

Trekking the Amazon with Love and Care

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Abstract This essay highlights the philosophical views of the Jotī, an Indigenous group from the Venezuelan Amazon. Daily Jotī behaviors are embraced by a notion of life in which everything is interconnected (*mana jtīdemame*) and should be respected given its sacredness (*jkīmañe*). Furthermore, life is in perennial movement (*jkeibīae dekae*) and is designed to be carried out together in groups (*uliyena majadīka*). The maintenance of life is related to engaging in solidarity, reciprocity, and amicability (*me madōng*), with these values being the key metaphor for hunting-gathering-farming-fishing rather than predation. The universe is populated by a myriad of entities with unique capacities, volitions, and motivations (*budēkimade*)—like those of people, regardless of their nonhuman appearances—evidence that the universe's inherent condition is subjective, and all life forms originated from the same root. Likewise, no landscape or life form is pristine or final; instead, everything is potentially subject to ceaseless transformation (*jka ojtalī ~ jkabaemade*). Those reasons provide the basis for why every person should strive for righteousness (*nī jtī maudōna*), endeavoring to be morally good and practicing love-care with all that surrounds us (*jkyo jkwainī*). Love-care is the translation of a praxis considered an innate essential constituent of all persons. It is also the fundamental strategy to sustain and protect life. Given that nothing prevents a person anywhere in the world from embracing love and care as their life motto while struggling to prevent the current path of destruction of the Earth, the enactment of love-care is an endless possibility regardless of location or time.

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The Persons

At sunrise on a soft morning, we started walking. Ijtö and Ilē were graciously leading the way. They were loudly whistling, singing, chirping, and cheerfully talking to the forest animals. The forest itself was damp, bursting with day-loving creatures. The manifold sounds echoing through the understory called to us and observed us on our journey. Butterflies, macaws, caterpillars, quails, wasps, hummingbirds, termites, squirrels, toucans, frogs, parrots, spiders, oropendolas, mosquitoes, orioles... so many life forms produced an untuned concerto, decidedly exquisite and mysterious. Around the vines, trees, shrubs, and palms, the sounds were not shy; they were statements,

announcing the presence of those that produced them. Smiling, Ijtö stopped beside a huge, buttressed tree trunk. After touching its bark, he introduced me to this handsome specimen, Uli Jkwivi, as his brother, and explained how his lineage descended directly from this family of person-plants. He told me that Jkwaijle (Saki monkey), however, was his preferred cousin. Ilē, instead, came from Ajlikwete lue jyei (Inga sp.), a powerful but different tree-lineage. They had been together for decades and raised a family of 9 children. The next stop, they laughed, would coincide with our unannounced encounter with her ascendant's tree relative and perhaps other ones (field notes April 2002).

Categories are subsumed in unique cultural contexts, times, and spaces, often leading to confusions across cultures. The memory narrated above reveals phylogeny and kinship among botanical, zoological, and human spheres, domains which are considered scientifically separate. Here, Ijtö and Ilç, a Joti couple, consider the saki (*Chiropotes chiropotes*), as well as other living entities, as their paradigmatic equals. This view is consistent with the Joti relational multispecies universe which permeates daily life dynamics (Zent and Zent 2020), asserting their common ancestry with other-than-human-persons, including specific Amazonian trees (see below).

The Joti hold a conception of personhood that is not exclusive to *Homo sapiens*. Instead, it includes what Hallowell (1960) called “other-than-human-persons”, as found among the Ojibwa. Since then, a substantial number of Amerindian groups have been shown to share a similar broad notion of personhood (Århem 1996; Crocker 1985; Morrison 2002; Robinson 2014) pervading their conception of reality, which has generated a rich body of research known as multispecies ethnography (Yates-Doerr 2015). Humans and other-than-human persons are equally awarded consciousness, agency, and souls, playing a cosmic role (Viveiros de Castro 1998). Beyond the Americas, legal rights have been demanded for “subjects” previously recognized as “natural objects” (i.e., the Whanganui River, Te Ao Māori; Vicente 2020). Biocultural conservation efforts could potentially intensify if the subject status were granted to other-than-human entities. Indeed, the importance of other-than-human persons has recently infiltrated fields like conservation biology (Wallach et al. 2020),

although it is still necessary to create transdisciplinary bridges to incorporate the vast anthropological literature on this topic. Other-than-human persons are not mere abstractions but rather are interwoven into the dynamics of life for millions of people, challenging the scientific notions of nature and culture, as illustrated in Table 1, with our ongoing reflection on speciation in two discursive traditions.

According to this conception of life-form order, plants, animals, and people are equal but different, nonetheless sharing similar habits and cultures. The processes that generate the different life-forms are essentially opposite in Amerindian and scientific traditions. For example, speciation sprouted from reverse trajectories: in Amerindian ways of knowing, hominids descend from humans while in scientific ways of knowing humans descend from hominids. Communicability among distinct narratives could thus turn impossible, failing to agree on the genesis of basic categories like persons, nature, and culture. Contrasting views of speciation constitute a good example of Viveiros de Castro’s (2004) method of controlled equivocation, in which local peoples’ practical and discursive concepts are communicated through the scientific conceptual apparatus. This practice has sometimes proved to be grounded in misunderstandings associated with epistemological imbalances, which can lead to inaccurate assumptions. This method is useful for underlining ethnobiological *equivocations* (Furlan et al. 2020). Furthermore, the comparative approach has the potential to increase the possibilities of building more effective biocultural conservation strategies that could be applied in multiple contexts.

Table 1 Critical characters in two narratives that explain speciation.

Critical Characters	Scientific	Joti
Creation	<i>Ex nihilo</i> (out of nothing, initial combination)	<i>Ex materia</i> (out of preexistent something)
Perpetual movement	Evolution	Transformation
Selection process	Natural	Volitive
Unit of evolution	Individual sp.	Interrelations among spp.
Target	Matter/bodies	Bodies/morality/spirit
Objective	Survival of the fittest	Continuity of biosphere
Ultimate reference point	Cell	Human condition
Status	Object	Subject
Common original condition	Chemistry	Humanity
Cognition	Unconscious	Conscious
Dimension	Finite, prediction	Infinite, chance



The ways the first two authors embraced Amazonian forest and peoples during the last 25 years permeated our own categories and methods of thinking. The Jotĩ requested our cooperation in their struggles for land, health, identity rights, and in strategies to preserve their language and biocultural knowledge. In engaging in such community projects, the Jotĩ expanded our comprehension of their values and ways of life to maximize our suitability for their goals. From the onset, they established our roles as transmitters of technology, information, and services from the outer world. We have served as mediators and liminal allies, with the purpose of achieving land and human rights as well as biocultural conservation objectives recognized by global society. Our training flipped the traditional way that academics engage with local communities by conducting collaborative action research (Zent and Zent 2022a). Multiple learning events taught us a range of dynamics of knowing, giving us diverse lenses as apprentices grasping parallel, distinct realities. Eventually, some *jkajo jadi* (light wise women/men) asked us to communicate their philosophy of life to *dodo jotĩ* (non-Indigenous people), convincing us that *jkɛyo jkwaini* is the main survival strategy in the Anthropocene. This essay builds upon that request. *JKɛyo* is a polysemic nominal lexeme and constitutes the closest equivalent to “environment” in the Jotĩ language. *Jkwaini* is a verb that is also semantically complex, encompassing “love [in the sense of emotional attachment], appreciate, respect, nurture, protect, care for, and refuse to give up”. Lack of space prevents us from providing examples of the enactment of *jkɛyo jkwaini* in daily life as well as the many conservation movements worldwide which are engaged actively in a similar ethos of love-care (see Zent and Zent 2022b).

This paper explores ethical categories under *jkɛyo jkwaini* and has the naïve goals of (1) helping to build bridges between disciplines and (2) highlighting the potential of localized biocultural conservation approaches that recognize the vital roles and relationships with other-than-human persons in human lives and habitats. Bridging disciplines can perhaps help to reduce the enormity of the gap separating our ontologies with those of Indigenous peoples (Viveiros de Castro 2004:15). We nurture the polemic politics of ontology (Holbraad and Pedersen 2014) while working to build a better world, beyond or despite the different ontological assemblages (cf. Descola 2005 animist, totemic, analogic, or naturalist) of persons in a network of specific relations. In

support of our candid goal is the ubiquitous Amazonian narrative and praxis of convivial coexistence based on the principles of love, care, compassion, generosity, and the spirit of sharing (Overing and Passes 2000:3) as the axiological dynamic of society. *Jkɛyo jkwaini* is the translation of that ideal, indeed emotional, axiom for the Jotĩ, stressing amicability, companionship, and empathy across life-forms as the essential strategy sustaining life (Zent and Zent 2022b). This ethos bridges local and global, biological and cultural, modern and traditional, as well as individual and social strategies of caring for the Earth, thus responding to the contemporary challenge of building effective biocultural conservation approaches (see Gavin et al. 2015), given that love-care is always an option at hand in almost any circumstance.

The Jotĩ

Jotĩ is the self-denomination of a highly mobile, minimalist group of about 1,500 people who have lived for untold generations in the forests of the Sierra Maigualida, Venezuela. Jotĩ sustenance depends on their forests and their knowledge about them; they dedicate about 80% of their subsistence ecology time to foraging (*jkɛyo balebi*), while 20% is concentrated on horticultural tasks (Zent and Zent 2012). An extensive ecological knowledge mastered since childhood allows the Jotĩ to benefit from a varied resource base. An indicator of the depth of their knowledge is the number of different species used for food or some other purpose, including 600 wild plant types, 70 cultigens, 50 mammals, 15 fish, 95 birds, and 75 arthropods. A summary of the number of plants per use category is shown in Table 2.

Jotĩ hunting-gathering-agroecological-fishing practices are based on a profound knowledge of their natural environment that is enriched by a multifarious ideology explaining how the world functions. Considerable ethological and phenological knowledge (botanical, zoological, fungal, geological, hydric, and ecological), often encoded in ancestral narratives, is mastered since childhood by most Jotĩ. Such knowledge permits them to persist and reproduce as a cultural and biological group. The viewpoints and narratives of more than 200 Jotĩ (Zent et al. 2019) offer comprehensive and detailed accounts of their life, history, ecologies, ecogonies, and philosophy.

The Jotĩ trace their ancestry directly to several native Amazonian trees: *jiĩtimo jyeĩ* (*Apeiba* cf. *schomburgkii*), *alíkewete luwe jyeĩ* (*Inga bourgoni*), *jkɛwini jyeĩ*

Table 2 Number of plant species used by macro-category.

Macro-category	Families	Species	Undetermined	Jotī taxa
Edible	58	222	43	253
Medicine	67	182	76	229
Construction	59	285	46	294
Fishing	18	36	4	39
Firewood	54	325	51	351
Drinks	9	11	4	14
Sanitary	15	23	7	29
Technology	59	193	50	245
Animal food	91	550	89	591

(*Caraiipa densifolia*), together with *jwalulē* (*Musa x paradisiaca*), the domesticated South Asian plantain. These person-trees fabricated humankind with the assistance of a diverse set of person-plants such as *ulu* (*Attalea maripā*), *janī bate* (*Oenocarpus bacabā*), *muli* (*Socratea exorrhizā*), *jtawibo* (*Guadua* sp.), *jwāna* (*Arthrostylidium schomburgkii*), *nijnēo* (*Monotagma laxum*), *jtawe* (*Calathea* spp.), *dōkō* (*Calathea* spp.), *mau* (*Protium* spp.), *jtokolo jtawī* (*Himatanthus* sp.), *malu jtawī* (*Trattinnickia* spp.), *wejtolo* (*Cecropia* spp.), and the cultivated shrub *jkulilu* (*Bixa orellana*). Sub-groups of

Jotī ancestry are organized after plant-person assemblages, influencing aspects of their social composition and dynamics (Zent 2009:19). Originally, most animals (mammals, birds, and arthropods) were people who transformed their physical shapes in diverse primeval events. Many of them emerged from the primordial *jkwē* ‘food’ tree, singing when it was cut down: each sound imitated a new animal-person. The most frequently mentioned animal-persons are listed in Table 3. Diverse animal-persons are kin, especially *Uli jkwayo*, *Janī jkwayo* and *Imo*, considered to be *nā jti*

Table 3 Most frequently mentioned animal-persons.

Jotī Name	English Name	Latin Name
ajkujkēdī	spiders	several species
añodī	crickets	several species
duwēno jkwajtībō	brocket deer	<i>Mazama americana</i>
ijtidī	scorpions	several species
imo	howler monkey	<i>Alouatta seniculus</i>
iyē	crabs	<i>Fredius</i> spp.
janī badebodī	palm weevil	<i>Rhynchophorus palmarum</i>
janī jkwayo	capuchin monkey	<i>Cebus olivaceus</i>
jkijki	squirrel monkey	<i>Saimiri sciureus</i>
jkilēkā	orange-cheeked parrot	<i>Pionopsitta barrabandi</i>
jkili	golden-winged parakeet	<i>Brotogeris chrysopterus</i>
jkwaijlē	saki monkey	<i>Chiropotes chiropotes</i>
jkwii	piping guan	<i>Pipile pipile</i>
jkjado ajkuli	agouti	<i>Dasyprocta leporine</i>
jtukuli	hummingbirds	Several species
lolo	Amazon parrots	<i>Amazona</i> spp.
nimodī	red ants	<i>Atta</i> spp.
uli badebodī	bearded weevil	<i>Rhinostomus barbirostris</i>
uli jkali	northern Amazon squirrel	<i>Sciurus igniventris</i>
uli jkwayo	spider monkey	<i>Ateles belzebuth</i>
uli jkyejko	cuvier’s toucan	<i>Ramphastos cuvieri</i>
uli jwāili	black curassow	<i>Crax alector</i>
uli ojko	long-nosed armadillo	<i>Dasyopus kappleri</i>
yowā	tapir	<i>Tapirus terrestris</i>



jluwëna, the most affective and cooperative non-consanguineal relation. They are also among the most appreciated meat, being ranked the first, fifth, and tenth most hunted prey respectively. The rankings reflect the aggregate results of the gross weight of animal captures/collections recorded in four Jotí communities (Kayamá, Iguana, Majagua, and Mosquito) by the authors or trained local residents over a three-year time span (see Zent and Zent 2008 for more detailed description of the method used and results). These persons, along with some stars, fungi, bodies of water, stones, and mountains, reproduce Jotí social and moral conditions (kinship, ethics, relatedness, tools, etc.), through a life strategy based on effective and affective daily interactions infused with reciprocity and respect.

The Ethos

Peoples' ideal commitment in the concert of life is embedded in a universe characterized by the following qualities:

1. *Mana jtidemame*: everything is interconnected. Borders between perceived and discrete entities are illusory, just as the limits between matter and spirits are fuzzy. Behaviors provide keys to understand the essence of entities more than their forms. Selfishness, for instance, is a trait seen as being uncharacteristic of or even opposed to authentic humans. For example, if someone is morphologically human but they act selfishly, they are not considered to be a true person. Flexible boundaries characterize the perceptual and non-perceptual reality, allowing a better understanding of the phenomena and the ways in which one's guise and manner change according to the context. This foundational paradigm sets the basis for biological and social life dynamics, just as much contemporary science is recognizing the importance of relational modes of existence (Laszlo 2003; Timmis et al. 2019:1521).
2. *Jkeibiae dekae*: perennial movement, never-ending dynamic of change. The contexts of movement are multiple, relative, and depend on one's place and role. The three spheres or layers of life, sustained by trees *jkyo* (sky), *ne* (earth), and *nejkwa* (underworld), as represented in Figure 1, are constantly rotating as flat spheres (in clockwise and counterclockwise directions). Movement is ceaseless on the Earth, nurturing life while allowing the sharing of water, air, sap, and light. Stillness is virtually an illusory condition.

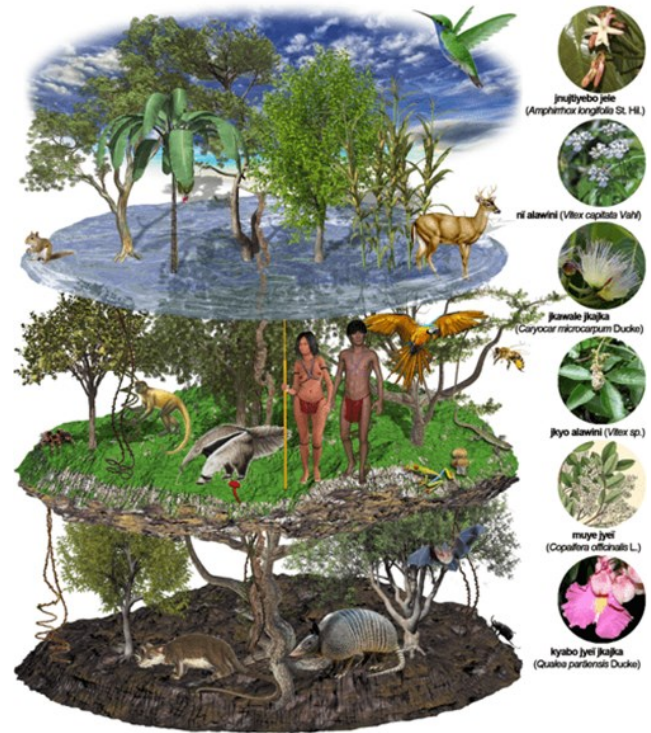


Figure 1 Cosmos, Spheres of Life and Trees that sustain All, elaborated by Nuria Martín.

Movement is innate to all persons, inside their bodies and expressed in the social interrelationships with one's surroundings (*jkyo*), as illustrated by the endless circulation of thoughts, food, liquids, sadness, beverages, pain, joys, secrets, dreams, scents, diseases, hopes, body fluids, plans, love, hate, and other states of being.

3. *Budëkimade*: the existence of countless subjects beyond humans, or the subjective condition of the universe. As mentioned above, the Amerindian world is populated by both other-than-human and human persons engaged in similar dynamics of interrelationships and social links, which are interconnected while attending to their needs and interests (Morrison 2002). Table 4 shows the essential, substantial, visible, and invisible components of a Jo person. Ancestral narratives, as well as current beliefs, state that phylogenetic identity substantiate Wilson's biophilia theory and are the genesis of life, as illustrated in Figure 2. The non-linear explanation of life-forms as having circular-interlinked origins reveals a syncretic space-time notion that is expressed in diverse matters (speciation).

**Table 4** Fundamental components of a person.

Joti Name	Approximate Translation	Allows the Person to
<i>Īnē ja dodo</i>	physical expression of self and its sheath, body	apprehend, think, move, stay in the sensual space; transform the material aspect and the habitus
<i>ljkwōju</i>	heart, blood, soul	see, feel, predict, know, live as sentient being. It's the first to enter and exit the human body. Human essence gives subjectivity and sensibility.
<i>Jnamodī</i>	animus, spirit, 2-4 invisible components	dream, understand, apprehend, perceive the ancestral ways, absorb or deflect diseases and attacks; redirect good energies. They communicate directly with jnamodī and jkyo aemo of all beings.
<i>Awēla</i>	shadow, reflection	sentient transformation of the person body after death, potentially dangerous

4. *Uliyena majadika*: be together, to live in groups. The awareness of our social—not individual—condition is reinforced from birth, along with the viability of being divisible, that is to say different from an indivisible person/thing (from Latin *individuum*). The stress here is on each *dividuo* i.e., partible or divisible person, their behaviors and products are interdependent and not isolated (see Strathern 1988). All production is the result of collective actions in a relational social matrix. This even extends to a lack of personal names in the most traditional isolated communities. The constitution and maintenance of bodies and minds depend upon a myriad of unquestionable entities, relations, processes, and dynamics. Likewise, the forest and knowledge are collectively constructed, as are the daily social practices of eating, drinking, reproducing, propagating, building, dancing, singing, relaxing, dreaming, collecting, hunting, resting, or sleeping. All are part of a continuous and vital exchange within the community. There are no notions of privacy or needing time alone, but rather an endless awareness of helping-cooperating, of being a team player. Hunting, building, laughing, or crying are activities that are meaningful only if carried out in groups, not alone. Strong interdependence, sociability, and communicability among trees, fungi and hundreds of entities has recently been shown to explain the structure, composition, richness, and antiquity of temperate forest in Canada (Simard 2021). Survival is communal.
5. *Jkimañe*: sacred site, analyzed in terms of *jki* 'respect' + *ma* 'exist' + *ñe* 'say or think'. Sacredness is widely distributed throughout space

and can be found in a multitude of life-forms and ways; it is not secluded, but rather quotidian and mundane. Cosmological narratives, a token of Amerindian peoples, stress the interlocking relationship between words and behavior. To say is to do, and both are allocated to the same ontological domain (Viveiros de Castro 1998). The Joti respect what they consider to be holy and, vice versa, they consider holy what they respect. All events that provide maintenance and reproduction, including any and all harvests, hunting or fishing quests, and social gatherings, are held to be sacred events. From childhood, the Joti learn the benefits of practicing these activities with a joyful yet serious attitude. These values are enhanced during the passage ritual that consolidates adulthood through systematic rehearsing of the daily exercise of *yu* (expressing blessing and gratitude for all hunted or harvested products that will be eaten), maintaining amicable interactions with the *jkyo aemodī* (masters/hypostases of many of the species in the cosmos, each species has different ones, they regulate/control their populations and kinds), and recounting cosmological narratives that explain the structure and functioning of the universe (Zent et al. 2019). Negative and harmful consequences (at individual and social spheres) are expected if these ritual and ancestral practices are omitted or ignored. Like many Amerindian peoples, respect, reciprocity, and noninterference are central tenets of the Joti's vision of how the world works (Miller and Davidson-Hunt 2013:9). The Joti's practices are aligned with compassionate (Wallach et al. 2020) and convivial conservation (Büscher and Fletcher 2019).

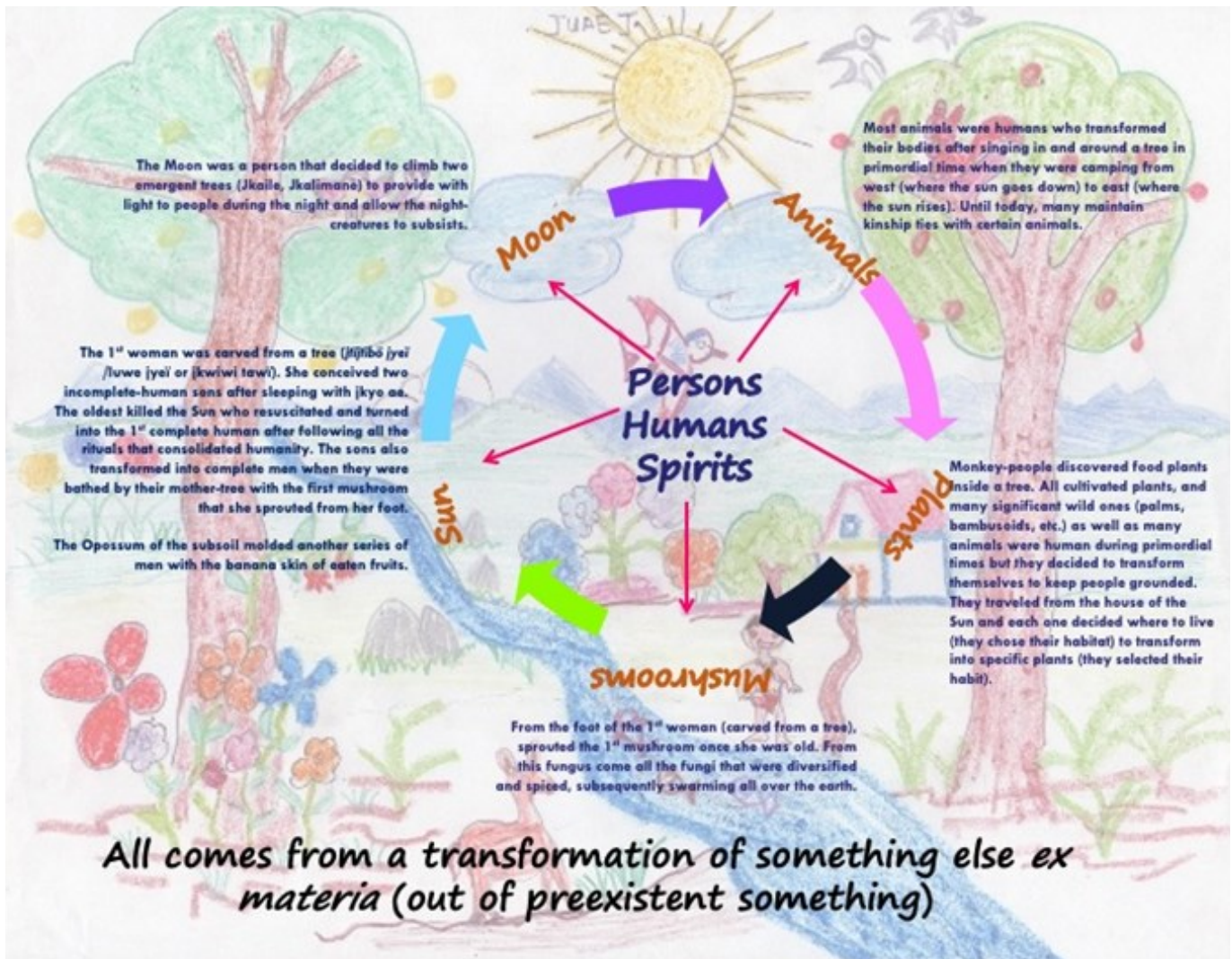


Figure 2 Ontological links to the Biota, elaborated by A. Juae and E. Zent.

Greediness, unnecessary cruelty, or stinginess in any event cause negative outcomes that are usually morally oppressive. Adults warn children: *People do not play with plants or animals that sustain us. Take just what is needed to survive, or else there will be bad consequences.*

6. *Jka ojtalī ~ jkabaemade*: transformation of matter, bodies, spirits, processes, and spaces are potentially ceaseless, triggered by a persons' volition. Permanent dynamic changes are inherent to daily subsistence and ritualistic activities. Transformation is attuned to impermanence, similar to the Buddhist stance; change is the quintessence of existence (cf. Hodge and Hodge 2009). Forests and bodies are never finished products, but are constantly changing. They are

recipients of similar processes of construction through behaviors, stimulating interactions with spaces, entities, essences, and words. Forests and bodies encapsulate the cultural poetics or performances that are carried out in liminal spaces, the diffuse interface that connects and produces the link between praxis and ideas, the primordial times and present-day events. All life forms are a metamorphosis of another entity (Hallowell 1960), each one originating from a transformation of something else (Viveiros de Castro 1998). Changes are coded in language, prioritizing phonological-descriptive phrases over discrete categories. The idea of pristine environments is totally alien to the Joti. The possibilities for speciation and combination are



infinite and unpredictable, as are the dynamic structure, richness, and composition of forests and social life through creative events like the harvesting and dispersion of seeds, use and management of prominent plants like palms, monitoring and nursing coleoptera, cultivation of natural forest gaps, or honey extraction (Choo et al. 2009; Zent and Zent 2002).

7. *Me madöna*: the key relationship between the hunter, gatherer, harvester, or fisher and their prey is not one of predation but of amicability, friendship, and kinship. One is able to hunt because they are friends or kin of our prey, who are represented in social interactions by their spirit masters. The language of other-than-human -persons (i.e., Mother tree, pheromones; Choo et al. 2009; Simard 2021) is based on signs of sustenance—such as cooperation, solidarity, reciprocity, and gratitude. Good communication between interacting species is essential for the reproduction and hence continuity of the biosphere. The Jotí choose to act in accordance with reciprocity over predation practices (cf. Descola 1998:37), coupling human practices with the cosmic giving-receiving economy. Such practices involve many entities with whom people encounter, stalk, capture, kill, handle, and consume with respectful prescriptions and proscriptions formulated over many generations (Zent et al. 2019). Survival is a permanent reverent negotiation. To harvest, kill, or fish is legitimized by a moral and social structure of care that leads to fatal consequences if not performed in the right way: to eat/kill is not seen as a predatory act, but rather a reciprocal one if rituals are followed correctly. Similar dynamics occur today among Brazilian groups (Campos 2008:90). The harvester and harvested are tied by affinal relationships, practicing the “mutuality of being”, *sensu* Sahlins (2012), as they participate and cooperate in the other’s existence, which is extended to all beings that surround us. Our own existence depends on mutualist, amensalist, and other symbiotic relationships that are not based on competition.

Final Words

The Jotí strive to achieve *ní jti maudöna* which can be translated as righteousness – to act or be morally correct. More than axiomatic, this stance is aimed at all of a person’s phases, events, or circumstances; it is

a condition reflected daily everywhere and is more important than material evolution. Righteousness as the main goal of life is frequently articulated and reinforced to the young, cementing the centrality of *jkyo jkwaini* for sustaining life, which is to love-care all that surrounds us. *Jkyo jkwaini* is the philosophical and pragmatic synthesis of the issues unpacked in the previous section. The direct and unavoidable outcome of neglecting the practice of love-care is total destruction and annihilation of the self, others, and the entire earth. Some Jotí believe that we are currently at the threshold of this very outcome (cf. Richter and Mobley 2009; Rothman 2017). As a feasible and comprehensive strategy to save the Earth, the Jotí propose love-care, a praxis considered to be an innate-essential constituent of all persons. It constitutes a capability that, if chosen daily by each person in all contexts, turns into a plan to sustain and protect life. All people have the capability to love-care everything that surrounds them, including both living entities and abiotic entities that provide the structure of the universe such as soil, air, water, and communities of mountains or savannas, among others. The enactment of love-care as a principle regardless of location or situation is a behavioral approach that is accessible to all, given that nothing prevents anyone from embracing love and care as their life motto while struggling to prevent Earth’s current path of destruction.

Jkyo jkwaini is expressed everywhere, ingrained in all activities, ranging from reading and talking to hunting and sharing. They are mementos of interconnectedness and interdependence as shown in Figure 3. Jotí hunting-gathering-farming-fishing transcends capturing or killing other organisms for subsistence, and embodies an integrated lifestyle steered ideally by love-care. Such responsibility is the footprint par excellence of humans, and it is paradigmatically represented in love-care.

The diverse forests inhabited by the Jotí harbor some of the highest α and β diversities ever reported for the Guiana shield portion of the Amazon. This exemplifies the sustainability of the Jotí ethos and the potential outcomes of love-care, if practiced. It also generates reflection on whether their forested territories are natural, cultural, or biocultural. The pragmatic and conceptual continuity of the biosphere among Amerindians such as the Jotí does not conceive nature and society as separate ontologies. Jotí natural sociology and human ecology make

*Jkyo jkwaini is expressed in all spheres of life
Generation of life is circular, eco-technological knowledge transmission*

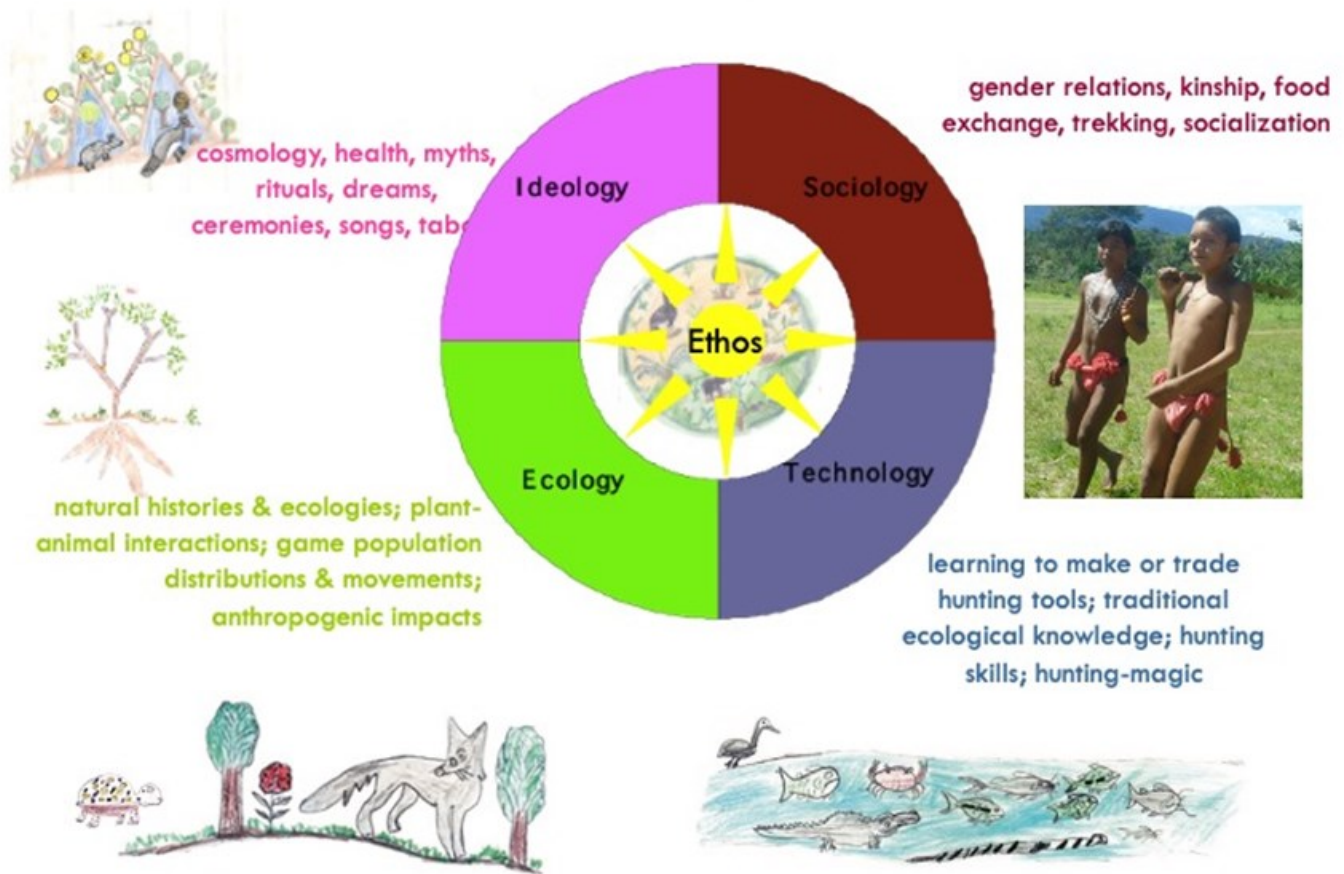


Figure 3 Pragmatic links of the Biota, picture taken by G. Liye Melomaja 2017, drawn by J. Ijtö, A. Juae Jono, I. Melomaja, Ijte, elaborated by E. Zent.

analogous the human body and the forests inasmuch as both are socio-ecological fabrications. The Jotí notion of a web of life is similar to that delineated by ecologists and by many Indigenous peoples throughout the Americas. However, the Amerindian view goes beyond the species, landscape, or microbiological level. It is a web that unites the material with the spiritual, the present with the past, the ritual with the mundane, the separate domains (botanical, zoological, fungal, human) with the same strategy: loving and caring. In fact, this relational Amerindian notion opens doors to the possibility of building conservation strategies in specific contexts embracing socio-political, historical, economic, and geographic dimensions (Niewöhner and Lock 2018).

The environmental philosophy based on love-care is not exclusive of Amerindians, but rather is already practiced in different cultural traditions worldwide, in rural and urban settings (see Zent and Zent 2022b for multiple examples). Love-care implies minimally the following principles. The first involves undermining the dubious conviction that *Homo sapiens* is the pinnacle of biological creation who has been exclusively awarded with unique attributes and rights. Instead, the faculties of cognition, consciousness, sensitivity and agency are recognized as being shared by many species on Earth rightly considered as subjects-persons by Amerindians. The second acknowledges that ecosystem services are a diminished label that overlooks the crucial life-

supporting roles of innumerable species and ecological dynamics. Increasing the awareness of life-dependence on them changes the perception that they are mere objects serving humans but rather subjects in their own right. Many of these species, like the trillions composing the human-soil-air microbiome, are only recently discovered by scientific ways of knowing. Third, love-care constitutes the essential guiding value netting human-ecological dynamics in a communal-cooperative life discourse, displacing the focus from individual to collective interconnective-entities and embracing the notion that a myriad of organisms, processes, and sceneries are just as important and valuable as humans. Fourth, love-care is always available to all, mostly to those living in the spirit of sustaining and fostering life in all of its expressions, such as biocultural conservation actors. It is also a kind but pragmatic response of resistance to a world dominated by an abusive economic system, a counter strategy that opposes degrowth to accumulation, reciprocity to egoism, and resource utilization to wealth accumulation (Nirmal and Rocheleau 2019). Love-care is at the core of ecotopian movements like bioregionalism, permaculture, and ecovillages (Lockyer and Veteto 2013), and is gaining ground in the scientific arena elaborated as the paradigm of convivial conservation (Büscher and Fletcher 2019). Love-care is a pragmatic and durable strategy to stop the current path of destruction to life.

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References Cited

Århem, K. 1996. *Makuna: An Amazonian People*. SANS Papers in Social Anthropology Göteborg University, Sweden.

- Büscher, B., and R. Fletcher. 2019. Towards Convivial Conservation. *Conservation and Society* 17:283–296. DOI:10.4103/cs.cs_19_75.
- Campos, M. 2008. *Cruzando Ecologias Com os Caçadores do Rio Cuieiras: Saberes e Estratégias de Caça no Baixo Rio Negro, Amazonas*. Master's thesis, Instituto Nacional de Pesquisas da Amazônia Universidade Federal do Amazonas, Brazil.
- Choo, J., E. Zent, and B. Simpson. 2009. The Importance of Traditional Ecological Knowledge for Palm-weevil Cultivation in the Venezuelan Amazon. *Journal of Ethnobiology* 29:113–128. DOI:10.2993/0278-0771-29.1.113.
- Crocker, J. C. 1985. *Vital Souls: Bororo Cosmology, Natural Symbolism, and Shamanism*. The University of Arizona Press, Tucson.
- Descola, P. 1998 Estrutura ou Sentimento: A Relação Com o Animal Na Amazônia. *Mana* 4:23–45. DOI:10.1590/S0104-93131998000100002.
- Descola, P. 2005 *Par-delà Nature et Culture*. Gallimard, Paris.
- Furlan, V., D. Jiménez-Escobar, F. Zamudio, and C. Medrano. 2020. 'Ethnobiological Equivocation' and Other Misunderstandings in the Interpretation of Natures. *Studies in History and Philosophy of Biological and Biomedical Sciences* 84:101333. DOI:10.1016/j.shpsc.2020.101333.
- Gavin, M., J. McCarter, A. Mead, F. Berkes, J. R. Stepp, D. Peterson, and R. Tang. 2015. Defining Biocultural Approaches to Conservation. *Trends in Ecology and Evolution* 30:140–145. DOI:10.1016/j.tree.2014.12.005.
- Hallowell, I. 1960. Ojibwa Ontology, Behavior and World View. In *Culture in History: Essays in Honor of Paul Radin*, edited by S. Diamond, pp. 19–52. Columbia University Press, New York.
- Hodge, D., and H. K. Hodge. 2009. *Impermanence: Embracing Change - From the Multi-Media Art Exhibition*. Penguin Random House, Canada.
- Holbraad, M., and M. Pedersen. 2014. The Politics of Ontology: Theorizing the Contemporary *Fieldsights*. Available at: <https://culanth.org/fieldsights/series/the-politics-of-ontology>. Accessed on January 13, 2022.



- Laszlo, E. 2003 *The Connectivity Hypothesis: Foundations of an Integral Science of Quantum, Cosmos, Life, and Consciousness*. State University of New York Press, New York.
- Lockyer, J., and J. Veteto. 2013. *Environmental Anthropology Engaging Ecotopia: Bioregionalism, Permaculture, and Ecovillages*. Berghahn Books, New York.
- Miller, A. M., and I. Davidson-Hunt. 2013. Agency and Resilience: Teachings of Pikangikum First Nation Elders, Northwestern Ontario. *Ecology and Society* 18:9. DOI:10.5751/ES-05665-180309.
- Morrison, K. 2002. The Cosmos as Intersubjective: Native American Other-than-human Persons. In *Indigenous Religions. A Companion*, edited by G. Harvey, pp. 23–36. Cassell, London.
- Niewöhner, J., and M. Lock. 2018. Situating Local Biologies: Anthropological Perspectives on Environment/Human Entanglements. *BioSocieties* 13:681–697. DOI:10.1057/s41292-017-0089-5.
- Nirmal, P., and D. Rocheleau. 2019. Decolonizing Degrowth in the Post-Development Convergence: Questions, Experiences, and Proposals from Two Indigenous Territories. *Environment and Planning E: Nature and Space* 2:465–492. DOI:10.1177/2F2514848618819478.
- Overing, J., and A. Passes. 2000. Introduction: Conviviality and the Opening up of Amazonian Anthropology. In *The Anthropology of Love and Anger: The Aesthetics of Conviviality in Native Amazonia*, edited by J. Overing and A. Passes, pp. 1–30. Routledge, New York.
- Richter, D., and M. Mobley. 2009. Monitoring Earth's Critical Zone. *Science* 326:1067–1068. DOI:10.1126/science.1179117.
- Robinson, M. 2014. Animal Personhood in Mi'kmaq Perspective. *Societies* 4:672–688. DOI:10.3390/soc4040672.
- Rothman, D. 2017. Thresholds of Catastrophe in the Earth System. *Science Advances* 3: e170090. DOI:10.1126/sciadv.1700906.
- Sahlins, M. 2012. *What Kinship Is—And Is Not*. University of Chicago Press, Chicago.
- Simard, S. 2021. *Finding the Mother Tree*. Alfred A. Knopf, New York.
- Strathern, M. 1988. *The Gender of the Gift: Problems with Women and Problems with Society in Melanesia*. California University Press, Berkeley.
- Timmis, K., R. Cavicchioli, J. Garcia, B. Nogales, M. Chavarría, L. Stein, et al. 2019. The Urgent Need for Microbiology Literacy in Society. *Environmental Microbiology* 21:1513–1528. DOI:10.1111/1462-2920.14611.
- Vicente, M. 2020 A River with Standing: Personhood in Te Ao Māori. *Parse* 12:1–14. Available at: <https://parsejournal.com/article/a-river-with-standing-personhood-in-te-ao-maori/>. Accessed on January 14, 2022.
- Viveiros de Castro, E. 1998. Cosmological Perspectivism in Amazonia and Elsewhere. Four Lectures Given in the Department of Social Anthropology, University of Cambridge, February–March. Hau Masterclass Series Volume 1. Available at: <https://haubooks.org/cosmological-perspectivism-in-amazonia/>. Accessed on January 14, 2022.
- Viveiros de Castro, E. 2004. Perspectival Anthropology and the Method of Controlled Equivocation. *Tipiti* 2:3–22.
- Wallach, A. D., C. Batavia, M. Bekoff, S. Alexander, L. Baker, et al. 2020. Recognizing Animal Personhood in Compassionate Conservation. *Conservation Biology* 34:1097–1106. DOI:10.1111/cobi.13494.
- Yates-Doerr, E. 2015. Does Meat Come from Animals? A Multispecies Approach to Classification and Belonging in Highland Guatemala. *American Ethnologist* 42:309–323. DOI:10.1111/amet.12132.
- Zent, E. 2009. “We come from Trees”: The Poetics of Plants among the Joti of the Venezuelan Guayana. *Journal for the Study of Religion, Nature and Culture*. 3:9–35. DOI:10.1558/jsrnc.v3i1.9.
- Zent, E., and S. Zent. 2002. Impactos Ambientales Generadores de Biodiversidad: Conductas Ecológicas de los Hoti de la Sierra Migualdad del Amazonas Venezolano. *Intervencia* 27:9–20.
- Zent, E., and S. Zent. 2022b. Love Sustains Life: Jkyo Jkwaini and Allied Strategies in Caring for the Earth. *Journal of Ethnobiology* 42:86–104. DOI:10.2993/0278-0771-42.1.86.

- Zent, E., S. Zent, A. Juae Mölö, T. Jono, G. Liye, A. Yolo, A. Melomaja, et al. (+199 Jotí authors). 2019. *Ni Jotí Aiye: Jkyo Jkwaini. Libro comunitario Jotí: Historia, territorio y vida*. Ediciones IVIC, Irwin Andrew Porter Foundation, Acaté Amazon Conservation. Editorial Arte, Caracas, Venezuela.
- Zent, S., and E. Zent. 2008. Los Jodí. In: *Los Aborígenes de Venezuela*, edited by M. A. Perera, pp. 499-570. Ediciones IVIC, Monte Avila Editores, ICAS, Fundación La Salle, Caracas, Venezuela.
- Zent, S., and E. Zent. 2012. Jodí Horticultural Belief, Knowledge and Practice: Incipient or Integral Cultivation? *Boletim do Museu Paraense Emílio Goeldi* 7:293–338. DOI:10.1590/S1981-81222012000200003.
- Zent S., and E. Zent. 2020. Co-ecology of Jotí, Primates, and Other People: A Multispecies Ethnography in the Venezuelan Guayana. In *Neotropical Ethnoprimatology*, edited by B. Urbani B. and M. Lizarralde, pp. 161–197. Ethnobiology Series. Springer, Cham. DOI:10.1007/978-3-030-27504-4_8.
- Zent, S., and E. Zent. In press 2022a. Collaborative Action Research for Biocultural Heritage Conservation. In *Field Environmental Philosophy: Education for Biocultural Conservation. Ecology and ethics*, edited by R. Rozzi, A. Tauro, T. Wright, N. Avriel-Avni, and R. May Jr.. Springer, Dordrecht.