

EXHIBIT 39

How The Internet Destroyed Your Attention Span

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"It explicitly trained us not to click links. Not to investigate. Not to stray from the short-form consumption mechanism we have in front of us."



Photo by [Tine Ivanič](#) on **Unsplash** (image modified)

It's hardly news these days, but our attention spans have been in drastic decline, and there are stats to prove it. Masses of them. The Internet PLC tells us we're looking at more stuff, for less time per item, and certainly on [social media](#), it's pretty easy to see that's true.

But is this a problem with us, as people? I mean, did human evolution suddenly, around the start of the 2010s, enter some bizarre phase of plummeting natural attention capacity? Or was there something that the Internet PLC did to rewire our brains?

Yep, as I'm sure you guessed, it wasn't us. It was the paragons of permanent distraction who feed us our daily intake of ad-propellant. And above all else, there was one Internet protocol that virtually enforced lower attention spans. That was the super-convenient, yet (where it suits Big Tech) super-*inconvenient*, system of infinite scrolling.

INFINITE SCROLLING OVERVIEW

At a glance, infinite scrolling looks like an incredibly good thing. Each new page loads seamlessly below the current one, so the user never has to click or tap a navigation link. As long as they keep scrolling down, the content keeps coming. And as long as there's enough content available, the process doesn't end until the user hits a boredom threshold.

That's not the case with manual navigation, because manual nav breaks the train of thought, giving the user an opportunity to consider: *“Do I actually WANT to load another page of this?”* They may also mentally pause to ask themselves what the time is, whether they're ahead of or behind schedule, whether there's something else they should really be doing... Essentially, reaching the bottom of five separate pages is a reminder that we've read *a lot* of stuff, and that, ya know... maybe it's time to stop. We don't get that same wake-up call with auto page-loading, because to us, it only feels like one page.

These were among the exact reasons why inventor Aza Raskin developed the protocol. But he's later admitted in a range of interviews that he regrets the effects infinite scrolling has had in the hands of Big Tech. Numerous articles have documented his thoughts. The existing articles have, however, focused on the addictive nature of scrolling itself. I believe the negative impact of infinite scrolling is a lot bigger than that, and in this post I'm going to look specifically at how it's decreased attention spans. How it's enslaved us to repetitive aggregate feeds whose benefit to our personal development is close to nil. How it wastes vast chunks of our time needlessly trudging through dross. Let's start with a quick look at the protocol's history...

WHEN DID INFINITE SCROLL ROLL OUT?

The very first use of Raskin's original infinite scroll made its grand entrance on an aggregator app called Humanized Reader - five weeks to the day after [Twitter launched in spring 2006](#). Raskin entered talks with [Google](#) early on, which resulted in Google Reader becoming the earliest major online utility to incorporate infinite scroll, from 29th September the same year.

The Images function on Microsoft's pre-Bing search engine *Live Search* also implemented infinite scrolling early on in the timeline. Less well remembered examples of early infinite scrolling capability included the [Flickr scraper site](#) Flickriver (circa 2007), and the Australian social network Soup.io (endless scrolling in full use by January 2008).

Phones didn't natively support JavaScript at this time, so the JavaScript-dependent endless scrolling routines were implemented only on desktop. Infinite scroll was of little interest to Twitter in its early days, since Twitter's core user was on mobile. Twitter did build a big

desktop userbase in the coming years, but only once phones commonly began to ship with JavaScript did the mobile-first apps become really interested in auto page-loads.

Tumblr introduced infinite scroll natively in mid 2009. But before that it was possible for Tumblr users to add it to their Tumblr blogs via third party code.

[Google Images](#), Facebook and Twitter began introducing infinite scroll in 2010. Facebook initially began using the feature on its Photo Albums, shortly after Google Images made their infinite scroll update in the first half of the year. Twitter, the last of the three to roll out, actually retained an option without infinite scroll until 2020, when the Legacy Mobile environment was closed. Legacy Mobile had only really been retained to cater for users of old phones from the pre-Javascript era. Once there were sufficiently few such devices left in use, it was inevitable that the plain HTML environment would be dumped.

In 2010 a lot of the endless scrolling implementations were heavily flawed. Facebook were relentlessly criticised for leaving important links at the bottom of the page, which meant that access to them was essentially blocked by the constant insertions of new content. And it took yonks for the Big Tech collective to find a way to properly preserve browser backstepping, so that the place in the scroll was held rather than simply returning the user to the top of the feed. Some infinite scrolls still can't placeholder today.

As the 2000s drifted into the 2010s, it's fair to say a lot of brands weren't really ready to flip the switch. But when the competition sees a sudden increase in impressions, there isn't time to consider all the ins and outs.

In 2011, Yahoo images began loading on auto. This was really the point at which infinite scroll became the new default for short-form delivery. And it wasn't just short-form that joined the quest to ditch static pages...

A WordPress plugin had become available as early as 2007, but in early 2012 the infinite scroll feature was aggressively driven at WordPress.com bloggers. Head honcho Matt Mullenweg activated it on all blogs using specific design themes, without any option to disable it beyond switching to a completely different design theme - much to the disgruntlement of some users. A disable option later appeared in the Reading settings.

PLATFORMS 1, PEOPLE 0

Without any question whatsoever, infinite scrolling increases content impressions, allows tech companies to boast more page loads to their advertisers, and allows them to serve more ads to their users. For the web oligarchs, it's win/win.

But for us, the users, infinite scroll has served as a chronological prison. It's trapped us at the top of incredibly long streams of content, all but sealing off our access to even the fairly

recent past. This is exactly what social networks - all of them now in the news-delivery business - want. They are obsessed with showing us the latest. They don't want us going anywhere that might prevent us from seeing whatever crap they want to algorithmically prioritise. They want to control what we see, and that becomes more difficult when we are deciding on our own point of entry. Short of using advanced workarounds, with infinite scroll, there is often only one point of entry. The top. The now.

Most infinite scrolling systems have no easy means of jumping in at a particular point, and many have no means of doing that at all. [Twitter does allow us to jump in at a given date](#), but that involves using an advanced search, which few users even know exists. And the direction of travel can't be reversed, so if you want to start at the beginning and work chronologically forwards, tough.

Conversely, with standard, static pages, like those on [a traditional forum](#), we can easily start from any page number we like, browse in any direction, stop going forwards and then head backwards, immediately jump back to a page we found interesting... I can save a page of my favourite forum thread as a bookmark, then return to that page in two weeks' time and plod ahead to see what people added through the course of the following day.

I can't do that with an infinite scrolling system, because infinite scrolling doesn't expect or easily budget for arbitrary decisions on starting point or travel. It expects everyone to start at the top, or at least A top, and keep scrolling down until they find something they like.

It typically doesn't load pages by URL, which means a specific place in the chronological progression can't normally be bookmarked. That's not in our interests at all. But it's very much in the interests of social platforms, who love the idea of us having to pointlessly wade down through page after page, looking at ads on the way, just to revisit the single page we actually did want.

So many environments that now run on infinite scroll have no rational user-side reason to do so. Unless the interface is used in one very specific way, it makes the user experience noticeably more frustrating, more time-consuming and more constrained. So why deploy it? Because it's in the interests of the platform to keep us focused on the now. Infinite scroll is a convenient way for tech platforms to limit, restrict and control our behaviour, whilst looking as though they're trying to help. It's not by design an authoritarian tool of user-disempowerment, but it can be used as one, and it very often is.

Some of the worst use of infinite scrolling can be found in [the Fediverse](#). On Mastodon, Pleroma, diaspora*, etc, there are no “access hacks” at all. The search functions can only find hashtags (and some can't even do that competently). And the searches have no

advanced features for isolating date ranges. So once a piece of content gets buried beyond realistic scrolling reach, it effectively ceases to exist.

HOW THE BRAINWASH WORKS

This prospect of “losing” content, which applies to a greater or lesser extent in all infinite scroll environments, creates in us a subconscious fear. A fear that if we step off to explore the detail, we might miss something. Most people cannot go to their social media platform of choice and see their home follow timeline as it was on the first Sunday of last month. With static pages they'd have an ever-present destination. But with infinite scrolling they'd need to literally scroll down through an impossibly high volume of content, to reach a place that only the site's secretive back end can quote in exact coordinates. That effective prohibition constantly screams:

“Grab as much of this as you can right now! There is no second chance!”

It becomes very much about quantity. And time is zero sum. We can't both have it and spend it. So when the game is about quantity, by nature, we can't dwell.

Simultaneously, infinite scroll has habitualised click-free consumption, which has made us much more reluctant to click. And because the feeds driven by infinite scroll almost invariably deliver short-form matter, we've also been trained to expect soundbytes. Instant gratification. If we can't be gratified by a compact container that takes less than a minute to consume, we move on.

If you look at the engagement scores on social media, you'll see that instant but modest gratification performs vastly better than brilliant work that requires time investment to consume. It hasn't always been like this. When we used forums, and had time to breathe, we used to value detail far more. But social media, very specifically with the aid of infinite scroll, trained us to reject things that are not small and fleeting, and prioritise the compact - even when it's useless and staggeringly trite. It explicitly trained us not to click links. Not to investigate. Not to stray from the short-form consumption mechanism we have in front of us.

Most of us don't realise how powerful a grip infinite scrolling has on our behaviour. It gives us the ability to load content without hitting links. But it takes away our ability to start from the beginning, to start from the middle, to bookmark, to recover yesterday, to recover last week, last year... Infinite scrolling's power lies in its ability to confine us to the now. To make us fear missing, fear losing. It conditions us through habit to consume faster, with far less regard for detail, and far more regard for volume. Quantity over quality. Every time.

So this is more than just an issue of addictive behaviour. It's a contrived digital prison that most of us don't even realise we're in. Infinite scrolling can be engineered to keep us away from more than it lets us realistically access. And most of the time, it is.