



# COMPOSING WORLDS WITH ELEPHANTS

*Interdisciplinary dialogues*

Edited by  
Nicolas Lainé  
Paul G. Keil  
Khatijah Rahmat

  
Éditions

collection  
[mondes vivants]

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The mahout, Oupe, caringly hand-feeding the sub-adult female, Rohila, before she returns to the forest for the evening (Kamrup, Assam, 2014).



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## CHAPTER 3

# THE OUTLIERS

## Reimagining human-elephant relations in rurban South India

*Nishant M. Srinivasaiah, Anindya Sinha*

*Outliers are those who have been given opportunities—and who have had strength and presence of mind to seize them.*

Malcolm Gladwell, *The Outliers: The Story of Success*

### INTRODUCTION

About two decades ago, HIR and MAK, two mature Asian elephant bulls, began to range a hundred kilometres from their forested habitats in the Eastern Ghats landscape of southern India in an effort to access rich production areas, six months each year. During this journey, they would traverse highways, railway tracks, canals, electric lines, and townships, not to mention dodging walls, vehicular traffic, and other barriers, taking on considerable risks across this rapidly urbanising landscape (SRINIVASAI AH, 2019). This long and arduous trek across many territorial forest divisions and districts of southern India did not, however, go unnoticed, as it is hard to miss these giants moving through villages and towns, often in broad daylight. Most importantly, they would leave tell-tale signs of crop feeding and broken barriers.

In the relatively recently discovered agricultural areas, however, MAK and HIR were not alone. They formed part of a group, which included ten other male elephants that resided in these human-use areas almost throughout the year, without even having met an elephant of the opposite sex for nearly five years! They were all young adult or adolescent males, dispersing from their natal herds that roamed their traditional forested home ranges in search of new pastures (SRINIVASIAH, 2019). Being younger than HIR and MAK, these ten males had not yet developed set musth periods when they would cyclically experience heightened sexual activity. While the two mature males would often return to their forested habitats when in musth, to be with female elephants, the younger bulls did not seem to experience any such urge, hence remaining in the human-dominated habitats continually (SRINIVASIAH et al., 2019). The only links these young individuals appeared to have with their traditional habitats and conspecific females remained presumably embedded in their memory of life in their natal herds and the information they possibly gained through later interactions with HIR and MAK, when the duo would return from the forest.

To survive in such high-risk, human-dominated landscapes, the males came together to form large and stable all-male groups—novel for Asian elephants—in a highly fragmented, human-dominated landscape (SRINIVASIAH et al., 2019). They would take refuge in small forest patches or waterbodies during the day and forage mostly on crops at night when human activity is at its lowest, thereby actively modifying their sociality and time-activity budgets from those in the forest. Individual males also developed alternative behavioural profiles and displayed different behavioural tactics and strategies based on whether they were in a forest or production landscape, providing evidence of their remarkably plastic behavioural capacities. These strategies were clearly adaptable, as they helped these males maintain good body condition and remain in musth for relatively longer periods of time, possibly leading to improved reproductive fitness as well (SRINIVASIAH et al., 2019). The two mature bulls would occasionally be in musth for up to six months at a time, but the younger males showed signs of musth only once or sometimes twice a year. The formation of such unusual all-male groups, their demographic compositions and unique behavioural adaptations thus suggest to us a complex interplay of *space*, *knowledge*, and *capabilities*—of both people and elephants—that may trigger these emergent behaviours, some adaptive but others, unfortunately, potentially maladaptive in the long term.

## SPACE: LANDSCAPES OF EVER-CHANGING PERCEPTIONS

It was just about fifty years ago that the nature of the interaction between humans and elephants saw a paradigm shift in India from being largely persecutory to preservationist. The Wildlife Protection Act of 1972 became a watershed moment, not just for the elephants but for most wildlife across the country. The forested habitats of elephants began to shrink less, and deaths due to poaching and hunting began to decline. More importantly, the capture and killing of elephants became highly regulated. This was especially true for the Eastern Ghats landscape of southeastern India, the land of HIR and MAK. Within this same period, nevertheless, an increasing human population, expanding agriculture and a spurt in infrastructural activities fragmented the elephant forests, setting the stage for the development of new modes of conflict between the two species, violent as before but perhaps less asymmetrical in their physical and psychological impacts (Figure 1). The spread



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**Figure 1** | On being chased by farmers, two young adult males, TIN and PT, and a subadult male SAM—from right to left—run towards a banana plantation to take cover.

of agricultural fields, facilitated by a transition from dryland cropping to water-fed agriculture, now provisioned these forest elephants with a staple source of rich human foods, triggering off urbanised wants—relatively rapid behavioural adaptations in response to novel anthropogenic factors—and new opportunities in their lives; a process of synurbisation, or adapting to an increasingly urbanising landscape, as has earlier been defined for humans (SOROKIN, 1928; PARSONS 1949), has thus begun. And most dramatically, all these changes have occurred within the life span of an individual elephant!

The older males, such as HIR and MAK, were born on the cusp of this paradigm shift. They thus escaped the large-scale elephant captures for use as draught animals or being hunted for sport, ivory, or meat in a manner that their ancestors, tragically, could not. In contrast to their predecessors, however, they did not have undivided forests to range in. Their social upbringing, in fact, now involved traversing forest patches fragmented by crop fields, roads, dams, and other infrastructure while striving to avoid humans due to a persecutory fear, which they may have learnt from their mothers or other members of their natal herds. Theirs was possibly the first generation of elephants that initially experienced persecution, as their once pristine forested habitats began to be subjected to rapid urbanisation, with barriers designed and constructed to restrict their movements to the now-protected reserves and sanctuaries. Across southern India, the primary foraging grounds of elephants had by now been converted to rich production areas for humans, with the valleys being cultivated for staple foods, such as millets and paddy. The untameable hills of the Western Ghats, however, remained relatively inviolate, and it was here that most elephants took refuge. The relentless invasion of agriculture, now in the form of coffee and tea plantations, however, further drove the elephants into smaller hilly patches, which were already secondary habitats with poor-quality food for the large herbivores. The process of habitat dispossession was finally complete when grazing livestock, along with their human caretakers, vehicular traffic, heavy infrastructure—and more recently, townships in most rural and peri-urban areas of southern India—exposed these bewildered elephants to a stark, more-than-forest, reality that they had never experienced before.

The destruction of their habitat has been so severe that, in some cases, elephant herds have now been entirely displaced from their natal ranges,

sustaining themselves solely on food grown by people. For others, foraging on crops has become routine when they traverse a matrix of forests and agricultural fields, primarily due to habitat fragmentation. As a result, the perceived organic world of HIR and MAK, especially in their later years, began to increasingly include humans, infrastructure, and novel—but stressful—associations almost daily. For the younger-generation males, such as TIN and SAM, who were born only 15 to 20 years ago and have associated closely with HIR and MAK, interacting with humans has even become the norm, crossing a railway track a regular practice, and water bodies are not just for drinking, bathing or socialising, but for taking refuge from humans during the day (Figure 2). This is an emergent behaviour, which is being shaped, as are other unusual tactics, by the ever-changing perceptions that the elephants are uniquely developing as they, almost systematically, cross the insecure matrices of forest and non-forest habitats across the landscape in their search of food, water, and shelter.



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**Figure 2** | SAM and TIN spend their daylight hours in a waterbody neighbouring a cropfield—a novel behavioural strategy to avoid being driven off by farmers.



## **| KNOWLEDGE: NOVEL CONCEPTIONS OF REALITY**

The female elephants in this gradually synurbising landscape may not have, however, experienced such dramatic changes in their life histories, protected as they are by their maternal instincts to keep their young away from the threatening cropfields. The risks involved in these human-use production landscapes may indeed be too high for the calves in these herds (SRINIVASIAH et al., 2012). TIN and SAM, however, spent their adolescent years away from their natal groups in totally dedicated production landscapes within our study area. They thus traversed landscapes far more dynamic in nature than were their traditional forest settings. Changes in forests may occur over seasons, but this production landscape could alter drastically within days. When these rurban elephants—those learning to adapt to rapidly humanising environments—forge in the newly emerging peri-urban habitats, they need to learn to cross unfamiliar roads, avoid buildings and other barriers, and interact with people who could be experiencing encounters with wild elephants for the first time in their lives. The waterbodies have now filled up with water from far away dams, fed through canals, and with water levels totally unconnected to the rains in the region. They can now support crops grown with groundwater available throughout the year, unlike seasonal natural forage. Most importantly, elephants have never encountered these foods in their ancestral lands.

The adaptability of the rurban elephants to living in such dynamic environments is evidenced in their response to our camera traps. While moving out of the forest one late evening, TIN and SAM triggered a camera trap placed next to a regular path to record their movements and study their behaviour. The flash of the camera made them both beat a hasty retreat, probably a reminder of their persecutory fear of humans with torch lights at night, guarding their precious crops, or even shooting at them. Both, however, soon turned around to face the camera, touching their faces with their trunks in a display of ambivalence before eventually choosing to go past the camera toward a neighbouring crop field. From this point onward, whenever they encountered this camera trap, be it at night or during the day, SAM and TIN would make eye contact with it, but they no longer showed any ambivalent behaviour. It seemed to us that they had accepted the camera trap, an alien object, to

be a part of their home range, thereby creating a new mental model of reality within which all encountered cameras were possibly destined to form an integral part (Figures 3 and 4).



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**Figure 3 |** A subadult male POI and an adult male AMA physically contact one another closely during a bout of affiliative interactions, typically displayed in human-dominated habitats.



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**Figure 4 |** An all-male group of young individuals, led by the subadult male POB, being driven away from a human habitation.

To improve their chances of survival in such high-risk habitats, we suggest that elephants living in human-dominated landscapes may have to update their mental models of reality much more rapidly than their forest-dwelling counterparts (SINHA & SRINIVASIAH, 2021). Such elephants are, therefore, exposed to a wide spectrum of quotidian interactions and experiences, providing individuals with positive and/or negative behavioural stimuli. These frequent interactions also presumably help formulate and establish the appropriate counter-behavioural responses through reinforcement or feedback mechanisms. Elephants could thus learn to display stimuli-responsive behaviours through trial-and-error learning, all of which emerge from their own first-hand experience but which ultimately contribute to a novel repertoire of behavioural acts and tactics that are specifically chosen as appropriate within their experienced, and now perceived, spaces. However, establishing an adaptive behaviour through trial-and-error could take time and may prove risky, and possibly too costly, for a new entrant in a human-dominated landscape where mortality rates may be several folds higher than in the forests (SRINIVASIAH et al., 2019). We thus believe that active social learning from older and more experienced compatriots, which could lead to the emergence of persistent, culturally transmitted, socioecological traditions, may provide a less risky learning strategy. Such a learning mechanism could also include the emulation of already established behavioural responses of older and/or more experienced male elephants to various stimuli in these landscapes, in addition to time- or situation-tested behavioural strategies gradually incorporated into the developing life-history strategies of the younger males (see WHITEN, 2000 for a review). Finally, one could speculate whether insights individual elephants gain from their experiential learning in certain environments could then be applied to novel situations they encounter in the future (Figure 5).

The high propensity of the rurban male elephants to persist in our study of a production-based, human-dominated landscape, replete with highly nutritious food, ample water supply and negotiable infrastructure, allows us to visualise a possibly significant departure in the elephants' conception of an earlier world, when there were only forests with limited water sources, exclusively natural foods and, most importantly, little or no human presence. The information and perhaps knowledge that TIN and SAM obtained by interacting with their peers and, more importantly, with older individuals like HIR or MAK, who



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Figure 5 | PTJ touches his face after inspecting a camera trap.

continued to move between the forest and the production landscapes, could be of prime importance for retaining contact with the ancestral forest in modern-day elephants, but possibly only for a limited, foreseeable future.

## **| CAPABILITIES: EMERGENCE OF FUNCTIONAL STATES OF BEING AND DOING**

Adolescent male elephants, such as TIN and SAM, had typically grown up in and around agricultural areas with conflict as a norm in their everyday. This seems to have driven them to learn to respond to changes in their lived spaces in several ways. Today, these young elephants display unique behavioural adaptations, such as forming stable all-male groups, remaining submerged in large waterbodies close to villages

during the day, suppressing their foraging during the daylight hours—occasionally up to 12 to 14 hours—and feeding exclusively on crops nocturnally: all presumably in response to human activity in their surrounding areas, now devoid of forested habitats. Such behavioural adaptations are clearly extreme, as elephants are usually known to feed for about 18 hours a day and typically require forested habitats. Moreover, it is possible that individuals in these all-male associations coordinate their behavioural activities and tactics in such a way that promotes more efficient and safer crop-foraging behaviour, especially in these high-risk, high-resource areas.

While it might be relatively easier for developing young bulls to exhibit these uniquely adaptable behaviours, it is remarkable that the older mature males, HIR and MAK, actively switch from feeding exclusively at night when in a production landscape to a more diurnal foraging schedule when in a forested habitat. Not merely limited to such behavioural tactics, these males also displayed dramatic variation in their foraging patterns, from opportunistic feeding on crops to that on more natural forage, from living in all-male groups to occasionally associate with herds, and from using waterbodies as refuge to more normal patterns of watering, bathing, or socialising in them, all evidence of their unusual phenotypic flexibility. This behavioural plasticity shown by the older males could be considered lived reality, the norm for many elephants in the human-dominated landscapes of the Anthropocene.

We would like to frame the behavioural adaptation and plasticity displayed by our study elephants in terms of alternate sets of “capabilities”, with such capabilities representing the effective freedom of an individual, at any given time, to choose between different kinds of “beings” and “doings”, or “functioning” in ways that the individual has their own reasons to value (SEN, 1999; NUSSBAUM, 2011). Each elephant, we thus envisage, has a set of basic—read innate, biological—capabilities, contributing to the development of their rather “fluid and dynamic” internal capabilities, including, for example, “their personality traits, intellectual and emotional capacities, states of bodily fitness and health, internalized learning, skills of perception and movement” (NUSSBAUM, 2011, p. 21). However, all of these capabilities develop through interactions with biological, ecological, and anthropogenic environmental conditions.

Each elephant, we also suggest, has the ability to convert these internal capabilities—their available resources—into an active functioning, which incorporates within it such socioecological capabilities as group-living, strong social ties, degree of sexual dimorphism, and other features that manifest during environmentally sensitive stages of growth, development, and reproduction. What must be realised is that the expression of such “combined capabilities” of each elephant is crucially dependent on their immediate environments “allowing” them to completely exercise their choices to “be” and to “do” in accordance with their free will. In a manner similar to humans, therefore, nonhumans—elephants, in this case—appear to actively make choices geared towards fulfilling their ultimate goals or functionings or what they would want to be or do under a set of predefined conditions. They should thus be capable of exercising their normative claims—their freedom to achieve well-being, in terms of their abilities to forage or socialise as they would like to—on a daily basis, a fundamental assertion of the capabilities approach of SEN (1999) and NUSSBAUM (2011). When biologically trivialised for a male elephant, this would presumably translate ontologically to a state enhancing the individual’s survival and reproductive success.

Furthermore, an elephant may be conceptualised to have a particular set of potential beings and doings based on their basic and combined capabilities. The realised set of beings and doings could ultimately be shaped by the learned knowledge they have experientially acquired. This combination of a male elephant’s actualised/realised functionings is thus the life he finally chose and was allowed to lead, a life that could also be construed in terms of the lived spaces of the elephant, a constant struggle between his originally conceived and ultimately perceived spaces (SINHA & SRINIVASIAH, 2021). Ideally, it may be hoped that his conceived and perceived spaces overlap completely and constitute an integral whole, although, in reality, the rapid and disruptive environmental changes being experienced by an elephant today may necessitate, and make imperative, a much more palpable comprehension of a life lived unpredictably, susceptible to its unique quotidian unfoldings. We also believe that these emergent sets of realised capabilities and functionings form the essential prerequisites for human and elephant coexistence in the future, manifesting by way of adaptive behavioural responses of both species to increased interspecies understandings of one another.

## AN OUTLIER'S PERSPECTIVE OF THE ANTHROPOCENE

The behavioural plasticity that an individual male elephant displays in response to a changing landscape, as they emigrate from forested habitats to production areas, sets the stage for space-appropriate behavioural decisions. While land-use and landcover changes may be the major drivers of elephant movement and occurrence, the nature of these elephants' interactions with the human inhabitants of these regions defines their relationship with the landscape and the life-history strategies that they ultimately adopt. While most human-elephant conflict mitigation measures are geared towards either returning the landscape to the conceived space of the elephant—their forests—or the removal of elephants from their current perceived space—the agricultural fields—we strongly believe that it is essential to consider the interactions between elephants and humans to address and increase the possibilities of peaceful coexistence in their “lived spaces”. The many elephants in the production landscapes are, in fact, at the forefront of showing us, through the expression of their capabilities, shaped in part by human presence, decisions, and capabilities, how coexistence may be possible between the two species, largely through the co-creation of alternate sets of multispecies capabilities. The key to conflict mitigation lies in these co-constructed, co-lived spaces. It is unfortunate, however, that the elephants in co-lived spaces are often lost, as it may be hard for humans to accept a perceived space shared with elephants, hardwired as we are to our own conceived space, devoid of beastly creatures. With the loss of each elephant, we directly lose knowledge critical to the survival of the species and indirectly to our own well-being in the Anthropocene.

Capabilities theorists have long suggested that a good and fruitful relationship with nonhumans and the world of nature is an important capability intrinsic to human flourishing (NUSSBAUM, 2006, 2017; LINCH & HOLLAND, 2017; WICHERT & NUSSBAUM, 2017). Unfortunately, negative human-elephant interactions have, over time, served to cripple the capabilities of agriculturists and elephants alike, preventing each from expressing their freedom of choice and thus increasing mutual intolerance and conflict. If unaddressed, the consequences of such intolerance will be increasingly seen in antagonistic behaviours, including damage and destruction, displayed by humans and elephants towards

one another. Our mitigation measures, therefore, need to be aimed at increasing the capabilities of people affected by elephants and vice versa to provide each with alternate capabilities allowing for the achievement of their desired end goals or functionings. The future remains uncertain, but the key to resolving the issues of human-elephant conflict may lie in facilitating the behavioural adaptability of both people and elephants to the changes that are rapidly occurring in their shared environments.

Ranging in areas with human densities of up to 200 individuals/km<sup>2</sup> and foraging on cultivated crops, the frontier elephants only signify conflict to most people. And such perceived conflict is at its worst, most violent, when it is consumptive, especially over shared food and land resources. Given this extreme behavioural adaptability exhibited by these elephants in effectively responding to any contingency they encounter, we have been quick to judge them as an anomaly. Moreover, they are so different from our conception of their forest-dwelling counterparts that they have even been considered outliers or freaks. In statistical terms, outliers are extreme values that create noise in the data or population and are deemed best removed. For our own outliers, HIR and MAK, juggling between the different realms of reality did indeed prove costly. And hence, unlike the glorious outliers spoken about by the writer Malcolm Gladwell and quoted at the beginning of this essay, HIR was captured and taken into captivity, where he later died. A year later, MAK was electrocuted in a cropfield as he returned to the forest at daybreak. There is no doubt that the same fate will befall the male elephants in our high-risk, human-use study areas; they have very little chance of surviving the threats posed by the landscape.

With their only link to the forest elephant community almost completely cut off, the young males have now started venturing further than ever before. The more fortunate find forests to settle in while the others discover new agricultural fields and get embroiled in more conflict. The twelve males with whom we began this essay were not the only group in our study landscape displaying this behaviour. We increasingly found adolescent and mature male elephants using other production landscapes in the region almost throughout the year. Three other all-male groups, one to the east, another to the west, and the third in the central region of our study area in southern Karnataka—up to 60 individual males have now been discovered to reside outside their traditional forest habitats for varying periods of the year in the western Tamil Nadu districts. With these developments, the production landscapes abutting forested elephant



habitats seem to have become the “bull area” in this Asian elephant community while the females continue to live within the forests. This new emergent behavioural repertoire of the male elephants begs the question of whether we should still consider HIR and his posse of males, and their tactics of survival and reproduction, as outliers. Instead, do these outliers represent the new norm? More importantly, can we afford to treat these outliers as extreme data points, as in statistical analyses, as they alone seem to hold the answer to the increasingly important question of how we can ensure peaceful coexistence with the frontier elephants? The behavioural ecologies of the nonhuman, embedded within the typically human-dominated political ecologies of land and livelihoods, possibly present one of the most important challenges—and opportunities—for lively engagements within the urbanising, multispecies, more-than-human lifeworlds of today. Our common worlds and entwined futures are here and now.

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