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Research Article

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Abstract

The outbreak of SARS-CoV-2 has threatened ethnographic inquiry, undermining its quintessential characteristic. Participant observation, then, has been thoroughly dismembered by the radical measures implemented to prevent the spread of the virus. This phenomenon, in short, has dragged anthropologists to a liminal state within which ethnography is paradoxically caught in an onto-epistemological unstable vortex. The question of being here and not there, during the pandemic, is epitomised in the instability of different spatio-temporal contexts that overlap through technological mediations. Reflecting on previous fieldwork experiences and current virtual inquiries with the Shuar of the Ecuadorian Amazon unfolds how COVID-19 has thoroughly reshaped how the author approaches subjects' socio-ecological settings. Against this background, the article argues that corporeal immersion remains a necessary condition for the anthropological scrutiny of multispecies relationalities amidst the challenging times of the Anthropocene. The article nevertheless demonstrates that the intellectual efforts to grasp the different material temporalities of virtual spaces embrace the ethical principles concerning the renunciation of fieldwork with vulnerable communities. Furthermore, a reflective and speculative stance is proposed to actualise the snapshots of faraway physicalities linking them to past embodied and multi-sensory experiences. It is ultimately theorised how these mnemonic devices operate as creative forms of inquiry that overcome the pandemic consequences, extra-stimulating our cognitive capabilities to reflect on prior and possible socio-material interactions.

Keywords

COVID-19 pandemic, ethnography, anthropology, shuar, anthropocene, mnemonic devices, spatio-temporal realities, technology

Introduction: Modern Vicissitudes and the Virospheres-Technosphere Entanglements

The Industrial Revolution provided a technological development since the latter half of the 18th century, which radically transformed the entire world. Industrialisation, therefore, allowed Western hegemony over the rest of the planet and, consequently, the imposition of new values that would undermine "traditional" ones. The homogenisation of values due to technological evolution and the assimilation process of colonial and neo-colonial apparatus appears to have accelerated the movement of goods, information, and persons in a way that physical boundaries are easily crossed, even if they are not physically touched. Thus, the different cultures spread worldwide are part of a complex interconnection between the worlds they live in and the possible worlds they imagine (Appadurai, 1996). In a world where hyper-modernisation has disrupted most of the social bonds that hold together society's members, new forms of identification and socialisation appear to be available in the midst of the technological puzzle. There is, of course, a more individualistic tendency that leads persons with different cultural backgrounds to adhere to the myriad of concrete and ephemeral possibilities offered by this global regime.

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However, even the most evanescent thinking about different hypothetical existences seems to be exacerbated by the global COVID-19 pandemic.

Ever since the pandemic entered our lives, our alienation from the material world became entrenched in the paths of our doomed destiny as the only species that, as Descartes foresaw, has pretended to be the masters of whole nature. Humans' predicament in the Anthropocene epoch is, to a certain extent, dependent on our asymmetrical relationship with the ecosystems and their non-human denizens. Ironically, the emergence of rational thought triggered the purported control and domestication of the submissive natural environment. But what happens if nature's passivity changes its allegedly due course bringing diseases that circulate with our bodies which incessantly move? From an evolutionary perspective, the microorganisms that concomitantly move and live side by side with our physicalities shaped us as living beings (Kirksey et al., 2014; Koonin & Dolja, 2013; Villarreal, 2004), indicating that the humans' biosocial contingencies determine our existence in the material world. These contingencies illustrate the way in which rational thought paved the path for the "domestication" of other's natures and its catastrophic consequences. Therefore, colonialism wreaked havoc on new realms to exploit, tame, and propagate the soteriological means for natives' religious ignorance and the indispensable tools to kill, be they swords, guns, or illnesses.

Like the recent SARS-CoV-2, a myriad of diseases has been the primary cause of the annihilation of part of humanity around the globe. In the Americas, for instance, European colonialism triggered the contact of dissimilar virospheres (Aronsson & Holm, 2022), causing the spread of pathogens and, subsequently, the near extermination of indigenous peoples (Crosby, 1972; Myers, 1988; Newson, 1996). Amazonian societies' reminiscences corroborate their suffering from smallpox, measles, and malaria as documented among the Yanomami (Rifkin, 1994; Rival, 2021), the Urarina (Fabiano, 2022), and the Cariban-speaking indigenous peoples of Eastern Guiana (Duin, 2021), to mention a few. It is also worthwhile mentioning that the acceleration of anthropogenic activities driven by the modern conceit of predatory supremacy and the inexhaustible logic of nature's exploitation has caused the emergence of the virus (see Aronsson & Holm, 2022; Fuentes, 2020; Kirksey, 2020; van Dooren, 2020). Incongruously, our hyper-consumerist society is well aware that we must renounce some of the cherished hedonistic comforts of consumerism facilitated by global capitalism to prevent the virus's spread. These, as one might say, are suppressed by the radical measures that each country must implement to contain, at least partially, the worldwide diffusion of the pandemic.

However, the other side of the coin illustrates different realities fraught with ingrained inequities where the pandemic has only worsened the plight of the deprived ones. For example, in the Global South, the poisonous mixture of the virus and its variants and anthropogenic impacts generate psychosocial and economic distress far beyond the suppression of the hedonistic values of the hegemonic societies. Along these lines, on the margins of the world, most indigenous peoples are increasingly enduring harmful capitalist practices such as dispossession, extractivism, and plantations (Tsing, 2017) that continue to destroy their ancestral dwellings and go hand in hand with the diffusion of COVID-19 (see, for instance, Reymundo Dámaso, 2021; Smith & Theriault, 2020; Stewart et al., 2021; Vilaça, 2020b). These anthropogenic calamities, in short, undermine the intricate entanglements between different kinds of living selves (Kohn, 2007, p. 4), whose worlds are more than a material substance objectified by the purportedly immortal and transcendental mind of modern humans. Therefore, the interconnectedness of indigenous ecologies is incessantly threatened by a modern but destructive socio-technological machinery incapable of grasping the complexities and nuances of perceptual worlds (*umwelts*) (von Uexküll, 1982), which need to be lived to be minimally understood by an outsider.

Consequently, what are the outcomes of implementing measures like wearing masks, socio-physical distancing, and travel restrictions in ethnographic fieldwork? To what extent do these somewhat drastic regulations weaken anthropological inquiry? Is it not that the pandemic has revealed the deep-rooted structural inequalities between the Global North and South? It is hardly surprising that the health and socio-economic failures generated by the combination of SARS-CoV-2 and the ingrained inequalities of global capitalism (Sparke & Williams, 2022; Stevano et al., 2021) have profoundly affected the marginalised people of the world. We might thus ask: how are indigenous societies confronting this catastrophic scenario?

It seems paradoxical that a scientific discipline like socio-cultural anthropology, whose raison d'être is deeply rooted in its intellectual adventures across the planet, struggles to preserve its academic hallmark amid the global pandemic. Notwithstanding this complicated situation, the rapid technological development of the last decades has allowed long-distance communication that blurs the physical borders that separate the world's regions. Technological artefacts are propagated everywhere, and, as a consequence, the trespassing of physical borders has become the archetypal attribute of "objects" whose hybridity (Latour, 1993) penetrates in our deepest thoughts and the most trivial bodily performances of our day-to-day lives. Pathogenic microorganisms, correspondingly, circulate among different corporealities infiltrating quietly into the vast geographic regions of the earth. At an ontic level of experience, the virospheres and technosphere (Haff, 2013) entanglements operate on a planetary scale, heavily impacting the turbulent existents' survival.

What are the prospects for ethnographic fieldwork in these challenging times? As previously stated, the emergence of SARS-CoV-2 has produced the invalidation of socio-physical encounters, which are, broadly construed, potential vectors of contagion. Viewed through this prism, the core of ethnography

is, in a sense, overwhelmed by the closure of countries' geographical boundaries that annul the profound communication between the observer and its human and more-than-human subjects in the field. In other words, the halt of any form of rigorous fieldwork prompts a liminal state in which most anthropologists are forced to be embedded.

This article, therefore, tries to demonstrate this tortuous situation through the author's experience during the COVID-19 pandemic, which, with all its forces, obliged him to rethink and change how he does ethnographic research. A reflective comparison between the past fieldwork experiences and the current virtual inquiries with the Shuar[1] of the Ecuadorian Amazon helps illuminate the ethical, methodological, and theoretical issues concerning the practice of ethnography during the pandemic. More concretely, a "dematerialised participant observation" posed a significant challenge to empirical research's ontological and epistemological assumptions. Surprisingly, items equipped with screens and ubiquitous connectedness are necessary to neutralise viral infections and link decontextualised material realities. In this frame, our evolutionary history as hominids and social beings indicates our need to touch our faces constantly, inevitably causing the diffusion of pathogens in our bodily entry points (Hartigan, 2020). As the pandemic threatens to subvert any territorial demarcation (Bråten, 2020), we need to keep our bodies away from potential socio-material contacts, including field research. As we shall see, this predicament encourages us to devise creative ways of ethnographic investigation to surmount the socio-physical confinement and onto-epistemological suspension. Nevertheless, how do we manage the worldling and epistemic relational process between anthropologists' and interlocutors' disjoined material realities?

Living in a Liminal State: Artificial Simulations of Sensory Perceptions

It was February 2020 when Tzama, a Shuar leader of the Twasap community, sent me a WhatsApp message and posted it on Facebook, urging the interruption of any volunteering activities in his community due to the outbreak of coronavirus. Similarly, Nawech, a Shuar of the Yawintz community, wrote to me on WhatsApp, describing his worries regarding the fast spread of COVID-19 and the impossibility of hosting me in his house for the already planned fieldwork. Since then, it has become clear that a possible ethnographic investigation among the Amazonian communities was totally out of reach. In the face of these convoluted circumstances, some evocative remembrances brought me to the front of Nawech's house, where the mythical *Ipiak* (*Bixa orellana*) adorns the main road of the community. The red fruits of this tree, whose dye endows the aesthetic and ontological element of these people's existence (Abad Espinoza, 2022a, p. 277–278), were intense recollections of something materially animated. However, when ethnographic memories suddenly fade away, one must accept that, though they are meaningful images of physical intimacies, their ephemeral nature leaves us in an onto-epistemological suspension. The only thing left is to let ourselves be absorbed into a virtual dimension in which pictures and narratives circulate in a flexible space-time.

In the Grip of SARS-CoV-2, Technological Devices And Digital Socialities

Most anthropologists know that a rigorous anthropological inquiry involves a thoughtful immersion in other realities, often far from our cultural and geographical area. More specifically, since ethnography depends on anthropologists' empirical observations drawn in the field, its writing product must be underpinned by the specific and profound relationships he/she establishes during the ethnographic quest. Ethnography's philosophical adventure (Fabietti, 2011, p. 6–7) is, above all, an intellectual journey that, even if it outwardly parallels the voyagers' exotic explorations (Lévi-Strauss, 1955), underneath these quixotic traits, there is the earnest pursuit of holistic knowledge of human nature, its variances, and its relationships with the human and non-human spheres.

Almost 4 years have passed since my fieldwork among the Shuar communities. Thenceforth, I tried to keep in touch with my informants, communicating with them regularly thanks to the widespread use of electronic devices even in this part of the Western Amazon. Such a state of affairs would be unimaginable decades ago, principally in the distant territories of the Amazon rainforest, where its particular ecology represented a cumbersome physical border for the anthropologist to surmount if he/she intended to participate in the close observation of natives' daily life. Being there (Geertz, 1988), as one might say, involves a paradoxical dimension amid the pandemic, which halts any attempt to investigate what is empirically taken for granted by classic ethnography. As (Malinowski, 1922, p. 18) argued convincingly a century ago, the *imponderabilia of actual life* or, in other words, the meticulous observation of natives' day-to-day life has become a mutilated investigation in which participant observation turns into an evanescent and detached examination without a vivid socio-material connection.

The anthropologist's experience in the field is inextricably intertwined with the natural environment and all its human and more-than-human subjects. For example, my ethno-ecological research among the Shuar communities was inexorably determined by the relationships between me, as an active participant-observer, and the different agents that comprise the localised ecosystem in which we interacted. So, the ethnographic diary (Malinowski, 1922, p. 21) was the principal tool that accompanied me during my constant trips around the communities to record the subtleties of human and non-human sociality embedded in a complex eco-cosmic system.

Nevertheless, if ethnographic rigorousness is directly proportional to the quantity and quality of time spent in a specific socio-ecological setting, on what grounds its scientific validity remains unaltered by the drastic measures that inhibit our corporeal presence in the latter? This complicated issue, I think, pressed me to rely much more on what I previously thought of as a necessary evil (Boellstorff, 2020) or mere means of support during the entire research process. Consequently, the ubiquitous presence of technological devices during the COVID-19 outbreak allowed me to reach regularly, though in fragmented images and voices, the long distance that separates the European continent and the Amazon rainforest. The combination of global digitalisation and isolation caused by the diffusion of the virus seems to strengthen our dependence on artefacts whose artificiality penetrates our essence of social beings. In addition to this current dependence and, contrary to what was formerly thought by Murthy (2008, p. 839), technological devices represent a pervasive presence even among the marginalised people of the Global South. For example, except for the elderly, most of my Shuar friends own smartphones and have accessible internet points in nearby towns. Digital ethnography, thus, was a feasible opportunity to keep in touch with them even if their internet connection was sometimes slow or, in the worst case, absent when they stayed in their villages.[2]

Is this deceptively innocuous dependence on these artefacts dissolving relations that need to be bodily mediated for better immersion in socio-ecological realities? Is it not that a disembodied presence filtered by a screen wielded by our hand or laid on our desk invalidates the sensory perception of the material world? Can we talk of a trans-human existence in which things' artificial intelligence will dominate and pervade our way of being in a world saturated with pandemics and environmental disasters? The utopian Pasteurian dream knocks at our door when we try to disinfect artefacts whose alleged agentivity seemingly provides a germ-free medium (Linde-Ozola, 2020) for socialisation between disparate geographical areas. It would be unfair to say that, in spite of the impossibility of disentangling ourselves from invisible microorganisms, the micropolitics that controls our behaviour and attitudes towards microbial agents (Paxson, 2008) seems to render our home one of the few "sterilised" places in which the cleaning agents destroy these potential microscopic "enemies" (McLeod et al., 2020). In this light, I can thus endorse the use of technology, which allowed me to work from home as a tutor for undergraduate students during the entire academic year since COVID-19 heavily hit Italy. It is worth remarking that the almost maniac tendency to regulate potential physical contact and hence closing crowded places such as the University has transformed the walls of our residences into protective barriers against the virus. There, the frequent words such as smart working and distance learning materialise, becoming an effervescent setting of negotiation between the domestic sphere and the more public one interwoven with disinfectants and electronic devices.

As a result, we can provide many examples concerning the usefulness and even indispensability of technological devices used for Zoom or Webex calls in courses, interviews, seminars, and conferences that connect people remotely who in the past used to attend them physically. The reframing and remaking of social relations brought out by the creative use of technology to cope with the uneasiness of isolation (Fuentes, 2020, p. 28) alleviate the loss of face-to-face communication evaporated in the almost seamless configuration of social media in which we interact. To wit, the private dimension of the domestic sphere has become a safe shelter against potential encounters with the virus on the one hand and a makeshift digital laboratory where the sudden arrangement of places and spaces has given a new meaning to the household order on the other.

However, it is worthwhile mentioning that behind the plastic structures, cables, and wireless networks, which allow long-distance interaction, there are hybrid things made of mineral and mind that pollute the planet and control its inhabitants, benefiting only a few (Hornborg, 2006, p. 11). According to Jorge Luis Borges (1998), apart from the book, which is an extension of human's memories and imagination, the other inventions are only extensions of his/her body. From this, it follows that the hyper-technological things that we keep in our pockets are not only an extension of our corporealities, but within these objects, there are thoughts, memories, and imaginations that coalesce with the virtually interconnected bodies. In sum, as Clark & Chalmers (1998) remind us, the skin/skull boundary dissolves through the extension of cognitive processing into the environment's material actualities.

Hence, for the anthropologists, electronic devices filled the gap between the different geographical places and subjects' distances whose interaction would otherwise be interrupted by the pandemic. The crucial point is that, even if we are aware that what lies beneath the machines and unrestrainable digitalisation is the deleterious modern utopia of human domination over nature, it seems, paradoxically, that we more than ever depend on the same technology that exploits the earth for its never-ending development. Technological artefacts are, in this sense, the linkage between the intersubjective and material realities of the incorporeal ethnographic encounter. As such, if a modest smartphone can condense hundreds of ethnographic materials such as pictures, videos, and narratives sent from thousands of kilometres away, then a hyper-human condition stems from our relationship with hybrid things, which are more than an extension of interconnected minds and bodies. These are, in sum, the immaterial ethnographic diaries in which we concentrate our subjective experience of the imaginative corporeal realities of the field.

Nonetheless, I am not exaggerating that the pandemic's effects completely dismantled the vivid sensory experience that I was accustomed to during the fieldwork. In observing the somewhat blurry photos and video images through the smartphone's glass screen, I realised that this mutilated communication with my informants was difficult to

hypostatise and hence render intelligible in a messy ethnographic diary. Therefore, the harvesting of peach palm (*Bactris gasipaes*), the making of manioc (*Manihot esculenta* Crantz) beer, or even the *natem* (*Banisteriopsis caapi*) ritual in a sacred waterfall, all these events of a material reality were encapsulated in vision-based images that nullify the whole sensory perception of the environment (Ellen, 1996, p. 5). For example, during fieldwork, in the waterfall of the Wawaim community, Nawech's father (Sharimiat) performed a ritual while chanting and snuffing a mix of fermented tobacco (*Nicotiana tabacum*) leaves and water (Abad Espinoza, 2019). This multisensorial experience of the past returned when Nawech, a couple of months ago, announced to me via WhatsApp that his father had passed away. Therefore, the relentless waterfall sounds, the smell of tobacco, and the mournful chants were intimately associated with the pictures he sent me of Sharimiat's funeral in Wawaim. While I could sense the people in mourning, the physical dissociation from the images' specific space-time drove an oscillation of fragmented reminiscences that eventually formed a disembodied ethnographic riddle.

Ethnographic research and writing are both caught in an onto-epistemological unstable vortex that, on the one hand, dissolves the *being and time* (Heidegger, 1962) of the ethnographic interaction among diverse intentionalities enmeshed in a particular spatiotemporal dimension and, on the other, connects different material realities situated afar from the virtual encounter that simulates possible worlds in which "participant observation's" inferences depend on a decontextualised presence. Thus, the body, as an essential device for the perceptual experience of the world (Merleau-Ponty, 1962), remains trapped in this unstable vortex in which being in the world we strive to know is determined by the imagination of disembodied images purified by artefacts' glass screens.

Being here and not there: The Reshaping of Ethnographic Realities

Roth et al. (2021) show us how amidst the pandemic, the transition of a first-year anthropology course from in-person to Zoom format has reshaped the spaces and relations in the domestic sphere of the participants. Indeed, the porosity of a seemingly fixed material reality, such as the household, illustrates how the participants accommodate their own domestic spaces into a new order of things. As a result, inserting the University into the home through reconfiguring the private places (i.e., transforming childhood rooms into study areas saturated with computers and books) not only incorporates new objects into conventional areas but also the history and expectations of the institution as well as the appropriate behaviour from the house-dwellers were installed in the process (Ibid., p. 71). Here, we can find a parallel with how I have come to grips with the private spaces I adjusted for online research. At one point in the process of adapting to the sudden lockdowns, I had no choice but to thoroughly redesign the tiny space in the living room used as a study place. This "office," therefore, has been transformed into a negligible ethnographic museum-like place in which the items collected in the past fieldwork (e.g., pictures, artefacts, and diaries) have been assembled to bring back every memory encapsulated in objects worthy of reflection. The mixture of old memories imbued in things and the electronic devices which concede virtual communication with the realities of fieldwork unsettled the way of being and knowing of a world in the midst of instability. I want to point out that, even if the objects inserted into a section of the living room operate as a simulation of the intense sensory perceptions of the past, the virtual reproduction of these experiences holds the self in an imaginative dimension in which what is lived and perceived does not coincide with the current spatio-temporal reality.

Being far-flung from the ontological context in which natives' daily lives revolve gives us a sense of distress compensated by the transient images reflected by our hypermodern devices. When I try to communicate with my informants during this global pandemic, I think, first and foremost, about the past ethnographic encounters where the muddy paths, the trees, and all the entities which inhabit the rainforest were omnipresent during the entire investigation. Besides this, in trying to write notes about what I only perceived in a distorted form during these months of lockdown, the sense of loneliness and isolation dragged me into a liminal state in which imagination was the only way to flee from the darkness of being here and not there. The obscurity of mist, which encompasses the onto-epistemological vortex, was dense enough to obfuscate the way of being, thinking, and inferring the varying dimensions of material realities that overlap through the artificial simulations of sensory perceptions.

Additionally, the constant circulation of images frequently sent by my Shuar friends is, to a certain degree, the unique mnemonic device that allows me to delve into the romanticised memories which, like Malinowski's adventures in the Trobriands, transport me directly to the Amazonian villages. Paradoxically, the feelings of distress, loneliness, frustration, and alienation revealed by Malinowski's highly personal diaries (Malinowski 1967) might be the symmetrical inversion of my own psychosocial state. The comparison between current frustrations and those of the past illustrates that, in order to endure the anxiety derived from alterity and isolation, we need to comfort ourselves with the fluidity of ethnography epitomised in a tangible notebook or the disembodied images of the smartphone. In other words, in Heidegger's terms, the revelatory moods such as anxiety and boredom resulting from months of isolation experienced during the COVID-19 crisis give us a fundamental revelation of our reduced freedom in these challenging times (Cartlidge, 2020). These have prompted the rethinking and reshaping of ethnography which tries to authenticate itself through new forms of inquiry and socialisation even amid the physical disconnection of subjects.

Obfuscated Multispecies Assemblages

Notwithstanding all our efforts put into adapting ethnographic methods to the current state of affairs, the quintessence of anthropological inquiry or, to put it otherwise, the practice of taking seriously, delving, and "walking with" (Sundberg, 2014, p. 40), the indigenous relational worlds flows through networks that invalidate social relationships which come into being by means of bodily mediations. Though we try to keep pace with the spatio-temporal distance of others' relationalities through the mediation of modern technology, however, how could we walk with them if our corporeal presence is not in the field? The anxiety of being in a liminal state was only partially compensated by technology, which filtered distant and disconnected perceptual worlds opening up a multidimensional sphere in which the blurring of space and time reveals the structural inequalities of the planet amid the pandemic. For instance, during a WhatsApp call, Nawech told me: "Due to the Coronavirus, we are suffering terrible times; luckily, we are surviving thanks to the crops of our gardens." Equally, in Peru, the Quechua of Sumaccocha in the Andes (Stavig, 2021, p. 403) and the Arakbut of Amazonia (Reymundo Dámaso, 2021, p. 183) appear to rely on traditional food, considered a source of energy, protection from COVID-19 and the antithesis of the food consumed in the city. Informants constantly reiterated this standpoint. For their collective imaginary, big cities such as Quito or Guayaquil are not only centres of junk food but also infection, pollution, and criminality.

It is appropriate to note that contrary to other Amazonian countries like Brazil, where the infection rates and deaths caused by COVID-19 are the highest among indigenous peoples (see, for instance, de Castro et al., 2020; Charlier & Varison, 2020; Ferrante et al., 2020), it seems that the Shuar communities have been less affected by it. In Amazonia, however, the health system's endemic precarity has exacerbated indigenous societies' vulnerable conditions (Cárdenas Palacios & Reymundo Dámaso, 2021; Charlier & Varison, 2020; de Castro et al., 2020; Ferrante et al., 2020). In connection with the pandemic diffusion among the Shuar, one day chatting on Facebook, Yasmin, from the Tawasap community, explained to me how she has been curing her 10-month-old baby infected by COVID-19: "I prefer to cure my baby with traditional medicine, instead of sending him to the hospital where people are dying."

According to the interlocutors' accounts, we can better understand how the Shuar are struggling with the effects of the pandemic, which has forced them to trust much more in their own conceptualisations of the environment. As for Papua New Guineans who, despite the precarious situation of hospitals, cling to the principle that the belief in God and the values of unity and amity typified in the concept of *wanbel*, will protect them from COVID-19 (Troolin, 2020); the Shuar think that social solidarity, reciprocal exchange, and cooperation between ecological beings are essential precepts to keep a community solid and united in the face of a global pandemic. Shuar traditional ecological knowledge, therefore, must be understood as a *resurgence* (Tsing, 2017, p. 52) in which the mythical gardens are the essential milieu of multispecies relationships that strive to withstand the socio-economic inequalities and environmental degradation of the modern capitalist regime.

An Incorporeal Immersion

But what kind of resurgence would be for the anthropologist who cannot immerse into the specific material realities in which these multispecies relationships occur? If it is impossible to smell, touch, hear, taste, and empirically observe the crops and medicinal plants, what then would be the ethnographic contribution's scientific value? As we have seen, electronic devices and digitalisation allow us to surmount the enforced enclosure that radically interrupted our potential physical presence in the field. It seems that amid COVID-19, ethnography's plasticity was able to cope with the hard times of anthropological inquiry. As DeMaio (2021) cogently argues, in times of uncertainty where ethnographic research is abruptly interrupted by a pandemic's enforced isolation, thanks to digitalisation, ethnography's creativity comes to the fore by stitching together the archival and ethnographic snapshots of different historical periods. In my case, however, this "lenticular approach," which permitted the author to delve immaterially into the histories of the Palestinian refugees from Syria living in Beirut (DeMaio, 2021), appears to be problematic when applied to the ecological relationships of multispecies encounters commonly investigated synchronically.

Currently, as archives are no substitute for participant observation (Olson, 2020, p. 172), scrutinising human-nonhuman relationships in a given ecosystem like the Amazon Basin implies a profound corporeal immersion that canalises nature's subtleties and intricacies. Let me illustrate this point in the following manner. While my interlocutors carry on their subsistence activities on their swiddens, I continue, though primarily in an online format, with my research and working duties. It is not difficult to realise that both anthropologists and their informants are entrenched in the biosocial relations with pathogenic organisms, which are the primary cause of the diffusion of diseases. Nevertheless, in the case of COVID-19, a high infection rate among countries worldwide has prompted governments to undertake drastic measures to arrest the spread of the virus. As mentioned earlier, this phenomenon has significantly altered how anthropologists interact with their interlocutors and how those people strive to survive. Indigenous societies' survival is, in essence, threatened by the consequences of the pandemic.

The disruption of ethnographic fieldwork that seeks to investigate a specific social group's ontological realities utterly conceals ecologically grounded relationships. It is worth remarking that, like most native Amazonians (see, e.g., for the

Awajún (Cárdenas Palacios & Reymundo Dámaso, 2021); for the Urarina (Del Aguila Villacorta et al., 2021); for the Kichwa (Oikonomakis, 2020)), the Shuar are dealing with the pandemic through the aid of the vegetal world. As some informants told me, it seems that certain plants play a crucial role in curing coronavirus infection. Although interlocutors' slow internet connection and, consequently, the poor audio quality of WhatsApp and Facebook calls, I could nonetheless record some valuable information concerning the medicinal trees and plants utilised in the concoction to treat COVID-19. Within this framework, one day, chatting on Facebook, Tzama's wife (María) vaguely described the plants they use in the decoction (i.e., kaip (*Mansoa alliacea),* chuchuguazo (*Maytenus laevis Reiss),* ajej (*Zingiber officinale*), orange (*Citrus x sinensis*) and key lime (*Citrus* × *aurantifolia*)). However, it was not until a WhatsApp call with Nawech that I could learn more about their current ethnopharmacological knowledge. According to him, the mixture of chuchuguazo (*M. laevis Reiss),* zaragoza *(Conocarpus erectus),* uña de gato (*Uncaria tomentosa)*[3] and aguardiente offers a more reliable option for curing the disease at home rather than in healthcare facilities working in precarious conditions.[4] Like ingenious alchemists, the Shuar, with their ecological wisdom, can relate profoundly with the non-human species that inhabit a complex and entwined natural environment.

Imagining Forms

The primary issue that arises from a virtual inquiry, like the abovementioned example, concerns the essential criterion of an in-depth ethnographic investigation. Is it possible to glean substantive data from digitally mediated socialities? But, if we want to illuminate multispecies relationalities better, why do we need to inspect them in person? It is worth noting that I had neither heard nor seen before the plants used in the infusion until several incoming calls appeared on my telephone. And yet, I am still waiting for months for a picture or video showing at least the basic procedures of the mixture of plants. If in the past I was accustomed to being involved in the complex "sensory ecology" (Shepard, 2004) of human-plant relationalities (i.e., by observing the bodily practices of interspecies interactions), today, this pragmatic element is fragmented into actual or potential images coming from disengaged physicalities. For example, gardening implicates elaborate social and mythocosmological relationships between physical and spiritual beings. Hence, the Shuar must profoundly engage in trans-species communication with corporealities that interpenetrate one another into their perceptual worlds, triggering the biosocial and metaphysical continuity of the whole ecological community. As a result, the peeling and grating of manioc or the chopping and boiling of *natem* constitute, at the most basic level, ecological relationships via which subjectivities constantly exchange material components. Therefore, at this rudimentary level, the corporeal interpenetration of trophic exchanges (Abad Espinoza, 2022b) opens up the path for multispecies communication undergirded by the concentrated metaphysical structure of the rainforest.

However, based on the present circumstances, virtual research's highly reduced sensory capacities not only neutralise an observation that aims to be empirical. Indeed, the whole sensory experience is shrunk so as not to be able to perceive a world in constant flux where materialities clash and merge following the life-cycle of the cosmos. More fundamentally, the question of not being there entails that our capacity to grasp the essential attributes of life gravitates to the void of the transient simulation of intense perceptions. The vacuity of these digital interactions comes to the fore when specific worlds of forms, meanings, and sensations are cut off into small segments that need to be sewn together by the creative operations of the imagination. Still, it seems problematic to give shape to something that we only see in blurred pictures or, worse, hear in fragmented voices stemming from screens. What are the plants like? How do the Shuar relate to them? How intense are the relationships between the Shuar, plants, animals, and non-human organisms that share a particular socio-ecological milieu? How do the Shuar modify and mix the plants to treat Covid-19, and, in turn, how does this mixture affect the former? These open-ended questions both puzzle and illuminate the broad spectrum of multispecies studies, which seek to immerse into the multi-sensory worlds of humans and non-humans' entanglements (Fijn & Kavesh, 2021; Ogden et al., 2013; van Dooren et al., 2016). Therefore, whether we attempt to complement ethnographic methods with natural sciences tools such as analysing Pacific salmon scales and otoliths (Swanson, 2017) or the phytochemical components of Amazonian shamanic plants (Daly & Shepard, 2019); all of these cross-disciplinary inquiries share the same common ground of corporeal immersion with the recent phenomenological approaches in multispecies ethnography like investigating the complex relationships between humans and elephants in a Cambodian sanctuary (Erickson, 2017) or humans and pigeons in rural Pakistan (Kavesh, 2021).

Obviously, the dematerialised presence of entities haunts the imagination of an ethnographic encounter that never happened. Remarkably, digital disparities significantly impact the flexible but fragile online research process. Virtual research will be impossible with indigenous peoples, according to (Vilaça, 2020a), due to the low level of internet usage in their communities and the elders' rejection of these forms of sociality. We cannot help but agree with Vilaça as elders are the principal keepers of ancestral knowledge. Even though younger people provide important information through virtual means, we risk losing the entire context of production (Vilaça, 2020a). Whatever the case may be, even if, within a short time, technology will allow us to reach every corner of the globe with top-notch digital communication, the disengaged anthropological lens of a virtual investigation cannot submerge into the specific socio-ecological relationships that come into existence in a given spatio-temporal context. Conversely, only

a pragmatic and relational inquiry using a 360-degree ethnographic perspective can understand how a localised aggregation of entities simultaneously modify, assimilate, and compenetrate each other.

When Cognitive Efforts Embrace Ethical Principles

SARS-CoV-2 has unsettled any clear distinction between human exceptionalism and the biological world, the cultural and the natural (de Chadarevian & Raffaetà, 2021; Faas et al., 2020). Furthermore, the porosity of our bodies suggests that, like other organisms, we share a biological structure vulnerable to microbial agents (Arregui, 2020; Faas et al., 2020; Lainé, 2018). On this basis, multispecies pandemics are highly likely to emerge due to anthropogenic alterations in ecological niches that allow the exchange of infectious diseases and instigate the homogenisation of virospheres (Aronsson & Holm, 2022). No wonder anthropologists face an ethical dilemma regarding an ethnographic investigation in vulnerable biocultural environments. As Stavig (2021) contends, we must decide whether to continue with the imperialist "will to know" or halt fieldwork to protect ourselves and our interlocutors from the pandemic. Although the specific modalities of human-animal engagements among indigenous peoples could elucidate the root of the transmission of pathogenic zoonotic organisms (MacGregor & Waldman, 2017), our potential bodily intrusion might generate an extra-circulation of foreign pathogens. Like the infected objects intentionally given to native Amazonians to accelerate their extermination during the XIX and XX centuries (Espinosa & Fabiano, 2022, p. 19), the scientific determination to physically explore localised socio-ecological realities might endanger entities' biocultural survival. In this sense, the ethical commitment to step back from participant observation gives us significant insights concerning incorporeal investigation's reflective, retrospective and introspective nature.

As digital ethnography comes to the rescue of the anguished anthropologists in the grips of SARS-CoV-2 outcomes, our embodied existence grapples with the radical interruption of socio-material interactions. Though we have hitherto conceived virtual inquiries as a double-edged sword of anthropological knowledge; however, the possibility to immaterially reach different socio-ecological contexts provides us with new forms of ethnographic reflection. By choosing thoughtfully online methods that abide by ethical considerations of research with marginalised communities (Newman et al., 2021), we can safely surmount the biophysical uneasiness of seclusion and pathogenic infection. We should, nevertheless, make an intellectual effort to intersect the fieldwork memories and the images of different material temporalities. How can we deal with our conscious and corporeal being troubled by the virtual spaces that simulate socio-material connections?

One point of departure is to stimulate our embodied presence cognitively through the ethereal pictures of past or hypothetical ethnographic encounters. We should also keep in mind that bringing back memories or imagining multisensorial experiences does not necessitate a Cartesian disembodied mind as a locus of cognitive representation. On the contrary, a sensory ethnography (Pink, 2015) within digital socialities that enact separate socio-material actualities reminds us of the fallacy of primacy of vision over the other senses to understand Amazonian relationships with the material world. (Chaumeil, 2011, p. 63). More precisely, the snapshots sent by the Shuar are, in principle, mnemonic devices of socio-ecological relations that actualise the perception of possible embodied experiences in specific spatio-temporal realities. As became evident throughout the article, notwithstanding interlocutors' low internet access, they have nonetheless taken an active role during the virtual research. This point is crucially important because those pictures, videos, and audio tools evoke information, feelings, and memories (Harper, 2002) that need to be perceptively actualised for a metaphysical immersion into faraway material temporalities.

Our enmeshment with the particular space-time within the repercussions of the pandemic rekindles the necessary tools of imagination and creative thinking (Kind, 2022) to contrive novel forms of reflective and virtual inquiries. As Degen et al. (2021) demonstrate, their intersubjective and mental dialogue facilitated by virtual meetings and pictures of their particular socio-material environment reconnects their physical distance, providing insightful reflections regarding COVID-19 and ways of coping and healing in this new becoming. That said, in "thinking extended temporalities" through the circulation of messages and images, we can reconnect the fragmented recollections of embodied experiences and speculate about potential corporeal encounters. This seemingly immaterial ethnographic conundrum is, by necessity, radically immersed in remembrances triggered by our interaction with the world that recalls a form of engagement formerly acquired through socio-material practices (Prezioso & Alessandroni, 2022). Moreover, the recollections of bodily and sensorial experiences of specific socio-ecological realities are activated by emotions, feelings, and embodied actions (Zubieta, 2022) that flow between virtual spaces. Even if the corporeal absence inhibits us from grasping the fundamental attributes of a vegetal world that might combat SARS-CoV-2; however, an extra-stimulation of our cognitive capabilities may well clarify obfuscated life forms while ethically approaching natives' biosocial worlds.

Concluding Remarks: Rethinking Ethnography in the Anthropocene

From an ethnographic standpoint, a quarantine here is undoubtedly less intriguing than Malinowski's experience in the Trobriand Islands during WWI. Nevertheless, as we have

seen, virtual communication dematerialises the ethnographic encounter, making possible the intangible interconnectedness between observers and observed subjects who do not participate in the same spatio-temporal setting. Is it not that we are returning to the outdated and disparaged figure of the armchair anthropologist? Or is this perhaps the time to rethink our epistemological assumptions about ethnography in the Anthropocene and all its calamities that jeopardise anthropology as an empirical discipline? It is not difficult to argue that sitting in front of a computer surrounded by dozens of books in a tiny room could hardly parallel an ethnographic investigation in the forest. Although the detrimental aspect of COVID-19 is beginning to be measured by the core of socio-cultural anthropology, virtual spaces provide novel forms of philosophical reflection concerning our ethnographic investigations embedded in socio-material actualities. In this frame, the quintessence of ethnography (i.e., the writing from within humans' and non-humans' relational lives) navigates through immaterial connections overcoming physical borders and pathogenic infections. Thus, digital ethnography can compensate for the physical absence of the ethnographic encounter whenever we thoughtfully stimulate our cognitive skills to recall past embodied experiences and hypothesise about potential ones. Even though a form of sociality emerges from the human-technology interface, its effectiveness depends on the geographic context filled with digital inequalities (Cocco & Bertran, 2021; Kuiper, 2020). As a result, a well-balanced mix of physical and digital ethnography (Murthy, 2008, p. 839) could provide fertile ground for the future development of an anthropology that connects the various socio-ecological realities of the world while remaining committed to the ethical treatment and respect of subjects' lives.

Writing culture in the Anthropocene (Kirksey & Helmreich, 2010) means, strictly speaking, dealing with what is happening in an interconnected world in which environmental degradation, socio-economic inequities, diseases, and wars are inevitably affected by the burgeoning of modern technology. Thus, as I attempted to explain through the virtual conversations with the Shuar, the foggy nature-culture-technology trinity displays the intricate dimensions of the planet in which a localised composition of entities strives against the inequalities perpetuated by the global system. Although we are not there, as active participant-observers, behind our masks, hand sanitisers, quarantines, and vaccines, we are increasingly permeated by digitalisation's positive and negative effects and the ubiquitous presence of technological devices. These, for better or worse, enable us to engage, to some extent, in the particular socio-ecological relationships between agents. Though we are entangled in a unique physical reality, our innermost thoughts and disembodied perceptions wrestle with the intangible sphere of different spatio-temporal contexts they try to materialise. We may therefore actualise interlocutors' snapshots and narrations through the cognitive activation of recollections saturated with multi-sensory experiences. Unfamiliar life forms that emerge from screens are, metaphysically speaking, possible things that speculative thinking links to past socio-material interactions that lay the foundation for new cycles of relations.

Furthermore, there is a fundamental issue regarding ethnography's future in these difficult times, which compels us to detach radically from places where fruitful multispecies relationships are still flourishing while grappling with the negative anthropogenic disturbances (Tsing, 2017, p. 52) of the Anthropocene. More manifestly, there is anxiety surrounding us in the aftermath of COVID-19 and our capacity to engage, thus witnessing nature's resurgence and its multispecies cooperation empirically to foster more liveable futures (Searle & Turnbull, 2020, p. 294). I think, therefore, that the future of ethnographic inquiry is determined by the existential contingencies bolstered by our relationship with the more-than-human nature. From this perspective, even if technological development provides new spaces for long-distance socialisation, essentially necessary for anthropological inquiry, this nonetheless conceals the detrimental modern project of the earth's subjugation. It is tempting to argue that, as long as deep-seated disparities persist in our existence as biosocial beings, electronic devices, artificial intelligence, and vaccines are neither panaceas nor magic wands for redressing the world's socio-economic and environmental injustices.

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Notes

1. The Shuar are part of the *Aénts Chicham* (previously known as Jivaro) ethnic group (see Deshoullière & Utitiaj Paati, 2019). Scattered between the Ecuadorian and Peruvian Amazon, this group comprises the Shuar, Achuar, Awajun, Shiwiar and Wampis. Fieldwork among the Shuar communities of Tawasap, Yawintz and Wawaim, located in the Morona Santiago province of the Ecuadorian Amazon, was done between July and November 2018.
2. It is worth remarking that during the virus outbreak in the Ecuadorian Amazon, like in many Amazonian societies (see, for example, Cárdenas Palacios & Reymundo Dámaso, 2021; Duin, 2021; Fabiano & Arahuata, 2021), the Shuar tried to isolate themselves in their communities. Consequently, my communication with some of them was interrupted for a couple of months.
3. Though it is well known in the country the medicinal properties of uña de gato; regrettably, during fieldwork, I was not able to gather

information about the plant or even observe it physically. For an analysis concerning the ethnomedicinal use of *Uncaria tomentosa* among the Asháninka of the Peruvian Amazon, see (Keplinger et al., 1998).

4. Like their Shuar neighbours, the Amazonian Kichwa of Sarayaku drinks a mixture of 12 medicinal herbs and aguardiente to strengthen their immune system. Moreover, they also drink hot water and gargle with special leaves to combat the virus (Oikonomakis, 2020, p. 249–250). Interestingly, using both digital (WhatsApp or Messenger) and face-to-face interviews with the Urarina of the Peruvian Amazon, Del Aguila Villacorta et al. (2021) identified 16 plant species against the COVID-19 disease. Further ethnographic inquiry is therefore essential to throw light on the current ethnopharmacological knowledge that the Shuar employ to front the pandemic.

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