

Distrusting Science on Communication Platforms: Socio-anthropological Aspects of the Science-Society Dialectic within a Phytosanitary Emergency

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Abstract

The work aims to investigate the conspiracy-like and pseudo-scientific beliefs arose in Salento during a spread of a plant disease that affected olive tree crops known as "OQDS" and, more generally, tries to analyze through a socio-anthropological perspective the communication biases into the dialectical relationship between scientific research and general public and how social media platforms act like a conceptual container for pseudo-scientific belief and distrust sentiments toward science research.

Keywords: Pseudo-science, Conspiracy Theory, Cultural Identity, Cultural Analysis of Social Media, Social Media as Social Sensor

1. Introduction

This case study takes place in Salento, a peninsula located in the south-east part of Italy. This region is crowded with 20,000,000 olive trees. More than 60% of this "peninsula inside a peninsula" is covered by these ancient fruit trees, like sculptures that time and nature have forged during the centuries.

As often happens, some ecological elements belonging to the domain of nature are charged with deep cultural and symbolic meanings. That is the case of the olive tree in Salento.

In this ecological and semantic context, the olive tree is not just a plant and it is not just an important source of revenue in the center of the traditional food production of the region. Here, olive tree crops are also a part of the human-made panorama, a useful compass to navigate into the aesthetic landscape, a statement of cultural identity and cultural integrity.

It is not surprising that the reactions following the decision to eradicate the infected trees as necessary and functional solution to halt the spread of the bacterium "Xylella Fastidiosa" believed to be the cause of the olive quick decline syndrome (OQDS) and responsible

for the death of some olive trees has been particularly hated by the public opinion.

The phenomenon started to appear in the hinterland of Gallipoli, the western part of the Salento peninsula, during the late 2008. Since then, outbreaks of this highly virulent plant disease were reported on several olive trees in the Salento aggravated by the particular mild climatic conditions of the winter 2013-2014. From then on, scientific research did anything possible to tackle the spread of this plague, but the scientific process, like other human matters, is not instant and straightaway as it takes time.

The sudden awareness of the perceived disaster, together with the widespread belief that it was all a staged sham concocted by unknown and high powers, allowed this discourse on the phenomenon to find a privileged place on social media platforms, causing conspiracy-like and pseudo-scientific distortion of the actual reality of the situation, with consequences that impacted even outside of the social media informative sphere.

2. OQDS and Online Social Networks

The mistrust and the general suspicion toward scientific research institutions linked to the diffusion of this plant disease reached its peak in March 2015 when Sabina Guzzanti, an Italian satirical comedian wrote on her Facebook page about the "strange correlation" in the explanation of this plant disease (Fig.1).

The famous television personality, in her post, argued that "Xylella Fastidiosa" was nothing more than a clever fabrication, beginning to connect various causes that could have been behind the spread of the "fake" pathogen. She immediately refers to the American multinational agro-chemical and agricultural biotechnology corporation Monsanto as the main culprit.

Her belief is that the bacterium "Xylella fastidiosa" has been created in a laboratory by the same American company with the aim of selling insecticides and, as a

last resort, to sell GMOs olive trees immune to the bacterium.

The post suggest that the actual name of the pathogen “Xylella” was actually the anagram of “Allelyx”, a Brazilian multinational belonging to Monsanto guilty of having created the bacterium in laboratory, all with the blessing and cooperation of the Italian and Salentinian scientific research institutes.

This dystopian-sci-fi-like scenario evoked in the before mentioned Facebook post, is considered to be a crucial starting point for analyzing how the pseudo-scientific and anti-scientific beliefs started and became widespread in Salento.



Fig. 1 Sabina Guzzanti's Facebook Post.

With almost twenty thousand “likes” and more than fifty-five thousand shares, the idea of a malevolent intention ahead of the diffusion of this plant pathology spreads among Facebook users and, at a local level, it resulted in a general suspicion towards the work of scientific institutions engaged in the study of the bacterium and the grounds of olive tree desiccation.

This malicious association and suspicion became established due to the presence of two different plains of discourse concerning the particular socio-anthropological context of Salento and the peculiarities of the social medium in which these discourses take place.

The first one is the mythologizing exaltation of local identity within the peculiarity of the local cultural heritage and its public narratives. The rural origins in the identity-making discourse in this region is a very important matter. An idea carried out mainly by local music performer and cultural media (which find a privileged place on the most popular social media platforms) which have over time idealized and

transformed the meaning of representation taking it from a mere geographical belonging to a more comprehensive, pervasive and masterfully defined cultural identity. An additional factor to be considered is that this reinvention and revival of local cultural peculiarities have become over the years an integral part of the tourist targeting. The Salento peninsula “touristic package” in fact provides for the simultaneous presence of elements of cultural authenticities (such as the “*Tarantism*” folklore phenomenon and the “*Pizzica*” folk dance) (Pizza, 2015), along with natural-ecological authenticities (such as olive trees). In such romantically portrayed idea of wholeness of nature and culture, as closely related to one another, the perceived danger of losing the most significant representing symbolic element, the olive tree, in a land full of identity exaltation tied to the idea of unspoiled nature, is obviously seen as a disaster of epic proportions. In addition, recent revisionist drifts about the historical process of “Risorgimento”, the Italian political unification process, have brought forward an idea of a supposed hidden quasi-enslavement project carried out by the neo-industrial northern region against the still rural south.

It seems superfluous to mention that such ideas have also gained popularity in some local socio-cultural circles that meet on social media platforms, transmitting and instilling an idea of the bacterium Xylella Fastidiosa as a biological weapon of economic domination.

The second aspect to be considered in the public misunderstanding of the role, as well as the aims of scientific research in the case of olive quick decline syndrome in Salento, is the unique social media behavior of “local” conspiracy theorist and their pseudo-scientific approach observed. The same social subjects that showed more distrust and suspicions regarding the causes of this plant pathology are usually pseudoscientific and conspiracy-like Facebook pages and groups members. Themes like the preservation of the authenticity of nature from the presumed dangers of modern biotechnologies are central to this view and, in this case, the threatening scientific work as the executive arm of corporations and a higher political power.

During the research we noticed that the users engaged in the debate about the causes of olive tree decline syndrome tent also to be, through their Facebook activity, leaned towards other pseudoscientific and conspiracy-like themes, for example the skepticism about GMOs, climate change denialism, “chemtrails conspiracy” up to the “Illuminati conspiracy”.

The particular behavior on social media platforms like Facebook of these subjects, prone to a brisk production of useful material to analyze from a socio-

anthropological point of view, makes in some way easier the difficult and prolonged action of collecting human data through a face to face ethnographic fieldwork.

Their activity is all-encompassing, commenting on the news and the latest developments on the Xylella/OQDS case arguing explanations perfectly suited to their conspiracy theorist habitus (Bourdieu, 1979); accusing the scientific field of inherent evaluation errors, putting the discourse on a “clash” level with two different *modus operandi*, a clash between two different knowledge. “Our” science, validated by time and culture, against “Their” science, fueled by the lust for power, in a strictly dichotomous semantic frame. (fig.2)

In their particular views, the work of scientific institutions on OQDS is inevitably compromised by the corrupt nature of the scientists, who are seen as servants of political and economic power, directly accusing individual scientists even on a personal level, not as a category then, but also as individuals. As Fredric Jameson has argued, the association science-corporate power made by conspiracy theorists is the “poor person’s” cognitive mapping in the postmodern age, it is the degraded figures of the total logic of late capital. (Jameson, 1990).



Fig. 2 “These ‘scientist’ talk about Xylella epidemic in Salento without ever presenting evidence!” “They condemned to death our olive trees WITHOUT EVIDENCE! This is war!” Image taken from “Terroni di Pino Aprile” Facebook page.

In this particular view, the concept of discovery itself, inherently social (Merton, 1957) is something to be frightened of.

Both the glorification of cultural heritage and cultural identity discourse and the pseudoscientific and conspiracy argumentative logic and social behavior, find their respective and privileged place on social media platforms.

This idiosyncratic theme of a plant disease that has struck a crucial identity and identifying natural element, along with the presence of the agency of scientific research, has allowed these two conceptual universes to come together in a common cause.

Their effective presence, pervasiveness and hyperactivity on social platforms like Facebook has meant that the case itself reached a large audience causing an uncontrollable exaggeration of the real issue. Soon people start to think of an inevitable and unstoppable environmental disaster of enormous proportions when, in reality of data, the abatement plan with the aim to contain the bacteria causing the OQDS touched only a 0,09% of the total olive tree population. The “attack on the forest” portrayed by these social groups was apparently unfounded.

The instances and fears of these groups, gathered on social media, reached escalated levels when the issue was addressed by mainstream media and particularly, when a popular Infotainment television show in Italy well known for its distinctive media populism and audience-making sensationalism, endorsed an idea of a compromised, if not powerless and ultimately ineffective, science research process, instilling in the broad general public the belief of a scientific underestimation error at the expense of the local farmers and land owners.

The last, and perhaps the most paradoxical implication of the public negative opinion toward the scientific and institutional efforts deployed in the “Xylella emergency” took place on a judicial level, when the regional administrative court (TAR) accepted the legal recourse brought by environmental groups (as an almost “natural” conclusion of this “gish gallop”) on the supposed origins of the spreading of this plant disease. Their allegation, upheld by a local judge, bring us back to an event that took place in Bari during October 2010, when the Mediterranean Agronomic Institute (IAM) along with the National Research Council (CNR) held a workshop entitled “Phytopathology Workshop on the Quarantine Pathogen Xylella fastidiosa” as part of the research activities and cooperation of the action program “EU-COST 873 project Bacterial Diseases of stone fruit and nuts”, a short course on the most advanced Xylella methods for the diagnosis of quarantine pathogen Xylella fastidiosa.

The allegations proposed by these social media-coordinated environmental groups and supported by the court, accused the entire local scientific research apparatus of intentionally spreading the bacterium, leading a biological warfare and having created the harmful bacteria with the pernicious complicity of Monsanto. As stated earlier in this paper, a convincing sci-fi-like dystopian scenario.

Up to this point we have tried to describe the subjects involved in the case of OQDS/Xylella Fastidiosa public reactions, how these reactions that bordered collective paranoia started on and found a privileged place on social media platforms, and how the medium of Facebook magnified the issue even bringing it on the judges' desks unleashing a collective phobia on scientific research aims and methods.

At this point, we would like to proceed with the description and explanation of the peculiar qualitative methodology used in this work in progress.

3. Methodology

The majority of qualitative research carried out in this work consisted in the usual methods of investigation belonging to the demographical, sociological and anthropological disciplines, proceeding with a (physical) fieldwork lasted about five months, during which we attended public events, public demonstrations and conferences held by the protagonist of this "resistance" and proceeding with ethnographic interviews with several individual components.

But, for what concerns the focus of this paper, we tried to perform a methodological shifting of the very physical nature of the anthropological notion of "field".

Social media platforms behave as actual, tangible containers of cultures, or better, cultural expression of each one's self. The "anthropopoiesis" process (From ancient Greek *Ánthrōpos*, "man"; and *Poïesis*, "to make") (Herder, 1968; Geertz, 1964; Remotti 2013) as the self-building practice of social and individual cultural identity, is in some ways, clearly revealed by the showcase of our Facebook profiles, at least depending to what we want to show, or better, depending on what we plan to show.

On social media platforms, our cultural identities are forged constantly and meticulously through a regular and astonishingly easy work, our constructive nature and disposition made explicit by the simple act of clicking on a like button. A "like" that defines us and gives "the other" a socially delineated image of ourselves.

The central issue addressed here is that, through a socio-anthropological lens, a lot can be understood about the single individual just observing his/her Facebook activity.

Referring to the "naturalistic observation method", a study method that involves watching subjects' behaviors in their natural environment, without intervention (Adler & Adler, 1994), and taking as a "natural environment" (and therefore as a field) Facebook social network, We interpreted the social media platform as a "public realm" (Goffman, 1971).

But Facebook is a public and available space up to a certain point and, more significantly, neither is an aseptic and neutral social space.

On Facebook (as well as other platforms and services like Google's personalized search, Amazon's "you may also like", and other examples) an algorithm selectively guesses what information a user would like to see based on information about the user (such as location, past click behavior and search history), as a result, the users become separated from those informations that disagrees with their viewpoints, effectively isolating them in their own cultural or ideological bubbles (Pariser, 2011).

Having taken into account these methodological precautions, in order to engage entirely into the social bubble where this kind of cultural discourse is produced and diffused and given the distinct nature of the pseudoscientific and conspiracy individual behavior, we proceeded with interweaving a network of Facebook contacts with these subjects by creating a fake account with the same "Anthropopoietic characteristics", we created our own new informative bubble, because, and that is the reason why we adopt this method, a netnography from the "outside" would not have been possible.

Furthermore, with the process of "hiding" the researcher's anthropoietic characteristic, we proceed with what we could define as "covert participant observation" (Delamont, 2004; Humphreys, 1975), creating not only a new Facebook identity, but providing to Facebook algorithm new directives, allowing our brand new filter bubble (Pariser, 2011) to see us as "conspiracy theorist".

This allowed us to fully enter in this particular "echo chamber" (Quattrociocchi et al., 2015) observing and occasionally interacting with these same social subjects from an unusual and privileged position.

4. Conclusions

This singular social research method, essentially an “ethnographic lurking” allowed us to conduct the research from a privileged non-physical location.

Creating from scratch an ideal anthropological *habitus* we were able to join the community, it did not take long to become legitimate conspiracy theorists and have direct access to a substantial amount of useful qualitative data.

Moreover, once started the process, the “filter bubble” algorithm tends to suggest and direct every single user toward anthropopoietical choices that perfectly suits the latter’s interests, aims and purposes, thus strengthening the fictitious boundaries of the personal social bubble.

The peculiar social media *modus operandi* of these subjects, a conspiracy theorist and pseudoscientific *habitus*, in which tends to be central the constant and spasmodic social media activity (posts, notes, other type of information sharing) almost take the form and emerge as a mission, “to wake people up”, “to enlighten”, allow the social scientist to grasp onto their deep cultural meanings and social behaviors with less efforts.

The particular methodology that has characterized this part of the work led us to rethink the epistemological concept of fieldwork, in an anthropological sense, as an ethnographic activity.

The ethnographic field, as a physical place in which identity and culture are produced and shaped, has shifted and changed in both space and time.

Cultural identities, as in the case of this public misunderstanding of science, are expressed and then delivered, their examination, immediate.

Exploiting the potentials of the filter bubble algorithmic mechanism in an ethnographic sense could be the next step in rethinking the way we do ethnography on social media. A new kind of participant observation inside the infosphere. Of course if we decide to turn a blind eye on some ethical issues.

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