NEEDLE IN A NEEDLE STACK: HOW AI CAUSES SEMIOTIC INFLATION WHICH CAUSES EXPERIENTIAL DEVALUATION

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Abstract

While most discussions of generative AI center on issues such as algorithmic bias and disinformation, we should also consider the quantitative sea change brought about by these technologies. Large language models can generate contents at a rate uncoupled from the human datasets they were trained on. Forecasts about such artificial outputs are difficult to make, but it seems clear that the word count and image/video bank of the internet will grow far beyond what humans can actually produce. Although this growth may seem benign, I worry that it results in a semiotic inflation capable of devaluing many human experiences. What connects quantitative

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and normative considerations is scarcity. The basic idea is simple: When you discover a diamond, you become rich. When you discover two diamonds, you become twice as rich. However, when you discover a stash of diamonds so large that diamonds outnumber gravel, you become poor and instantly make every diamond owner poorer too. Similarly, AI's vast output risks devaluing experiences that are vital to human flourishing. Adopting a wide evolutionary vantage that gives weight to proven cultural adaptations, I suggest that some situations have natural sign-to-object ratios. Hence, being flooded with too many signs can go against the long-term interests of users. Critics of AI typically cling to features which computers allegedly cannot mimic. Semiotic inflation, however, enables us to accept the possibility of perfect AI counterfeits and still detect them *en masse*, via their negative experiential effects. Hardcoded features like Bitcoin's 21 million token ceiling show that "[i]n contrast to the linguistic sign, the money sign cannot be reproduced in arbitrary quantity" (Bankov 2023: 117). Prompted by the rise of generative AI, we are about to realize that non-monetary signs also cannot be reproduced in arbitrary quantity. I thus draw parallels between healthy semiotic systems and the constraints governing viable monetary systems.

Keywords: artificial intelligence (AI); large language models (LLMs); semiotics; economics; ethics

1. Introduction

The number of internet users will not double in the next few years, but the number of words, images, and videos on the internet might double – or more – due to large language models (or LLMs). A glance at any computer or smartphone screen will show that "[e]verywhere one seeks to produce meaning, to make the world signify […]. We are not, however, in danger of lacking meaning; quite to the contrary, we are gorged with meaning […]" (Baudrillard 1988: 63). Generative AI is poised to amplify this gorging. Is this something to worry about?

I will argue that dramatic increases in the sheer number of signs available can negatively affect our relation with the world – thereby hindering our ability to process information and flourish. To calibrate our intuition, it is doubtful that marine biologists would remain unconcerned if, in a relatively short span of time, they recorded a huge increase in sign-exchange among whales. Yet, enamoured with "that minuscule segment of nature some anthropologists grandly compartmentalize as culture" (Sebeok 1985:

2), we humans deem ourselves capable of weathering technological shifts of any magnitude. I am not so sure.

It can be tempting to view technological consumption as escaping all regular constraints. Because code-based symbols have properties not found in causally-based indices, "digital artifacts can be reproduced nearly for free. With two keystrokes – copy, paste – one item turns into two, and then into fifty" (Bailey 2024: 26). Now, we don't even need an original to copy – generative AI can supply fresh contents instantaneously. Silicon Valley naturally presents this frictionless gratification as a cornucopia or the horn of plenty. Yet, if part of what makes an experience valuable is its relative scarcity, then that experience risks being endangered by being more available. So, by doubling the number of signs on the internet, we might be inadvertently halving their value.

Notice that this remains a problem irrespective of whether AI merely parrots or "comprehends" the signs it emits (Montanari 2025: 192). Hence, "[r]ather than asking whether these models 'think' or 'understand' in human-like ways," we can investigate "how they participate in processes of meaning-making" (Picca 2025: 2). As we shall see, what connects quantitative and normative considerations is scarcity. Most of us grasp that a sign like a marriage vow loses its meaning when uttered too often. It is hard to get goose bumps when a person solemnly declares "I do" at the altar for, say, the seventeenth time. I submit that, owing to generative AI, a similar devaluation is taking place in our culture. Let me now examine that claim.

2. Main claim

A sign is a triadic relation where something (the "sign-vehicle") stands for something else (the "object") in virtue of an interpretation (Peirce 1998). Sign-vehicles can increase in number, relative to a fixed set of objects. Hence, we can say that "[e]conomic inflation happens when more and more money is needed to buy fewer and fewer goods, and semiotic inflation happens when more and more signs buy less and less meaning" (Berardi 2018: 36).

Discussions of generative AI usually focus on qualitative issues such as algorithmic bias and disinformation (Bontridder & Poullet 2021; Kertysova 2018). However, I am primarily interested in the quantitative sea change which results from this technology. Some critics contend that AI's artificiality will always be detectable thanks to some unique human feature which escapes computer duplication (Taube 1961; Dreyfus 1972; Epstein et al. 2023). This might be true (see Champagne 2024b: 47–51). However, when it comes to rearrangements of letters and coloured pixels, it is hard to

see how a sufficiently sophisticated AI could ever be detected. So, moving away from the usual concern with noticeable differences, I will argue that artificiality can sometimes be inferred indirectly, via the artificially high number of tokens produced.

Even when high-fidelity duplication renders individual users unable to measure AI's proliferation, first-hand experience can let users notice the devaluation it engenders. This experiential devaluation is, for most people, something to be avoided. Despite this, many governments and companies want to give AI a larger, not a smaller, role (Bareis & Katzenbach 2022). Certainly, if one believes that redundant signals neither add nor detract from the message they convey, the phenomenon of semiotic inflation will appear benign. After all, what is the harm in saying something twice? What is the harm in saying something twice? Dramatically amplify the quantity, however, and this belief in the benign nature of redundant signals no longer withstands scrutiny. Do we really want to say – a million times – that uttering something a million times has no effect? Each iteration can, by itself, blend innocently with its neighbours. However, when considered *en masse*, even the most innocuous sign becomes a sort of noise, capable of clouding our most discerning sense-making abilities (as political strategists on the left and right increasingly grasp, "flooding the zone" can be weaponized as an effective tactic).

Signs can be used to lie (Eco 1976: 58), so even in ordinary circumstances, interpreters must ascertain whether sign-vehicles indeed possess the object(s) they purport to. Semiotic inflation, however, increases the number of times interpreters need to sieve truth from falsehood. To illustrate: suppose that there are a dozen pizzerias in a city and that each has a "Pizzeria" sign-vehicle in front of it. Such a 1-to-1 vehicle-to-object ratio justifies a posture of trust. Now, while keeping the number of pizzerias fixed, let us suppose that the number of sign-vehicles triples, such that 36 businesses are now showing "Pizzeria" on their storefront. Interpreters do not have an eternity at their disposal. So, unless we have access to the solution sheets afforded by prior knowledge, inflation to a 3-to-1 ratio will take us from trust to distrust. If pizza-skepticism was gratuitous, now, it is rationally warranted. This inflation-based erosion of trust (Mathieu & Hartley 2021) generalizes to all media. Profound epistemological shifts can thus take place, merely on account of encountering more signs.

In economics, we know that flooding a money supply with extra bills devalues a currency (Monnet 2005: 19). This devaluation can be halted or slowed by banning counterfeits and indexing a money supply to a fixed material (like gold). Scarcity, however, can be achieved by other means (Guala

2020: 267). For instance, by design, no more than 21 million bitcoin tokens can be mined. The reason for this limit is simple. If anyone with a computer were able to generate tokens of a cryptocurrency, it would mean nothing. Hence, in addition to their usefulness (Bailey 2024), "[t]he value of bitcoins lies in their relative scarcity" (Mas & Chuen 2015: 419).

I submit that this connection between scarcity and value generalizes to other sign systems. Why should I care about your particular film, when I can instantly obtain something just as entertaining at virtually no cost? A consumer may not face the same incentives as a filmmaker. Nevertheless, it often matters that some things are hard to acquire. Imagine a person making a viral social media post about a quiet meditative spot they had just discovered. The arrival of crowds undermine the very properties which initially made the person prize the experience. This is the transformation that I would now like to explore.

3. Argument

In order to better diagnose how experiences become devalued by AI, I would like to contrast two arguments. The first argument, implicit in many stances, may be reconstructed as follows (using standard form):

1. Subject S values a real thing or event.
2. The real thing or event that S values has properties *x*, *y*, *z*.
3. AI-generated things or events also have properties *x*, *y*, *z*.
   Therefore,
4. AI-generated things or events do not differ from those valued by S.
5. All other things being equal, things or events which are not different should be treated no differently.
   Therefore,
6. S should value the AI-generated things or events.

Many people accept the rise of AI because they can see no way out of this reasoning. It does seem irrational to withdraw from something which mimics in every way what one is drawn to. William James, for instance, held that "there is no [distinction] so fine as to consist in anything but a possible difference of practice" (1922: 46). We should be mindful, however, that James took this idea from C. S. Peirce, who enjoined us to focus, not just on present-moment indistinguishability, but on the *totality* of future effects (1992: 132). So, while I grant that things or events which are not different should be treated no differently, I want to use the concepts of semiotic inflation and experiential devaluation to defend the real against the artificial.

A person can sense *that* fakes are present, even when this person is unable to pinpoint *which* particular signs are artificially-generated. This detection is possible because qualitatively-identical AI duplicates remain numerically-distinct. To illustrate: the typographical character "H" may be a perfect match with "H", but this similarity does nothing to alter the difference between "HHH" and "HHHHHHHH." Every time a duplicate is generated, the total number of tokens increases. Pushed far enough, this quantitative increase can reverse our initial assessment, such that parity no longer applies. We may formalize this shift by means of the following counter-argument:

1. Subject S values a real thing or event.
2. The real thing or event valued by S values has the properties *x*, *y*, *z*.
3. A limited number of real things or events have properties *x*, *y*, *z*.

Therefore,

4. In addition to *x*, *y*, *z*, the thing or event valued by S has the property of being *scarce*.
5. AI can generate an unlimited number of things or events with properties *x*, *y*, *z* (semiotic inflation).

Therefore,

6. Having an unlimited number of AI-generated things or events would destroy the scarcity of the real thing or event.
7. Scarcity was one of the properties which made S value the real thing or event.

Therefore,

8. Having an unlimited number of AI-generated things or events would destroy what S values (experiential devaluation).
9. One should not act in ways which destroy what one values.

Therefore,

10. S should *not* value the AI-generated things or events.

4. Important nuances to keep in mind

The scarcity of proposition 7 and preservation of proposition 9 must not be understood bluntly. For example, I value the experience of raising children in part because it is rarer than, for example, eating a bag of potato chips. However, this scarcity is not sacrosanct, since I would be delighted if the people for whom I care were also to experience parenthood. Similarly, I could visit Japan, fall in love with Miyadaiku carpentry (a type of woodworking employing no nails, screws, or glue), and return home wishing to have such a traditional dwelling built. Once built, my new house would add more tokens to the total number. However, like parenting (and unlike

potato chips), the effort required would ensure that the numerical increase never imperils the experiential value. AI, by contrast, floods us with duplicates at low or no cost.

It should also be borne in mind that the two arguments which I have juxtaposed do not range over everything. I am careful to defend only a conditional statement: *if* part of what makes an experience valuable is its relative scarcity, then that experience risks being endangered by being more available. For some things or events, scarcity might not rank among the properties one values, so premise 7 might be false. I might, for instance, be indifferent about how many AI diagnostic tools are available in the world, provided that those AI diagnostic tools cure people. We should not replace one dogma with another, so it might be acceptable to replicate some signs in an open-ended manner. Such permissive AI generation might backfire, however, for signs such as PhD dissertations and operas. In these cases, keeping semiotic inflation at bay might be vitally important.

Human biology has not changed in the last hundred years, but human society certainly has. The distance between desire and gratification has been dramatically shortened. For example, I do not need to care for a cat to enjoy cute cat moments. I only need to swipe and tap my thumb lightly. I do not need to visit a local nightclub to hear a band play. I only need to swipe and tap my thumb lightly. I do not need to be charming and arrange a nice meal to see an attractive face. I only need to swipe and tap my thumb lightly. I do not need to spend time with friends to laugh. I only need to swipe and tap my thumb lightly. I do not need to travel to see an important historical site. I only need to swipe and tap my thumb lightly. For almost every human experience, we have at our disposal an unlimited supply of stand-ins. Yet, corroborating my second argument, studies show that users with everything at their fingertips are *less* happy, not more (e.g., Lin et al. 2016; Twenge 2020). Since narratives about the benefits of technology are "penned predominantly by insiders and developers" (Hanemaayer 2022: 2) who stand to profit from uncritical consumption, it may be wise to rethink how we view AI.

Importantly, nothing I have said challenges the idea that things or events which do not differ should be treated no differently. This premise never shows up in the second argument, because its original formulation takes context into consideration: all other things being equal, pragmatic parity applies. However, the situations which I have been discussing are *not* equal, since flooding our environment with AI-generated products (matching the properties listed in premise 1) would wipe out the very scarcity that initial-

ly prompted one's valuation (premise 7). This is where premise 9 steps in – to safeguard the value of what we started with.

5. Discussion

I have just argued that, in some domains, there can be too much of a good thing. Until recently, humans rarely had the contrast required to grasp this. Nevertheless, as the present contribution shows, the inflationary effects of generative AI are bringing the link between scarcity and value into sharp(er) relief. The inflation is happening because of counterfeits. Before the advent of large language models such as ChatGPT, a reader could infer that, if words were intelligently strung together, then those words must have been written by a person. Ghostwriters existed, but they were writers, not ghosts. This inference no longer holds, since intelligent writing is no longer a reliable predictor of intelligence. The texts generated by large language models are the product of *artificial* intelligence. This is very different.

We have ample evidence that intelligence benefits us. We have no evidence that artificiality benefits us. In fact, in many domains, we have ample evidence that artificiality harms. By combining two very different concepts, the expression "artificial intelligence" muddles our thinking and conveniently occludes potential harms.

Sadly, those harms are often dismissed. Those who focus solely on the value of intelligence remind us how "prehistoric man, the first time he saw a bronze sword used," probably felt "menaced by it as we feel by the atom bomb" (Ellul 1964: 61). I reject this condescending way of glossing the recoil from newness. It is reasonable to be cautious, "because during [a technology's] early stages, when it can be controlled, not enough can be known about its harmful social consequences to warrant controlling its development; but by the time these consequences are apparent, control has become costly and slow" (Collingridge 1980: 19). This impractical timing will certainly not improve if we get excited whenever a technology benefits us yet suppress our worries whenever that technology hinders us.

AI may not be comparable with the atom bomb, but it is not exactly making our lives richer either. Unfortunately, "psychologists do not […] have a solid theoretical paradigm from which to understand societies that are crumbling" (Teymoori, Bastian, and Jetten 2017: 1010). No one does. We can, however, confirm that "[i]n late capitalism, inflation does not produce political havoc, but *cultural anomie*" (Newman 1984: 8; emphasis added).

Anomie is normlessness. A GPS or satellite image of a person can pinpoint with great precision *where* that person is, but no machine can say in which direction that person *should* be heading. This is because choos-

ing goals is a normative, not a descriptive, matter. It is, moreover, something which involves (a measure of) willpower, since humans are pulled, not pushed, towards what they desire. When a lack of norms becomes the new normal, subjects see no pressing reason to consistently privilege one direction over another. They thus wander, aimlessly, steered only by whatever grabs their attention next (as online advertising revenue show, a lot of money can be made from this).

In a barter economy, a person trading a more valuable commodity for a less valuable one would know who to blame. However, when the reduction of purchasing power occurs at the level of one's own currency, no identifiable culprit can be blamed. Seventeenth century Spaniards experiencing the "Price Revolution," for example, suffered significant harm but could not diagnose what was happening. Even so, they did not have to wait for the concept of economic inflation to realize that something was amiss.

Despite being unable to pinpoint the exact cause, many people sense that generative technologies like AI are robbing their lives and livelihoods of value. Once we accept that "any expensive and long-lasting cultural trait (such as tradition […]) should be presumed to be adaptive" (Heying & Weinstein 2021: 17), we realize that our "ancestral instincts" (Ellul 1964: 61) might serve a life-promoting purpose. We should not dismiss our gut feelings, because guts might be better guides to the good life than minds.

In a clear case of semiotic inflation, we are approaching (or have arrived at) a time when there are more *signs of* persons wishing to contact you than *actual persons* wishing to contact you. Tech companies emulating the human form with AI agents and avatars have a distinct aim in mind (Zuboff 2019), since trust replaces attention as the new commodity (Krüger & Wilson 2023). We are thus heading towards "a world in which marketing is everywhere and therefore no longer exists" (Darmody & Zwick 2020: 10). We might still find methods to double-check whether a given text, image, or video was humanly-authored as opposed to computer-generated. Still, "the cost of such deep-fakes to human trust will be enormous" (Dennett 2023: n.p.). One does not need to be a Luddite to view this inflationary development as a nuisance.

To be sure, the short-term effects of AI fakes can seem positive. I have claimed, however, that our semiosphere (Hoffmeyer 1996; Hartley, Ibrus, and Ojamaa 2020) cannot incur such excess without incurring devaluation. Umberto Eco (1976) once explored the idea of "unlimited" sign-production. Coming to his senses after witnessing the excesses of "postmodern" thinkers, he eventually reintroduced the friction of mind-independent reality (Eco 1990). As Eco's intellectual trajectory shows, we are not accus-

tomed to countenancing causal constraints in the cultural realm. Code-based symbols seem "superior to genes in that they are more flexible and can adapt more rapidly" (Heying & Weinstein 2021: 17). You can send an email faster than you can form a callus. Still, if what was said in the second argument is correct, there is a cap on the number of signs to which humans can be exposed without compromising their well-being.

By taking over our communicative and cognitive functions, AI gradually atrophies our skills (Sutton, Arnold, and Holt 2018). It also removes institutional incentives to think independently (Baron 2023). It is too simple to say that technology has no role in such consequences. We may, for example, agree that television as a technology is value-neutral. A couch potato lifestyle, however, isn't. Importantly though, the latter is impossible without the former. The same goes, I submit, for AI.

As we saw when we were discussing the short distance between desire and gratification, the internet provides a window on virtually everything. We don't even have to swipe and tap our thumb lightly. Speak – and it appears. From an evolutionary standpoint, however, we were not meant to see this much. Previously, only a few people could witness, say, a courageous or heinous act. Those present could convey what they saw with stories, monuments, and songs. Even so, these media posed a cap on the number of signs that could be emitted – and replicated. Evolution rewards our brain with dopamine whenever we spot the unusual and alert our tribe (Lembke 2021). Now, due to digitalization, this social reflex (and dopamine hit) knows no bounds. So, when some random person does something great or foolish, millions can instantly see (a sign of) their deed. Over time, this results in a warped worldview, where the exceptional gets dulled by attenuation and the ordinary disappears from attention (Champagne 2024a).

When digital signs become unmoored from reality, they beget further signs, with no end in sight (Derrida 1991: 34). Governments adopting a lax monetary policy are thus free to print banknotes with abandon. None of this will change the fact that "[m]oney, to keep its value, […] must correspond to the objective scarcity of production" (Bankov 2023: 117). Despite this, in the 1970s, the United States of America let go of the gold standard. "In semiotic terms Nixon suspended the relationship between a sign and its referent – in this instance money and gold" (Baldwin 2015: n.p.). Around the same time, French literary theorists jettisoned the idea that objective standards constrain human interpretations (Goux 2001: 174). What resulted from both moves is an "endless 'dissemination without return' of linguistic signifiers" (Tratner 2003: 792–793). Clearly, this risks being exacerbated by generative AI.

Countering such trends, my suggestion is that some situations have a natural or normal sign-vehicle-to-object ratio. Pick almost any timeline tracking technology and you will find a "hockey stick" curve. The pattern from left to right is salient. Most of humanity has consumed something in a certain quantity. Then, in a relatively short span of time, this quantity climbed dramatically upwards (with no sign of stopping). For instance, throughout most of human history, orgasms were, one would assume, private events seen by one or two people on average. Now, some orgasms are very public. It is estimated that "[o]ver 5,824,699,200 hours of porn were watched on Pornhub in 2018," which amounts to "nearly 665 centuries of content on one site in just one year" (Graveris 2023: n.p.). These statistics are especially telling, because they pre-date the arrival of AI.

As this example shows, humans can do whatever does not violate the laws of physics. Whether such excesses will benefit us, however, is another matter. The industrial revolution mechanized the production of physical goods, but when the production of symbols becomes mechanized, we obtain "a semiotic inflation in our life-world [...] matched only by a corresponding deflation of meaning" (Chang 1987: 325). Unfortunately, "[b]y now we are so inured to the blight of untrammeled information that it takes a deliberate withdrawal to something like the ancestral environment if one is to notice the damage done" (Borgmann 1999: 26). Hence, in addition to the rational arguments I have presented here, a digital detox might help to identify and measure the losses involved.

6. Conclusion

Let me conclude by zooming out and summarizing what has been said. My main claim has been that, in economics and semiotics alike, quantity affects value. The basic idea is simple: When you discover a diamond, you become rich. When you discover two diamonds, you become twice as rich. However, when you discover a stash of diamonds so large that diamonds outnumber gravel, you become poor – and instantly make every diamond owner poorer too. I think that, due to generative AI, we are on the verge of ridding many things and events of value.

Ordinary users are understandably excited about the inexpensive abundance promised by AI marketers (Fourcade & Kluttz 2020). However, these users will not be excited once that technology starts devaluing the very things and events they initially prized. Those who profit from flooding our world with AI fakes are thus in a position analogous to bankers who, to maintain consumer confidence, "hold out on admitting that a loan *can never be repaid* for as long as possible" (Douglas 2016: 15; emphasis in original).

At first blush, generative AI looks like a great invention. Yet, if adopting a technology results in the disappearance of many other things which one values (see the axiom of disvalue by presence in Champagne 2011: 32), then on balance that technology is not worth adopting – at least not in the permissive manner that tech companies are presently hoping for. Digital media have pros and cons, but we tend to forget the cons. Analog media also have pros and cons, but we tend to forget the pros. Hopefully, the foregoing analysis can help to redress this imbalance.

The sign-vehicle-to-object ratios governing healthy lives and healthy societies may not be as clear and obvious as bitcoin's built-in ceiling. Still, it seems unwise to denature what is precious by making it too available. Those working in the field of economics realize that "[i]n contrast to the linguistic sign, the money sign cannot be reproduced in arbitrary quantity" (Bankov 2023: 117). I surmise that, as digital technologies become more powerful and their outputs more widespread, we will realize that non-monetary signs *also* cannot be reproduced in an arbitrary quantity.

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