

## Fake news and the seven sins of capital: a metaphorical analysis of vices in the context of the COVID-19 pandemic

*As fake news e os sete pecados do capital:  
uma análise metafórica de vícios no contexto  
pandêmico da COVID-19*

*Las fake news y los siete pecados del capital:  
un análisis metafórico de las adicciones en el  
contexto de la pandemia del COVID-19*

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### Abstract

*Health crises spawn “sins” and moral deformities in society that are evident when they emerge but had seemed to be dormant to collective awareness before. Through the metaphor of the seven capital sins, the article analyzes the phenomenon of fake news in the social media and in the scenario of the COVID-19 pandemic: the lust of sensationalism through the seduction and exploitation of vulnerabilities associated with fear of death; gluttony for confirmatory contents that spread untruths in the attempt to turn versions into facts; the catechism of denialism, fueling wrath or hate in restrictive epistemic environments; the greed of new technologies in the attention economy through engagement as a new commodity; competition for the spotlights of media visibility and derived gains that incite pride and envy in researchers that confuse public meaning with fake research, in a cycle that feeds sensationalism, gluttony, hate, and greed in attention capitalism. Finally, sloth is portrayed as the capital sin of opting for communicative inaction. In the comfort of bubbles, people renounce dialogue out of aversion to dissent, settling for positions of epistemic comfort. In short, the fake news phenomenon in the COVID-19 pandemic is portrayed here as the convergence of various vices that materialize as misinformation, in the communicative vacuity of the moments in which we are obliged to address each other to share our worldviews.*

*Health Communication; Social Media; Internet; COVID-19; Pandemics*

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## Introduction: health crises and metaphors of the capital sins

Health crises that involve risk of extermination, confrontation of subliminal fears, and atavistic aversions reveal dormant vices and prejudices, not rarely indifferent to collective critical perception. Obviously leaving aside the ethical/theological dimension of the seven capital sins, here we will consider allegorical aspects and different argumentative points with symbolic effect, allowing the effect and decentration reserved for metaphorical analyses of complex scenarios.

According to St. Gregory the Great, reaffirmed by St. Thomas, man's fall into the deepest circles of hell does not occur in sudden breaks, but by low descent down the steps of moral decomposition. The capital vices of boasting or vanity, laziness, envy, rage, gluttony, and lust hold a common trait from the Christian perspective: they are conceived through the sinner's unbridled self-love, preventing him from loving God above all things. They are not the most serious sins, although they are "*the first to which our heart is inclined*"<sup>1</sup> (p. 46), the ones that lead us to commit other mistakes with greater impact, gravity, or ruin. The unthinking precedence of frivolous artefacts and unbridled self-love per se – essentially stimulated by capital's logic – is thus the consequence of a disordered love as the source of all sin. The current argumentative approach assumes the concept of "sins" as human needs or "loves" which are poorly oriented and deteriorate into vices in sinful behaviors whose genesis involves ethical failures and vulnerabilities that are peculiar to our time. We refer more specifically to the devices of a sophisticated derivation of classical capitalism, "cognitive capitalism"<sup>2,3</sup> in the context of the "attention economy"<sup>4</sup> or, as called by Zuboff<sup>5</sup>, "surveillance capitalism", which generates abundant financial gains to the detriment of the need for human communication for intersubjective sharing to produce agreements, alignments, and feelings of belonging, essential for the social fabric. Such devices originate from non-relational interactions, as the product of perennial engagement by millions of users permanently interconnected by "clickbaits", resulting in profits produced directly by the sale of products. There are also even bigger indirect gains, generated by data collection for typification of consumption profiles and ideological orientation linked by algorithms to geolocation data from smartphones. Thus, geolocated demographic and cultural patterns, movement profiles, and political alignment are sold to third parties for various purposes, including surreptitious manipulation of political processes, placing the very foundations of the contemporary democratic process in jeopardy. As with democracy, the health of consumers who trade their data for clickbaits is also seriously threatened by certain sociocultural conditions, as described below.

According to classical theoretical definitions, universal contagion is also a social phenomenon, permeated by stable or passing meanings, practices, and atavistic vices. As illustrated by Rosenberg & Golden<sup>6</sup>, epidemics act as mirrors raised for society to see, reflecting values and attitudes in clear relief. In this scenario of dizzying changes, it is interesting to observe many mirrors raised by the work of biologists, physicians, and epidemiologists dedicated to describing the vices of inequality linked intrinsically to the pandemic. A common finding in biomedical databases is researchers' description of deep-seated inequalities and social marginalization expressed in the pandemic's wake. Scientists previously limited to quantifiable natural aspects of being-human began to denounce the precariousness of structures that generate injustices among social groups and that have failed to control the pandemic's expansion, focusing on the relationship between health and gender, age, social class, schooling, and race/ethnicity among many other potential factors<sup>7,8,9,10</sup>. In the pandemic's wake and mixed with such reports of inequalities, there is also a proliferation of articles on additional harms to the planet's health from the spread of fake news. Briefly, misinformation has become one of the main obstacles to public health policies, acting both as an instrument for legitimization of fallacious therapies and for disseminating prejudice, hate, and divisive content. Over the course of the pandemic, the spread of fake news has contributed to discrediting science and public health institutions, beside hindering collective adherence to preventive measures. Various studies have highlighted the central role of social media channels in this process<sup>11</sup> in which partisanship, polarization through intolerance, and communicative inaction negatively influence society's engagement in the fight against the pandemic. The indeterminations of science and its doubts and explanatory gaps on the disease coexist with lay equivalents in a context of disputes in the political and scientific terrain, where factual and untruthful versions clash on risks and cures linked to prejudices and intolerance in the middle of biopolitical contingencies determined by the pandemic. Paradoxically, such clashes

between truths and lies play out with the Information Age in full sway, in an atmosphere of hyperflux of a colossal collection of data, versions, and modalities of interactions mediated by technologies entirely unknown just a few years ago.

Thus, as a tactic for interconnection of knowledges and portrayal of genealogies involved in these complex contexts, we opted to theorize on the phenomenon through the metaphor of the seven capital sins. Like Ortega y Gasset<sup>12</sup>, we consider metaphor the “most fruitful power of man”. Such an expedient is employed here less by theoretical indigence and argumentative weakness than by the intrinsic property of recourse to images and atavistic moral concepts and their efficiency in touching the confines of complex and multifaceted realities, making them appear with narratives of universal understanding and acceptance. As illustrated by the Spanish philosopher, metaphors facilitate evasion and transcendence for us, creating veritable “imaginary reefs” among real things, so necessary in times of collective isolation<sup>12</sup>. In our view, the metaphor of the mirrors of vices and sins of capital illustrates quite appropriately a series of breaks in social communication processes. Cognitive capitalism and the attention market have generated nonrelational interactive devices that interconnect growingly watertight territories in terms of communicative reason. Thus, fake news conveys products of old vices, exposed now during a pandemic. Fake news is generated under circumstances of greed, abundantly rewarded with hate, arrogance, envy, acedia, and the lust of sensation fed by gluttony through hoaxes or perspectives that are merely mistaken or misleading, all insulated from a virtuous communicative process. In our view, fake news constitutes a set of interconnected vices that are enhanced and manifested acutely in paroxysms of health crises.

### **Lust and gluttony for sensationalism**

One of the first pieces of fake news on the nature and capacity for reproduction of sensational lies and their ethical boundaries is presented to us in early childhood, in the process of moral upbringing to which our parents are do dedicated. The prosaic moral lesson of the “lie with short legs” was scientifically discredited in 2018 in a study by the Massachusetts Institute of Technology (United States)<sup>13</sup>. Researchers studied Twitter posts from 2006 to 2017, verified by six fact-checking agencies, totaling more than 126,000 posts. We know now that false information posted on the Internet is 70% more likely to travel faster and farther; its rhetoric of seductive sensationalism reaches more people and consumes more of their time in engagement and attention energy. For each post that reaches a thousand people, there are fake posts (more fascinating and popular) that reach 100,000 people at an incomparably faster rate.

In the 211 theses of the “society of the spectacle”, Guy Debord<sup>14</sup> contends that in the capitalist mode of production, the spectacle presents itself simultaneously as society itself. The spectacle is therefore an essential condition for the existence and reproduction of heavily market-oriented societies. Tragic or violent images – sensational by nature – are especially valued by the media and their consumers. Likewise, the biological calamities that lend meaning and value to political discourse of exclusion and intolerance in media networks are also tasty “nutrients” for the homilies of hate aligned with political agendas. In addition, in mutual enhancement, the vice of the “sensational” is associated with the imperative of precedence, that is, the best credits go to whoever announces the sensational scoop. As discussed in previous articles, the exchange and consumption of information on the Internet are incited alternately by practical, focused, proactive (and slow) interest and by reactive impulses fueled by atavistic fears, self-preservation, or reaffirmation of identity beliefs or policies that are blind to any basis in veracity (much speedier than the former, and with greater reach and)<sup>15,16,17,18</sup>. In other words, the lust of sensationalism sins by the seduction and exploitation of human vulnerabilities (by conjuring up its original and necessary counterpart, namely the audiences’ voyeurism), although it is also a virtue by generating precaution towards imminent dangers. Meanwhile, in the collaborative web environment that accommodates virtual communities, news is broadcast by the consumer-reporters themselves. Drawing on the Christian metaphor, there are fake news devotees that sin through the gluttony of confirmatory behaviors. They feel compelled to consume and disseminate untruths incessantly and compulsively, as if it were possible, in this movement of replication, to convert their versions into concrete facts. Thus, even the narratives of which they are not fully

convinced are replicated out of the simple need to reaffirm a contestatory (or persecutory) position or worldview, as discussed below.

Using Olpinski's metaphor<sup>19</sup>, Facebook currently represents the fast food of the Information Age, administering injections of dopamine generated by the "sugar" of social approval and confirmation of beliefs. Human homeostasis evolved in systems with carbohydrate intake, under limitations created by the environment. As a result, diseases are generated because we are programmed to seek and consume more sugar than we need. Analogously, our species developed in a system of verbal transmission of information. In the last two centuries, the media have succeeded in surpassing the limits of the processes involved in human communication, providing access to a monumental volume of contents that can now be produced and disseminated by anyone on a planetary scale. In this context, enlightened reason, which should free humans from ancestral fears and myths to make them sovereign and emancipated, has become an instrumental reason that produces algorithms to reap monumental profits through freely supplied substrate. Communicative action is thus limited to the alienated reproduction of memes and bits of sensational information for quick consumption. Like the supply and excessive consumption of foods that led to global obesity, in the context of a flood of fake news, the gluttony of compulsion for consumption combines with the frenzy of the impulse for its replication, which has produced the ill-famed infodemic floods. Thus, how do we overcome the new modalities of alienation involved in these cycles of lust and gluttony? How can we create new forms of interaction in which interpersonal relations regain their centrality, currently depleted by instrumental reason?

### **Greed in the "attention market"**

The attention economy features the contemporary barons represented by big tech companies like Google, Apple, Facebook, Amazon, and Microsoft (commonly known as "GAFAM") and the seven mortal sins of technologies listed by Hal Varian<sup>20</sup>. It is obviously beyond the purpose of this essay to polemicize with Varian's article, since it defends exclusively economic aspects from exclusively neoliberal perspectives, peculiar to a Google server<sup>20</sup>. The current discussion transcends such aspects of sociocultural phenomena converging with communicative processes that currently serve as material for such companies. Each of the GAFAM concentrates on central lines of business deals connected to communicative phenomena (among other terrains) impacted by devices, information searches, social networks, and marketing of goods and services. These companies compete vigorously with each other in various areas, and such competitive juxtaposition has contributed to accelerated technological development in this field, as highlighted by Varian<sup>20</sup>. Nevertheless, it is important to discuss which terrains the GAFAM have encroached on without any form of regulation, although under intense and mutual competition. What kind of matter serves as the substrate for profits, and especially, what kind of waste is produced in this process and what are the effects in the political, cultural, and health spheres?

The supply and demand of goods and services are informed by two truths from marketing science that move the invisible hand of the market towards profits: the importance of consumers' segmentation and conditions of greater susceptibility to what is offered to them. For example, imminent or recent motherhood or fatherhood are known to be the "pot of gold" for retailers. Mothers and fathers of firstborn are the most avid group for products that protect, feed, clothe, or embellish the newborn infant. So long as the perspectives of protection, health, and beauty appear palatable, such consumers approve to be indifferent to price<sup>21</sup>. Parents of small children (as well as pet owners) consume much more than the family needs in the same stores and websites where they buy baby bottles, pacifiers, baby food, and toys. However, the identification of these insatiable consumer segments in the middle of millions of others is not simple. Adequate segmentation of advertising (the first truth mentioned above) requires increasingly sophisticated data collection strategies to capture the attention of these pre-consumers in the AIDA model (awareness/interest/desire/action). The environment of cognitive capitalism in which social media thrive (discussed below) would thus not survive merely from the frenzy of sensationalism and the voracity of sensational clickbaits. It would also be necessary to segment the gluttons for sensationalist fake news and the objects of their desires to offer them contents under specific circumstances, made to order and with the right timing for their interests and inclina-

tions. It thus becomes crucial for the GAFAM to offer sensational content to those most inclined and in the circumstances in which they are most susceptible, which also leverages the advertising for the respective products (including political propaganda, especially but not exclusively).

Current segmentation strategies have become dependent on typical consumption profiles, now designed by cross-analyzing information provided voluntarily or inadvertently on the big web. The material that serves as substrate for GAFAM profit is thus linked to tracking our information and interactions that point to our interests and inclinations in consuming narratives and cosmologies. Huge investments go into sophisticated technology for accurate segmentation, profiling complex orders for forecasting consumers' behaviors towards ideas and ideologies, regardless of whether they are disseminated as information or misinformation.

The use of data science and A.I. (artificial intelligence) for machine learning has increasingly served the ceaseless algorithmic refinement and mass data collection on behaviors, useful both for commercial and other purposes<sup>22,23</sup> in the context of the above-mentioned "cognitive capitalism"<sup>2,3</sup>, the "attention economy"<sup>4</sup>, or "surveillance capitalism"<sup>5</sup>. In these environments, colossal amounts of data are stored for the refinement of formulas developed to ensure captive users. We are thus stably engaged by our attention's capture through apps, games, image filters, and social networks, among many other entertainment modalities. The preferences manifested by clicks draw profiles in the present to influence the contents displayed later, a simple and efficient way to main stable connections and fast-flowing profits. In simple terms, the raw material to be lapidated and provided free of cost consists of the attention and adherence (or engagement) of millions of users, generating billions in revenues.

The sin of greed thus lies in our consumer society, in which many unfortunate souls consume very little, although they are literally consumed by the technologies of daily sensationalism. Such technologies keep us connected for as long as possible through the seduction of clickbaits and fake news, generating direct profits through product sales or indirect gains through data collection for typification of profiles connected to smartphone geolocation data. Consumption patterns based on geodemographic data and web movements are worth gold and are sold unregulated to third parties and for various purposes (not always ethically praiseworthy, as in the case of fake news). Antivax networks<sup>24</sup>, the United Kingdom's Brexit plebiscite in 2015, and the presidential campaigns of 2016 in the United States and 2018 in Brazil, among others, reveal the threat to democracy and public health from proprietary algorithms optimized to extract attention and disseminate fake news for polarized echo chambers.

The scenario is depicted in the 2019 documentary *The Great Hack* by Karim Amer & Jehane Noujaim on the political manipulation of data extracted from Facebook by Cambridge Analytica. As a product of greed, indifferent to the health and political consequences, in the first half of 2020, Facebook apps (including Instagram, WhatsApp, and Messenger) yielded USD 17.74 billion in gross revenue and USD 4.9 billion in net profit, with more than 3 billion users<sup>25</sup> who discuss political and epidemiological issues associated with the COVID-19 pandemic under conditions of permanent hyperflux of information by the media and segmentation in echo chambers by filter bubbles. Not by coincidence, the global capitalist economy's center shifted to the information market, expressed by tech companies' first five positions as the most valuable in the world<sup>26</sup>.

For 18th-century Christian monks, to worship silver and gold and become slave to wealth was tantamount to the "shame and villainy" of turning one's back on the Christian ethical principles of solidarity and selflessness, since true wealth lies in "virtue and good conscience"<sup>27</sup>. In a sense, we thus believe that the communal spirit of data-sharing with solidarity on the Internet, the abolition of planetary borders, and users' approximation in a democratic and educated global village are increasingly remote founding principles. One can also add to the Internet's biography its unprecedentedness as a communications medium, operating socializing deconstructions in the business models of media oligopolies<sup>28</sup>. Meanwhile, we should not lose sight of the fact that such demolitions open the way to build empires that are even more domineering, lucrative, and with incomparable power to encroach on our daily lives.

## The hate and polarization of fake news

In Brazil, misinformation proliferates unchecked on digital networks and platforms that convene communities and groups, such as WhatsApp (the leading source of fake news), Instagram, and Facebook <sup>29</sup>. By all accounts, people that participate in these communities or social networks not only seek exposure, but consume and offer concepts, interpretations, and perspectives like their own about things in the world. Psychologists Amos Tversky & Daniel Kahneman published in *Science* in 1974 the article entitled *Judgment under Uncertainty: Heuristics and Biases* <sup>30</sup>, in which they identified the heuristic elements and principles that created paths for risk judgements, which in turn orient human behavior. In daily life, interpretations, decisions, and human judgments are based on beliefs, built in turn on factual data that are not fully known or weighed. Thus, to reduce the complexity of decisions and accelerate appropriate reactions, individuals submit their experiences to the filter of simple rules, built (and socially validated), often leading to systematic judgement errors, namely prejudices. In a society suffering from infobesity and hyperflux of news and information that demand instant reactions and quick positions, collectively shared biased interpretations become dangerously essential and comfortable. Meanwhile, action by consumers of health information has required immediate decisions under the pressure of the Internet's growing credibility on issues of protection of healthy life in the face of new biothreats <sup>31</sup>, as represented by the COVID-19 pandemic.

Another phenomenon in the genealogy of fake news is the formation of “echo chambers” <sup>32</sup> amplified by filter bubbles <sup>33,34</sup> and spawned by confirmation biases <sup>30</sup>. The concept of “echo chambers” is highly relevant for this discussion, and its origins intersect with the emergence of social networks following the advent of broadband. Since then, the human need to share experiences, opinions, and persecutory theories has found increasingly broad avenues for spreading surreptitious false alarms. Such ideological chambers are metaphorical figures associated by Sunstein <sup>32</sup> with political groups in contexts where individuals with similar positions insulate themselves from the rest of society, accumulating resentful versions of facts that reinforce their group's position. In these environments, “mediaspheres” are formed as systems of ideas or beliefs amplified and reaffirmed by communication and repetition within a restrictive epistemic environment, fertile in narratives of suspicion against government, science, Big Pharma, and heliocentrism. Added to the information turbocharging by such devices, there are filter bubbles, or search algorithms powered by machine learning mechanisms that supply the profiles with information, videos, and news aimed at reinforcing and reaffirming certainties. Contents that fit the users' beliefs are highlighted and replicated, amplifying and deepening the viewpoints' segregation and the groups' extreme polarization <sup>33,34</sup>.

Although developed to offer pertinent content for the consumer habits of users prone to certain goods – the spirit that moves the market's invisible hand – filter bubbles are positioned in the terrain of cognitive capitalism as propeller fuel or as a “barrier to communication acts”. This creates a self-sufficient modality of cognitive exile provided by algorithms that assume the heteronomy of selection of hate information allowed as “personalized”, a feat never achieved even by totalitarian and repressive dictatorships. A Solomonic proverb magnificently summarizes the motor force in the proliferation of animosities: “*Correct a wise man and he will become wiser still. Correct a fool and he will become your enemy*”. The inhabitants of such echo chambers thus see themselves as unopen to “yes” or “no” in their interlocutors' speech acts, which precludes “illocutionary successes” (when, in interpersonal relations, participants in the communication understand each other about something in the world) <sup>35</sup>. In the dialectic of understanding by which we humans evolved as a species, we were able to expand agreements among linguistically (and interactively) competent subjects. Gluttony for confirmatory novelty (and obsession from the vanity of one's unyielding beliefs) gain strength by insulating the inhabitants of the echo chambers from opposing points of view by curating “adherence-optimizing algorithms” for hate contents. Listening to and understanding others is a dialectic process of understanding in which the target is an agreement that meets the conditions for rationally motivated assent to the content emitted. In short, as Ricoeur <sup>36</sup> (p. 127-8) states, “*communicative competence must include the art of understanding the misunderstanding and the explanatory science of the distortions*”.

## Sloth and communicative inaction

The 4th-century Christian monk Evagrius Ponticus defined *acedia* as a sin of omission of the spirit associated with carelessness or negligence in living, leading inevitably to sinful inactivity. Pope Gregory the Great drew on the essence of Evagrius' ideas, interpreting *acedia* (or sloth) as a sin of indolence or inaction that leads the sinner's soul to depraved consequences. One such consequence, on which it would be timely to theorize here using Kantian concepts<sup>37</sup>, would be man's stagnation in a condition of self-indulgent minority, faltering due to lack of resolution and courage to make use of his own reason. By inaction, a man under such minority fails to seek meaning and subjects himself to tutors who think for him, thus blocking the paths to his emancipation. However, how can the Kantian subject dare to interpose critique between dogmatism and skepticism as the third path? How can the man come of age with autonomy through such disparate scales of reality?

Concerning these questions, Rouvroy & Berns<sup>22</sup> highlight the role of "the common" as an element of growth and emancipation by discussing "algorithmic governmentality and prospects of emancipation: *disparateness* as a precondition for individuation through relationships?". According to Rouvroy & Berns<sup>22</sup> (p. 193), "*the essential issue – that which could be saved as a resource preceding any 'subject' or individuation, and constituting the latter – is 'the common', in the sense of the 'in-between', that place of co-appearance where beings are addressed and talk about themselves to one another, with all their dissymmetries and 'disparateness'*". "The common" would assume "non-coincidence", active predisposition to the heterogeneity of orders of grandeur and the multiplicity of regimes of existence. Dissent would act as its motor force, based on which the processes of individuation would take place in the way and at the time in which we are obliged to address each other. Thus, as discussed by the authors, the comfort of the place in which supposedly personalized concepts are offered tends to stagnate the processes of individuation. Divergences are constitutive elements in the processes of individuation that are completed in the instant we are obliged to address each other to share our worldviews.

According to Pasquale<sup>38</sup>, the contents that are candidates for "going viral" and fake news undermine positive and democratizing pluralism, assuming a vulgar diversity, poor in themes, limited to depraved circles, driven by attention metrics (number of views, likes, and shares) and by the greed for clickbaits. Cognitive capitalism's profits increase exponentially by consumers' immersion in addicted and acritical virtual interaction with no trace of communicative relations with dissidents. Thus, whether by the paucity of references (or by renouncing them), critical indolence, or mere comfort of joining a herd through the need for alignment with tutorship of ideas, the most avid consumers of fake news abstain from dissent and interlocution. They remain communicatively inert as inhabitants of echo chambers with no disposition to seek "yes" or "no" in the interlocutors' speech acts. They do not pursue "illocutionary successes" in interpersonal relations, rather are content with memes and semi-interactions of confirmation.

In these environments of interaction without relationality, what prevails are indoctrination by denialism, catechesis of intolerance, and praise for dogmatism. Communicative inaction per se expands, corroding the critical thinking needed for emancipation by contact with amplifying perspectives. No effort is made to search for "the common" – subjects are deprived of intersubjective sharing of opinions and interpretations by selection of algorithms that cause a sort of "illusion of satiety", expressed in such statements as "I get informed about that" or "how can they not see those truths?". Regardless of plausibility, acritical sharing of the herd's dominant discourses are reaffirmed unquestioningly in the echo chambers, in a closed system where divergent opinions are discredited, and communication becomes systematically distorted. The only information exposed is that which satiates their gluttony for reaffirmation and reinforces the indolence of the hegemonic beliefs, generating even more polarization. Within the more hermetic communities, the communicative process is similar that of ideologies which, as described by Ricoeur<sup>36</sup>, consist of the impact of violence in the discourse and dissimulation, the key to which escapes conscience, and where deviation is needed to explain the causes.

Some authors identify polarization by echo chambers and filter bubbles as vectors that undermine social ties<sup>39</sup>, but they can also be described as places of relations depleted by communicative inaction. In these comfortable scenarios, relations of dissymmetry are homogenized by algorithms that select contents and conduct reaffirmations based on propensities previously (but not explicitly) recorded

in acritical subjects' interactions. In the current scenario, worldviews are reaffirmed within identity hubs, grouped in polarized consensuses concerning fears, hates, prejudices, and repressed pretensions. Communicative inaction thus lies on the safe bed of "algorithmization" for selection of contents and interactions without relationality, backed by the depletion of any form of dissent to preclude describing anything more or to express any "common" as the basis for mutual recognition and action in the world. Web algorithms that connect us so well also appear to have pushed us apart to the same degree, creating a new form of isolation and group inaction.

### **Arrogance, envy, and competition for visibility in academia**

The sin of envy is as relevant in 21st-century society as it was for medieval monks, as the basis for conflicts between neighbors (with their lush green lawns) and between PhDs in the academic elite. Envy is easy to identify in other people's behaviors but is sufficiently recognizable when accompanied by arrogance (its mentor and wet nurse), which sustains it and gives it wings, although sometimes disguised as Franciscan humility. In the best of cases, envy serves as a niche for combined action through local partnerships for grandiose collective conquests (could it be the genuine and unspeakable spirit that moves the Olympics?). Envy of leaders is just as essential for making dogs act in involuntary synchrony to pull sleds across miles of tundra as it is to stimulate competition and precedence of academic feats. The imperative of precedence and the primacy of claiming a discovery encourage researchers to publish in preprint repositories (like SciELO preprints, arXiv.org, or bioRxiv.org, dedicated to the life sciences) without peer review, sometimes tempted to issue incomplete observations to "grab credit for concepts that they haven't actually completed" <sup>40</sup> (p. 3). Unlike an article published in a periodical (submitted to a process of review and resubmission, often lengthy), a preprint article on COVID-19 can be widely disseminated as news in websites and lay newspapers, which can generate erroneous (even if not intentionally misleading) information. Magdalena Skipper, editor-in-chief of *Nature*, admits that scientists/authors are asked not to give interviews on their research work during the review process, putting them in a paradoxical situation that potentially generates flawed public versions <sup>40</sup>. With their work not reviewed and properly confirmed (i.e., still in preprint phase), researchers can share their findings through headlines published hastily throughout the planet, sometimes with oversized interpretations through the lust of sensationalism. Meanwhile, they cannot give interviews to contextualize their research during the relatively long validation process. At any rate, the communications channels plunge into a frantic hunt for the tastiest new scientific tidbits – not necessarily validated – to satiate the gluttons for confirmatory versions of their cosmologies. Outstanding journals have filled editorials with serious concerns <sup>41</sup> about the consequences of misinformation from the scientific and lay media, perhaps provoked by the vice of temptation for precedence and the press vehicles' gluttony. Academic fake news – inadvertently misleading errors – have exposed scientists to the risk of narcissistic wounds from embarrassing retractions of precipitated publications.

Mandeep R. Mehra is full professor of advanced cardiovascular medicine at Harvard Medical School and director of the Brigham Heart and Vascular Center in Boston (United States). In early May 2020, he published in the *New England Journal of Medicine* the results of an analysis on the risk of in-hospital death among cardiovascular patients infected with SARS-CoV-2 <sup>42</sup>. In late May that same year, his group published again in *The Lancet*, this time on the results from the use of the association of hydroxychloroquine and azithromycin (a macrolide antibiotic) in COVID-19 patients <sup>43</sup>. They were later forced to retract both publications – the ultimate dishonor in the academic community – due to indeterminations and flaws in the data collection and analysis, with conclusions hastily submitted for publication and uncritically accepted by reviewers <sup>44,45</sup>. The immediate consequence of the latter article was the temporary suspension of research coordinated by the WHO on the effect of hydroxychloroquine and other therapies for COVID-19. Mehra and collaborators also withdrew a preprint article that claimed the efficacy of ivermectin (an anti-helminthic drug), since the article had also been based on Surgisphere data. Both in terms of the disputes between narratives and the public health dimension, the implications of such fake news were devastating for Brazilians and the populations of Peru, Bolivia, Paraguay, Colombia, and Chile, who may have trusted in the authors' academic stature and adopted these drugs (with or without official adoption by their governments) to

control the pandemic. The articles were published while the Brazilian Ministry of Health was approving hydroxychloroquine for use in the phase of COVID-19, fueling a round of political polarization in strictly biotechnological areas. Mehra apologized publicly for his haste in publishing during the commotion of the health crisis. Nonetheless, his retraction failed to spare him from a budget cut <sup>46</sup> and his reckless haste has been described not as an inappropriate manifestation of arrogance, but as a “monumental fraud” <sup>44</sup>.

Another example of the weight of arrogance in the production of missteps involves French microbiologist Didier Raoult and his dubious “award” of the Rusty Razor, created by *The Skeptic* to spotlight the worst promoters of pseudoscience and misinformation. Raoult gained international fame with broad mediasphere space in Facebook and WhatsApp, based on his alleged “proof” of the efficacy of hydroxychloroquine to treat COVID-19. According to Michael Marshall <sup>47</sup>, editor of *The Skeptic*, “It is hard to find an example of quackery that has spread so far, influencing the public response to a deadly pandemic and creating widespread confusion across the entire globe”. In the current case of planetary COVID-19 and considering the competition that expands the terrains of clashes in the academic and political fields, there is powerful stimulus for publishing incomplete research through the imperative of precedence and the vice of arrogance.

The pandemic lasted over the course of 2020 and 2021 throughout the world, taking lives and increasing the pressure on prestigious researchers to reap the laurels of media visibility and quick dissemination of their discoveries, often prematurely. Laura Gallagher, communications director for the Imperial College of London (United Kingdom), stated that scientists consecrated by the media have their egos royally awarded by society and among their peers through more frequent citations of their articles, invitations to conferences, and more contacts and requests for collaboration <sup>48</sup>. Ester Sabino, immunologist at the Institute of Tropical Medicine of the University of São Paulo in Brazil (whose team succeeded in sequencing the coronavirus genome in record time), states that the concern with the media dates to long before the current scenario, since the urge for science dissemination is an integral part of scientific research activity. In 2016, Massarani & Peters <sup>49</sup> published a study of Brazilian researchers estimating that 67% of interviewees believe that media coverage ensures positive impact among their peers; 25% attributed ease of economic support to greater media exposure; and 38% believe that writing about a topic that interests the media can facilitate acceptance of an article by a scientific journal.

With rising temperatures in the clash between prescribers and prohibitors of chloroquine, another prominent academic stood out among the prescribers. The Brazilian immunologist/oncologist/pulmonologist Nise Hitomi Yamaguchi is director of the Advances in Medicine Institute and physician at the Hospital Albert Einstein in São Paulo, having received her undergraduate, advanced, and doctoral training at the same university as Ester Sabino. In a channel recently excluded from YouTube, Yamaguchi provided recordings on COVID-19 that emphasizing the “courage” to confront the pandemic and the central role of treatment with hydroxychloroquine and azithromycin for controlling the disease, besides defending so-called “vertical isolation” (exclusively for members of risk groups). Yamaguchi obtained wide media visibility by enthusiastically defending the early use of the combination of these drugs, although without any scientific evidence to back such convictions and in blatant opposition to the prevailing scientific common sense. Her assertiveness gave her visibility and access to meetings in Brazil’s Federal Executive branch, where she allegedly defended the modification of the package inserts for these drugs to enhance their misleading effect <sup>50</sup>. Such media exposure with dissonant perspectives garnered her the full sympathy of political groups that recommended her to replace Luiz Henrique Mandetta (former Brazilian Minister of Health). With or without her nomination, the political contamination of the scientific arena is obvious here, in which respected scientific authorities with solid methodological backgrounds are not immune to the lust of sensationalism and envy of precedence over others. In the latter case, with the attempt at adulterating the drugs’ package inserts, the terrain of deception descends into the circles of deceit.

The capital sins of these researchers may not be due exclusively to the lust for novelty which so infects news professionals and their uberized equivalents in WhatsApp. Perhaps the choice between “fast or fake” attracts them to the ethical distortions associated with vanity and envy: the pain from their neighbor’s visibility, a vice never appreciated and never confessed by the perpetrators. Lies (or deceptions) elevated to the level of political commodity generate and feed the temptations of arro-

gance or presumption through major visibility both inside and outside academia. (We use the Marxist connotation for the term “commodity”, which is quite different from its meaning according to general economic theory. Commodity and “commodification” refer to market expansion in capitalist economies to incorporate abstract elements that were not previously marketable, with a new attribution of meaning and economic value to goods, services, and even cultural elements).

## Conclusion

We live in a time of dialogical gaps between knowledges for understanding and interconnecting complex panoramas. Over the course of the COVID-19 pandemic, restrictions on vaccination and daily routines were established by authorities to the same extent as misleading artifacts of cure or deceit for consolidating politically or financially advantageous lies. A significant share of authors that address the problem of fake news work adopt a structured concept of cognitive gaps, glimpsing a field limited exclusively to the herculean clash between the truth of knowledge and ignorance of the lie. The solution to this problem would thus be limited to a Manichean dimension: the triumph of truth by neutralization of the gaps occupied by deception or error. By situating the problem in the terrain of the real and factual, closing ranks in the battles against submission to falsehood, the critical batteries pointed at the “counter-media” often miss the target. They fail to realize that such pseudo-communicative processes act not only in the field of ignorance, but also in the more embattled territories of affiliations and identify reaffirmations in the backwaters of WhatsApp and Telegram. We thus believe that there is an inherent insufficiency in the definitions of “misinformation” and its multiple vectors, perhaps because they are not distortions per se, but mere spinoffs of other vices. As recourse to interconnection and expansion of concepts and for metaphorical retraction of the genealogies involved in this process, we opted to theorize on the phenomenon through allusion to the seven capital sins.

We are surrounded by hate cultivated by lust in intolerance and greed for engagements as a new commodity generating gigantic contents, hence the gluttony for contents loaded with confirmatory biases, plus the dispute for media spotlights (and huge gains) that instill arrogance and envy. What thrives above all is sloth, as a form of communicative inaction and indolence against abandoning comfortable positions. In short, a set of interconnected vices in mutual potentiation, manifested most clearly in moments of health threats.

How can we overcome the new modalities of alienation embodied in these sins of capital? Perhaps a path to emancipation through dialogue can be built by way of linkage between communicative and educational actions. We believe that a terrain for potentially successful actions would be the field of teaching, by inclusion of the phenomena described above in the curriculum. By including such contents (which have attracted such interest and have proven so essential for public health and democracy) in learning and building citizens’ awareness in schools, we could open paths to escape these “Dark Ages” of knowledge without wisdom and discourses without dialogue.

## Contributors

P. R. Vasconcellos-Silva conceived the study and wrote and revised the text. L. D. Castiel revised the text. Both authors approved the final version of the manuscript.

## Additional informations

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## Resumo

*As crises sanitárias fazem surgir “pecados” e deformidades morais da sociedade que, embora evidentes quando despontam, pareciam antes dormentes à percepção coletiva. Por meio da metáfora dos sete pecados capitais, o texto analisa o fenômeno das fake news nas mídias sociais e no cenário da pandemia da COVID-19. A luxúria do sensacionalismo, que é viciosa pela sedução e exploração de vulnerabilidades ligadas ao medo da morte; a gula, por conteúdos de confirmação que disseminam inverdades no empenho de converter versões em fatos; a catequese do negacionismo gerando o ódio em ambientes epistêmicos restritivos; a ganância das novas tecnologias da economia da atenção pelo engajamento como nova commodity; a competição pelos holofotes da visibilidade midiática e ganhos derivados que incitam a soberba e a inveja dos pesquisadores que confundem o senso público com as fake researches – o que, em ciclo, nutrirão o sensacionalismo, gula, ódios e as ganâncias do capitalismo da atenção. Por fim, a preguiça é retratada como o vício capital dos que optam pela inação comunicativa. No conforto das bolhas renunciam ao diálogo por aversão ao dissenso, acomodando-se em posições de conforto epistêmico. Em síntese, o fenômeno das fake news na pandemia da COVID-19 é aqui retratado como a confluência de diversos vícios que se materializam como desinformação, na vacuidade comunicativa dos momentos nos quais somos obrigados a nos dirigir uns aos outros para partilhar nossas visões do mundo.*

*Comunicação em Saúde; Mídias Sociais; Internet; COVID-19; Pandemias*

## Resumen

*Las crisis sanitarias sacan a la luz “pecados” y deformidades morales de la sociedad que, aunque son evidentes cuando emergen, antes parecían latentes a la percepción colectiva. A través de la metáfora de los siete pecados capitales, el texto analiza el fenómeno de las fake news en las redes sociales y en el escenario de la pandemia del COVID-19. La lujuria del sensacionalismo que se ensaña con la seducción y la explotación de las vulnerabilidades ligadas al miedo a la muerte; la gula por los contenidos de confirmación que difunden las falsedades en el afán de convertir las versiones en hechos; el catecismo del negacionismo que genera el odio en entornos epistémicos restrictivos; la avaricia de las nuevas tecnologías de la economía de la atención por el compromiso como nueva commodity; la competencia por los focos de la visibilidad mediática y las ganancias derivadas que incitan a la soberbia, y la envidia de los investigadores que confunden el sentido público con falsas investigaciones -que, en ciclo, alimentarán el sensacionalismo, la gula, el odio y la avaricia del capitalismo de la atención. Por último, la pereza se presenta como el vicio capital de quienes optan por la inacción comunicativa. En la comodidad de sus burbujas renuncian al diálogo por aversión al dissenso, instalándose en posiciones de comodidad epistémica. En resumen, el fenómeno de las fake news en la pandemia del COVID-19 se retrata aquí como la confluencia de varios vicios que se materializan como desinformación en la vacuidad comunicativa de momentos en los que nos vemos obligados a dirigirnos unos a otros para compartir nuestras visiones del mundo.*

*Comunicación en Salud; Medios de Comunicación Sociales; Internet; COVID-19; Pandemias*

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