when I'm trying every day to be as frugal as possible, eating sardines and crackers for lunch, was a secondary source of anger. And I reminded her that it goes way back to the last time we had cell phone plans. Shortly after we decided to get married I got us "his and her" cell phones, and shortly after *that* she took hers on a trip to the East Coast and racked up something like $2,000 in roaming charges. I could not pay that surprise bill. I offered to pay half, and they wouldn't take half, and I think they sent it to a collection agency, which sued me for the debt. The details are a bit hazy since this happened about sixteen years ago. We had our attorney speak to them, and he convinced them we didn't have the money to pay the full bill, and so they accepted half after all.

Ever since then, I've wanted to avoid any similar experiences. So I've avoided cell phone contracts, instead insisting that we just buy minutes in advance and then use only those minutes, so that there is no possibility that just using our phones could rack up potentially large amounts of debt.

In her defense, Grace claims that she never *gets* notifications telling her she is running short on minutes. And neither of our phones seem to be able to connect to T-Mobile using the built-in T-Mobile application, which should show us how many minutes we have left at any given time. It always gives an error. According to the T-Mobile support pages, I should be able to dial *#999#* to check minutes, but that doesn't work reliably either. When I try it, I often get the message "USDD error."

I went through the spreadsheets and credit card statements for 2017 and discovered that I spent $485 on minutes for the year, which turned into $523.60 with taxes and fees, averaging to $43.63 per month. It looks like she spent $960 on minutes for the year, which turned into $1035.98 with fees and taxes, which is about double the cost of my minutes.

I don't think 2017 was typical, but it is true that she needs more minutes than I do, given that she manages the kids' medical appointments and most of our social life, such as it is. Her usage might come down in 2018, if things are more normal. But yeah, it's probably true that we should figure out if signing her up for a plan might save us anything. It seems unlikely that there is a plan that would save me money given how little I typically spend on minutes.

It seems stupid that phone minutes are a big enough expense that they can trigger money stress. It's the same with books. They are quite a small expense in the overall budget. They are much smaller than our food expenses. But of course we are scrutinizing these small expenses because they are not *fixed* the way our our two mortgages and our two sets of energy bills are fixed, charging us a predictable amount each month. The reality is that our fixed expenses cost us the bulk of my take-home pay, and the single biggest thing we could do, to drastically improve our cash flow, is to get out from under the monthly expenses

related to the old house: the mortgage, the energy bills, the water bills, and the extra cost of insuring the old house. These add up to about $1800 a month, or over $20,000 a year. So fixing that would certainly make the debate over how to fix our out-of-control cell phone expenses of less than $1,600 for the year feel a little less critical.

Note added during editing on September 26, 2018: we have in fact switched to a basic T-Mobile plan where we pay a fixed monthly amount for two phones; we have unlimited talk and text, but no data. I say "a fixed amount," and this plan was supposed to cost $50 a month, but for some reason that I've never been able to figure out, it varies slightly from month to month, and actually costs us about $45; that works out to about $540 a year, which is certainly better than $1,600. Part of the difference is just because plans are just much cheaper *than they were when I first started using prepaid T-Mobile phones, about sixteen years ago. My allergy to contracts kept me from looking at how much cheaper plans have gotten, while pre-paid minutes have not really gotten cheaper.*

Anyway.

I got paid this morning. It's not like I've ever failed to get paid, since starting this job, but it's nonetheless nice to see it go through every week. Even if most of it is already spent.

Money News

Things are going to be tight in February due to the rather large car repair bills we had in December. We also have a number of "carryover" bills — I haven't finished paying for the lawn care and hauling expenses at the Saginaw house in 2017. I have to write some extra checks this month. And we had some extra expenses related to Thanksgiving, Christmas, and New Year's. There was special wine, special food, and extra travel. There were some movies and meals out. There were extra fire logs. But these things were cheap compared to the car repairs.

We spent hardly any money on Christmas presents *per se*. The kids got boxes of Thorlabs lab snacks, and they each got a specially selected ceramic mug. Grace chose the mugs from the selection at our friend Joy's "First Stop Shop," a resale shop in Grand Rapids — but more about that project another time. That was it for presents. We went with "experiences over things," so we watched movies together, hung out, made cookies, etc. I would have read them stories — a lot of stories — if not for the coughing.

Saturday

Stalker (1979 Film)

Last night I stayed up with the family and we wached my Blu-Ray of Andre Tarkovsky's movie *Stalker*. I've had this disc for a few months and been waiting

for an opportunity for peace and quiet to watch it. The kids were falling asleep so I decided it was time, although Sam stayed up to watch the whole thing with me. I've read reviews, I've read about the movie, I've read *Roadside Picnic* a couple of times (in two different translations), and I've read a small book called *Zona: A Book About a Film About a Journey to a Room* by Geoff Dyer. The book makes it sound fascinating. I am a fan of Tarkovsky's *Solaris* and so I was excited to see this film, which some people consider his greatest.

I think it suffered from watching it on a small screen, and perhaps I was just too tired and not in the best mood to appreciate it. But here's what I wrote on Facebook:

> Last night we watched a Blu-ray of the Andrei Tarkovsky film *Stalker*, which I've heard a lot about but never seen. I pride myself on having seen quite a few foreign films, classic films, and art films, and being pretty good at decoding symbols and references in films. I really like Tarkovsky's *Solaris.* I have patience for slow moving, immersive movies like *Wings of Desire.*

> But while this movie is very beautiful in places, I just couldn't enjoy it much. All the dialogue seemed like improvised ranting about nothing coherent. So little happens that in hour three, when a phone rings, it's a huge relief. We think "oh, the director is finally giving his actors some instructions. Maybe they will stop lying down in mud puddles and actually do something." Watching the whole middle third of this movie looks and sounds like being trapped in the tank of a badly leaking toilet for an hour. It was filmed in flooded industrial refinery buildings in Estonia and apparently everyone involved in the shoot died of cancer shortly after the film wrapped.

> This morning Grace pureed a whole raw onion and smeared it on my chest. While my eyes watered and I struggled to experience the alleged respiratory benefits of inhaling raw onion fumes, I kept thinking "Hey, at least I'm not still watching *Stalker*!"

> I got so desperate for something to happen in the Zone that, for a while, I was hoping that the Stalker would *describe* something that happened on a previous trip, so that even as the movie steadfastly refused to show me an interesting scene, I could at least *imagine* one.

> I think reading the book was actually a disadvantage, because in the book, there are fascinating artifacts, and dangerous traps. People are killed, in fact. So I kept expecting the characters to find some of these artifacts, or get caught in the traps, or do *something* — something, that is, other than lie in mud puddles filled with used syringes and argue with each other.

> There is one thing about the movie I really loved, though — the way the score blends with ambient sounds in certain scenes. The score is

really cool. The music, by Eduard Artemyev, was far ahead of its time.

Note added during editing on September 26th, 2018: there seems to be a 1999 vinyl album by the film's composer, transliterated as "Edward Artemiev," called Music from Andrey Tarkovsky's Motion Pictures. *Physical copies of that vinyl record seem to be scarce, and as far as I know, there was never a CD release. There is a version available on the iTunes store, under the name "Eduard Artemyev," that seems to have all that record's tracks, as well as a few more. Since I had a lot of iTunes store credit, I bought it. My initial impression is that a few of the tracks, particularly "Train" and "Meditation," are terrific, and some of the others are good ambient music, but three or four suffer from the excessive and clichéd use of 1980s synthesizer presets, rather than real instruments, and vocal sounds that are either fake or sound fake. I'm pretty sure there's a lot of Yamaha DX-7 going on here, and I don't remember even hearing these tracks when watching the films they are supposed to be from — although maybe they were there, but just weren't memorable.*

I should give *Stalker* another chance on a big screen, someday, if I get the chance. So many people seem to have a lot of respect for this film. I think there are things to respect, in the filmmaking, and it certainly maintains certain moods very well at times, but I feel that the storytelling aspect of it is lacking.

At the end of the film there is a sequence in which the Stalker's wife has a monologue, and she delivers it while staring at the camera. That's an odd choice, to suddenly break the fourth wall like that. It sort of works because her performance is very convincing — in fact, all the performances in the film are very good, so good that it almost never seems like any of the actors are actually acting — but I'm still scratching my head a bit as to why a movie that maintained such a slow voyeuristic feel for so long suddenly switches to a face-to-face confrontation with the audience.

There are odd tricks done in editing. Sometimes the ambient sound changes, but the changes don't match the scene changes. We might hear a place before we see it, or continue hearing the previous place while we're seeing a new place. This messes with our sense of how time is flowing, and where the characters *are* with respect to each other at any given moment. We're supposed to feel, as the characters do, that the landscape of the Zone is irrational, and that in the Zone one can't simply walk in a straight line from one place to another and expect to get there in the usual way. But these disorienting effects don't really work very well on the small screen, since watching the small screen, the viewer doesn't feel present in the scene. And as if the film wasn't already hard enough to appreciate, the subtitles are small and often hard to read, with light-colored letters on a light-colored background.

Anyway.

I also finished reading Terry Pratchett's *I Shall Wear Midnight*, the second-to-last Tiffany Aching novel. It picks up quite a bit as it moves on towards the end, and

so I enjoyed reading the rest of it quite a bit more than I enjoyed the first fifty pages or so. In fact, as it winds up, I rate it one of the better Tiffany Aching books, which are a bit unevenly paced in general.

The Unconference

Grace and I finally got out of the house — I wasn't feeling very well this morning, perhaps fighting off a virus, and so went back to bed for a while — and yes, she really did smear a pureed onion on my chest, which seemed to help a bit, but perhaps not as much as a dose of albuterol. We went downtown to the Unconference event. I was there to do something I'm not very good at — networking — trying to meet people who might like to collaborate with us on music projects, audio production projects, episodes of the podcast, or other things we haven't even thought about yet. I met some nice folks, including some people involved in local government. It seems promising, although I think it is too early to say if anything really great will come of it. Still, I'm glad we went, and not just because they had sandwiches and chips.

Fiestaware

After the Unconference, we drove to the home of one of Grace's friends, who was having an estate sale, and looking to get rid of a whole lot of Fiestaware. We have some Fiestaware sets and we used to use them for our daily table settings, but the kids broke quite a few of them, so we put them away and started using big stacks of cheap Corelle knock-off plates and bowls purchased for a dollar each at Ikea. This way, when a kid drops a bowl or a plate, we're not truly upset; we just hand the kid a broom and dustpan. However, it looks like this might be a chance to score a *lot* of Fiestaware pieces. There are a few of the older, more collectible pieces, but we don't actually want those; we only want the modern, lead-free pieces. If all goes well tomorrow we will be bringing home many dishes to stock up our house. We don't yet have a good place to put them, so they will probably be boxed up in the basement until we can set up some kind of shelving for them.

Finally, we picked up dinner for the kids on the way home. We tried to go to get Chinese food at San Fu, a place I often used to go when we lived in Ann Arbor. It looks like we missed our chance, though, by about a year.

Blaze Pizza

Feeling disturbed by the disorienting loss of one of our old landmarks, we tried Blaze Pizza, a new pizza place on Washtenaw near Carpenter Road. It was pretty much on our way. We got four pizzas: a "meat eater," a "red vine," a "white top," and a "simple pie." We picked up some Fanta orange sodas in glass bottles for the kids and some slightly less sweet San Pellegrino blood orange sodas for the grownups. It is quite cold out tonight — it's supposed to get below zero — so we warmed up the car before leaving with the pizzas, and drove them

home as quickly as possible. I think it's not even ten minutes from our house if we jump on US 23 south. The pizzas arrived warm. They weren't truly sublime, the way that a thin pizza can be truly sublime when it has, only one minute earlier, come out of a wood-fired oven, but they were pretty good, and everyone found a type of pizza they could enjoy. Everyone was satisfied. So we'll probably go back there sometime.

That's a week — I'm calling it! It's time to go read the kids a bedtime story.

Books, Music, Movies, and TV Shows Discussed This Week

This list does not include books, chapters of books, or other works that I only mentioned briefly in the text above.

- *Star Wars: The Last Jedi* (2017 film)
- *Galactica 1980* (TV series)
- *Stalker* (1979 film)
- *I Shall Wear Midnight* by Terry Pratchett

Pittsfield Township, Michigan
The Week Ending Saturday, January 6th, 2018