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Pelikan's Antidisambiguation-Digital Verisimilitude

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on Analytics. In addition, several members of the Acquisitions unit have joined the Alma listserv.

Analytics is running smoothly as the person responsible for creating financial reports has developed a workable template and easily downloads data into Excel to satisfy the demands of supervisors and administrators.

Results

Changing integrated library systems is never easy. Despite a few lingering issues that are being addressed, ODU's Alma migration for Acquisitions has worked primarily because of the dedication, determination, and diligence of a very talented staff. In comparison to using Sierra, Acquisitions staff members now take a little longer to complete some acquisitions tasks in Alma such as paying invoices. But staff members are talking Alma, processing invoices promptly, running extensive financial reports, and coding order records correctly. They not only interact among themselves to troubleshoot things but also regularly read Alma documentation, consult with Alma colleagues at other libraries, monitor discussion on the Alma listserv, participate in Alma webinars, and view training webinars in Alma essentials. All in all, ODU's Alma Acquisitions migration has been a positive experience. 🌱

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Pelikan's Antidisambiguation — Digital Verisimilitude

Column Editor: **Michael P. Pelikan** (Penn State) <mpp10@psu.edu>

I had to change systems recently — my primary work system, that is. It meant moving from a Dell laptop to a Surface Pro 4. How strange it would have seemed, just a few years ago, when our work system lived under the desk at work, weighing in at a decent twenty or thirty pounds, to have a “main system” be the size of a slender portfolio weighing a couple of pounds.

Fortunately, all this has advanced at about the same rate as my back troubles. Remember the early Compaq Computer ads? I remember one showing a businessman, looking really smooth, sauntering onto an airliner with his Compaq Personal Computer, no larger than a good-sized sewing machine! If you google “Compaq computer magazine ad airliner” you’ll find the picture I’m referring to. It’ll be right near the ad for the 10MB hard disk drive for only \$3398.

This was a wonderful time. 1983! Just a year to go until the Orwellian benchmark. **Reagan** was president, *Billie Jean* by **Michael Jackson** was the Number One song (edging out *Hungry like the Wolf* by **Duran Duran** at Number Three...), **Michener's Space** was near the top of the Bestseller's list, just above *The Little Drummer Girl* by **John le Carre** and *Star Wars: Return of the Jedi – The Storybook Based on the Movie*, by **Joan D. Virge**, which just edged out *The Name of the Rose* by **Umberto Eco**.

In music, the Oberheim DMX was a leading digital drum machine. Introduced in 1981 for \$2895, it was the second digital drum machine to be sold as a commercial product, following the Linn LM-1 Drum Machine of 1980. The DMX featured 24 individual drum sounds derived from 11 original samples. Those distinctive sounds were soon cropping up in hits from **The Police**, **Kim Carnes**, and the **Thompson Twins**.

Let's settle for just a moment on those drum sounds. Hear in your mind, if you will, the accent drum sound featured prominently in *Bette Davis Eyes*. It was clearly a drum-type of sound, but it was so distinctively different as to become, literally, a defining accent in that particular hit — much the same as the accent drum beats in *Center Field* by **John Fogarty**. These were drum sounds, probably even based on real drum sounds, yet digitally sampled and processed to the point that they became a percussion instrument not heard before — drums but not drums. These were recognizably drums but different enough to build an entire rhythm motif around, practically defining a snapshot in popular music.

It was those qualities of simultaneously “recognizably being drums” and “not being like any drums we'd heard before” that gave those little sounds the power to be much more than accents in a rhythmic scheme, essentially defining not just the rhythm but the song.

That's digital verisimilitude.

These sounds, and the machines that artists used to make them, contributed to a growing public sentiment around the meaning and use of the word “digital.” This showed up in the same temporal neighborhood, right around the corner, in fact, from the introduction in 1982 of the Phillips/Sony Compact Disc data storage format. This was an outgrowth of the technological cultural impact of **NASA**, the iconic sounds of voices sent to the surface of the Moon from Earth, the intertwining of synthesizer sounds with the science fiction of the time. It got to the point at which you could cue an association of any aspect of the whole space/synth/futuristic thing just by triggering any individual aspect of it.

And yet remember, not to be too pedantically pointy-headed about it (well, ok, maybe to be a least a *little* too pedantically pointy-headed about it), those culturally iconic sounds born out of the Sixties and Seventies (“One small step for Mankind”), **Robert Moog's Switched On Bach**, **Jimi Hendrix's Star Spangled Banner**: these were the product of analog instruments, all the sound augmentation and synthesis, the recording technology, these were entirely analog in nature.

The Nyquist Theorem was already around, waiting to change everything. It just hadn't met

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up with the industrial means to turn digital sample-based technology into reality yet — and to move it from the far-fetched to the mainstream.

Harry Nyquist and Claude Shannon's Sampling Theorem, of course, taught us all the sampling rate necessary to make it possible to digitize, and later reproduce, an analog signal or waveform with perfect fidelity. To state it simply, a sampling frequency of twice the highest frequency of interest is all it takes to sample the waveform for perfect reproduction later.

It's literally difficult to find a corner of life here in the Twenty-One-Teens where this isn't the basis for the stuff we use to do other stuff. These concepts are the reason the tools we use today work the way they do. Any time something that exists in the analog realm has to be captured for transmission, processing, or storage, **Nyquist** is at work.

Nyquist is the very basis for digital verisimilitude. That verisimilitude is the reason we can do all this stuff today and forget about what's really going on.

One of the reasons this is important is that a digital signal can be squeezed, pounded, crammed, and manhandled without imperiling its ability to carry information. This enables us to route and move a mind-bogglingly high volume of digitized information around the world constantly.

We've been talking about music, but let's bring it back to print for the moment. I pre-ordered an upcoming bestseller a couple of months ago — just doing my small part to ensure its place on the bestseller list. I actually ordered it twice: once in the Kindle edition, and once in the hardcover edition. Why do I do that? Perhaps a matter for another column. Perhaps it relates to

an irrational desire to have something in hand: a subconscious desire for something tangible, influenced, no doubt, by post-*Fahrenheit 451* dystopian paranoia.

But let's return to the digital artifact and its production. Let's start with the word processor used by the author ("Word Processor" — derived from the term "Food Processor," maybe). Any letters in that machine there? Where's the alphabet in there? Can we find it? Upper case? Lower case? Where are the fonts? Fonts?! My Daddy used to swap out the element in his IBM Selectric, and that was really cool. Ok — to make that fine point again: those fonts today are presented as continuous, artfully designed analog shapes on a page. But zoom in on them and they turn to dots! They're captured and stored digitally, at a dot density sufficient to make the dots disappear at the distance at which they expect the reader's eye to be. The dot density per given display-inch is the equivalent to the **Nyquist** sampling rate.

On the machine side, there ain't no letters. Just digits, ready to be lined up, crammed, squeezed, multiplexed, zapped out across the light pipe, gathered up again, to begin the process all over again. Well, you know this, but my point here is that it's hard to find a technology in use today that does not rely on making us overlook the fact that the underlying medium is digital, not analog. It's only analog for the last mile, or more likely, the last foot or two: from screen to eye, or speaker to ear. And why is it good enough? **Nyquist**.

What good is all this? Well, those tiny squeezable little digits are the reason, for one thing, that my eBook reader can hold hundreds and hundreds of books, documents, instruction manuals, pdf reports, etc., and still have room for

lots more. From the eBook file it's just a quick trip to the screen driver, where those encoded representations of letters are reconstituted into shapes highly reminiscent of real typefaces, and lined up for display in the form of dots on digital paper — at a dot density sufficient to make the resulting shapes smooth and unfatiguing to read. I can forget about the fact that there's no ink, that it's not paper, that there's no page. Just as advertised, I can simply sink into the reading.

That's digital verisimilitude.

On the music production side of my life, I've recently been playing with a sampling tool of unprecedented sophistication. I'm tempted to

give it an entire column, except that it bears virtually no relation to print and publication. So we'll just give it a small mention here. This marvelous machine is called the **Kemper Profiling Amplifier**. It enables the user to capture the sonic characteristics of a physical, analog amplifier, to store those characteristics as a profile for later recall and application to a recorded signal.

By recording the unprocessed, native sound of an instrument separately from its sound through the profiled amp, you can later re-amp the native signal, and apply any of the previously stored profiles to the native signal instead. This enables you, for example, to take a recorded guitar part and decide whether to run it through a Fender Champ with a 10-inch speaker sitting on a small club stage, or through a two hundred watt Marshall stack with eight 12-inch speakers screaming for mercy in an outdoor amphitheater.

The only analog to writing I can conjure would be as if you could take a bit of prose, and turn a dial to set it for output as **Herman Melville**, **Dylan Thomas**, or **Kurt Vonnegut**.

Digital verisimilitude indeed. 🐾

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faculty on DH. In time DH will stop being a separate item and will become a normal part of humanities work. Libraries need to support the DH work of librarians. DH needs to be a regular part of library services, rather than an unsupported add on. Preservation and sustainability need to be built into DH at the very beginning.

Why Business Content Subscriptions Can Drive Us Crazy, and What to Do About It: A dialogue with business librarians, business vendors, and the audience on best practices and solutions — Presented by **Betsy Clementson** (Tulane University); **Steve Cramer** (UNC Greensboro); **Cynthia Cronin-Kardon** (University of Pennsylvania); **Corey Seeman** (University of Michigan)

*NOTE: Vendor speakers not listed in the program were **Dan Gingert** (PrivCo) and **John Quealy** (S&P Global)*

Reported by: **Susan F. Kendrick** (Cornell University, Samuel Curtis Johnson Graduate School of Management)
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The session was very much a conversation with a lot of audience participation. About 40 attendees, a quarter of which were vendors, and the rest academic librarians, had a discussion around business resources with high "street value" that are used in the corporate world and in business schools. Only about 8-20% of a vendor's revenues come from academic clients, who get steep discounts on pricing. Having these resources in business schools is mutually beneficial as it allows students to learn the tools of the trade, produce better work, and exposes the vendor brand to potential future customers. Many vendors have specific divisions focused on academic groups so they can understand the segment better. Experiential learning, where students are working with real world companies, and tech transfer is testing the limits as to what and how academia can use these resources within license agreements. At **Kresge Library (Ross)**, they tell students to "share what you learn, not what you find" as a way to emphasize the educational nature of the subscription. What vendors want from libraries include transparency of the needs and limitations of the academic clients as well as a good faith effort to prevent abuse. What librarians want from vendors are license agreements that are less restricted, allowing for academic research, and flexibility from the vendor for special requests. 🐾

*That's all the reports we have room for in this issue. Watch for more reports from the **2016 Charleston Conference** in upcoming issues of **Against the Grain**. Presentation material (PowerPoint slides, handouts) and taped session links from many of the 2016 sessions are available online. Visit the **Conference Website** at www.charlestonlibraryconference.com. — **KS***