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Writing regime change: a research agenda

Abstract: This essay reviews some of the changes engendered by the digital turn in language attitudes and language behaviour. It compares the current nexus of technology and language with that of print capitalism and examines the dimensions of digital society that have been affected particularly strongly, paying special attention to social practices, Bourdieu's notion of "legitimate language", legal issues, and our general understanding of how language works. It concludes by proposing a new research agenda in the form of a list of topics that sociolinguistics should address in the future, in particular the role of language institutions in cyberspace, the future of multilingualism, and a reinterpretation of Bourdieu's notion of "legitimate language". The paper is intended as a contribution to the ongoing and increasingly urgent discussion about the nexus of cyberspace, deliberative democracy, and multilingualism.

Keywords: language regime, law, multilingualism, print culture, cyberspace

1 Introduction

There is no law without language and no language without law. In the course of time, both language and law change, at times so slowly that the changes go unnoticed, at times so rapidly that it seems difficult to keep up. Just think of the Trojan Horse that is haunting us all or the prototypical Internet inhabitant that sows descent, the troll. Take the Advanced Digital Network (ADN), Browser, Cookie, Virus, Blog, Tracking, Super-spreader, Allyship and literally thousands of neologisms that have entered the English lexicon in the last two decades. TBH, quite overwhelming.

Although the young cannot imagine a world without it, cyberspace is still a new social domain. The rapidity of the technological development underlying computer-mediated communication (CMC) makes it hard to decide whether its consciousness-altering effects are liberating or imprisoning, but that there are such effects few would deny. Studying their social consequences is a compelling imperative. By 2021, global Internet penetration had exceeded 60 per cent of the world's population,² while

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¹ See, e.g., eflnet at https://eflnet.com/vocab/Internetvocab.php#T (accessed March 2022). See Rodríguez Arrizabalaga (2021) for a review of social media induced lexical innovation in Spanish; and the *Neologismenwörterbuch* of the Institut für Deutsche Sprache at https://www.owid.de/docs/neo/start.jsp.

² https://datareportal.com/global-digital-overview

in some countries the rate is much higher.³ To date, there is little legislation for regulating CMC (Lewis 2010), for states were initially hesitant to enact measures of control, but meanwhile governance of the virtual sphere has become a high priority.

The development we have witnessed over the past three decades does not have many parallels in history. A pertinent comparison is with the dawn of the printing age in Europe (e.g., Bawden and Robinson 2000; Deibert 2020: 21–23). Although printing technology emerged in China much earlier (Needham in Ronan 1978: 46-49), it was in fifteenth-century Europe that the printing press became the first machine of mass production fostering a standardization of products, producers, production processes unknown in pre-modern society.

With mass-produced books, printing technology engendered a new kind of language behaviour, fostering the Protestant Reformation (Gnanadesikan 2009: 254–256) as well as the Enlightenment in Renaissance Europe both of which depended on the wider accessibility of printed materials (Febvre and Martin 1958; Eisenstein 1979). "Without printed books the Renaissance could never have had the impact it did have" (van der Horst 2008: 30). Anderson (1991 [1983]) showed how "print language" reconfigured communities by attracting a broad readership in sixteenth-century Europe. This presupposed a normalized language which could be taught. Literacy typically was in one language, marking the difference between language and dialect and making countable objects of languages. Language academies like the Accademia la Crusca (1583), the Académie Française (1635), the Real Academia Española (1713), and the Royal Danish Academy (1742) embody this process.

Other important aspects of print culture are the printed book in compulsory education (Murray 2021), bureaucracy as the distinctive characteristic of rational modernity (Weber 1978), and the public sphere as a prerequisite of participatory government (Habermas 1989). All three are essential constituents of the language regime of print capitalism, and all three sidestep linguistic multiplicity.

2 Print culture

Print capitalism established a linguistic culture which gave rise to social attitudes to language that spread from Europe to other parts of the world. The principal features were the following.

The idea of a national language. Although there was never and nowhere a complete congruence of speech community and nation, print capitalism fostered a political pattern of the nation state on the basis of a dominant language, which gave rise to what Weber (1978: 359) called the "age of language conflict" because the appro-

³ Denmark, Sweden, Norway, UK, South Korea and UAE all between 97 % and 100 %. https://data. worldbank.org/indicator/IT.NET.USER.ZS

priation of a language by a state accentuates inequality. Within the framework of the nation state the ancient practice of discriminating people on the basis of language was elevated to a social principle with legal implications concerning compulsory education, universal suffrage, and citizenship.

The *minority language* was a by-product of the national language and a prominent feature of print capitalism, if only because printing spread as an industry largely driven by profit giving preference to big over small languages. The distinction between printed versus non-printed languages became a categorical difference, and printers became powerful gatekeepers. They imposed norms which whoever wanted to make use of their services could not easily bypass and which in course of time were contested by church and state, because print made propaganda easier and censorship more necessary, at least for those in power who feared losing control. It also facilitated the spread of literature instigating unethical and illegal conduct.

The increased production of printed books was followed by general education which included as a key subject "mother tongue education", which begot a monolingual mindset and in the long run underscored the difference between what Pierre Bourdieu (1982: 67) called *la langue légitime* and other, less legitimate varieties.

Language academies functioned as guarantors of the dominant language's legitimacy which was the language of schooling, social discussion in the public sphere, and political participation in which the state presented itself.

The monolingual dictionary has its origin in early literate cultures where it first embodied the idea that words with clearly defined meanings could be accumulated and carried through time. Print culture promoted it to an institution with authoritative power, like a legal code valid for a whole community. National standards were set, as exemplarily in the Dictionnaire de l'Académie française, the official dictionary of the French language. The first monolingual dictionary of English was Robert Cawdrey's A Table Alphabeticall published in 1604,4 while in the nineteenth century Noah Webster declared linguistic independence with his American Dictionary of the English Language of 1806, the publication of which would later be celebrated on his birthday, October 16, as National Dictionary Day. "Counseling" versus "counselling" did make a difference, for visible speech had to obey "the letter of the law" (Goody 1986).5 The dictionary cultivated a legalistic understanding of language where lines are drawn between right and wrong. The division of literal and intended meaning, too, became part of a general understanding among the educated of how language works.

An important feature of print culture is the regulation of reproducing linguistic expressions, the *copyright*. It was initially devised in the eighteenth century as legislative protection for the book trade (Ronan 2006). From there it evolved into a system of

⁴ Accessible in the British Library at https://www.bl.uk/collection-items/robert-cawdreys-a-tablealphabeticall

^{5 &}quot;In Europe the distinction between law and custom is ultimately based on what was written and what was not" (Goody 1986: 129).

intangible property rights that governed the entitlement to authorship and permission to reproduce texts, led to the commodification of language (Heller 2010) and claims to ownership of ordinary words, such as "apple", "time", and "face" when registered as trademarks (Akoi 1993).

The printed dictionary made language manageable. Its companion, the encyclopaedia, became the depository of wisdom and was, like it, addressed to a general readership. Both were major works meant for eternity, or at least a lifetime.

The institutions and processes of print capitalism, in vernacular languages rather than Latin, not only advanced learning, but also gave rise to uniformity and generalization, tendencies that befit industrial society. Meanwhile, we have entered the age of postindustrialization (Gibson 1992) characterized by an increase of the overall level of education and the emergence of a "knowledge class" (Stehr 1994). The consequences of this transformation amount to a language regime change.

3 Regime change

Political "regime change" is understood as the externally coerced substitution of one government by another. Is this concept applicable to language? When the Japanese outlawed Dutch after occupying the Dutch East Indies in 1942, that was a case in point of language regime change. An officially implemented writing reform can also be considered a regime change. More broadly, language regime change can occur without targeted policies caused by external forces influencing language behaviour. In the previous section we have reviewed some of the principal features of the language regime associated with print capitalism. Grounded in digital technology, informational capitalism gives rise to complex social practices of its own that differ in characteristic ways from it.

3.1 Tempo

Velocity is a parameter that distinguishes print from digital culture in obvious ways, such as air mail versus email. A paradigm case of speeding up is the dictionary. The printed dictionary was meant for all time. As van der Horst argues, "printed text is not a paper variant of the spoken word, much less a poor rendering of it; rather, the written word is language par excellence. The Renaissance vision of language is a vision of written language" (van der Horst 2008: 114). This idea underlay the compilation of dictionaries as lasting monuments. In general perception, a word that wasn't listed in the dictionary did not exist. How long did it take for neologisms to be integrated? Work on the Deutsches Wörterbuch was initiated by Jacob and Wilhelm Grimm in 1838 and finished in 1961, more than a century after their death. The Oxford English Dic-

tionary was first published in 1884 and reached its second edition only in the 1980s, a few supplements having been released in between. Now the OED publishes quarterly updates online. A dictionary is meant to represent a language, but could it not influence its speakers' language behaviour as well? There is no reliable data on whether the availability of dictionaries affects the development of the vocabulary, however, the step from print to online publication is to do not only with reducing paper consumption, but is also indicative of the acceleration of life in digital capitalism which is reflected in language change.

What happened with dictionaries also happened with encyclopaedias. Once fixed at least for a generation's time, they have been replaced by online compendia, databases and digital archives that can be updated – corrected, edited, enhanced – daily or whenever expedient. As a consequence, the Encyclopaedia Britannica which was published in print for 244 years, has since 2012 appeared in an electronic edition only, like many other encyclopaedias. In the perception of its readership, the print encyclopaedia was final. Its online successor, although more reliable and better informed, is perceived as just a stopover on the way to wisdom. In both cases, the dictionary and the encyclopaedia, the medium of their manifestation has mental consequences that are reflected in language change.

Against the background of Covid-19, it is instructive to compare how "viral" and "virus" on one hand and virus infections on the other have proliferated in predigital times and nowadays. The bubonic plague pandemic arrived in Europe in Sicily by ship in 1347 and reached Sweden in autumn of 1350. The so-called Asiatic Flu of 1889–90 spread westward from Central Asia much faster by long-distance railroad. Air travel helped Covid-19 to spread wider and faster again. Health emergencies have triggered the formation of neologisms in the past, for instance, "black death", "yellow fever", and "Spanish flu", but the speed at which expressions such as "social-distancing", "lockdown", and "booster shot" raced around the world, crossing national as well as language boundaries, was even faster than the virus itself. As early as spring 2020, in a list of the most frequently used English words at a given time compiled by the OED, the top 20 entries were related to the coronavirus. 6 In this way the technology of permanent connectivity inculcates a sense of immediacy as well as transience. This is not limited to Covid-related words, but holds for lexical innovation generally. To what extent CMC affects the velocity of lexical change is yet unknown, however studies like the OED's surveys suggest that there are such effects. In the Q&A session of a webinar about the language of Covid-19 an OED representative remarked: "Apart from the words themselves being interesting, as lexicographers it is fascinating to witness the uptake of words in such a short period of time." What used to be a "corpus" has become a "flow".

⁶ OED blog: https://public.oed.com/blog/using-corpora-to-track-the-language-of-covid-19-update-2/

⁷ https://public.oed.com/webinars-and-events/the-language-of-covid-19/

3.2 Gatekeepers

Publishers of print dictionaries were custodians of the language in question. As the remark about speedy uptake of new words indicates, the authority of these language regulators has been drastically eroded by digital communications and publishing. Before it ever materialized to be consumed in the form of books, newspapers, etc., print language underwent a screening process that followed established norms and ensured their validity, simply because norm violations were rarely seen by the general public.

Since digitization makes much of what was ever printed accessible online, the norms have not disappeared, but they have lost their threshold function. Anything can be put in writing on the Internet where 320 billion emails exchanged daily⁸ are just the tip of the iceberg. Whether websites, blogs, chats, digital journals, e-books, SMSs, posts, etc. conform to standards is a matter of authors' discretion. Anything goes. This has many implications yet to be fathomed out. For instance, ever more people generate written content by means of assistive technologies, such as spellcheckers. Will this weaken spelling skills or make learning spelling rules superfluous? Some experts contend that digitalese has no effect at all on spelling (Tagg 2015: 101), while others ban smartphones from schoolgrounds – France, for example, in 2018 – because their excessive use is thought to cause spelling skills to deteriorate (Peterson 2021). And who will control these technologies? The market, or non-profit organizations such as language academies? This is almost a rhetorical question, because profit-seeking companies have appropriated what used to be a common good, that is, the standards set by language academies, and apply them as they see fit. This raises the questions of what Bourdieu's concept of the legitimate language means in the dot-com era and whether state control over national languages is evaporating.

The line that separates languages that have an orthography from those that do not is also being redrawn, as the old "write as you speak" concept, originally meant as an educational principle (which was nowhere ever realistic) acquires an unexpected new interpretation: If you speak the as yet unwritten language X, why don't you write it?! Since writing has always endowed a language with prestige, this possibility is welcomed by some language activists as a means of elevating the status of marginalized languages. Providing an oral language with a written norm is also seen as a tool for sustaining endangered languages (e.g., Sperlich 2005; Moseley 2010). As one project puts it, "Living Dictionaries are never out-of-print, infinitely expandable resources. They go well beyond a static print dictionary, combining language data with digital audio recordings of speakers and other multimedia". 9 CMC in a small language group

^{8 2020,} according to statista.com

⁹ Living Tongues at: https://livingtongues.org/

can also be employed for norm formation through use. Whether this potential is actually made use of is another question, however.

In these and some other situations, that the gatekeepers of print culture have lost their job seems to be a good thing. Yet the downside to it is that digital communication ensures that myths, lies, verbal abuse, threats, and unsubstantiated claims can be magnified globally without checks. Embarrassing misprints are legion, but that a printed newspaper would call the head of state of another country "Mr. Shithole" is unlikely. This is what Facebook did when Chinese President Xi Jinping visited Myanmar in January 2020, putting the blame on a "technical error". 10 Because China is a big country of revenues for Facebook, one can assume that this wasn't done deliberately, but many other acts of online misbehaviour are. Where are the gatekeepers? Who is in charge of cleaning up?

These are urgent questions about language behaviour today. How journalist Maria Ressa addressed this issue in her Nobel Lecture in Oslo on 10 December 2021 is worth quoting at length. She spoke about the "god-like power" of our information ecosystem which

has allowed a virus of lies to infect each of us, pitting us against each other, bringing out our fears, anger and hate, and setting the stage for the rise of authoritarians and dictators around the world.

Our greatest need today is to transform that hate and violence, the toxic sludge that's coursing through our information ecosystem, prioritized by American Internet companies that make more money by spreading that hate and triggering the worst in us... well, that just means we have to work much harder. (Holds up t-shirt) In order to be good, we have to believe there is GOOD in the world. (Ressa 2021)

Those who make money channelling "toxic sludge" have an easy hand against calls for government control by hiding behind the sacred principle of free speech to ward off any legal restraints. The pretextual nature of their arguments has been exposed by former Facebook data manager Frances Haugen, who in a hearing in November 2021 told the U.S. Congress that in the interest of profit Facebook ignored warnings about the spread of misinformation and the use of algorithms that lead to physical violence or emotional harm.11 How cyberspace should be regulated is a question that cannot be answered without taking culturally shaped ideologies into account. It has been demonstrated, for example, that although social media are used to instigate violence and support racism, 67 per cent of U.S. respondents agree that "people should be able to make statements that are offensive to minority groups publicly", as compared to 27 per cent in the Asia-Pacific (Pew Research Center, quoted in Laub (2019)).

¹⁰ https://www.theguardian.com/technology/2020/jan/18/facebook-xi-jinping-mr-shithole

¹¹ See, e.g., Time, 1 December 2021 at: https://time.com/6125089/frances-haugen-congress-techreform/

4 Criminal voices

After the hearing of the U.S. Congress, Frances Haugen took advantage of her momentary fame to draw attention to the importance of regulating Internet communications. In various interviews she raised the issue of multilingualism in cyberspace and in this regard emphasized the role the EU could play in curbing the power of the social media giants. 12 She argued that the "principles-based" regulations of the EU would be a better tool to this end than U.S. regulations, and she explicitly mentioned European multilingualism in connection with improving content monitoring in languages other than English. Lawyer Joshua Fairfield (2021a) seconds, arguing that "Europe may be able to act as a nexus and a facilitator for a badly needed conversation around responsible technology regulation" (Fairfield 2021a: 242). He calls to address the abuse of language in the social media as well as "the problem of those who have seized our national language and undermined democracy" (Fairfield 2021b). His spirited and pertinent plea for upgrading the language of law to make it fit for the digital age is well taken, but unlike what Haugen called for, it remains within the context of the national language.

The EU has taken a first step down a rocky road. 13 Germany's Act to Improve Enforcement of the Law in Social Networks (Network Enforcement Act, NetzDG14) which came into effect on 1 January 2018 obliges social media platforms to remove manifestly illegal content. The legal conditions are, however, complex and it is not at all clear that European Law will be an effective instrument for cleaning up the Internet. Law is language. In a world organized in nation states this means that legality is expressed in national and official languages. The EU recognises 24 languages as equally authentic, which is crucial because national law is a key element of national sovereignty. A basic principle of the European legal tradition is that "any law must be phrased as precisely as necessary to trigger the same thoughts and ideas in any person's mind and convey exactly the same notion of what is legal and what is prohibited" (Langheld 2016: 120). At the same time, lawyer Georg Langheld is probably right when he says, "it will never be possible to trigger the same thoughts in everybody's mind by using abstract legal terms" (Langheld 2016: 121). From a psycholinguistic point of view this is trivial, and we know that language works notwithstanding vagueness and semantic discrepancies. However, from a judicial point of view this is a conundrum because discrepancies between terms in different languages threaten legal uniformity within the EU.

¹² For instance, an interview with the Indonesian journal VOI on 4 November 2021: https://voi.id/ en/technology/100783/frances-haugen-calls-on-government-to-keep-an-eye-on-facebooks-effortsto-remove-facial-recognition (accessed 01/2022), and the German tv station ZDF on 10 December 2021: https://www.zdf.de/comedy/zdf-magazin-royale/interview-frances-haugen-104.html (accessed 01/2022).

¹³ See also Brown (2020) for the Council of Europe.

¹⁴ https://www.bmj.de/DE/Themen/FokusThemen/NetzDG/NetzDG_EN_node.html

And there is yet another problem. 24 languages are a challenge, but many more languages are spoken in the EU, not to mention in cyberspace. Could they be ignored, as they basically were under conditions of print capitalism? That would have consequences that no one could possibly want, namely that misconduct would be prosecuted in one language, but ignored in another.

Recently, Internet platform providers have begun to take hate speech regulation seriously, and some observers applaud this development. For instance, Eggenschwiler and Kuleza (2020: 254) argue that "as sovereign entities continue to grapple with questions around the applicability of international law to the virtual sphere, the norm-stipulating practices of private protagonists can serve as important sources of input and incubators of customary principles ad interim." Governance based on custom is, however, the opposite of the rule of law, which is one reason why others argue that "in this new phase of administering and securing the internet, governments will lead, not private actors" (Lewis 2010: 63).

It is true that "private protagonists" have begun to filter out extreme violations of propriety, but how do they do it? So far, "social media companies don't evenly devote resources across the many markets they serve" (Laub 2019). Consider Sjarrel de Charon, a Dutch citizen who moved to Berlin where finding a job proved to be difficult. To make a living, he ended up working as a "content moderator" for Facebook and Instagram where he had to inspect the most horrible "toxic sludge" all day long, every day. What also worried him was that

It is these companies that determine what is satire, what art, what of historical interest, what may remain on their platform, and what has news value. It is these companies that define who is a terrorist and a mass murderer, thus co-determining who will be listed on the U.S. State Department list of terrorists. (de Charon 2019: 83)

After eight months, de Charon could no longer handle the stress of his work and quit. Then he wrote a book entitled De Achterkant van Facebook. 8 maanden in de hel ('The backside of Facebook. 8 months in hell'). He had been hired for the job although he had no particular qualifications to do it, but there was no one to expurgate the Dutch-language market, Dutch being "an exotic language" in Berlin, as de Charon explained.

If the national language of one country is "exotic" in the capital of a neighbouring country, what about some of the other languages, Frisian, for example, an officially recognized minority language of the Netherlands? Could that be of any concern to the "private protagonists"? Hardly, for how many users of Frisian are there, or Ladino, or Faroese, or Basque? And these are languages that enjoy a measure of protection by the European Charter for Regional or Minority Languages, which, however, does not guarantee any advertisement revenues. I wouldn't bet on the availability of content moderation or the development of algorithms that could at least do some of the work in Sassarese (spoken in Sardinia, Italy), Xibe (also Sibe, spoken in Xinjiang, China),

or, for that matter, MLE (Multicultural London English) any time soon. It's just not profitable. In other words, if you are planning to engage in human trafficking, organ trade, child porn, or need to discuss arrangements for a bank heist with your friend, why not do it in any of these languages? The private protagonists will not stop you. Unrealistic?

Recall the story of Navajo. In 1942, in the war against Japan, the U.S. Marines employed Navajo to secure safe communication by telephone (Durrett 2009). The Japanese were good at breaking military codes, but Navajo was beyond them, and so it was used as a code until the end of the Pacific War. Calling this episode exotic is surely more apposite than Dutch in Berlin, but that does not make it irrelevant. Leaving Internet crime to private protagonists to control would be inexcusable negligence. The multiplicity of languages cannot be ignored, for "when it comes to language translations, nuances like idioms and slang, for example, mean that Internet platforms will also need to hire language specialists either to make final decisions as to semantic equivalence or to create 'training data' for programmers" (Brown 2020: 97).

So, what should state actors do? Tech giants harvest our data every day without our permission and use it to their advantage (Lyon 2018). Imposing on them the duty to do the same in the interest of the common good might be one way to go. Important here is that, in the digital age, the common good, as well as vice, immorality and crime, is articulated in a great many languages (Thurlow and Mrocek 2011). Making multilingualism an integral part of cyberspace legislation by outlawing expressions of hate, incitement to crime, etc. in any language would put a great burden on the private protagonists and in this way reign in their "god-like power".

5 A multilingual public sphere – future directions

One of the reasons why this has not happened so far is that the "public sphere" has been conceptualized as being monolingual centred on the nation state with a national language. Since the 1960s when Habermas (1989) introduced the concept, it has been predicated on a common language. Switzerland was clearly not his model of a deliberative democracy (Stojanović 2021). Rather, "ordinary language" unites the community to form a critical public sphere as indispensable for democratic decision-making legitimacy. This language is invariably presented in the singular. The inclusiveness it brings about, however, implies exclusion or at least marginalization, for "policies that do not acknowledge minority languages invariably also impose the status of irrelevance and silence on their speakers" (Chiatoh 2018: 75). The premises of this assumption, founded in print capitalism, have been undermined in the digital turn. If it has not engendered the diversification of late-modern society, it has come along with it. In view of increasing perceived and real sociocultural pluralism, the normative ideal of a unitary public sphere is losing credibility and support. Argues Peter Dahlgren:

"there must exist spaces in which citizens belonging to different groups and cultures, of speaking in registers or even languages, will find participation meaningful" (Dahlgren 2005: 152). The need to recognize and accept other languages in addition to the national language is acknowledged, which, however, is not to say that minority languages or the multiplicity of human languages are more highly valued today than they were in the past. Yet their actual and potential presence on the Internet redefines the public sphere in ways yet to be fully explored. As the global infrastructure it has become, the Internet should be a global commons. In the linguistically fragmented virtual sphere, Habermasian all-inclusive deliberations are hard to imagine, as common standards are destabilized.

Of particular importance is offensive verbal behaviour, such as incitement to acts of violence. Where does extant legislation suffice for regulation, and where is new legislation necessary? How is the partition between private and public spaces (to be) redefined, and how so the division of labour between private and state actors? Who is eventually responsible for cyber security? Crystal (2001) was right when he diagnosed a socio-linguistic revolution that came along with the birth of the Internet. Twenty years on, we have only just begun to sort out the paths that may lead to answering these questions. Cyberspace brought with it new conventions, new insights, new ways to connect, new illnesses¹⁵, new pleasures, new crimes (Bossler and Berenblum 2019), new divisions between fiction and fact (Molina 2021), new ways of making use of linguistic resources, new text genres, and new ways of thinking.

Digital tech has shifted the framework of human interaction. Instant global connectivity is a hallmark of the knowledge society, but multilingualism is yet to be fully appreciated as one of its dimensions. The challenge today is to conceive new norms for new forms of language use and to employ new technologies for building a better society for all rather than enrich a few companies. For sociolinguistics, this implies an extensive research agenda that addresses:

- changing notions of, and attitudes to, language and multilingualism,
- the role of language institutions in cyberspace,
- a reinterpretation of Bourdieu's notion of "legitimate language",
- language vitality and
- velocity of language change.

Imprimatur – do we have a word yet for what this means in the absence of printing?

¹⁵ Health problems stemming from excessive Internet use, such as social withdrawal (Kato et al. 2019), obsessive online gambling (Gainsbury 2015), and Internet addiction disorder (Gregory 2021), among others, are beginning to be taken seriously by medical professions alike, because these syndromes are becoming a social problem that did not exist in pre-digital times.

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