

Francesco Biondo / Gevisa La Rocca /
Viviana Trapani (eds.)

Information Disorder

Learning to Recognize Fake News

FAKE
NEWS



PETER LANG

Francesco Biondo / Gevisa La Rocca / Viviana Trapani (eds.)

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The Fake News project was developed as a social project to suggest an idea of a plural, open, and dialectical society. One product of social action is public opinion, which directly and indirectly influences policy decisions, including those concerning the control and prospects of social innovation, thus exerting pressure on any kind of democratic regime. Disinformation hinders the free process of public opinion building by using various means to negatively influence public opinion with the effect of widening the chasm between decision-making power and active citizenry, who in turn needs to be properly informed to usefully contribute to achieving publicly shared goals in a transparent manner.

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Preface

by Ferdinando Trapani¹

The Smart Specialisation Strategy (RIS3), namely the national or regional innovation strategies for smart, sustainable and inclusive growth in the European Union, co-funded by the European Commission, with the general objective of concentrating European resources on emerging technology areas that can be developed in the region by focusing on building local knowledge rather than transferring external technological resources.

The Sicily Region, with the ERDF Operational Programme 2014–2020, Action 1.1.5 for “Support for the technological advancement of companies through the financing of pilot lines and early product validation and large-scale demonstration actions”, has selected the Fake News project in the effort to support the technological development of tools to control information exchange on the Web to counter the phenomenon of disinformation.

The “Fake News” initiative was implemented by the University of Palermo as a partner in support of the lead partner It.Hub/Blasting News (Milan-Lugano) and was generally articulated in six different phases. The partners were involved in different ways: the university for expertise in the humanities (sociology of communication, law and information design) and the lead partner for advanced technology (ICT). This publication is part of the dissemination of the project and is in many ways its conclusion in terms of the outcome of the academic research carried out by Sicilian faculty with the contribution of other scholars who participated in the project and supported it in terms of transdisciplinary critical analysis.

The Fake News project was developed as a social project to suggest an idea of a plural, open, and dialectical society. One product of social action is public opinion, which directly and indirectly influences policy decisions, including those concerning the control and prospects of social innovation, thus exerting pressure on any kind of democratic regime. In non-democratic regimes, public opinion is strongly influenced by the ruling power. Disinformation hinders the free process of public opinion building by using various means to negatively influence public opinion with the effect of widening the chasm between decision-making power and active citizenry, who in turn needs to be properly

1 Scientific responsible of the Fake News project, Department of Architecture, University of Palermo.

informed in order to usefully contribute to achieving publicly shared goals in a transparent manner.

The volume is divided into four parts that in some ways reflect the cognitive path that the project followed: from technological (ICT) to social instances, reflections highlighting the impact of disinformation on law and the safeguarding of public information to considerations on the implications for visual communication, architecture and urban planning.

Based on these studies, we believe it is possible to open a new field of study in which social studies can find a way to engage with other crucial disciplines to build connections between society, justice and quality of communication in the transformation of the places and spaces of the physical and virtual city.

Part IV Information and Misinformation Design

Anna Catania

Packaging and plastic are synonymous with waste: But is that really the case?

Abstract: The paper presents the value of packaging and misconceptions about plastic. In addition to shedding light on clichés and fake news about plastic and packaging, it outlines opportunities to consider the use and management of packaging for responsible waste collection; and new forms of consumption and supply chains to facilitate the transition from the current linear consumption model to one that is more responsible and open to a circular economy.

Keywords: Fake news, packaging, plastic, waste, LCA, circular economy

Introduction

For nearly a decade, packaging and plastic have been known to the public for the damage they cause to the environment and the side effects that also affect human health.

That is why the combination of packaging and plastic is now targeted by a smear campaign that perhaps does not take into account what the real problem is, thus resulting in the demonization of anything made with plastic. It is before everyone's eyes that there is a packaging and plastic problem, and everything and the opposite of everything has been said about it, but do we really know what we are criticising?

Do we really know what the advantages and disadvantages of using plastic and packaging are?

Plastic, before being considered a major cause of environmental pollution, was celebrated for its flexibility and strength, its lightness, and its thermal and electrical properties. So much so that since the 1960s, production has increased resulting in the development of new products that have changed everyday life with applications from the most traditional to the most innovative sectors: it has replaced the material (often metal alloys) of various household products with innovative lighter tools, in the medical field it has enabled the development of life-saving devices, it has made cars and airplanes lighter, microchips and laptops are made with it as well as innovative packaging that allow us to protect, distribute and preserve even the organoleptic characteristics of a food product. And it is precisely with regard to packaging that there is an increased interest in the

media. There are two reasons for this: one is the consequence of its use to make storage, protection, and logistics more efficient, and the other is related to the management of its end of life. Packaging, though often short-lived, is critical to protect the quality of food, our health, and at its end of life, if managed well, it becomes a new material (secondary raw material) to be used for new objects. At this point, which way to go to evaluate the role of packaging? How to make an informed choice about whether to buy a product with or without packaging? To this end, the first thing to do is to highlight and make people understand the role that packaging plays in the life cycle of products and in our lives. Packaging will have to be considered for the services it offers us and for those that, if it is recycled or reused, it can assure us because only then will it no longer be considered as waste. To nurture this responsible relationship between packaging and the environment, it is crucial for it to be increasingly designed not as a single unit but embedded within a system where the role of the relationship between content and container is also considered. Instead, often times the waste prevention strategy chosen is the reduction or removal of packaging, without considering though the consequences. Are we sure this is right?

When designing packaging, it is crucial to strike the right balance and to know how to assess well between overpackaging, which causes significant impacts, and underpackaging, which is the source of greater impacts. This justifies the presence of responsible packaging especially for perishable agri-food products. FAO too indicates packaging as critical to reducing waste in the food supply chain (FAO, 2011). In spite of these guidelines on the use of packaging and plastic in food packaging, some opinions have become increasingly widespread: plastic pollutes the environment and must be replaced, plastic should be used less because it creates problems in disposal, plastic is the cause of waste and must therefore be replaced with paper and degradable materials. As mentioned above, these beliefs, based solely on mere rumours and fake news, blame plastics as being the one and only cause for environmental problems.

In the light of these allegations, the response from companies has been to change the information about environmental activities they communicate to consumers to appear responsible and greener, instead of implementing appropriate strategies. This phenomenon is called greenwashing, that is, covering up poor environmental performance with positive communication about the environment by a company (Delmas, Burbano, 2011). So, how can consumers be sure that the product they are buying is environmentally friendly?

The first and most important thing to do is to distinguish reliable information from hearsay, that is, to educate end consumers to consider only information that is supported by a serious assessment of environmental benefits through

a Life Cycle Assessment (LCA). LCA is the tool for measuring environmental impacts by which any design choice, starting with the material, is assessed in terms of its environmental impact throughout the product life cycle (Consoli et al., 1993).

In the light of these considerations, we present ways to debunk some biases dictated more by gut feeling than by scientific studies that unwittingly lead us to erroneous conclusions. Case studies based on LCA analysis are proposed to understand, based on scientific evidence, the impacts that various materials have on the environment. Finally, we aim to help people understand, with examples, how the waste problem cannot be solved by an alternative material to plastic alone but requires new supply chains and consumption patterns with lifestyles different from those still designed for a linear economy.

How useful is it to replace plastic with another material?

Replacing plastics with other materials without changing the consumption and use model of products risks shifting environmental impacts from one resource to another. However, this is what companies have been proposing for a few years now. Why?

First of all, for a company, replacing a material in packaging is preferable to decreasing or eliminating it because there is no need to study the product, packaging and consequently production processes and distribution all over again. This change of materials is almost always from plastic to a bioplastic and is almost never supported with data from a Life Cycle Assessment so that end consumers can assess the concrete environmental benefits. This is an apparent expedient of companies that often gives rise to additional problems. It should be borne in mind that a biodegradable plastic is not always compostable. It is not enough to say that a product is biodegradable, but it is necessary to inform how it should be disposed of and whether it is compostable. Consumers should be given clear information on biodegradable and compostable plastics used for packaging and how they should be properly disposed of. There is so much confusion and disinformation in this regard: compostable packaging and biodegradable packaging are not the same thing. Compostability is a well-defined property that is tested and evaluated according to tests and standards (UNI EN 13432). The compostability process takes place under controlled conditions of aeration and at high temperatures. Compostable packaging should not be left in the environment and should be disposed of in wet waste. Packaging marked as biodegradable should not be disposed of in the environment or wet waste but in the non-recyclable waste because biodegradable does not also mean compostable.

Biodegradability is a very complex process that depends on both the material to be disposed of and the conditions in which it is found (soil, water, presence of microorganisms, etc.).

In conclusion, the findings of two research studies can help us understand the ineffectiveness of replacing plastic with another material to solve the environmental pollution problem. The first is an Imperial College London study titled “Examining Material Evidence: the Carbon Fingerprint”, which compared the life cycle of different types of packaging made of different materials (paper, glass, aluminium, and steel) and found that replacing plastic with an alternative in packaging does not produce a lower environmental impact in terms of green house gas emissions (Voulvoulis et al., 2019). The second is a research study by the Danish Environmental Protection Agency¹, which compared the impact of shopping bags of different materials (PET polypropylene, paper, cotton, biopolymers), evaluating resource use, and toxicity. For the end of life, it considered: incineration, recycling, and reuse of a trash bag before final disposal. It found that the most sustainable grocery bags are those made of low-density polyethylene (LDPE) followed by paper and biopolymer bags (Bisinella et al., 2018). These scientific studies draw the conclusion that the problem with plastic is not plastic at all, but its management, and focusing on replacing materials in response to an aversion to plastic accomplishes nothing. Perhaps it is more appropriate to start thinking about how useful a disposable product really can be, or whether other solutions can be found to meet this need, new solutions that lead to environmental and even economic benefits. One alternative to single-use packaging is reusable packaging, which is beginning to develop new business models. Some companies are proposing new consumption systems, urging consumers to reuse containers in order to prevent and reduce waste generated by packaging. Therefore, new reuse systems for the sale of consumer products adopt a strategy that works no longer on recycling but on another R of the European waste hierarchy², prevent containers from becoming waste, and take up the concept that the best waste is waste that is not produced. Through these new approaches based on reusing, sharing, and extending the life cycle of products, we can develop solutions that provide environmental and economic benefits

1 The Danish Environmental Protection Agency / Life Cycle Assessment of grocery carrier bags, 2018.

2 The waste hierarchy sets out the order of priority and is contained in the Waste Framework Directive (*directive 2008/98/EC*) that establishes regulations and policies for waste treatment in the European Union. The priorities in waste management are: prevention, reuse, recycling, other recovery (e.g., energy), and disposal.

over the current system. This is presented in a 2019 study *Reuse: rethinking packaging* by the Ellen MacArthur Foundation³. The study highlighted the economic benefits associated with reuse systems from streamlining operations to building consumer loyalty through deposit systems as well. Prominent among the various cases of reusable packaging on the market is the Loop project, which combines zero waste and a variety of branded products.

The Loop project is a platform for reusable packaging designed by the U.S.-based company TerraCycle⁴ that involved many international brands and convinced them to develop new containers compatible with this model. The new containers are made of glass, steel or plastic and designed to be reused and entirely recycled at the end of their useful life. On the first purchase, a consumer pays a deposit, which will be refunded each time they return the packaging. There are various ways in which consumers can return the products: if they purchased the products at a store with a Loop department, they will bring the containers back to the store and get the deposit back. Loop will then pick up the containers to sterilise them and put them back into circulation. For online purchase, nothing changes: Loop provides a bag where empty containers can be collected and then picked up. Loop sells packaging as a service, which brings not only a benefit to waste elimination, but also redesigns packaging, which with the help of design regains its own identity. Therefore, the success of this service is certainly also related to the new packaging that design has managed to transform into specific products for each content and therefore worthy of special attention, thus encouraging reuse. Designing packaging that will last and be reused hundreds of times will not be enough to solve the waste problem, but it succeeds in giving design an extra boost and making a new step toward a circular economy.

Can we do without packaging?

Many consumers probably wonder what is the point of the plastic film that often covers vegetables. It is not yet another example of waste of plastic and it has its own utility. The use of plastic film is important for those vegetables that have a very high respiration rate and once they are cut from the plant, they no longer

3 The Ellen MacArthur Foundation is a charity, established in 2010, that works to spread the Circular Economy.

4 TerraCycle is a U.S. company based in Trenton, New Jersey, started in 2001 by Tom Szaky. From a start-up focused on some alternative recycling practices, it has become a model of eco-capitalism, demonstrating how it is possible to be profitable thanks to sustainability.

have a supply of water and nutrients, and begin to consume what they have inside them.

To extend the useful life of some vegetables, efforts are being made to reduce the rate at which they breathe by taking oxygen from the atmosphere. That is why fruits and vegetables are often sold covered with a transparent film. One of these is broccoli for its very high respiration rate. Tests have shown that five days after harvest a broccoli kept at room temperature has a decrease in quality. By packaging it instead in plastic film, it is good for up to twenty days with almost no reduction in quality, remaining green and even good for cooking for many more days. (Esturk, Ayhan, Gokkurt, 2014).

Thanks to plastic packaging, oxygen and carbon dioxide can be released by those vegetables that have a fast metabolism. The plastic film for this type of packaging, sometimes with micro-perforations, is one of the most technological materials that performs an additional function besides the structural one, turning into active packaging to extend the useful life of food. Some types of active packaging allow the regulated passage of gases, others contain substances that absorb oxygen or ethylene, which is a gas released by the vegetables that accelerates ripening (Lucera et al., 2011).

In packaging, the protective plastic film succeeds in avoiding potentially greater waste, which is not only food waste, but also involves the water, fertilizer, and energy required to plough, harvest, package, and distribute the product. At this point, we should perhaps ask ourselves whether it is right to talk about “Plastic free” and demonise plastic just because it is plastic.

Conclusions

Without packaging and plastics, we could not solve some of the daily problems and needs surrounding the protection of certain agri-food products, but we definitely need to take responsibility and keep them out of the current linear economy. This way, packaging and plastics can achieve the value that must take into account both the benefits derived from their performance, which guarantee the end user, and continue to produce value even after it becomes waste. The solution to the generation of their waste is that plastic and consequently plastic packaging must be disposed of properly to allow their reuse, recycling or composting. However, recycling packaging, despite being preferable to various disposal options, is not enough when talking about the green transition. We cannot help but think about eliminating products with a short life span and redesigning new solutions and processes instead. New reuse, sharing and rental systems to improve the sustainability of today's consumption models can

contribute to reducing waste and pollution. Therefore, the target should be to shift, thanks to the contribution of design, to new prevention and reuse strategies, including from paying to use a product to paying for the use of the service of that packaging, taking into consideration the entire supply chain and all the players according to a model that follows the circular economy.

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