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An epistemological reflection on the psychosocial processes experienced by One Health researchers

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ABSTRACT

In the era of the Anthropocene and the ensuing transitions, the One Health approach is one of the possible answers to rethinking our place on the planet. The aim of this article is to propose an epistemological reflection on the psychosocial processes that concern researchers working with the One Health approach, developing some perspectives that have received limited attention to date. We argue for the importance of making these processes explicit, and to focus on the complexity associated with sticking to both a One Health and a community-based approach. Drawing on our experience as researchers engaged in participatory and community-based research in the field of social psychology of health and ecology, and involved in research projects oriented towards the One Health perspective, we outline four key challenges researchers may face: (1) moving beyond anthropocentric conceptions of health, particularly in human medicine, the social sciences, and public health; (2) integrating moral commitments, values, and plural identities into scientific reflection; (3) collaborating with other 'disciplinary communities'; (4) integrating non-academic researchers into the co-construction of science, by legitimising the experiential knowledge. For each challenge, we propose theoretical and methodological tools, conceived as resources to support researchers navigating these transitions.

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anthropocentrism;
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Highlights

- One Health states the link between human, animal and environmental health.
- By definition, One Health also assume that non-experts' participation needs to be implemented.
- Anthropocentrism, the researchers' ethical stance, interdisciplinarity, and community-based approaches can represent epistemological challenges in One Health research.
- Psychosocial theoretical and methodological tools can work as resources to face these challenges.

Introduction

In 2004, following a symposium on zoonoses organised by the NGO Wildlife Conservation Society, twelve guiding principles – known as the 'Manhattan Principles'¹ – were set out by the

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participating international organizations, including the World Organization for Animal Health (WOAH), the World Health Organization (WHO), and the Food and Agriculture Organization (FAO). These principles emphasised the interdependence of human, animal and environmental health, and encourage an interdisciplinary approach to health. Formulated in response to emerging health crises such as avian influenza, the principles underscored the notion that decisions concerning animal and environmental health inevitably impact human health, and vice versa. This marked the conceptual emergence of the ‘One World, One Health’ approach, which gained formal recognition by the international community in 2008 – most notably by the WHO, WOAH, FAO, and UNICEF, with support from the World Bank (Figuié & Peyre, 2013). In 2022, in the wake of the COVID-19 pandemic, the One Health High-Level Expert Panel (OHHLEP) was established by the quadripartite organizations – FAO, WHO, WOAH, and the United Nations Environment Programme (UNEP).

The One Health approach is grounded in a principle of mutuality between living beings, emphasising interconnectedness and interdependence across species and ecosystems (Rapport et al., 2009; Zinsstag et al., 2011). This perspective aims to take health into account in an integrated way (Destoumieux-Garzón et al., 2018), valuing the interdependent and coexistent relationships between humans and non-humans (de Macedo Couto & Brandespim, 2020; Destoumieux-Garzón et al., 2018). The link between ecosystems, human and animal health is conceived as intrinsic (Rapport et al., 2009), thereby broadening the definition of health itself. In this regard, Zinsstag et al. (2011) introduce the notion of ‘health in social-ecological systems’ (HSES), human–non-human interactions, where social and ecological dimensions are both determinants and consequences.

Today, several variations of the One Health approach exist, including EcoHealth and Planetary Health, among others. While these frameworks differ in emphasis and scope (Lerner & Berg, 2017), some authors advocate the convergence of these approaches towards a single, flexible paradigm (Nguyen-Viet et al., 2017). We can see this move towards unification in the adoption of a new and complex definition of One Health, proposed by the OHHLEP (Panel et al., 2022):

‘One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent. The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate changes and contributing to sustainable development’.

We are researchers engaged in participatory and community-based approaches, particularly in the fields of social psychology of health and ecology. In recent years, we have become increasingly involved in research projects informed by the One Health perspective, while maintaining a strong commitment to participatory and community-based methodologies. Currently, we work in local, national or international projects focusing on topics such as tick-borne disease prevention, pandemic preparedness, and human–non-human interactions using a One Health approach.

Drawing on these diverse experiences, we have identified several challenges in implementing both One Health in conjunction with participatory or community-based research. We assume that other researchers, as well as other actors involved in the development and implementation of One Health interventions and research projects may encounter similar challenges – many of which remain underexplored. The aim of this article is to propose an epistemological reflection on the psychosocial processes that concern researchers involved in One Health research (Olive et al., 2022), understood here as the systemic and holistic production of knowledge about the interrelations between human, animal, and environmental health. More precisely, we identify four epistemological challenges that these researchers may face, and we propose some psychosocial methodological or theoretical tools to address them.

1. Breaking out of the anthropocentric perspective in health research

Long before the formalisation of the One Health approach, interactions between humans and non-humans were already the subject of scholarly inquiry in the humanities and social sciences. As far back as 1940, anthropologist Evans Pritchard described the cohabitation patterns between the Nuer in Sudan and their cows as a symbiotic and symbiopolitical relationship (Evans-Pritchard, 1940; Helmreich, 2009). Likewise, feminist and posthumanist scholars such as Haraway (2008) proposed understanding the body not as an individual 'I' but as an ecological 'we,' shaped through its constant interaction with the environment (Hsu, 2007; Raffaetà, 2020). More broadly, the study of how boundaries between species are 'constructed, evolved and transgressed' (Wolf, 2015, p. 10) has made it possible to investigate the influence of these processes on spatial and social organization, while taking account of the social context.

However, our focus here is on the role of social sciences in the broader implementation of One Health research. This contribution extends beyond the intervention of social science in specific projects, involving instead a broader reflection on how to design social science research within a One Health approach, and on the scientific posture this entails. Achieving this requires stepping back from the immediate subject of research, engaging in a process of 'observation' and 'meta-research' of One Health studies. This critical examination can shed light on the diverse meanings researchers attribute to this paradigm, while also revealing the inconsistencies, commonalities, and underlying representations of health and science. For instance, it could facilitate the positioning of biology and medicine as social, cultural, and historical constructs (Steffens & Finnis, 2022), uncovering the social and cultural constructions embedded within these disciplines (Raffaetà, 2020). Psychosocial determinants such as social identity, norms, values often remain hidden in the scientific research process. In this respect, Latour (1989) speaks of the need to 'open' the black box of science to reveal its underlying intentions and commitments. The epistemic practices of researchers, particularly in the One Health context, are not devoid of cultural and value-laden influences. Latour (2004a) conceptualises microbes – like other scientific objects – as both *matters of fact* (i.e. universal, given entities) and *matters of concern* (i.e. issues that provoke interest and debate). Puig de la Bellacasa adds the notion of *matters of care* (2003), to account not only for elements of rationality, but also for practical, affective and ethical implications (Raffaetà, 2020). The objects of scientific research as *matters of concern* and *matters of care* result invisibilized in the black box of science. Quantification and objectivity, whereas serving as the 'guarantors' of the scientific approach (which would only deal with *matters of facts*), can be argued to embody the values and norms inherent to scientific epistemology. The reluctance to discuss values, norms and identities stems from a concern that it might undermine the perceived objectivity of science. However, making the process of scientific knowledge production transparent does not mean to deny the importance of the neutrality and rigour of scientific methods; rather, it contextualises research within its social, economic and historical settings. Additionally, the integration of social sciences could prevent One Health from devolving into 'one world-ism' (Hinchliffe, 2015), which might privilege a reductionist, realistic, and naturalistic ontological perspective, thereby reducing the complexity, contradictions and interweaving of representations and practices in context (Mol, 2002).

In the context of One Health research, it is then necessary to adopt a post-structuralist perspective, in which the separation between Nature (associated with non-humans) and Culture (associated with humans) is deconstructed. This paradigm shift is referred to as the 'ontological turn' (Descola, 2013). Nature is not an objective, uniform domain (Latour, 2004b); rather, it is a construction which, far from being objective, Descola (2013) defines as the least shared object in the world. It is thus a dynamic object of associations and articulations, where separations and ruptures from the social are themselves a form of construction and categorisation (Descola, 2013; Latour, 2004). Nature and Culture form a continuum where humans and non-humans, as well as their health, are closely linked, interdependent and co-present (Friese & Nuyts, 2017). This understanding aligns with the cosmologies of indigenous peoples from Latin America who

perceive all forms of life as interconnected and mutually influential, as noted by Krenak (2017) and Cadena (2018).

2. Facing professional and personal commitments in One Health research

From a social science perspective, shifting the focus from human health alone to the interconnections and entanglements between human, non-human, and ecosystem health inevitably involves taking ethical and political stances in research (Keck et al., 2021).

For example, Figuié (2021) and Raffaetà (2020) challenge inter-species hierarchies by advocating for a move beyond anthropocentric representations of the environment and animals that would make possible to become aware of the distinction between health *for* non-humans and health *by* non-humans (Figuié, 2021). The emergence of new infectious diseases would increasingly naturalise the conception of non-humans as risk factors or as means to optimise human health, and not as victims or as the goal of interventions (Figuié, 2021). Especially in the Western conception, human health would then remain central, leading Destoumieux-Garzón et al. (2018) to question whether a genuine transition from the 'One Medicine' to the 'One Health' paradigm has truly occurred.

In a similar vein, Tomasini (2021), reflecting on solidarity during the COVID-19 pandemic, critiques perspectives that frame other species as enemies to humans, as if they harboured intent to harm. He argues, for example, that coronaviruses live harmoniously in other animals, and that human-induced environmental disruptions forced these viruses to shift hosts to humans. Thus, he emphasises that wildlife should not be considered in isolation as the cause of pandemics threatening the human species, but rather as part of a complex web of actions and reactions affecting different species. He then argues that solidarity, an essential element in the fight against the sanitary crises (such as those caused by HIV and COVID-19), should shift from an anthropocentric to a biocentric perspective, promoting inter-species solidarity that encompasses all forms of life.

For these reasons, we assume that the involvement in research projects dealing with contemporary issues that are not only scientific, but also political and ethical issues (such as biodiversity conservation, the impact of climate change, animal welfare, etc.) is not trivial. In this respect, beyond the professional commitment, researchers can make personal, political and ethical commitments. Such engagement often reflects individual values – defined as 'ideals, linked to affect, that a person strives to achieve' (Morchain, 2006). These values are integrated into systems that guide perceptions, judgments and decision-making (Schwartz, 1992). They play a fundamental role in social identity formation, influencing not only how individuals perceive themselves, but also how they interact with others and integrate into specific social groups (Brewer, 1991). Social identity, as defined by Tajfel (1982, p. 24), involves an awareness of belonging to a group and the emotional and evaluative significance attributed to that membership. In this respect, understanding professional identity as clearly separate from other identities, and assuming that each identity is activated only in specific contexts, fails to capture the nuances of identity mobilizations, which turn out to be blurred, interrelated and unstable.

In this way, professional commitments to One Health research can echo political commitments in other contexts. Moreover, the distinction between expert and non-expert knowledge is not absolute. As Molinatti and Simonneau (2015) argue, these forms of knowledge are not only intertwined and mutually influential, but also embedded in contextual identities. In this sense, the expert knowledge is imbued with a social dimension, and more specifically with contextual beliefs, values and identity issues (Puppo, 2023).

While research has begun to explore how citizens mobilise identities and values within the context of One Health, less attention has been paid to the researchers themselves. However, based on a psychosocial posture that questions the possibility and even desirability of absolute scientific neutrality (Berlan, 2023), we posit that researchers also carry personal, political and ethical commitments within their research projects, particularly when it comes to One Health approaches that imply addressing environmental, socio-economic, ethical, biodiversity conservation, and animal

welfare-related issues. Within this perspective, we draw on the concept of professional representations – a construct that differs from both scientific and common-sense knowledge (Bataille et al., 1997). These representations fulfill an identity function, enabling individuals to recognise themselves within a professional group while distinguishing themselves from others (Mias & Bataille, 2013). Professional representations are based on specialised knowledge and skills, but also on experiential knowledge and a perceived shared identity. According to Bataille (2000, p. 181), professional representations are ‘constructed within the framework of professional actions and interactions by actors whose professional identities they form, corresponding to groups within the professional field under consideration’. These groups (units, laboratories, research teams, etc.) may correspond to communities, considering the psychosocial perspective that conceives a community as a social group sharing a common social identity and social representations (Campbell & Jovchelovitch, 2000). More precisely, belonging to a community means sharing seven dimensions: emotional, relational, temporal and spatial, motivational, cultural, identity and interventional ones (Krause & Montenegro, 2017). Nevertheless, this term is more used to designate the people concerned (citizens, patient communities, etc.) rather than researchers. But researchers too can feel a sense of community, carry values and mobilise identities. Research communities are based on more or less explicit social norms and rules that guide the behaviour of individuals within a group (Dubois, 2003). According to Merton (1957), norms guide scientific reasoning: organised and systematic skepticism, disinterest in other ends beyond scientific ones, a strong sense of group belonging, fueled by shared social identity (Wittorski, 2008). These psychosocial determinants (identity, norms, shared values) underpin the justification function of professional representations (Mias & Bataille, 2013), which are shared and enacted in interactions and through social communication, both inside and outside the professional group.

Our experience in the project SHAPE-Med@Lyon illustrates how promoting the encounter of researchers from different disciplines working in the same site can promote innovative One Health research. Since 2022, this research program that integrates the French national *Programme d'Investissements d'Avenir* (Investments for the Future Program, in a free translation), has implemented scientific meetings, interdisciplinary workshops and funding opportunities to motivate the development of partnerships to put in place One Health research in Lyon, France. Counting more than 750 participants and four call for projects, today 29 projects funded by the program, covering a large range of topics, showing that there is an opening from the scientific community to the One Health approach (Préau & Vavre, 2024).

We might then ask whether, in these contexts, plural identity commitments and mobilizations are externalised within the professional environment. Furthermore, these commitments and their externalisation may be linked to the quest for meaning that has characterised society – including research actors – particularly in the wake of the Covid-19 pandemic (Leroyer et al., 2021).

3. Integrating interdisciplinary collaboration

If One Health research is about health in the plural, it inherently relies on an interdisciplinary approach. In this sense, we are witnessing the creation of quite unprecedented collaborations across academic fields. The academic partnerships that are being forged are multiplying the encounters between disciplines with different epistemological and methodological foundations, creating a landscape of unprecedented interactions. The challenge lies in establishing shared objectives, developing a common language and building and implementing joint projects. It's a real task of translation and adaptation, requiring, in many cases, major and prolonged commitments.

In this regard, Knorr-Cetina (2013) speaks of ‘epistemic cultures’ to designate knowledge understood as the result of interactions among different skills, acquired in context, socially distributed, and influencing cognitive processes. These ‘epistemic cultures’ especially concern inter-sectional objects. For example, since tick-borne vector diseases (TBDs) are at the crossroads of health and the environment (Cosson, 2019; Vayssier-Taussat et al., 2015), medicine,

microbiology, ecology, veterinary science, humanities and social sciences are all involved in the study of these diseases.

But beyond the demand for interdisciplinarity, researchers are also expected to meet disciplinary assessment criteria – which often requires to be firmly anchored within a specific academic field. This dual injunction is particularly tricky for young researchers involved in One Health projects, who are faced with the challenge of simultaneously setting up strong, sometimes unprecedented interdisciplinary collaborations that require considerable flexibility and adaptability, while also developing solid disciplinary skills that will enable them to meet academic evaluation criteria. While this tension can be intellectually stimulating and generative, it demands continuous negotiation between simplification – for the sake of creating a shared vocabulary across distant disciplines – and deep conceptual engagement within one's own field. Reconciling a holistic One Health perspective with disciplinary rigour is therefore a demanding, but potentially rewarding, endeavour.

Finally, implementing the One Health approach requires involving a variety of actors beyond researchers (Zinsstag et al., 2011), such as political decision-makers, citizens, and communities at various levels of society, making participatory or community-based approaches essential. However, putting these collaborative, systemic perspectives into practice can be challenging, especially in the context of growing social inequalities that complicate even the concept of a unified 'One Human Health'. The current climatic, geopolitical, and economic crises are closely tied to existing social and health disparities and (2017) and are manifestations of a societal organization in which, as Krenak (2017) argues, 'humanity' is a status granted only to certain groups – viewed as not only separated from but also superior to both nature and other human groups. These worldview perpetuates divisions and reinforces hierarchies among humans and between humans and other beings. In this context, it is imperative to integrate One Health into analytical frameworks that take into consideration the intersections between health, social inequalities and human rights, allowing to understand how political and institutional structures affect health risks to humans and other living beings (Gruskin et al., 2010). In addition, participatory frameworks are essential to enable the active and equitable participation of community members. Valuing local knowledge and practical experience is crucial for comprehensively understanding the factors affecting health, generating more relevant insights and strengthening community's capacities to co-develop and implement research-based solutions.

4. Integrating communities of non-scientific researchers

The notion of 'community' as presented in the 2022 One Health definition invites multiple interpretations. First, it may refer to non-human groups, such as animal species or microbial populations, which are increasingly recognised as key actors in One Health research. In this context, interspecies ethnographies explore interactions and intersubjectivities between human and animal communities (Madden, 2015; Young, 2013). For instance, Renault (2022) examined 'interspecies careers' to understand the diverse perspectives on primate rehabilitation within an NGO in Bolivia, shedding light on the intertwined trajectories of both animals and human volunteers.

Secondly, 'community' can refer to human groups united by a shared sense of belonging (Krause & Montenegro, 2017). In that sense, community-based research approaches aim to address the needs of such groups by involving them in the co-construction of scientific knowledge. This aligns with the concept of empowerment – understood as the ability to act upon and influence one's environment (Keys et al., 2017). In these approaches, community members are involved throughout the research process and are direct beneficiaries of its outcomes. For example, psychosocial studies in the field of HIV prevention have implemented projects that facilitate prevention efforts (Puppo et al., 2020) or support women living with HIV in decisions about disclosing their status (Perray et al., 2023).

This second meaning of community presents significant challenges in One Health research, as many of the disciplines involved are not accustomed to incorporating lay or experiential knowledge

into scientific processes. In such cases, the social sciences can play a key role, particularly in participatory projects within environmental health (Whittaker et al., 2020). Promising experiences already exist – for instance, participatory epidemiology allows stakeholders to actively engage in decisions about disease management and contributes to reducing health inequalities (Catley et al., 2012; Rajput et al., 2023). However, research approaches that are truly co-constructed – where communities are involved at every stage – remain rare in health research in general, and a central challenge is legitimising and valuing everyday or experiential knowledge. In this regard, social psychology can make an important contribution through the theory of social representations (Moscovici, 2004). This theory investigates socially elaborated and shared forms of knowledge known as social representations, which are systems of interpretation that guide and organise social behaviour and communication (Jodelet, 1989). Social representations have a practical purpose and contribute to the construction of a shared reality within a social group (Moscovici, 1961/2004). Importantly, they are not an ‘impoverishment’ or ‘distortion’ of expert knowledge (Herzlich, 1984, p. 207), but are posed ‘on another plan and address other questions’ (Herzlich, 1984, p. 207). Involving communities therefore means acknowledging, legitimising and valuing this type of knowledge, which can represent a major challenge for researchers unfamiliar with such integrative practices.

Another significant challenge is that the very communities to be involved in One Health research often remain undefined. While in some fields, such as HIV research, scientists frequently work with and for pre-existing communities, defining communities within the One Health framework can be more complex. When referring to farmers, breeders, or inhabitants of a specific territory, one must ask whether these individuals identify with a shared community – a question that challenges the assumption of community itself. In other words, if One Health research is intended to engage communities at multiple levels of society, it is first necessary to determine whether the targeted social groups constitute cohesive communities or, conversely, lack a shared social identity.

As an example, in a collaboration with the CiTIQUE participatory program, we analysed forms of engagement in participatory research on tick-borne vector diseases (TBDs) among citizens who joined the program between May and October 2019 (Puppo, 2023). CiTIQUE is a participatory program that aims to improve the knowledge about ticks and the diseases they transmit. One of the primary contributions from citizens involves sending ticks to the CiTIQUE program. In our study, we examined post-it notes and letters sent by citizens along with the ticks – unsolicited forms of data that were unexpected by the CiTIQUE researchers. Many messages described strategies adopted to prevent tick exposure or detailed the activities during which the bites occurred. Other messages informed the researchers about the fauna and vegetation where the bite took place. But several messages asked for a microbiological analysis of the tick sent to find out whether or not it carried the bacteria that transmits Lyme borreliosis. These requests must be understood within a broader context of scientific and societal controversy surrounding Lyme disease in France, in which medical institutions such as the Société de Pathologies Infectieuses de Langue Française (SPILF) on the one hand, and the Fédération Française des Maladies Vectorielles à Tiques (FFMVT) on the other, are at odds over the interpretation of prolonged symptoms, the reliability of diagnostic tests and the efficacy of treatments against this disease (Massart, 2013; Puppo, 2023). In this contested environment, many contributors framed their participation not merely as ‘citizens,’ but as *patients* – an identity shaped by personal experience, contextual factors, and specific values. This reflects a situated and politicised form of engagement. It is not a broad or abstract identity, but a lived one that carries implications for research collaboration. Moreover, the controversy surrounding Lyme disease complicates the formation of a clearly recognised patient community, making co-construction and the definition of shared goals especially difficult. Even associations that identify as communities may not be acknowledged as such by the scientific establishment, as the identity of Lyme patients remains heterogeneous and contested.

These challenges take on their full meaning in the broader context of health democracy (Bauquier et al., 2017), in which power relations are evolving, not only between caregivers and patients, but

also between researchers and citizens. Within this evolving landscape, the training of all stakeholders in participatory and community-based research is an increasingly important topic. Several roles are emerging, such as the ‘patient expert’, the ‘patient researcher’, and the ‘patient-partners’, and what differentiates them is currently unclear (Paulo et al., 2024; Tourette-Turgis & Lemoine, 2023). This lack of a clear definition makes it difficult to identify what knowledge and expertise the patient must acquire to be considered legitimate co-researchers (Friconneau et al., 2020). In the same way, this debate could be extended to the role of citizens involved in research, to highlight the need to implement formal trainings to the research approaches (Charte du Réseau Tous Chercheurs, 2023).

Conversely, the debate on training researchers for participatory/community-based research is less present or absent in many disciplines. Training researchers involved in One Health research, regardless of their disciplinary affiliation, in the basics of participatory and community-based research as well as making their research posture evolve could encourage collaboration between different communities of experts and non-experts. Such training can help shift research postures, legitimize non-academic forms of knowledge, and support a more equitable distribution of roles within projects. Ultimately, it fosters critical awareness of the power dynamics at play and helps reduce – or at least make visible – imbalances between experts and non-experts.

Conclusions

In this article, we have proposed an epistemological reflection on the posture of researchers engaged in the One Health research. Adopting a psychosocial perspective, we have identified and conceptualised several key challenges that researchers may face, regardless of their disciplinary background.

First, engaging in One Health research requires moving beyond – or at least critically reexamining – anthropocentric conceptions of health. By emphasising the interdependence between human, animal and environmental health, some researchers are taking on ethical and political positions, and these commitments can play a role in the scientific research process. In this sense, though often invisible, plural identity-based values and mobilizations contribute to the construction of One Health research.

Second, doing One Health research means engaging in dialogue with different disciplines, sometimes through unprecedented collaborations. These collaborations are challenging, as they bring together communities of practice grounded in distinct – sometimes implicit – norms, values, and research paradigms. Bridging these differences requires both epistemological openness and reflexivity on the part of researchers.

Third, conducting One Health research also entails recognising and legitimising experiential knowledge as a valid and complementary form of understanding alongside expert knowledge, while reflecting about the notion of community itself.

By articulating these challenges, we underscore the need for a shift in researchers’ posture within the One Health framework. While these epistemological reflections illuminate the evolving role of researchers in One Health, they remain to be supported and further explored by empirical research to fully understand and support the complexities involved.

Note

1. <https://oneworldonehealth.wcs.org/About-Us/Mission/The-Manhattan-Principles.aspxn> [consulté le 13/11/2022]

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