

Background to the Paper:

This paper presents recent (and to a considerable degree, undigested!) collaborative fieldwork in West Africa just before and during the Ebola Outbreak. It develops a long-standing empirical interest with the domestic as a unit of global health research and intervention, which Almudena has previously explored in the context of maternal health in Benin and Sierra Leone and I have grappled with through a number of malaria control projects.

For my part, there are three analytical strands of my previous work that might be relevant to the workshop discussion:

- 1) Investigations of the built environment of entomological research—most notably the ‘experimental hut.’ I have been interested in the particular affordances of the domestic as an instrument to generate facts and pilot interventions. This has meant an attention to the material construction and spatial ordering of the household, and to how epistemic relations between mosquitoes, parasites, humans and humanitarian goods are rendered visible in this physical context (‘The experimental hut: hosting vectors,’ *Journal of the Royal Anthropological Institute*, 2012).
- 2) In exploring the socio-political relationships set in motion by this quasi-domestic space and other domestic sitings of research, I have also explored the role of hospitality in public health research. From research on the effectiveness of household screening, bed-nets, and insectaries I have considered the capacities of domestic spaces to discipline scientific communities and create forms of reciprocity between research subjects, labourers and investigators (uneven as these might be). These questions have inspired my research into field stations, as sites that yoke laboratory to outpost, exploration to domesticity, inquiry to survival. As ‘homes away from home’ the field station offers a productive lens to consider the affective dimensions of scientific work and lives.
- 3) Finally, I have recently shifted my focus from vector-borne to zoonotic disease, I have begun to think through the processes of domestication and the efforts of public health practitioners to disentangle problematic interspecies proximities (Kelly and Lezaun, ‘Urban Mosquitoes, Situational Publics’, *American Ethnologist* 2014; Brown and Kelly, ‘Material Proximities and Hotspots’, *Medical Anthropology Quarterly* 2014).

Thank you so much for your patience with the rough draft and so very much looking forward to the conversation!

Kind Regards,

Ann

An Anthropology of Light and Zoonosis: *Shadows of Home*

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Abstract:

Viral Hemorrhagic Fevers (VHFs) persist in darkness. The virulence of pathogens like the Lassa, Marburg or Ebola virus is partly explained by their ability to survive on surfaces outside its infected hosts, provided these surfaces are not exposed to light. There is, in other words, a direct link between darkness and disease transmission. This paper seeks to elaborate anthropologically these basic immunological insights. A collaborative research project into the control of Lassa fever provided the empirical occasion for this paper, which we draw together with experiences of working in the Ebola outbreak, to consider how luminosity and shading structures zoonotic exchange. This ethnographic focus, we argue, offers new resources for coming to grips with the complex interface between viral biology and human-animal sociality and helps to disrupt public health framings of the “domestic” context of transmission.

Introduction

The rats climb onto the rug when the guests are not looking, when the lights are out, when the party's over. It's nighttime, black. What happens would be the obscure opposite of conscious and clear organization, happening behind everyone's back, the dark side of the system. But what do we call these nocturnal processes? Are they destructive or constructive?

Michel Serres, *The Parasite*, 1982, 12

At night, we can hear the baby mice weeping. Sometimes they lick our fingers.

Resident, Sokurala, Faranah Region Guinea

Exposure to direct sunlight is a good way to kill viruses. Irrespective of the nature of their envelope, UV rays penetrate and modify genetic material preventing replication. Viruses consisting of single stranded nucleic acids—for instance, those responsible for haemorrhagic fevers like Ebola—are more photosensitive, because they are unable to repair damage in the absence of a complementary strand. The size

of the virus can also increase susceptibility: the bigger the target, the more the damaging wavelengths hit it.

The effects of sunlight on viruses have been well-researched and extensively modeled (e.g. Albrecht et al 1974; Elliot, McCormick and Johnson 1982; Lytle & Sagripanti 2005; Powell and Setlow 1954), prompting the development of UV light technology for disinfection in laboratories, health facilities, and biosafety cabinets.¹ The natural decay of viruses in the dark has received comparatively less attention; the dynamics of viral persistence outside of its host raises a number of questions about the relationship between surface materials, genetic resilience and ambient conditions (Sagripanti, Rom & Holland 2010). These questions gained acute salience in the context of the recent Ebola outbreak. For instance, the relative advantages of burning the personal belongings of those that had suffered the disease, as opposed to simply laying the out in the sun, had tremendous consequences for survivors as well as for the families of the sick.

That darkness entails its own particular vitalities is an anthropological truism. The ethnographic record on the symbolism and sociality of nightlife is rich, unsettling the day/night binary by exploring dream life, artificial lighting, or the tombs, hearths and hide-a-ways that safeguard what is sacred (e.g. Bille and Sørensen 2007; Bourdieu, 1977; Cross 2014; Gallan 2014; Kraft & Horton 2008; Schivelbusch 1988; Schnepel & Ben-Ari 2005). Indeed if, as Tim Ingold suggests, “light is an experience of inhabiting the world of the visible,” an agent of revelation, sincerity, and cosmological transformation (2000: 265), darkness would constitute a radically distinct phenomenological experience, characterized by discretion, concealment, pleasure and persistence (e.g. Babb 1991; Chappatte 2014; Gell 1996; Strathern and Strathern 1971).

Nowhere are the multiple ‘chronotopes’ of shade and luminosity more evident than in recent ethnographic accounts of multispecies life.² Attention to the paces and

¹ For an interesting history on the controversy about the use of UV light in laboratories and the potential risks it poses see Meechan and Wilson, 2006.

² “Chronotope” captures the complex material and social realities in which time is experienced; in Haraway’s terms, it is “topical time, or a topos through which temporality is organized. A topic is a commonplace, a rhetorical site. Like both place and space, time is

spaces of human-nonhuman entanglement cast into relief the convivial operations that occur at the edge of visibility and consciousness. Drawing together ethnographic work on the domestic transmission of Lassa fever with recent experiences of the Ebola outbreak response, we seek to elaborate the spectral dimensions of zoonotic transmission. We argue that the ethnographic apprehension of the varieties of illumination and shading of pathogenic contact between humans, animals and infected surfaces offers conceptual and empirical resources for coming to grips with the complex interface between viral biology and human-animal sociality. Ultimately, we point to the ways in which an anthropology of light and zoonosis helps unsettle the household as the primary spatio-temporal unit of public health.

The paper begins with some background to our research, detailing the scope and aims of the project that brought us to the study of viral haemorrhagic fevers—first Lassa and subsequently Ebola. Of particular interest here is the ways in which these diseases have been configured (albeit in different ways) as specifically domestic problem and the ways in which anthropological work on these diseases has been imagined. The second section gives some ethnographic texture to what we might term as the ‘peri-domestic’—or the network of thresholds, pathways, gardens and proximities that delimit the household—and how light orchestrates that spatial ordering. We then, turn our attention to the reservoir of Lassa, *Mastomys natalensis*, also known as the multimammate rat, and track how the crepuscular behaviours of these most resilient of parasites intersect with everyday life and critically, challenge public health imaginaries of disease risk. Finally, we extend these insights to reflect on recent efforts to contain the Ebola outbreak in the hopes of reaching broader conclusions about the freight domestic space carries for global health.

Houses, Janet Carsten and Stephen Hugh-Jones remind us, are “places in which the to and fro of life unfold...[they] have dynamic, processual characteristics encapsulated in the world ‘dwelling’ (1995: 1). Efforts to contain and prevent disease hinge upon an understanding of that traffic, which circulates and hesitates in response to shadows and light.

never ‘literal,’ just there; chronos always intertwines with topos.” (Haraway 1997, 41; c.f. Schraeder 2010).

Bringing Lassa to Light

Beneath the shade of a Mahogany tree, beside an abandoned house at the edge of the village, a folding table is set up with four plastic chairs. Across the surgical covering sheet a number of items are laid out: scalpel, syringes, latex gloves, paper towels, data sheets, alcohol-filled squirt bottles, and a corkboard with pins. Just beyond the table, a couple of young village boys help dig a pit; the whole area is marked off with security tape.



Figure 1: Necropsy in Sokurula

Four people are needed to perform necropsies: one to remove and euthanize the rat from the traps, another to perform the dissection, a third to take notes, and a fourth one to ensure that biosafety protocols are met - cleaning the instruments, and disinfecting the gowns, gloves and face shields before removal. The team works quickly and carefully in the heat, pinning the dead animal to the board, removing key organs, dabbing cardiac blood on filter paper, and taking measurements of the rodent's body. When all the dissections have been performed, samples are sealed in a nitrogen tank, disposable materials are burnt in the pit, and traps are cleaned and set again in randomly selected houses in the village.

These are the daily operating procedures for LAROCS—an interdisciplinary public health project investigating rodent control as a means to reduce the spread of the Lassa virus in Sierra Leone and Guinea. Lassa fever is endemic in the Mano River Region, but has an increasing incidence across West Africa, with cases appearing in Ghana and most recently in Benin (when, during the height of the Ebola epidemic, an outbreak killed nine people). Indeed, the disease shares a number of virological and clinical features with Ebola (e.g. high fever, vomiting, diarrhea, haemorrhagic bleeding), but because the majority of cases are asymptomatic, Lassa's overall case fatality ratio remains low (between 1 and 2%). When symptoms do occur, they tend to be severe and while intravenous ribavirin can improve survival in Lassa patients (McCormick et al. 1986), its success hinges on early diagnosis, which owing to the non-specific nature of the disease and the constraints on local health infrastructure is a permanent challenge (Wilkinson 2014). It is estimated that anywhere from two to five thousand patients die from the fever every year.

The first recorded human case of the disease was an American nurse who contracted the disease in 1969 while living in Lassa, Nigeria, and subsequently infected five people, three of whom died. Shortly after this and subsequent outbreaks in Sierra Leone, the reservoir was identified: *Mastomys natalensis*, the multimammate rat, among the most common rodents in equatorial Africa (Monath 1974). Spillovers from rats to humans occur through contact with body fluids—urine, faeces, mucus or blood—deposited on tables, floors, beds, eating utensils surfaces (Akoua-Koffi, C. et al. 2006; McCormick 1999; Ogbu et al 2007). The most effective route of infection—through a scratch on the skin, consumption or inhalation of virus-laden dust particles remains unclear (Stephenson et al. 1984; ter Muelen et al 1996). Onwards transmission between humans tends to occur through bodily contact, most frequently in a clinical context (Frame et al. 1970, West Africa; Carey, et al. 1972). Since determining the agents of disease, research on Lassa has developed in fits and starts, its most sustained push has come from post-9/11 biodefence funding, which has classified Lassa a Category A pathogen and potential bioweapon (Wilkinson 2015).

Lassa provides a sharp lens on the political economy of Global Health attention and neglect and the configurations of public health problems as matters of

concern (Beisel and Kelly 2011; Leach 2008). Within the idiom of biosecurity, the emergence of Lassa fever is constituted as a geopolitical threat, requiring intensified systems of regional surveillance, data accumulation, therapeutic stockpiles, specialized containment facilities, and highly trained personnel (Dillon and Lobo-Guerrero 2008; Lakoff and Collier 2013; King 2002). There are only now six laboratories in the world capable of working on the fever, while the areas where the disease was endemic barely had the capacity to diagnosis let alone treat patients. But even before it reaches the clinic, Lassa, like many ‘tropical’ diseases, is first and foremost a problem of infrastructure, rooted in the quality of housing and the efficiency of drainage systems, linked to road maintenance, food storage, water distribution and the availability of light. Transmission is the province of a profound interspecies entanglement between rats and humans—a domestic relationship that is notoriously difficult to pull apart.

Domestication, as Helen Leach has argued, describes a situation in which “the built environment of the sedentary group modifies the microclimate experienced by its occupants” (2005:353): an agonistic process of reciprocal adjustment driven by the need to inhabit a common household (Cassidy and Mullin 2007; see also Hodder 1990). However, when it comes to the interactions of rats and humans, is not the house, that constitutes the relevant *domus* (C.f. Lezaun & Kelly 2014). Researchers who have attempted to parse the mechanisms of transmission have found that infections rates are only moderately seasonal: the relationship between rodent abundance and disease incidence fluctuated widely and was not reproducible from year to year, or from one study site to another (Mills et al. 1991, 1992). The failure to demonstrate any significant correlations between the number of rats in a house and infection, one on hand, is down to the sheer commensality of the species: rat behaviors are so attuned to their human hosts that the disease is highly focal. Others have suggested that the main limitation of current disease ecology is that its focus remains on the individual household, while the appropriate scale of cohabitation is the settlement: the pathways and plots between houses, the proximal gardens and distal cultivations, the edges of the forest where people hunt and children play (Fichet-Calvet 2007).

Proliferating in the spaces between homes, and hailing residents to care for their domestic vicinities, rats problematize notions of the stable, bounded, private home. The notion of the home as a defensive measure is one that Peter Sloterdijk (2004) has identified as central to the modern ethos: likening modern domestic architecture to ‘a spatial immune system’, he notes how “residence is, immunologically speaking, a defensive measure designed to demarcate a sphere of well-being from invaders and other agents of unwellness (ibid. 535).” However, this effort to establish an impenetrable border, ‘sealing off’ the inside from a threatening exterior, (ibid. 578) hardly accommodates the realities of the publics of public health in the Mano River region.

It is this peri-domestic space—the pathogenic vicinities and propinquities of the house—that provided LAROCs’ anthropological anchor. To reduce disease through rodent control meant coming to grips with the intimate settings of transmission—the multiple social and material settings in which rats and humans come to contact. Out of what materials did people build their houses and under what conditions would they invest in their repair? What were the sleeping arrangements, where did people cook in relations to where they pounded and stored grains? What kinds of objects were kept on the floor and which were hung from the ceiling? At what points during the year and the day, was the village most quiet? Were rats an object of disgust or fear—a nuisance, a concern, a feature of the milieu? Where, in other words, within these interpenetrating human and non-human co-presences, could a public health programme most effectively introduce a degree of separation—a borderland to protect populations from contagion?³

Domestic Duration

Across the forest-savanna mosaic that characterizes the central-eastern Guinean region of Faranah, houses are built round, out of mud and thatch. As

³ Hinchilffe and colleagues (2013) emphasize the biosecurity borderland, which, in contrast to the borderlines drawn up around the house oriented towards excluding ‘wayward life’, the borderland is a space of managed interaction and varying levels of intensity and control.

elsewhere in West Africa, an extended Mandinka family tends to live in a “concession”—a number of single-room structures (including latrine and grain store) distributed in a circular fashion around a courtyard and managed by the household patriarch or *fa*. Huts tend to have no internal divisions, though some of the younger residents use a curtain to separate off the bed from the table. Most huts also have a small wall around it that serves as a space for rest, and to be protected from the sun and from the rains.

Men and women tend to live in separate huts. Women’s huts are generally recognizable by the sheer number of items, including pots, cups, saucepans, jars, jugs and platters from the bride’s trousseau. These objects and everyday clothes are often hung from strings from the ceiling; cooking materials—condiments, rice, peanuts, and vegetables are arranged on the table or off to the side on the floor. Women use the space in front of the houses to dry the rice, peel and dry the cassava or the *parkia biglobosa*, or *néré* fruit. Most social activities—e.g. chatting, braiding, playing with children—are done as well in the front; this is also where visitors are greeted. The back of the hut is reserved for cooking activities, this is also where rice tends to be pounded, winnowed and dried.

A man’s hut is usually recognizable by a bicycle, a machete and a shotgun. Young boys tend to sleep together with friends and smaller brothers, but when ready for marriage can request a hut from the household head. When his wife is pregnant, he will build a separate hut for her and the children, in order to protect his autonomy and privacy. Building a house in cement is a considered a sign of social improvement, for which men might sell the cows or work for some years in Guinean Iron Ore (GIOs) mines nearby. In contrast to the ‘traditional’ Sudanese style hut, these buildings have several rooms, normally distributed among husband and wife and one as crop store. Critically, these houses are taxed, in contrast to the mud brick huts, which are considered without value.

The socio-materiality of domestic space has seasonal inflection. From the start of the rainy season (late April), people prepare the fields for rice cultivation, leaving the village early in the morning and returning after sunset. Those who do not leave to work in the field—the elderly and the young—will plant maize in the areas

surrounding the concession. During these months, the majority of the houses stay closed during the day. The dry season, in contrast, is a period of domestic maintenance: when tools are refashioned, new houses are built and old ones repaired. Women, regarded for their aesthetic sensibility, plaster the floor with a mix of cow dung and water and the walls with white, brown or salmon clay. Men are generally responsible for taking care of the roof: reaping and reweaving the straw and if necessary, re-cutting and fashioning the bamboo or wood frame.⁴

In the case of a concrete house, because repairs are costly and structures are believed to be *en dur*—maintenance of this kind is less frequent. Only when the roof leaks or crevasses form in the floor or walls will cement might be purchased and surfaces re-plastered. To fill the small holes that form in the floors and walls—where rodents tend to burrow—people use batteries or large stones.



Figure 3: A hole beside the bed, plugged with a battery.

“To rebuild is pointless,” a retired officer from the Guinean army commented. “A day or two goes by and they will find a way back in. An if not there,

⁴ There are different types of straw. *Ba kasan* last only two years, but is easier to reap as it grows on the banks of rivers. *Lolin*, *Comen*, *Saran Oule*, and *Yayalin* last longer (3-4 years) but grow in the hills; *Yayalin* dries quickly and adheres to the roof structure, but can catch fire; if these draw back can be mitigated if covered with *Lolin*, which also protects the house from wind.

they will find a place between the bags and the suitcases and under the clothes. Mice live with us, our house is their home.”⁵

In the corner, out of sight

Mastomys natalensis, the multimammate rat, is primarily a nocturnal species. Its prolific breeding capacities and opportunistic feeding behaviors, syncopate the rhythms of domesticity in Faranah town and neighboring villages. Depending on the place, hour of the day, and domain of practices, rats surface onto the collective sensorium, triggering the networks of tactility that underpin pathogenic exchange.

As series of longitudinal studies undertaken in the region found that during the dry season, the number of rodents inside the houses increased (Denys et al 2005; Fichet-Calvet 2007; 2008; 2014). This finding has an anthropogenic logic: the burning of fields following the harvest and their subsequent transformation into pastures for livestock restricts foraging possibilities to human settlements. Here, however, the opportunities are plenty: the grain store recently filled with bags, the husks and dustings of pounded rain scattered across the concession grounds. Freed from field labour, women dedicate their time catching fish—apparently a favourite for rats, particularly when seasoned with sumbara sauce. Further, because of the risk of fire, it is illegal to cook during midday. Following a late meal, dirty dishes are therefore, left to be washed until the morning when it is safer to collect water and easier to see. Nights during the dry seasons, the rats get their pick of the choicest crumbs.

The abundance of rats in the house, however, does not correlate to the prevalence of the disease. In fact, during the rainy season, rats were found to be two or three times more likely to be carrying the virus. The general consensus has been that transmission between rodents was vertical—passing on from mother to baby (Duplantier 1988). This mode of transmission would make sense if, as in other areas, *Mastomys* reproduction peaked at the start of the rainy season, triggered by the germinating grass (Leirs et al 1994). According to recent studies in Guinea, however,

⁵ Resident of Sonkonia, 10.11.13

sexual activity was found to be consistent across the year, with more pregnant females were found in the late summer, early fall.

Another key finding was that the amount of Lassa antibodies in the blood of rats increased with age, suggesting that transmission also occurs ‘horizontally’—or between adult rodents. This observation has shifted the focus from breeding rates to social behaviours and sexual predilections: for instance, a polygamous mating system would promote competition between males and territorial fighting, which could lead to bites and thus transmission. However, where the infection rates between males and females are consistent, other social activities are likely to be more significant, such as group huddling and grooming, behaviors which necessitate darker and more spacious habitats.

In his classic study of the Kabyle House, Pierre Bourdieu analyses the gendered structure of the household through the symbolic distribution of objects and furnishing in relation to the availability of light.

The dark, nocturnal, lower part of the house, the place for things that are damp, green or raw—jars of water placed on the benches on either side of the stable entrance or next to the wall of darkness, wood green fodder—and also the place for natural beings—oxen and cows, donkeys and mules—natural activities—sleep sexual, intercourse, childbirth and also death (Bourdieu, 1977: 135-6)

While we would hesitate to project this rather static externalization of cultural norms onto the everyday domestic dynamics of Faranah, the role of darkness in fording the link between co-habitat and habitus cannot be ignored. During the rainy season, when houses are closed for the better part of the day, rats find the spaces they need to breed and aggregate, taking advantage of newly planted gardens for cover and food. While low humidity can help stabilize aerosolized viral particles, in the dark quiet hours during the planting and harvest, the virus can accumulate in the walls and on the floors; where it can remain virulent for well over a week (Sagripanti et al. 2010).

As with any finely-grained disease ecology, the interactions between diseases within specific environmental and socioeconomic contexts, becomes increasingly complicated across space and time. While seasonality—its pathogenic relevance and heuristic limitations—has formed the focus of most epidemiological and biological research, for those that live with the animals, it is the nocturnal encounters that take center stage. It is the sound of babies crying, the scratching and gnawing of plastic bags, the clattering of plates and cups that rouses one from sleep. It is the uncanny feeling of being licked on the fingertips or urinated upon from above that can prompt a search for a flashlight to chase animals back into their dark corners. These are the moments of attunement when the presence of the commensals erupts into domestic sentience that bites can occur.⁶

The interplay of concealment and surprise can facilitate contact in a different way. Across the region, rats are trapped to be eaten. Traps are multiple and varied, designs range from the *torley*, constructed from two sticks and mobile phone; the *kongoumie*, involving a intricately carved and interlocking sticks, and the *Gbushie*, a heavy clay structure that crushes the prey when it touches the bait (Bonwitt et al. forthcoming). Setting traps for rats is generally the province of children though not exclusively; despite public health educations campaigns stressing the dangers of rat-consumption, people comment on the sweetness of the meat and admit to eating rats throughout the year.⁷ Despite their popularity, rats are not hunted for commercial reasons and rarely found for sale; the hunting of rats tends to be opportunistic, they are killed because they are close by, numerous, bothersome and tasty.

In Alfred Gell's analysis of the aesthetic dimensions of animal traps, he points to a rat trap as an exquisite example of how habits and habitual responses are subverted in material form: "thus, the rat that likes to poke around in narrow spaces has just such an attractive cavity prepared for its last, fateful foray into the dark" (Alfred Gell 1996: 29) A *torley* or *gbushie*, placed at the corner of the house, beneath the granary,

⁶ Transmission can also go the other way, as during the night people more frequently urinate near just outside their houses contaminating the soil where rats are likely to dig their burrows.

⁷ Which often generate more confusion over which species are dangerous and which are safe. Many of the people we spoke to will not eat the shrew as it is associated with urban spaces, is ugly and has a musky smell, even though it does not carry any disease.

at the edge of the bush, distill the hunters knowledge and transform an animal's umwelt into lethal infrastructure. A cruder version of this set-up is when a house is being dismantled and children stand around the sides with machetes or sticks to beat the rats as they scatter in the light.



Figure 2: A *Torley* trap

These traps—or orchestrated entrapments—distill the relational texture of rats and humans: they are externalizations of the spaces of concealment, modes of avoidance and moments of surprise that characterize our interspecies sociality. In drawing attention to these moments, our point here is to momentarily suspend the logics of global health emplacement that has disaggregated the problem of disease emergence across distinct domain of the bush, the house, and the clinic. In our experiences, these are not spatially, materially or socially distinct realms (c.f. Brown & Kelly 2014). The heuristic value of light and darkness is that it enables richer descriptions of the tempos and socialites—the unfolding “to and fro of life”—that constitute of pathogenic exchange and helps to refine some of the maladroit framings of disease disk and prevention.

Broadcast as emergency control measures, those distortions can have destructive consequences. The anti-hunting campaigns and bushmeat bans that immediately followed the Ebola outbreak, for instance, confused and aggravated many of those

for whom trapping and eating animals was ‘normal’ domestic practice, triggering rumors of governmental conspiracy. Indeed, the fact that it is often children who are the first to come into contact with reservoir species—through games and play not in the forest, but in the areas just in front and nearby the houses—suggests that to prevent spillover, a rather different set of local priorities and practices must be engaged with than those articulated in sensitization material. The Ebola outbreak that has formed the focus of global health attention is that of political spectacle—of permeable borders and exotic ‘cultural’ practices. The Ebola of weak public infrastructures, of quality housing, of persistent interspecies traffic has remained largely in the shadows, an object of neglect.

Crepuscular Reason (notes towards a conclusion)

Controlling Ebola, said Pepe Bilivogui, National Director of Public Health in Guinea, ‘begins at home’.⁸ That contagion would summon the most primary unit of state intervention should not come as a surprise: the engine of biological reproduction and economic production, the home is the obligatory point of passage for circulations, both the good and the bad (cf. Mitropoulos 2013; Foucault 2007). The scalar imaginary of the *Oikos* – within a ‘set of mutually congruent social boundaries, each of which reproduces the moral implications of all others’— creates the necessary conditions for national and global management of disease (Herzfeld 1987: 78).

Preventing pandemic demands cultivating the arts of household management to align with the interests of the state. Quarantine is a perfect example of this reworking of domestic space into segmented and highly visible units—an archetypal system of surveillance, which Foucault notoriously traces back 17th century, based on constant reportage, inspections and a pervasive gaze into the domestic interiors: Everyone locked up in his cage, everyone at his window, answering to his name and

⁸ The tag line for the UNICEF campaign among others:
http://www.unicef.org/photography/photo_essays.php?pid=2AM4080YQE9Y

showing himself when asked—it is the great review of the living and the dead” (Foucault 1997: 196).

The double image of the house as stage and sanctuary, regulation and recalcitrance, played through the outbreak response on a loop. Families hiding sick relatives, stifling cries and absconding with bodies into the bush were the villainous activities that focused national awareness campaigns and the subject of criminal law. The WHO’s complaint of numerous “shadow-zones” marked out problematic communities upon which the light of the global health effort could not extend. By the same token, those reluctant to produce their sick, sited the obscurity of those working for the response: burials—or worse cremations at night, the care units barricaded behind fences, the protected clothing with no means to see the person inside.

In the Parasite, Michel Serres argued the constitutive role of noise in the exchange of messages: without interference there can be no communication. He compares philosophical commitments to clear and distinct concepts as a kind of thinking on the moon: “without any atmosphere, where a screen separates space into black and white, furnace and glacier, blinding light and opaque night.” But where there is atmosphere, “the air, the milieu, makes light diffuse; it outlines obstacles, lights, the other side of walls, single-point lights sources producing scallops and patterns” (180: 70). In contrast to permanent and singular gaze of biopower, that this paper we have attempted to follow these shadowy outlines to redraw the domestic as an assemblage of complex intersections and disruptions.

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