06 DIGITALIZED NUTRITION OR PERSONALIZED MALNUTRITION?

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1   Digital natives are those generations born and raised with digital technology, whilst digital immigrants have adopted these technologies later in life. Similarly, Prensky differentiates between "legacy" content – which includes "reading, writing, arithmetic, logical thinking" – and "future" content, which is "digital and technological", such as software, hardware, robotics, as well as ethics and languages. Prensky, Marc. «Digital Natives, Digital Immigrants». *On the Horizon*. 9:5 (2001). Available at: www.csm4cfs.org/wp-content/uploads/2016/02/CSM-WG-Nutrition-Driving-Ideas-13-Jan.pdf.

2   Oxfam. "An Economy for the 99%". *Briefing Paper* (2017). Available at: www.oxfam.org/economy-99.

3   FAO. *The State of Food Security and Nutrition in the World.* Rome: FAO, 2017.

Over the last few decades, the technological and digital revolution has been generating social change at a rapid pace. In 2001, Professor Marc Prensky was already talking of two categories of human beings, depending on their relationship to technology: digital natives and digital immigrants.[1] These categorizations, now widespread, shed light on the central role played by digital technologies today.

It is undeniable that technological advances in communication over the last decades have culminated in unprecedented accessibility. Nevertheless, as we now turn our attention to the global panorama of the last two decades, it will become apparent that there are many parallel developments worth noting. Firstly, the inequality gap between the richest and those living in the utmost poverty has widened. Since 2015, 1% of the world's population owns more wealth than the remaining 99%.[2] Secondly, in 2016, after three years of decline, the number of malnourished people in the world rose up to 815 million,[3] 38 million more than in 2015. Thirdly, the earth has become urban, and, in 2015, 244 million people (1 in 30) emigrated from their countries of origin as a result of conflict, persecution, environmental degradation

and lack of opportunities, among other issues.[4] Thus, one can speculate that the advance in technology has neither resulted in a decrease of malnourished persons, nor has it improved the distribution of wealth, or access to better livelihoods. It is for these reasons that questions need asking as to what type of innovations and technological applications are being promoted in the food and nutrition arena, and how these correspond to existing approaches.

Currently, although the human right to adequate food and nutrition is present in the *discourse* of several institutions, including the United Nations, in *practice*, the inclusion of the nutritional dimension of the right to food is addressed in a skewed and imprecise manner. Meanwhile, organized civil society proposes a more holistic vision of nutrition linked to the right to food, from an all-encompassing perspective that goes from the seed to the plate,[5] and that defies the medicalized and nutrition-istic visions, which are so closely bound to corporate power.[6]

THE MEDICALIZATION AND COMMERCIALIZATION OF NUTRITION

Historically, nutrition, as a form of food-related workable knowledge, has developed in a controversial and complex manner. For example, during the first half of the 20th century, nutrition – within the framework of medical practices – was used for state control and as a weapon to repress social protests. This can be seen in the hunger strikes that were employed as a strategy for asserting political demands, protests and claims for freedom.[7] After World War II, the need for European reconstruction meant that nutrition as a practice took on a different hue, moving towards a social approach. The main concern was what to do to ensure that society did not go hungry – there was a shift towards analyzing the determining factors of hunger, partly leaving to one side the idea that hunger was exclusively the responsibility and fault the hungry.

Nonetheless, the approach continues to be centered on the study of diets and on a thermo-dynamic vision of nutrition, which equates the body – which needs to be fed – to a machine. Some institutions' position on nutrition therefore continues to revolve around the technical aspects of nutrition – that of consumed energy and food components (macronutrients, micronutrients), leading them to focus on the final product's properties. Hence, food is viewed as a commodity or a consumable product, rather than as part of the commons, and no attempt has been made to try and understand all of the steps that make up the food process.

The aforementioned approach corresponds to a fragmented and individualist vision of nutrition that lacks a human rights perspective. First of all, it views people as consumers and not as rights holders.[8] Secondly, the consumer shoulders the responsibility of any harm that can come from eating and nourishing themselves, rather than the duty bearer, i.e. the state. This implies that consumers are responsible for their own nutrition, while the corporate sector concentrates new technologies for control and 'improvement' of food, based solely on the consumers' decisions and eating habits. Thirdly, this reductionist vision of nutrition concentrates on individual consumer behavior and builds upon the premise that dietary decisions are made in a vacuum and can be perfected via the use of technologies, without acknowledging the political, economic and socio-cultural factors that condition the way we eat.

4   International Organization for Migration (IOM). *World Migration Report*. Geneva: IOM, 2018. Available at: www.iom.int/wmr/world-migration-report-2018.

5   "It is our common understanding that food is the expression of values, cultures, social relations and people's self-determination, and that the act of feeding oneself and others embodies our sovereignty, ownership and empowerment." Food Security and Nutrition Civil Society Mechanism (CSM). "Preliminary Vision on Nutrition". (2015). Available at: www.csm4cfs.org/wp-content/uploads/2016/02/CSM-WG-Nutrition-Driving-Ideas-13-Jan.pdf.

6   For more information, please see: Rundall, Patti. "The 'Business of Malnutrition': The Perfect Public Relations Cover for Big Food". *Right to Food and Nutrition Watch* (2015): 26.

7   One case in point is the British empire, as it fought to scientifically and morally delegitimize both the suffragettes' and Ghandi's hunger strikes. In the former case, women were force fed by means of torture under the supervision of a doctor. Vernon, James. *El hambre. Una historia moderna.* Universitat de València. 2011. PP. 92–97; BBC History Magazine. "Cat and mouse: force feeding the suffragettes". *BBC History Extra*, June 2009. Available at: www.historyextra.com/period/edwardian/cat-and-mouse-force-feeding-the-suffragettes/.

8   For more information, please see: FIAN Colombia. *Perspectivas sobre derecho a la alimentación y nutrición adecuadas.* 2018. PP. 32–33.

DATA ON WHAT WE EAT

Technological advances and access to digital media could indeed be an ally in the fight against malnutrition,[9] but for this to happen, a human rights-based approach would be needed. Nowadays, the most accessible technology can be found via apps on mobile phones and other devices, which provide an instant gateway to a wealth of information and entertainment. If nutritional betterment were the goal, then that same information could be used, for instance, to promote local economies, put producers in touch with consumers, support food cultures, highlight the (unequal) role played by women in food production, to name but a few of the food-related areas that could be supported and developed in a positive manner.[10] Yet, the overall reality we face today is that these devices have become a source of information to enhance and enrich specific markets that peasant producers – whose food is actually more nutritious[11] – do not have access to.

In this context, consumers have become yet another target to the service of food corporations, whose data-gathering mechanisms employ algorithms that categorize customers and generate personalized offers.[12] The main question, however, is: what criteria are applied? Where does nutrition fit in? What type of products are being targeted and promoted for increased consumption? And to this purpose, what persuasion mechanisms are used?

This focus on personalization is not limited to corporations; it can also be transferred to other food-related areas. For example, at the World Economic Forum, genetic analysis for personalized nutrition was discussed.[13] This area consists of analyzing DNA in order to predict the reactions to certain nutrients. Samples are sent to an entity, which processes genetic data and sends a 'personalized' diet plan to the 'user' via a mobile app. Not only is this proposal not accessible to all, it also strengthens a totally individualistic and fragmented approach that is detached from and at odds with the environment. Persons are treated as a total sum of molecules, without taking into account their social, cultural and economic variables. What's more, those who own these technologies are feeding information into important databases on the human genome and eating habits.

A 'MALNUTRITION' APPROACH

This individualizing reductionism is also mirrored in the decontextualized encouragement of physical activity, which the corporate sector exploits to make more profit. In fact, large corporations promote ultra-processed products (junk food), with no state control, whilst simultaneously expounding that the problem lies not in eating them, but rather that people are not doing enough exercise to counter their ill effects. Following this line of thought, the individual ultimately is responsible or held guilty for their lifestyle and eating habits and of course, corporations use this to further promote technological solutions. For example, in Colombia, a powerful multinational promotes the use of electronic bracelets that, once placed on children, attempt to control their physical activity, and track their location and movements in real time. [14] They claim that they can exhaustively measure their exercise and then incentivize them to adopt healthier habits. This information bequeaths the data owners with great power, and once again reduces the causes of malnutrition to a single circumstance: in this case, the lack of physical activity.

All the above, far from questioning the current model or seeking to overhaul it, results in the victimization of those most affected by malnutrition. Instead, they are used as commercialized sources for multiple data or as consumers of new products,

including technological ones. The main objective here is one of economic profitability, rather than improved access to nutritious food, going from retail outlets, as mentioned above, to public policies on food aid distribution.

In this respect, some countries such as Uruguay are designing public food aid policies in collaboration with large distribution chains. Instead of distributing basic food baskets, these programs provide electronic cards that can be used to purchase good in their stores. One of the arguments for implementing this initiative is that the card helps avoid social stigma and enables users to access food items in a 'normalized' environment. These cards, however, undeniably provide a significant source of data. Certainly, the information could feed into campaigns for better diets,[15] but it can also be utilized to evaluate what is being bought with public money, and, according to consumption patterns, decide whether particular groups of people 'deserve' to receive it. In some forums, there are already suggestions that people suffering from obesity and/or smokers be denied public health assistance, seeing as their 'bad habits', so it is said, have negative repercussions on a country's economy.[16]

CONCLUSION

Ongoing technological advances could be useful in improving nutrition, but this will not be the case if they are not made within a wider, systemic, and holistic vision, premised on human rights. At the moment, we can conclude that the proposals described in this article are instead geared towards increasing profit, corporate concentration and social control. They do not propose comprehensive solutions to address the root causes of malnutrition.

We need initiatives that are underpinned by other values; in other words, a broader outlook that prioritizes human rights, peoples' sovereignty and health, and most importantly, initiatives that link food to nutrition and social justice.[17]

Public policies that support and visibilize technologies and peoples' knowledge from different territories are essential: People who have labored towards sowing, harvesting and preserving food in all of its diversity, and continue to produce nutritious food today.

Clearly, big challenges lie ahead: technologies should be at the service of everyone's access to nutritious food. Not only do we need to refute the homogenization of diets and the harmful consequences on people's health, and nature as a whole, we also demand technologies and policies that recognize the need to withstand climate change and challenge the medicalization of malnutrition.

15 For example, in 2002 and 2003, in Montevideo, the Centre for Child Nutrition Studies (Centro de Estudios sobre Nutrición Infantil, CESNI) carried out a study based on debit cards that had been distributed in a low-income neighborhood of Montevideo, and the objective was to evaluate its inhabitants' eating habits.

16 In 2016, the EU and the European Institute for Science, Media and Democracy (EISMD), made up 25 universities and companies (such as Bayer and Google), launched an initiative to survey citizens' opinions regarding the extent to which certain consumers were guilty of some illnesses, questioning thus their access to public health services. For more information, please visit: www.eismd.eu/citizen-engagement-and-media-campaign-on-chronic-diseases-analysis-and-results-of-the-launch-of-the-beta-version-of-reisearch; El Pais, "Un puente entre ciudadanos, investigadores y políticas en salud". April 27, 2016. Available in Spanish at: el-pais.com/elpais/2016/02/15/ciencia/1455552066_091496.html.

17 For more information on related recommendations, please see: Valente Schiek, Flavio Luiz. "The Corporate Capture Of Food And Nutrition Governance: A Threat To Human Rights And Peoples' Sovereignty". Right to Food and Nutrition Watch (2015): 15-20. Available at: www.righttofoodandnutrition.org.

IN BRIEF

Over the last few years, society has experienced considerable technological advances, which have led to improvements in some fields. In an era in which society is categorized by its relationship to the digital world (digital natives and immigrants), the same cannot be said for advances in the field of the right to adequate food and nutrition. This article presents examples of how some actors use technology to emphasize a reductionist vision and to strengthen the view that malnutrition is caused solely by dietary components and consumer behavior, without taking into account a series of factors that influence which products make it to the plate. And all this, whilst civil society organizations encourage a broad and holistic vision of nutrition. Proposals such as personalized diets based on DNA sequencing, electronic bracelets to monitor children's physical activity, and digital cards for access to food aid, have all turned persons – rights holders – into market-geared objects. Moreover, the real causes of malnutrition are still not being addressed. To counteract these outlooks, alternatives that see technology as an ally are urgently needed, thereby rendering more nutritional systems visible and generating ties to preserve and strengthen them. This is undoubtedly the challenge that lies ahead over the next few years.

KEY CONCEPTS

→ Technological advances have deepened inequality and malnutrition. They are at the service of profit, not human rights.

→ Two approaches to address malnutrition: a holistic, systemic approach vs. a reductionist, corporate approach.

→ Consumers as market-geared objects.

→ Human rights and rights holders, given the commodification of bodies.

KEY WORDS

→ Consumers
→ Nutrition
→ Health