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The Counterproductive Side Effects of 5G: Considerations in Times of Pandemic

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Abstract

Rightly the current covid-19 pandemic is diverting public attention on another relevant phenomenon, such as imminent 5G pandemic. Actually the imminent worldwide launch of fifth generation of mobile phone risks to expose global society and ecosystems to a growing amount of side-effects of various kinds that cannot be underestimate anymore. Basic aim of this paper is to problematize, by a sociomedical point of view, the theme of counterproductive toxic implications of the uncontrolled and unlimited process of digitalization of the world, just accelerated by 5G.

Keywords: 5G; Social robotics; Medical robots; Omics

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Introduction

You have long passed the eighties, but the smart mirror gives you an image of a splendid forty year old. A mix of "biological" drugs keeps an eye on a cancer you suffer from for a long time, and now you are recovering yourself because of coronary surgery performed by a robot controlled from overseas. For this reason you are using special glasses that help to move immerging you in breathtaking landscapes. Connected wirelessly to a branded gim suit, in whose fabric is woven a net of micro sensors, the wrist smart phone keeps you informed about your health status. In fact a sudden discharge of beeps and leds heralds an arrhythmia so you need more drops of an electrodrug that a Pharma-IoT company designed just for you by crossing genomic and radiomic data. Meanwhile Robby, the humanoid nurse-caregiver-lover who assists you, has already called 118 ambulance service. At hospital, you insert ID-card into ATM on the desk, and soon a robot-porter reaches you and brings you at the office where an avatar nurse will pamper you while a automatic scanner performs echocardiography.

After the examination you withdraw from the vending machine like device the updated i-pill and a list of predictive tests to show to the next check-up.

Finally, without never meeting a flesh and blood doctor, you go home driving the S-Pod (with standard abuelometer), running in the lanes assigned to buses and unmanned taxis. All this sounds like science fiction but, at the present, devices and equipments appearing in this imaginary scene are large-scale produced.

The business about viewers for augmented (AR) and virtual reality (VR), hologram projectors, medical drones, surgeon-robots, wearable (gloves, watches, bracelet, suit, helmets, contact lens, glasses), machine-brain interfaces (neural helmets), embedded (chips), wireless systems for healthcare (eHealth, iHealth, mHealth) is really impressive [1].

Admittedly the latest generation of mobile communication networks (5G) is preparing to achieve both convergence of wireless devices and integration of the smart machines in human society [2].

Now, as technique boosts by itself and already it's beyond human control, the hypothesis that from a breeding ground in which 5G catalyzes unpredictable reactions between artificial intelligence, robotics and nanotechnology can emerge a hybrid society in which stupid humans are dominated by very skilled drones and robots, would seem quite plausible [3].

Therefore, to advert this wretch scenario it's urgent both to break the senseless technologic race and to radically change the rules of this ontologically biocide system.

The aim of the present provocative reflection is just to problematize the theme of counterproductive and regressive side-effects of uncontrolled and unlimited technologic progress, just because, in conjunction with many other catastrophic events, 5G implications could risk to accelerate social and environmental drift.

The health risks of digital pandemic (in the times of covid-19)

Casually the beginnings of “5G era” coincides with the dramatic covid-19 pandemic, that obviously is monopolizing the

media and consequentely diverting public attention from other important issues about public and environmental health, but at the sime time both events indicating more and more clearly the limits and the dangerousness of globalization.

Indeed social and health side-effects of imminent worldwide spread of 5G networks, even emphasized by policy and media, shouldn't be silenced and underestimated at all.

Likely imminent 5G pandemic will exponentially increase the exposure of humankind and ecosystems to microwaves electromagnetic fields emitted from wireless systems; that is it will worsen the already high levels of “electrosmog”.

At the same time, we image that the more and more pervasive use of smart phone and other digital devices promoted by new 5G applications, in conjunction with increasing robotization of work, will have an ever greater impact on social dynamics and social structure.

Although toxic effects of radar systems have been known since the '50s, in spite a large research documenting the health risks of ordinary use of smart phone, just in 2011 IARC classified microwave electromagnetic fields emitted by digital devices only as "possibly carcinogenic" agents, in the light of controversial data emerging from literature.

At the same time permissive ICNIRP recommendations, so far never updated compared to the most recent acquisitions, have practically allowed to TLC companies to keep growing.

In spite of remaining uncertainty about the “electrosmog”-related diseases, that it would have justified at least a moratorium on marketing of newer wireless communication technologies, the last generation of mobile phone is preparing undisturbed to colonize the world.

Now, in order to optimize the signal reception during fast travels, to get quicker and quicker ultra-HD video streaming and to make us live a more and more immersive experience in hybrid realities, TLC sector needs to proliferate indoor and outdoor antennas and offers new more and more ephemeral services [4,5].

Consequently we will have to expect both a further raise of the level of environmental electromagnetic fields background, in the meantime increased by 10^{18} times compared to fifty years ago [6], and a more and more pervasive use of smart devices.

In this way ionosphere, however involved in climate regulation, will be evenly wrapped by tightly woven of communication networks aimed to realize the “convergence” of wireless systems [7].

In addition, in order to make also “internet of thing” (IoT) successful, there is need to enlarge the operating band of electromagnetic spectrum. In essence we must expect a significant worsening of global exposure to “electrosmog” both in quantitative and qualitative terms, because of frequency of microwaves electromagnetic fields emitted from indoor and outdoor systems and devices will range from 694 megahertz to 27.5 gigahertz [8].

A part from the environmental impact, we have to consider another important collateral implication of imminent 5G pandemic (9): by accelerating the digitalization process of the world, 5G will exponentially promote the data business, that it is more and more affecting healthcare systems [10,11].

In other terms future Hi-tech medicine will have to match omics paradigm of emergent “liquid” economy, resuming by formula 3 V (volume, variety, velocity: gigabits per second; milliseconds latency time; hundreds of simultaneous contacts per surface unit) x 3 A (any day, anywhere, anytime).

But if future cities will cope better environmental pollution, wastes, traffic, parking, lighting and emergencies, and if our safety will be assured by flocks of hypersonic drones [12], we will have to resign to be submitted to the digital panopticon, and to interact with smart robots and, importantly, with more and more impersonal and standardized procedures.

In parallel the more pervasive use of smart phone and devices probably will contribute to increase the incidence of a long series of pathologies.

I resume respectively in **Tables 1 and 2** pathogenic mechanisms of microwave electromagnetic fields and of the main diseases associated with daily use of mobile phones, according to a personal review of literature dating back to 2004.

During the digital era human fetuses are massively exposed to mom's mobile phone; little children play with wireless devices; kids and adolescents grow and are educated through the screens of smart phone and tablets. From now on by 5G the millennial will no longer be able to give up wearable and server cloud applications that will literally will glue them to smart phone [13].

These likely trends impose a deep reflection on frequent irresponsible deals between business and science.

We cannot ignore that industry systematically opposes health promotion policy by sponsoring academic research, managing to hide and/or manipulate inconvenient discoveries, exploiting scientific disputes, filtering the scientific papers to be publicized, driving the guidelines issued by medical societies, and, finally, by diverting public resources from primary prevention.

Table 1 Exposure to radiofrequency/microwaves electromagnetic fields (0.5 megahertz-100 gigahertz). Pathogenetic mechanisms (Dimonte M. Elettrosmog, progresso, salute. Levante ed. 2004).

Thermal effect	Non-thermal effects
Overheating of tissues proportional to radiant energy: denaturation of macromolecules; abnormalities of HSP system	Oxidant stress and dielectric anomalies independent on photonic energy: production of free radicals; deficit of antioxidant enzymes; neuronal apoptosis; blood-barrier lesions; epigenetic dysfunctions; genotoxicity (chromatid aberrations; DNA breakages); proliferative stimulus; hyperglycemia; electrocardiographic changes

Table 2 Diseases associated to the ordinary use of mobile phone (Dimonte M. Elettrosmog, progresso, salute. Levante ed., 2004).

Brain tumors	Acoustic neuroma; gliomas; meningiomas
Cognitive deficits	Memory, attention, learning
Neurodegenerative diseases	Dementia; Parkinson's disease; amyotrophic lateral sclerosis
Sleep disturbances	
Thyroid dysfunctions	
Reproductive sphere deficits	Male sterility; abortion
Electro sensitivity syndrome (EHS)	
Fetal exposure	Prematurity; underweight newborns; childhood hyperactivity; learning deficits

And apparently about TLC sector the problem of conflict of interest seems particularly serious [14].

Missing scientific alerts, in the name and on behalf of modernization, public institutions match business needs and run to align with 4.0 schemes [15].

Just to know:

January 15, 2020.

At Deputy Chamber question-time Minister for the Development of South Italy, Giuseppe Provenzano, member of a private association of industrialists (SVIMEZ), declares that "the economic development of Basilicata Region will take place thanks to 5G implementation".

Same day.

By an interview to the daily "*La Repubblica*" (reporting the historical judgment by Appeal Court of Turin supporting the causal link between the use of mobile phone and acoustic neuroma) NHI chief researcher Roberto Polichetti diminishes the studies about the toxicity of electromagnetic fields and affirms that digital devices are safe.

February 2, 2020.

Italian Chamber of Deputies, "Media education" conference. Minister for Education, Lucia Azzolina, declares that smart phone has a relevant role in teaching; consequently she allows students to keep it on during the lessons.

The screen-induced mind regression of *Homo sapiens*

In digital era people spend a most part of their life surfing internet. They use smart phone even while walking or driving, while listening to the pleasant voice of GPS that lead toward any destination. A part from sharing everything, good or bad, social networks makes us externalize a repressed ego and affirm identity: but in a schizoid way, considering that at the same time we want to join the "swarms of all differently similar people" and to conform to prevailing fashions [16].

By matching the new needs of "liquid" contemporary society Digital also serves to enhance consumerist values and to atomize the society.

In addiction it seems as if non-cultural use of the web, visual culture, mass internet-addiction, combined to "functional stupidity" supporting McDonald-like organizations [17], contribute to spread virally around the world the disaffection for reading, the hate towards books and the difficulties for the in-depth study [18].

Paradoxically digitalization process makes more and more intelligent, cultured and collaborating the machines [19].

Importantly, several MRI brain studies reported that video-addicted persons show a marked atrophy of gray matter and neurotransmission impairments about different cognitive areas [20].

Definitely, the "online" brain would seem a regressed, simplified, miniaturized variant in comparison of *Homo sapiens* traditional analog brain [21]. Probably hyper textual/hyperlink/iconographic-based structure of websites, unceasing series of sensorial simultaneous inputs (notifications, hyperlinks, prompts, alerts), multi-tasking operation, constant fluctuation between concreteness and virtuality, coast synergistically weakening mind functions like attention, concentration, durable memorization, critical analysis of contents, ideation, and even dreamlike activity [22].

Therefore we should ask ourselves: by the extinction of pens, notebooks, newspapers and books do 5G pandemic risks to rebring *Sapiens* to 70.000 years ago and to accelerate the end of anthropogenic era? And, in which way such humankind with a childish, primordial, pictographic mind could to save the planet? [23].

A quantum-medicine for the emerging hybrid society?

A part from health effects, imminent 5G pandemic surely will accelerate the impact of digitalization on healthcare procedures making medical choices more and more impersonal and automated. If not really unmanned, managed independently by robots.

In other terms, I image that in the future hybrid society the healthcare dynamics will change drastically because of the spread of equipments, drones and robots able to freely dialogue each other and even to send each other the own enriched experience.

It could for example happen that those few lost *Medicus videns,* barricaded behind impenetrable curtains of screens, mainly devote themselves to produce growing amount of data; that whole departments and laboratories are entrusted humanoid robots and that the lanes are crowded of drones withdrawing and delivering samples and drugs [24,25]. Of course digitalization and robotization will end to "liquefy" also the doctor-patient relationship.

By datism, the Cartesian view of world reaches its apotheosis: just the patient will be “liquefied”, that is reduced in a flow of data to be quantified, manipulated and stored in clouds directly by autonomous algorithms. Eventually he can be reconverted in a 3D impalpable hologram to be comfortably sectioned by doctors elsewhere in the world [26,27].

Already now medical devices are changing look and purposes.

In imminent future by laser we will perform contactless ultrasound scans; the *neural helmets* will work to treat mental disorders, neuroendocrin diseases and even obesity; the small size portable MRI machines will allow to comfortably diagnosing brain stroke at the patients.

In addition medicine will satisfy other purposes, like contributing to panoptic surveillance because the new brain scanners will be able to detect also bed thoughts, truth or lies in suspected people: so, I image that also police and judiciary sectors will be depopulated; as well as *You Tube* is exterminating the teachers and *Kindle* and *Wikipedia* the booksellers and librarians [28].

In *Nemesi Medica* (1974) Ivan Illich lucidly prophesied that business oriented healthcare system would be destined to be more and more iatrogenic just by mean of technology, that increases the productivity sacrificing the quality. But he couldn't forecast that medicine would have even contributed to aggravate social injustice.

If industry seems more and more focusing on desires of a rich class of healthy people who wants to stay young and beautiful forever, and if it's true that currently only twenty-two people hold one-third of global richness whereas one-third of humans live on less than two dollars a day, then I'm authorized to believe that Hi-tech medicine will widen the gap between rich and poor [29].

At this point I wonder: how the medical-enhanced techno aristocracy will try to cope the universal underclass of unemployed, illiterate and poor consumers, even disinterested in the future? And which side the intermediate class of surviving workers will take and how the smart robots will be managed?

Final Considerations

In extreme essence, 5G innovation basically represents the technical process by mean of which capitalism upgrade itself: the progressive digitalization and automation of the way of production allows industry to increase efficiency and productivity and at the same time to decrease job costs.

But, we know, because of an amount of unforeseen side-effects, the uncontrolled and limitless technologic progress is exposing the whole planet to more and more unmanageable and unsustainable risks.

In other terms, in combination with other catastrophic events, imminent 5G pandemic will end to sharpen the limits and contradictions of a social order that really risks to collapse.

In the far 1867 Karl Marx expected the suicide of capitalism just because of self-referential technologic advancements.

But he could not imagine that smart phone, Amazon and social networks would have even blocked the rise of any kind of revolutionary spirit that would have accelerate the collapse of the system [30], or at least the mass internalization of an "ethics of natural entities" as Galimberti hopes it can still happens [31].

Someone suggests that to save the Planet it would simply need that humankind should decide to castrate itself (evidently thinking to the non-western people, because we western people have already for some time castrated ourselves). Perhaps it would be better to hope that Greta Thunberg persuades the students that the *green 2.0 releases*, with which capital replaces coal, gas and oil with sun, wind and nuclear fusion and the combustion engine with the electric one, cannot avoid the collapse of Heart if we don't change radically the rules of economy. And that at least on friday they will not give up internet.

References

1. Haghi M, Thurow K, Stoll R (2017) Wearable devices in medical internet of things: scientific research and commercially available devices. Healthc Inform Res 23: 4-1510.
2. Marchese M, Moheddine A, Patrone F (2019) IoT and UAV integration in 5G hybrid terrestre-aereal-satellite networks. Sensors 19: 3704.
3. Harari YN (2017) Homo Deus. Bompiani.
4. Watts J (2019) Human society under urgent threat from loss of earth's natural life. The Guardian.com.
5. Bandara P, Carpenter DO (2018) Planetary electromagnetic pollution: it is time to assess its impact. The Lancet Planetary Health 2:e512-e514.
6. Cirillo F, Wu FJ, Solmaz G, Kovacs E (2019) Embracing the future internet of things. Sensors 19:3519.
7. Bolos MNK, Al-Shorbaji M (2014) On the internet of things, smart cities and the WHO health cities. Int J Health Geogr 13: 10.
8. Simko M, Mattsson MO (2019) 5G wireless communication and health effects: A pragmatic review based on available studies regarding 6 to 100 GHz. Int J Environ Res Public Health 16: 3406.
9. Vincent JL, Creter J (2017) The hospital of tomorrow in 10 points. Critical Care 21: 93.
10. Balasingam M (2017) Drones in medicine: The rise of the machines. Int J Clin Pract 71: e12989.
11. Dimitrov DV (2016) Medical internet of things and big data in healthcare. Healthc Inform Res 22: 156-163.
12. Dinucci M (2019) L'uso militare della tecnologia 5G. Il Manifesto.
13. Nelson EC, Verhagen T, Vollevbroek-Hutten M, Noordzzij ML (2019) Is wearable technology becoming part of us? Developing a measurement scale for wearable technology embodiment. JMIR Mhealth Uhealth 7: e12771.
14. Li D (2019) 5G and intelligence medicine-how the next generation of wireless technology will recostruct healthcare? Precis Clin Med 2: 205-208.
15. Lastrucci V, Racalbuto E, Caldes Pinilla MJ (2019) Le interferenza dell'industria del tabacco nelle politiche per la salute: story telling e strategie di azione. Sistema Salute 63:263-283.

16. Investigative Europe (2019) Radiation authorities rely on controversial groups for safety advice. www.investigateeurope.eu/publications/howmuchissafe.

17. Baumann Z (2007) Modus Vivendi: Inferno e utopia del mondo liquid. Laterza ed.

18. Alvesson M, Spicer A (2017) Il paradosso della stupidità: Il potere e le trappole della stupidità nel mondo del lavoro. Cortina R. ed.

19. Vagvolgyi R (2016) A review about functional illiteracy: definition, cognitive, linguistic and numerical aspects. Front Psychol 7: 1617.

20. Carr N (2011) Internet ci rende stupidi? Cortina R ed.

21. Takeuchi H, Taki Y, Asano K (2018) Impact of frequency of internet use on development of brain structures and verbal intelligence: longitudinal analyses. Hum Brain Mapp 39: 4471-4479.

22. Ricci RV, Ferrantini L (2017) La dipendenza da internet: una nuova dipendenza o una condizione sociale diffusa? Sistema Salute 61: 11-31.

23. Simone R (2006) La terza fase. Economic Laterza: The Third Phase.

24. Duran-Vega LA, Santana PC, Buenrostro R (2019) An IoT System for remote health monitoring in elderly adults through wearable device and mobile application. Geriatrics (Basel) 4: 34.

25. Ozdemir V (2018) The dark side of the moon: the internet of things, industry 4.0 and the quantified planet. OMICS 22: 10.

26. Aerts HJW (2018) Data science in Radiology: a path forward. Clin Cancer Res 1: 24.

27. Mishra S (2017) Hologram the future of medicine: From star wars to clinical imaging. Indian Heart J 69:566-567.

28. Muscogiuri G, Chiesa M, Trotta M (2020) Performance of a deep learning algorithm for the evaluation of CAD-RADS classification with CCTA. Atherosclerosis 294: 25-32.

29. Amato R (2020) Il rapporto Oxfam. La Repubblica: 20 Gennaio.

30. New Economics Foundation: Changing the rules www.nef.org.

31. Galimberti U (2019) Possiamo ancora salvare la Terra? D la Repubblica P: 162.