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[Everlasting permanence](#)



By this point you have probably read about Jonathan Franzen's [comments](#) about digital books. For example: *"I think, for serious readers, a sense of permanence has always been part of the experience. Everything else in your life is fluid, but here is this text that doesn't change."* This seems to be a recapitulation of the [Lee Siegel's](#) attack on the internet from a few years back. I don't think Franzen was copying Siegel, rather, he's channeling a meme which seems to be prevalent in a certain cultural milieu. Carl Zimmer does a [excellent job](#) dispatching Franzen's assertions on the merits. But I think we might benefit from a little historical perspective when evaluating these sorts of claims. **After all, the book as we know it is the last in a long line of vessels for literacy.**

Five to three thousand years ago cuneiform was state of the art. And if you want permanence, look no further. The tablet to the left dates to 2400 BC! With the decline in cuneiform there is something of a lacunae in our understanding and memory of the literary production of ancient societies. Scrolls of papyrus can certainly keep, but only under ideal conditions (e.g., very dry climates, such as Egypt). The codex, the technology which we know as the book, is more recent than the scroll. But it too relies on relatively perishable materials in comparison to cuneiform.

How is it that we have so much of ancient literature then? First, we don't. There are constant mentions of great works of Greek and Roman antiquity which were obviously widely circulated judging by the references to them in the works we do have. These background elements of the ancient canon were never copied down to our present era. Why is the copying so important? Shouldn't we have the originals? The [Epic of Gilgamesh](#) was retrieved from the remains of the library of the Assyrians (later literature mentions Gilgamesh, but for these earlier cuneiform copies we wouldn't have the full work from what I know). This is where the perishable aspect comes in. There are classical-era works whose original production dates back to [late antiquity](#), **but from what I have read our modern distillation of the ancient canon is almost entirely filtered through three great bursts of copying at the nexus of late antiquity and the early medieval period:**

- The Arab effort during the early years of the [Abbasid](#) Caliphs in the 9th century.
- The [Carolingian Renaissance](#) of the late 8th and early 9th centuries.
- And a burst of activity as Byzantium recovered from its assaults by the Arabs in the 9th and 10th century, in particular under the patronage of [Constantine VII](#).

These endeavors were somewhat complementary. The Islamic transmission of great philosophical works is well known, but there was little interest from them in preserving the corpus of ancient Greek humanism, such as the works of the great playwrights. Rather, we have the Byzantines to thank for this. From this, combined with the Carolingian preservation of many Latin works, a reasonable picture of antiquity comes down to us today because of these three independent efforts. **But only through the grace of contingency do we have this continuity.** The literature of pre-Islamic Persia is lost to us.

Why? Perhaps it never was. Or perhaps unlike the Greeks and Romans they did not generate cultural heirs who would patronize the perpetuation of their great works.

Franzen's concern about the lack of permanence of digital formats has a real basis. But it's not a vague one predicated on some sapping of the *Weltgeist*. **Rather, there is a chance technological civilization will collapse or retrench at some point in the future.** Old fashioned concrete physical mediums not reliant on the "grid" may be necessary backups in that case to preserve memory of the past. Instead of fixating on the death of print, people who worry genuinely about the potentially ephemeral aspect of digital medium should start thinking like the [Long Now](#) foundation. Shakespeare on platinum cuneiform anyone?



February 1st, 2012 Tags: [Jonathan Franzen](#)
by [Razib Khan](#) in [Anthropology](#), [Culture](#) | 29 comments | [RSS feed](#) | [Trackback >](#)

29 Responses to "Everlasting permanence"

1. 1. *Brett* Says:

[February 1st, 2012 at 8:43 pm](#)

That's one way, along with stainless steel tablets. I remember reading somewhere that polyester-based micro-film, if stored in a cool, dry environment (such as a sealed underground container), can last for a very long time. You'd need to bury magnifying glasses with it, though.

2. 2. *skeptic* Says:

[February 1st, 2012 at 9:34 pm](#)

Lots of pre-Mughal Indian writing is also lost, mainly because of the highly perishable palm leaf used to write on. However quite a bit remains, because Brahmins developed a habit of memorizing stuff of course, but also Brahmin students were made to re-copy important manuscripts over-and-over, thus preserving the grammar of Panini and so on. To facilitate memorization and copying, Panini developed a highly condensed and cryptic style of writing – the sutra style – which was followed by practically everyone since.

3. 3. *Paul Givargidze* Says:

[February 1st, 2012 at 9:46 pm](#)

Good article, Razib. I know you are familiar with Assyrian Christianity, but, I imagine not many readers of your blog are. Mesopotamian Christians, during the early Arab periods, also contributed significantly to the "transmission of the Classics." Anyone interested in reading further, see the Wiki article, "Transmission of the Classics," and specifically the part "Syrian translations."

http://en.wikipedia.org/wiki/Transmission_of_the_Classics#Syrian_translations

4. 4. *Clark* Says:

[February 1st, 2012 at 9:57 pm](#)

There are groups who store a lot of stuff on microfilm. In some ways it's a "dead" medium and in other ways its a perfect medium. It's interesting how much stuff has been lost already due to poor mediums. A lot of the paper tape that used to be used by NASA and various observatories has been lost, for instance. A lot of CDs from the 90's that were used for storage are now losing a ton of data.

5. 5. *Matunos* Says:

[February 2nd, 2012 at 12:26 am](#)

There is a collection of data that's outlasted all of those things, without (until very recently) being recorded down at all: the human genome.

Replication, it turns out, can win out over recording, as long as you're willing to put up with some lossiness.

6. 6. *chris y* Says:

[February 2nd, 2012 at 4:09 am](#)

In the transmission of ancient European literature, you might include a fourth burst, the efforts of [Poggio and his collaborators](#) to recover and disseminate manuscripts which had been lost or forgotten in the early 15th century. But your general points stand.

7. 7. *Charles Nydorf* Says:

[February 2nd, 2012 at 5:27 am](#)

There are many paradoxes here. The 13th century French Tosafist movement among Jewish scholars placed an emphasis on accurate texts. Unfortunately, this entailed a conscious decision not to continue to copy many older texts which were deemed corrupted. As a result subsequent generations lost precious testimony of the earlier history of northern European Jewry.

8. 8. *carpetanuiq* Says:

[February 2nd, 2012 at 7:03 am](#)

While the mechanisms that made possible ancient / classic → modern cultural transmission are well known (btw in hispanic area the stress is made in http://en.wikipedia.org/wiki/Toledo_School_of_Translators which both included some direct translations from greek to latin and amplified arab effort) the genealogical continuity has been almost completely broken. Attempts to trace descent from antiquity has not gone very far:

http://en.wikipedia.org/wiki/Descent_from_antiquity.

9. 9. *Chris T* Says:

[February 2nd, 2012 at 8:27 am](#)

It's a common problem (from a future party's perspective) for a lot of ancient works. A work's creators rarely have long term longevity in mind when they commit something to a medium. There is precious little left from America's silent film era for example (including quite a few early academy award winners), in part because the studios saw no need to preserve film after it was shown.

10. 10. *omar* Says:

[February 2nd, 2012 at 8:28 am](#)

In "The swerve", Stephen Greenblatt gives a good account of the rediscovery of Lucretius' "on the nature of things" and how tenuous that link was. Apparently a number of pagan texts survived because Monks used to copy them for practice. Btw, the title of the book is rather misleading, but its worth a read: <http://www.amazon.com/Swerve-How-World-Became-Modern/dp/0393064476>

11. 11. *pconroy* Says:

[February 2nd, 2012 at 10:04 am](#)

Of course the so called Carolingian Renaissance was possible only due to Irish monks, and to a lesser extent their acolytes in Northern England and surrounds – who had been recently converted to Celtic Christianity.

At one time to speak Greek in Western Europe was the sole province of the Irish, and by which much of Latin and Greek originals survive today, including such famous orators as Cicero etc.

It's been estimated – unfortunately I can't search old GNXP comments, to give the actual reference I previously found – that around the 8th century, Ireland was about 40% literate, making it by far the most literate society up to that time in Europe.

There was no Dark Ages in Ireland like much of Western Europe

12. 12. *pconroy* Says:

[February 2nd, 2012 at 11:24 am](#)

One other consideration – I would stay clear of precious metals, as in coming Dark Ages, these will get melted down. It's always shocking to see documentaries on ancient buildings, where the locals have been using them as a quarry for stones to build rude hovels for centuries...

I guess something like an ultrahard alloy of some type is probably best to preserve text

13. 13. *Violet* Says:

[February 2nd, 2012 at 12:11 pm](#)

While it is worth preserving texts and knowledge, I wonder if such preservation will be useful without knowing if the language of the text survives. May be it also useful to make more "Rosetta stones" while we are at it.

#9, Preservation of old films is a problem worldwide. May be it is just me, but I think watching old movies is a wonderful way to peek at past.

14. 14. *James A Donald* Says:

[February 2nd, 2012 at 1:50 pm](#)

Ultrahard alloy does not last. Other than gold, they all rust. The original permanent medium was baked clay. And under unfavorable conditions, most forms of baked clay will eventually revert back to ordinary clay. What lasts over geological time is one kind of rock inside another kind of rock, which storage medium is apt to get lost.

15. 15. *Razib Khan* Says:

[February 2nd, 2012 at 1:52 pm](#)

how about plastics? you can make LOTs of them, it's light. yes, it degrades, but we don't need FOREVER.

16. 16. *pconroy* Says:

[February 2nd, 2012 at 2:25 pm](#)

#15, Yeah, hard plastic tablets – we have to assume in a coming Dark Age, that media to read things such as magnetic disks will be unavailable.

So just like the Pyramids and their secrets, we need to be like the Mormons, and place these plastic writing tablets in vaults deep in mountains – possible a few well chosen locations per continent – so that future generation can decipher what came before – or the alien inheritors of the earth can discover them for their own amusement!

17. 17. *miko* Says:

[February 2nd, 2012 at 3:15 pm](#)

I can't believe Jonathan Franzen thinks compost (books) is a medium with any permanence. Skynet will know what was on everyone's Kindle, and likely won't give a shit about any of it.

I think we're probably looking at 1000s of years, so maybe plastic is best. But what to preserve?

18. 18. *Sandgroper* Says:

[February 3rd, 2012 at 6:41 am](#)

Tsunami present an interesting problem – they are cyclical, but typically recur with a frequency of hundreds, or even thousands, of years. This presents the problem of how to communicate information to people hundreds or thousands of years into the future that might be vital to their safety. Historically, the Japanese have had some ways, but I suspect these have worked because they were Japanese, whereas they might not be a reliable means in some other cultures.

#13 – Violet, I once had the dubious pleasure of excavating an old garbage dump for bridge foundations. The garbage had been dumped into a peat swamp that was mildly acidic. Amongst other things that we found were a 1920s car body, bright shiny metal without any sign of rust, and hundreds of reels of old movie film that appeared to be in excellent condition.

19. 19. [thm](#) Says:

[February 3rd, 2012 at 7:53 am](#)

As a thought experiment, I've wondered what archaeologists in a post-technological civilization a few hundred years from now might make of, say, books like Wordperfect for Dummies or Teach Yourself C in 24 Hours. Certainly they'd look like magical instruction manuals, and perhaps like religious documents.

20. 20. [ohwilleke](#) Says:

[February 3rd, 2012 at 8:52 am](#)

There are some other pretty important factors in the non-continuity of written texts.

The library at Alexandria and Byblos were both sacked, in the case of Alexandria, at least, multiple times.

There were also at least a couple of organized and systemic purges of pagan and heretical documents in the late Roman Empire/early Byzantine Empire, and minor echoes of these efforts in the Middle Ages. They were organized a lot like the 1980s war on drugs, with draconian punishments for people found possessing pagan works and relics and worship places, property where it was found subject to civil forfeiture, and so on. Many pagan and heretical documents are known today only by references to them by orthodox Christian apologies that refer to them in the course of trying to refute them.

21. 21. [Ed](#) Says:

[February 3rd, 2012 at 9:32 am](#)

I agree with #17. I believe that it's possible to create a lot of different technological solutions to the preservation problem, but the real issue is what to preserve, and where, and by whom. Probably it's inevitable that what will ultimately be preserved will actually depend on a complicated mix of cultural, historical, technological and contingent aspects. The outcome will not be much qualitatively different from what has happened since the time of cuneiform tablets.

22. 22. [Justin Giancola](#) Says:

[February 3rd, 2012 at 9:59 am](#)

pcon, I love how you turn everything into an Irish fact...or how your posts usually have at least the base substance of the Irish perspective. 😊

23. 23. [nick](#) Says:

[February 3rd, 2012 at 11:19 am](#)

even when you preserve the wording, the meaning is fluid.

i.e. no one just picks up Shakespeare, reads it, and fully understands it. It must be learned.

Because, really, "I bite my thumb at thee!" makes no sense until someone with extra knowledge elucidates you. Which is why we have the annotated Shakespeare.

Asking how much of the ancient literature that we do have is fully understood is perhaps a better way to attack this problem. Digital knowledge is fine (we're coming up on memristive storage, which keeps sans power) – so maybe a way to package tons of knowledge in a format such as that (which will, of course, be tiny) and a package that contains successive layers of instructions on how to build access the deeper layers. A.k.a. a Rosetta stone that 'translates' by bestowing the knowledge of how to bootstrap yourself into a technological society

(apologies if I'm not making much sense. the immune system attack that's currently being perpetuated upon my bodily invaders in slowing my brain down)

24. 24. *Tom Bri* Says:

[February 3rd, 2012 at 12:50 pm](#)

No need to use some special, unusual plastic. Common and cheap plastics exist that will last for centuries if simply protected from sunlight. Just ask your local environmentalist. They'll tell you that plastics last 'forever'. They don't, not really, but do last a good long time.

Plastic has the added benefit that it isn't good for burning, it stinks, so barbarians won't be using it for firewood much. Insects and rodents don't like to eat it either.

25. 25. *Sandgroper* Says:

[February 4th, 2012 at 7:16 am](#)

#22 – We are all Irish!

26. 26. *miko* Says:

[February 4th, 2012 at 8:11 am](#)

“#22 – We are all Irish!”

Really? Then why does my gag reflex kick in if I hear more than 5 seconds of an add for Celtic Sojourn?

27. 27. *Aidan Kehoe* Says:

[February 4th, 2012 at 8:17 am](#)

#26, the one doesn't exclude the other!

28. 28. *Marcel Oyzmantra* Says:

[February 4th, 2012 at 11:46 am](#)

I propose a storage on the moon of digital knowledge. Preferably all of it. Maybe in several different storagespaces duplicates. And on earth an explanation how to get there. Preferably on stone in certain grottoes. Maybe every continent one or two. Also, on the moon or on earth, an explanation how to use a computer or such thing. It will direct the new people towards a big goal, thus speeding up their history, and also make it possible to save all knowledge the best way possible.

29. 29. *John* Says:

[February 5th, 2012 at 6:21 am](#)

Cuneiform tablets were baked only by accident. They weren't intended to last that long, nor would they have if it hadn't been for disastrous fires that destroyed the buildings they were in. And the Mycenaean Greeks had them too, at places like Pylos.

In both cases many of the tablets didn't survive either, as collapsing buildings turned them into dust, or pieces too small to put back together.

You can't put everything we've written in a medium that will last forever, under any kind of circumstance. Get used to it.

(Type: “a lacunA,” not “a lacunAE.” Speaking of those dead languages...)

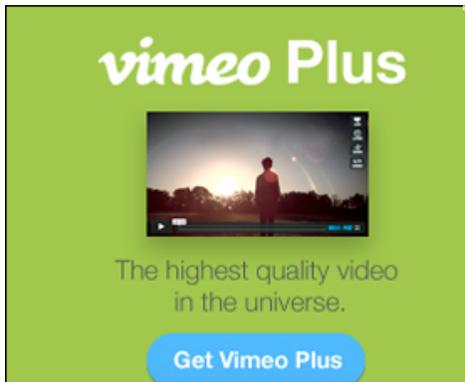
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About Gene Expression



Razib Khan's degrees are in biochemistry and biology. He has blogged about genetics since 2002, previously worked in software development, is an Unz Foundation Junior Fellow and lives in the western US. He loves habaneros.



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