

Rethinking Cultural Keystone Practices: Conflict Resolution Practices as Examples of Salience and Well-Being

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Abstract We explore and expand on the concept of Cultural Keystone Practices as an extension of the concept of Cultural Keystone Species and Places. These concepts have helped raise awareness of traditional human-environment interactions by focusing on community well-being and salience. We discuss several keystone-related terms and link them as interdependent for well-being, where salience itself might fall within one keystone concept or another. We focus on three illustrative examples of Cultural Keystone Practices (*tribunal de les aigües*, *Potlatch* and *dônga*) which share conflict resolution as a well-being function. In these three cases, the salience resides in the practice itself, rather than in a particular place or species. Moreover, since the societies that host these practices perceive them as traditions that are not easily substituted with other ‘functional’ equivalents, we can consider them as keystones. Furthermore, we emphasize the need for an assessment strategy for these practices and highlight the limitations of other approaches for the direct and indirect protection of cultural practices, such as UNESCO’s Intangible Cultural Heritage (ICH). Cultural Keystone Practices can be a key enabler for people’s recognition of culture as essential for well-being. A standardized, cross-cultural, community-driven measurement of Cultural Keystone Practices has the potential to serve as a foundation for evaluating the risk of cultural loss associated with significant cultural practices, as well as the consequences of such loss, across diverse contexts.

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Introduction

The *cultural keystone species* concept, introduced by Garibaldi and Turner (2004), can play a salient or central role in the well-being, health and resilience of a community. Cultural keystone species are often connected at many levels to cultures and environments, so that the outcomes of their loss or diminished roles in a culture are multi-faceted and far-reaching. Ellen (2006) elaborated on cultural keystone species with a similar keystone construct: *keystone ethnobiological species* (see Table 1 for definitions).

Beginning with the metaphorical keystone species, the original ecological and cultural keystone concepts have continued to expand through cultural and ecocultural realms. A more quantitative definition

of a cultural keystone species was proposed by Platten and Henfrey (2009). Then, because of the difficulty of identifying the salience and essential role of a particular species in the context of human landscapes and ecologies, they suggested thinking in terms of “cultural keystones” in general. They pointed out that one given species might be viewed as key from one angle, for example from an economic perspective, but might be insignificant in other ways if a functional equivalent could easily replace it. Consequently, they coined the term *cultural keystone complexes* (Table 1). Following a quantitative approach, Winter et al. (2018) developed a protocol centered on the “Social-Ecological Keystone Concept” (Table 1).

**Table 1** Summary of previous definitions involving different keystone concepts proposed in the literature.

Keystones	Definition	Reference
Keystone Species	[I]ndividual populations of species are the keystone of the community's structure, and the integrity of the community and its unaltered persistence through time, that is, stability, are determined by their activities and abundances.	Paine 1969:92
Cultural Keystone Species	[C]ulturally salient species that shape in a major way the cultural identity of a people, as reflected in the fundamental roles these species have in diet, materials, medicine, and/or spiritual practices.	Garibaldi and Turner 2004:4
Keystone Ethnobiological Species	[O]rganisms that by virtue of their usefulness to humans may become ecologically crucial to the maintenance of entire anthropogenic environments, subsistence systems and ways of life.	Ellen 2006:259
Cultural Keystone Species	[S]ystem elements with crucial non-redundant functions in maintaining any particular level of structural complexity.	Platten and Henfrey 2009:493
Cultural Keystone Places	A given site or location with high cultural salience for one or more groups of people and which plays, or has played in the past, an exceptional role in a people's cultural identity, as reflected in their day-to-day living, food production and other resource-based activities, land and resource management, language, stories, history, and social and ceremonial practices.	Cuerrier et al. 2015:431
Cultural Keystone Complex	[A] complex incorporating several material and non-material system elements [and] as elements with crucial non-redundant functions in maintaining any particular level of structural complexity.	Platten and Henfrey 2009:493
Social-Ecological Keystone Concept	[N]either individual taxa nor individual practices, but rather the linked taxa-practice unit. If a social-ecological keystone is severely disabled (or goes extinct), then there would be no substitute without seriously compromising the structure and function of the system—possibly inducing a regime shift.	Winter et al. 2018:5
Conservation Keystone Concepts	Three concepts for conservation practice are considered keystones: diversity (good at multiple levels), well-being (“a balance between the challenges one faces and the resources one possesses [in] intersecting physical, intellectual, emotional, social, spiritual, vocational, financial, and environmental axes”) and coexistence (“a stable, dynamic, and desired state of co-occurrence among a diversity of (human and nonhuman) lifeforms and life-ways”).	Aguilar and Webb 2024:2–4
Cultural Keystone Practices	[E]ssential skills and practices [...] vital to sustaining other cultural activities [...]. [CKPr] depend on a broad range of local materials derived from nature—further establishing the importance of conserving the local environment and managing its resources in a sustainable manner.	Brosi et al. 2007:878
Cultural Keystone Relationship	[C]ultural relationships to wild species that are intimately tied to practices, places, languages, and knowledge in ways that are deeply interconnected.	Lukawiecki 2024:86

Cultural Keystone Practices

Here we formally define *cultural keystone practices* as “cultural practices that are both salient and essential for a community’s well-being.” Broadly, we define cultural keystone practices as

traditions, knowledge, customs, uses, habits, or rituals with high cultural salience for one or more communities. They play (or have played in the past) an exceptional role in the

community's cultural identity, as reflected in their dependence on the practice for societal lifestyle, well-being, social structure, relation to environment and self-identity. Cultural keystone practices have an identifiable name in the language and are encoded in a distinctive set of rules, conventions, knowledge or skills.

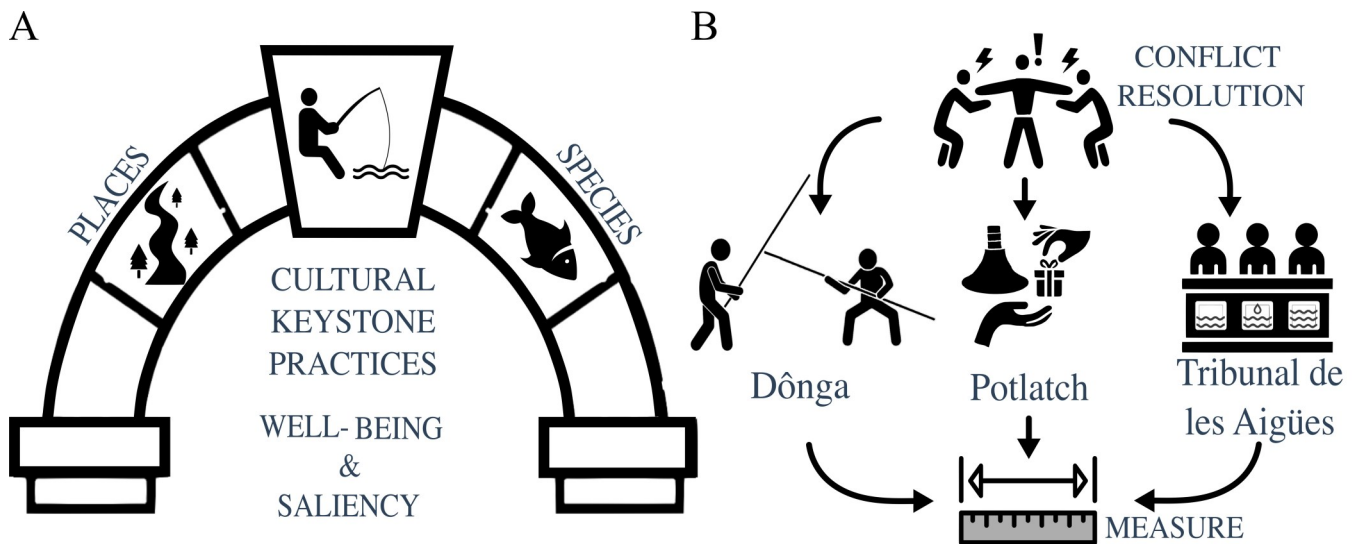


Figure 1 Visual abstract highlighting the main concepts of the article. **A** We highlight the need for cultural keystone practice thinking in terms of saliency and community well-being, while supported and supporting species and places. **B** We illustrate the cultural keystone practices concept by focusing on conflict resolution as a well-being.

Figure 1 summarizes the practice-centric keystone framework and its co-dependence on places and species. Moreover, we can imagine a cultural keystone practice by considering its absence: the removal or cessation of a cultural keystone practice will cascade beyond the practice itself, directly or indirectly impacting the community's well-being, identity, and survival. This definition aligns with Brosi et al. (2007) but formalizes and expands on the definition. We use the example, of *q'ichwa chaka* tradition (Inca bridge building) to illustrate our framework: now rebuilding the bridge plays a social bonding function that cannot be substituted by construction of a modern bridge; the salience resides on the making itself, which happens as a festival every June; this practice is perfectly interwoven with the species of grass, *ichu*, and the place, the Apurímac Canyon (Valdez and Vivanco 2021).

In contrast, the practice of glacier grafting in the Western Himalayas is centered on non-biological action to manage a landscape, making the place-species-practice less explicit. In this case, the spot where to place the glacier grafts is chosen based on its geographical properties, not by on its human connection, and the species benefited are at the ecosystem level (Shaheen 2016). Both of these practices are easier to single out and measure than the places or species. Moreover, as these practices illustrate, the cultural keystone practices concept

squarely falls within the traditional ecological knowledge framework (Berkes et al. 2000), thereby connecting it to the cultural keystone practices concept.

However, even when the connection between cultural keystone practices and species-places is not as clear, as in the *q'ichwa chaka* case, practice thinking aids in identifying and completing the keystones framework. While cultural species and places, by definition, have associated human practices, these practices might, at first, remain under-recognized when using a narrow biological or ecological lens, yet be critical for the well-being and identity of a particular group. As the traditional ecological knowledge literature amply illustrates, when identifying a particular cultural keystone, we must recognize the fragility, and the resilience, of the complex interlinked ecocultural system in which the keystone is embedded (Berkes et al. 2000; Kimmerer 2013), even when such relationships are not immediately evident. Once a group loses its key identity, cohesion, or well-being markers, its traditional places and species are susceptible to lesser protection or erasure. The lack of a clear connection between keystones in some cases reinforces the need to raise specific keystone practices thinking beyond the existing keystone frameworks (Table 1).

Here we focus on salient practices that play an irreplaceable function for the wider society hosting



them, in terms of essentials for any human group (food acquisition, security, health, reproduction, social bonding, identity, knowledge keeping, spirituality...); these broadly account for well-being. “Saliency” is woven into the original definition of cultural keystone species (Garibaldi and Turner 2004) and is linked to the cultural identity of a people and what is fundamental to their existence. “Well-being,” health, and resilience are at the core of much of the keystone and conservation literature from the perspective of a community (Cuerrier et al. 2015; Lepofsky et al. 2017; Tsuji et al. 2023). However, “well-being” is itself multifaceted and all members of a group might not agree upon its extent or existence, since people might have different visions and interests concerning what would be best for a healthy and resilient community. Interestingly, recent work by Aguilar and Webb (2024) presented the concept of well-being (or wellness) associated with three keystones in conservation science (Table 1). Finally, Lukawiecki (2024) overviews the literature on cultural keystone practices and proposes a new concept, *cultural keystone relationships*, adding language, knowledge, and practice to the mix needed for preservation, for example, traditional burning as protecting black huckleberry.

Although the cultural keystone practices concept is not new, this nomenclature has not been widely incorporated into the literature to date as a useful term to date. Brosi et al. (2007) introduce cultural keystone practices in the context of canoe building in Micronesia (Table 1), but do not address identifying vital keystone practices more generally. Furthermore, despite Brosi et al. being widely cited, in a literature search using Scopus we found the phrase “cultural keystone practice/s” used in only one reference. Therefore, in this work we specifically define the term and make it a central theme, filling a gap in the literature and drawing needed attention to ‘practices’ thinking.

The long-term sustainability of a cultural system, like a biological one, depends on many distinct but interdependent, often interlinked, elements, though not all will have the same degree of “keystone-ness.” In this sense, adding practices to the places and species keystones allows us to think in a more systemic way, where a community can identify vulnerable keystones in terms of species, places, and/or practices, especially in cases when the connections are not direct.

Conflict Resolution as a Case Topic: Cultural Saliency and Well-being

To address the difficulty in identifying saliency and well-being, we focus here on cultural keystone practices that, in one way or another, involve conflict resolution. Resolving discord is essential for the functioning of any community or society, especially in the context of traditional and Indigenous practices (Lundy et al. 2022; Nwosu 2021; Tusó and Flaherty 2016). Conflict and disagreement can happen in many different aspects of social life in a community. Throughout human evolution, strategies and customs have emerged to minimize conflicts and reduce their ill effects for both individuals and groups. When conflict within a group, or between groups, cannot be curtailed, the consequences tend to be dire, with a breakdown in social relations that might translate into violence, collapse of trusted networks, cultural loss, decreased access to resources, inequity, environmental degradation, substance abuse, and property loss, among other impacts. In contrast, when the appropriate resolution practices are recognized and protected, these can alleviate conflicts within and between communities and even countries, as UNESCO’s Assistant Director-General for Culture, Ernesto Ottone Ramírez, suggests is the case for Intangible Cultural Heritage (Lucas 2024). Moreover, losing a conflict resolution practice(s) might foster division in the community or a country. Among other impacts, a disrupted community might temporarily lose their capacity to sustain and manage its connection to places and species, further imperiling its overall wellbeing.

In our consideration of cultural keystone practices, we present three different cross-cultural case studies involving conflict resolution traditions (Figure 1), which are both salient and play a crucial role in the respective community’s well-being. These are: the *Potlatch* (“to give away”) of Indigenous Peoples of Northwestern North America; *donga* (pole dueling) of the Mursi people of Southern Ethiopia in the Horn of Africa; and, from Valencia, along the east coast of the Iberian Peninsula, *el tribunal de les aigües* (Valencia’s Water tribunal), by Valencian farmers using water irrigation systems (Figure 2). We selected these widely different sets of practices for several reasons: their respective roles in conflict resolution for the communities that sustain them; the different traditional subsistence strategies of each group, their

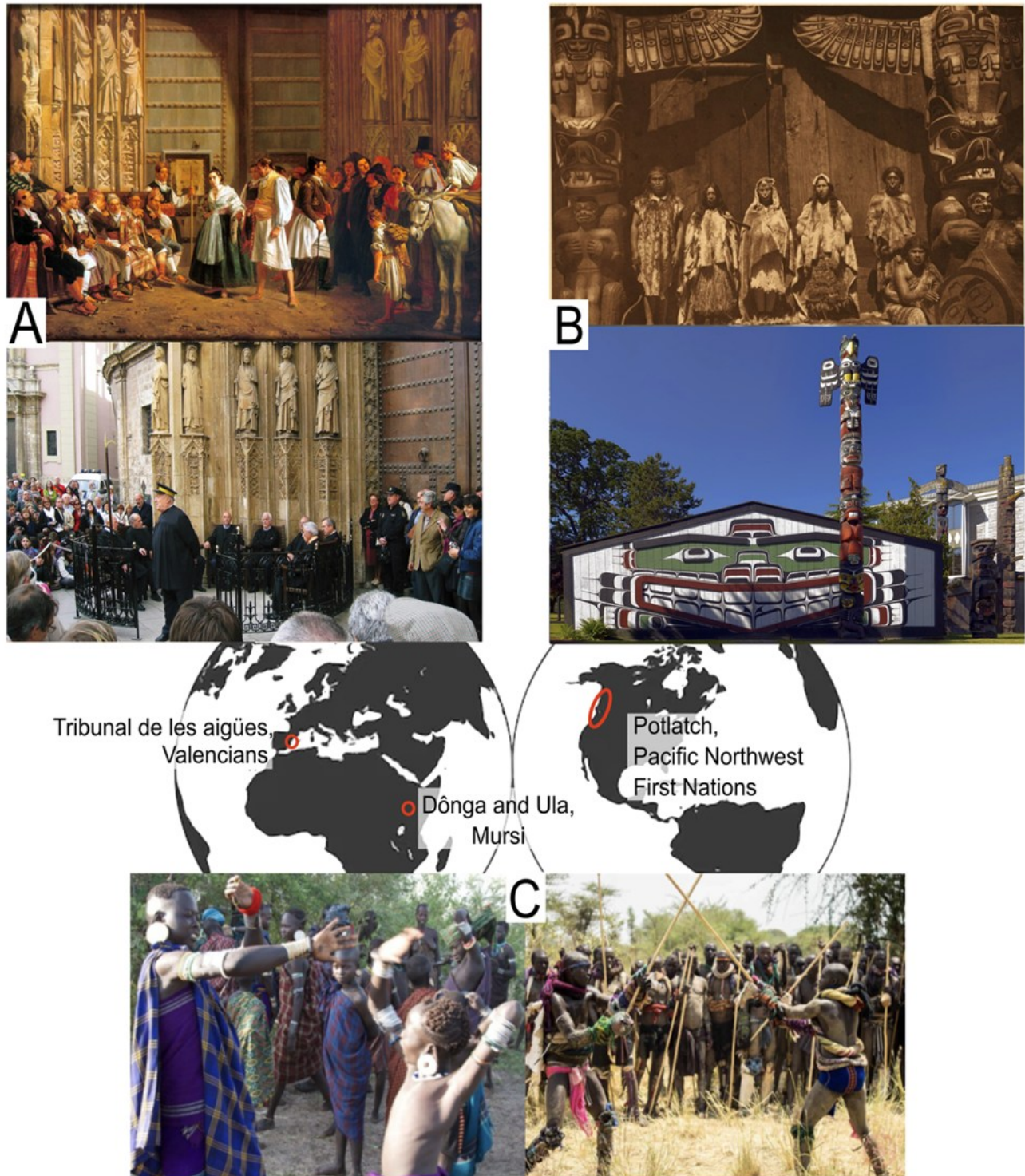


Figure 2 Map showing the places of the three case studies (center) and illustrations of the practices themselves. **A** Comparison of the *tribunal de les aigües*, as depicted by Bernat Ferrandis-i-Badenes in 1865 (top), and contemporary event, dominated by tourist's cameras (bottom; photo under Creative Commons). **B** Photos of a Kwakwaka'wakw *Potlatch* with dancers, singers, wedding ceremony, and bride in the center (Photo: Edward Curtis, 1914) (top) and photo of a Kwakwaka'wakw big house, the *Wawadit'la* in Thunderbird Park, Victoria, BC, built in 1953 (bottom; photo under Creative Commons). **C** Photographs representing the *ula* (left) and *dônga* (right) dueling of the Mursi. Photos by Shauna LaTosky.



geographic locations in three different continents (Figure 2); and the different stages of vulnerability or revitalization experienced by these groups concerning their practices. These diverse practices are also familiar to the authors.

***Tribunal de les Aigües* in Valencia: Conflict and Identity, Irrigation Farming in Eastern Iberian Peninsula**

The *tribunal de les aigües de València* (Valencia's Water tribunal) is a judiciary institution that deals with the litigation and conflict resolution of the water disputes in *l'Horta de València*, the second largest urban irrigation landscape in the Mediterranean. This cultural place is characterised by water channels going back to Roman and Arabic times, and by a diverse set of unique local species, like *xufa* (*Cyperus esculentus*), with unique agricultural practices developed and maintained in this landscape. *Horta's* richness and uniqueness have been recognized as a World Agricultural Heritage site by the United Nations FAO in 2019 (Food and Agriculture Organization of the United Nations, n.d.). Every Thursday at noon, the *tribunal* still gathers in front of the imposing Gothic door of the Valencia Cathedral in the *Plaça de la Mare de Déu*. Any water user can appear before the *tribunal* to place a complaint, mainly about water theft. Today, however, there are fewer conflicts, because of that, the *tribunal* seems of little use. Historically, the decision-making process was swift: after hearing the case, the *sindics*—representatives of the *regants de les sequies* (irrigation channels users)—deliver a judgment on the spot. The *tribunal's* decisions are final, and its judgments are respected because of the power the *sindics* wield over water access. Today, however, there are fewer conflicts. This practice was selected in 2008 to be recognised by UNESCO as part of Valencia's Intangible Cultural Heritage (UNESCO, n.d.). This recognition reflects the visible role that the *tribunal* plays in the *Horta* landscape, where irrigation was once—and still is, albeit eroded—key to landscape management and, without which, the particular species and places would be endangered.

The *tribunal's* legitimacy was codified under law following Spain's liberal revolution in the nineteenth century (Guinot and Esquilache 2017). It was officially recognized by the state as a judicial body with the authority to resolve disputes concerning water rights. Spanish legislation upholds the *tribunal's* rulings as binding, and it became protected as a court of last resort for water disputes within its jurisdiction.

The water users could potentially also appeal to the state-sponsored legal system to place their complaints, but they were informally restricted from doing so because it was understood that using the formal judiciary system would infuriate the *sindics* and water access would be curtailed. Beyond these legal systems, historically some disputes were resolved through informal means, either amicably or—on occasion—through violence.

The most transformative event in the *tribunal's* recent history has been its recognition as a by UNESCO in 2008 as an Intangible Cultural Heritage (ICH). UNESCO's ICH designation has enhanced the *tribunal's* transformation into a cultural and tourist attraction, showcasing Valencian tradition to outsiders. As we can see in Figure 2A, today tourists flock to the *Plaça de la Mare de Déu* to witness the *tribunal* in action, even though there is no action to be taken. The people involved in the few conflicts still happening would rather avoid being witnessed by hundreds of tourists than only by their community. The loss of the communities as witnesses is unlike the cases of the *Potlatch* and *donga*, as we will see.

As a consequence of the decline in farming in *l'horta* in recent decades, the *tribunal* has largely lost its conflict resolution function. The cultural keystone place the *tribunal* represents, *l'horta*, is in rapid decline. The community that once supported *l'horta* and the *tribunal* is experiencing the abandonment of the land and lack of generational succession, therefore, the current society struggles to maintain the agricultural traditions and landscapes of the region (Vallés-Planells et al. 2020). The *horta* is a rich social and cultural space with a centennial architectural and ethnological heritage. Yet, despite this land being recognized by the FAO, this heritage is at risk as the farming practices that sustained it are no longer economically viable. The *horta* is now in danger, with its material infrastructure in the form of *sequies* (water channels) falling into despair due to a lack of use and maintenance (Martínez-Sanchis and Viñals 2015), and the *tribunal* not functioning, as the amount of water available is more than enough to cover the needs of the remaining land. Farmers struggle to compete with industrial agriculture, which can produce food more cheaply and in greater quantities.

Therefore, while the *tribunal* still retains its *de jure* function as a body to resolve disputes among water users, its *de facto* role has shifted dramatically over time. Urbanization, demographic changes, and



recognition as UNESCO's intangible heritage have all contributed to its transition from a practical institution to a tourist attraction and cultural showcase. This shift has profoundly impacted the community it was intended to serve, altering the conflict resolution capacity of the *tribunal*. Furthermore, the economic transition has directly impacted the well-being of the local agricultural population, and indirectly, has limited access to traditional foods for the population generally. The future of Valencia's agricultural community remains uncertain, and with it, the well-being of the wider society, which laments the loss of the farmlands, its unique landscapes, and traditional diets. Sadly, however, the same society does little to protect what once was a keystone practice, and a keystone place. The *tribunal-borta*-food triangle is endangered, with many local fruit varieties being lost as they are no longer cultivated.

Conflict Resolution and the Role of the *Potlatch* in Community Well-being in Northwestern North America

We will now focus on the *Potlatch*, perhaps the best-known traditional cultural institution of the Northwest Coast of North America, described by many anthropologists and Indigenous knowledge keepers (e.g., Davidson and Davidson 2018). In its various forms, for the communities that have historically held *Potlatches* and/or are reintroducing them in contemporary contexts, the *Potlatch* has an important function, both active and passive, in conflict resolution.

Originally deriving from the Vancouver Island Nuu-chah-nulth verb *pachitle*, meaning “to give,” the term “*Potlatch*” became widely adopted into many Northwest Coast languages. Most individual language groups also have their own terms for the suites of ceremonies and cultural exchanges represented within the *Potlatch*. For example, the term *st'lu'n'uq* (cf. *s'yulu* “spirit power”) is a Hul'q'umín'um' Coast Salish word for a *Potlatch*.

In most cases, *Potlatches* encompass far more than simple gift-giving. Depending on the community and the time period, *Potlatches* have evolved into diverse but intricate sociopolitical events. As an institution they incorporate and reflect social, economic, political, environmental, and spiritual aspects of Indigenous Peoples' lives. From a resource perspective, the *Potlatch* functions to redistribute food and other property, and to promote the well-being of

the community without damaging the environment or violating the principles of balanced stewardship over the land, and in such a way as to render respect and honor to chiefs, nobility, and community members, as well as to plants, animals, and spirit powers, and through all these, to the Creator. Socially, *Potlatches* are celebratory, and this is perhaps a key element that relates to conflict resolution, since positive attitudes can be a key to resolving differences. *Potlatching* is thus associated with the care and oversight of a group's territory, playing a critical function as the political arena for clan, family, intercommunity, and regional administration (Tollefson 1995; Turner et al. 2003).

A shared feature across variations of the *Potlatch* is the presence of the most relevant members from both intra- and inter-communities, who are invited to a chief's communal big house, sometimes specially constructed for the event, to participate in the celebration. These guests act as “witnesses” to significant events and are then “paid” for this service through giving of culturally valued goods. Communities have routinely used the *Potlatch* as a means of recognizing and resolving conflicts, legitimizing leadership, and fostering political alliances, all of which are integral to maintaining social cohesion (Tollefson 1995).

Focusing on the Central and Northern Peoples (i.e., Tlingit, Haida, Nuuchah-nulth, Kwakwaka'wakw and neighbouring coastal groups), there are specific roles and ceremonies within the *Potlatch* that emphasise conflict resolution. For example, the Kwakwaka'wakw use the term *dilagh* (“to make things right”) (Hunt 2005), and the Haida [*Xaayda keil*] equivalent is *tl'yahdab* (Wilson 2021). Through gift-giving, speeches, and ceremonial acts, all witnessed by honoured guests, individuals at fault—chiefs and leaders who have transgressed cultural protocols—publicly clean their shame and are restored to good standing. These actions are a key component of dispute resolution (Hunt 2005).

Crucially, the Canadian government's ban on *Potlatches*, 1884–1951¹, severely restricted the ability of communities to resolve conflicts and maintain social order (Loo 1992). As a result, the accumulation of intra- and inter-community conflicts intensified, contributing to long-term social fragmentation. The introduction of Western legal systems to Indigenous communities in the Pacific Northwest disrupted traditional forms of conflict resolution and failed to work as a functional equivalent, resulting in direct

impacts to the well-being of the communities (Wilson 2021).

Despite the bans and suppression, *Potlatches* survived in various forms, often held in secret, in remote locations, or undercover as marriage ceremonies or Christmas celebrations, to avoid detection by authorities during the long prohibition period. Since the lifting of the *Potlatch* ban in 1951, Indigenous communities throughout the region have been actively reclaiming and revitalizing their *Potlatches*.

Interestingly, there has been a growing focus on the conflict resolution role of *Potlatches*. The Confederated Tribes of Coos, Coquille, Lower Umpqua, and Siuslaw, for example, are exploring the introduction or reintroduction of *Potlatch* conflict resolution practices as part of a broader effort to reestablish traditional systems of restorative justice (Tuso and Flaherty 2016). Similar protocols are practiced by the Haida, Hailzaqv (Heiltsuk) and other First Nations².

Potlatching has survived prosecution and has retained part or all its conflict resolution practices, while developing and adopting new ones (Loo 1992). Today, *Potlatches* have become not only a way to resolve conflicts but also a means of improving well-being and strengthening identity within Indigenous communities. The process of witnessing, redistributing resources, and reconciling differences fosters a sense of belonging and unity, reinforcing the social fabric (Hunt 2005; Tollefson 1995; Tuso and Flaherty 2016).

Furthermore, the revitalization of healthy traditional Indigenous food—berries, camas bulbs, oulachen grease, seaweed, herring eggs, salmon—both in the food served at the *Potlatch* feasts and that used as gifts to the *Potlatch* guests—associated with contemporary *Potlatching*, has had many health and cultural benefits, in cultural revitalisation, strengthening of identity and providing a sense of belonging (Kuhnlein and Turner 2020). As well, revitalizing land tending practices, such as managing the cedar groves needed to build the big houses for the *Potlatch*, are all aspects of cultural renewal. These associated practices themselves contribute to conflict resolution, building connections to place and species. Some of the specific approaches have transformed away from traditional species connections, as in the use of store-bought blankets, to replace the original

nobility blankets of dog wool (because of its extinction) and mountain-goat wool (because of its high cost). Nevertheless, the overall results in terms of creating bonds and reducing tensions are as significant as ever.

Dônga and Ula Dueling in Mursi: Conflict Resolution and Community Well-being in the Lower Omo Valley, Southern Ethiopia

The Mursi are a group of approximately 10,000 agro-pastoralists whose livelihoods depend on cattle herding, hunting, gathering, and flood-retreat cultivation along the Omo River and its tributaries in Southern Ethiopia. A major pillar of Mursi society is the ancient practice of *dônga*³ (ritual dueling using six-foot long wooden poles for boys and men and iron bracelets for girls and young unmarried women). Also known as *sagine* (or *thagine* in Suri), dueling contests have for centuries served as both a form of entertainment and an effective means of conflict resolution in Mursi⁴. While there are numerous other reconciliation processes, from blessing and cursing, to seeking restitution through cattle payments and other forms of compensation, *dônga* remains one of the most important forms of reconciliation in Mursi today (LaTosky and Olibui 2023; Turton 2002)⁵.

At the heart of *dônga* contests is the restoration of peaceful social relations, including gendered relations. Martial socialization is valued for both boys and girls, and entering the dueling ground is an important way for young men and young women to challenge each other and to resolve any differences or feelings of animosity by competing on behalf of their respective clans or local groups. It is during such contests that boys and men, girls and unmarried women can publicly display their bravery, skills, strength and self-restraint, all of which are ideals of Mursi manhood and womanhood. Over a period of several days, boys and men will compete using six-foot dueling poles, whereas girls and unmarried young women will compete using an iron bracelet (*ula*; plural: *ulen*) to strike their opponents, preferably in the forehead (LaTosky 2015)⁶.

For *dônga* to take place, it must first be ritually sanctioned by the *komoru* (ritual leader), his ritual assistants, and Mursi Elders in order for the outcome to be reconciliatory. The *komoru*'s blessings are of utmost importance for restoring and maintaining peaceful relations. LaTosky and Olibui (2023:120) explain that:



Fighting [*dônga*] is therefore very controlled, planned and only possible with permission from the Elders. The *komoru* has his own ‘cabinet’ around him and ‘the cabinet’ of Elders cannot do anything without the go ahead of the *komoru*. He is like the head of state in a way. He keeps everything very organized, and he tries to always keep the peace. If there is fighting in the bush, the *komoru* will be the one to decide on how to proceed.

When preparing for the *dônga*, young men drink and purge with *girari* [prepared from the mulched bark of the wild olive tree]⁷ to cleanse their bodies and make them stronger (LaTosky and Olibui 2023). Over the course of many months, young men and women begin to fatten up on cow’s milk in order to gain weight and give them strength for the fight. The training required to compete in *dônga* is rigorous and is closely tied to their pastoral identity and martial socialization of all Mursi.

However, the important role that *dônga* plays in reconciling differences and restoring peaceful relations is being challenged today. Since 2012, government rhetoric and popular portrayals of *dônga* in the media have presented different perspectives of men’s dueling in Mursi, which depict *dônga* as causing physical harm and “even death.” Government attempts, especially under the *Tigray People’s Liberation Front* (TPLF) government, to restrict *dônga* by labeling it as a “traditional harmful practice” are similar to restrictions enforced several decades ago in Suri (Bench Maji Zone)⁸. Contrary to the popular belief that *dônga* is “harmful,” the Mursi see ritually-sanctioned dueling as vital for resolving conflict and maintaining peaceful relations within Mursi. Under the shade of the savanna trees like the *choboy* (*Sclerocarya birrea*), women store the water and flour they transport to prepare sorghum gruel for their brave kinsmen and kinswomen during the three to four-day martial arts event (*ibid.*), which Olisarali Olibui refers to as “Mursi Olympics.” The optimal time for dueling contests is after a fruitful harvest when there are plenty of wild edible greens, sorghum, maize, grass for livestock, and thus milk, which allows contestants to fatten and strengthen their bodies in preparation for *dônga*.

In order for *dônga* contests to take place, the land must be well (*baa chala*, lit. the land is good) as it is only during times of peace that the members of

different clans can safely travel from across Mursiland to meet at the designated dueling ground(s). The dueling ground, called both *bala dôngay* and *gula dôngay*, is commonly in an open plain or savannah area, where there is space to spread out and where girls have their own dueling ground. Only if the terrain is rocky or with dense bush, will girls and boys fight in the same place (*bal* or *gul*) (LaTosky and Olibui 2023). Donga dueling grounds and dueling contests are inscribed on the landscape with *bhollisay*, a marking (or multiple markings, *bholisainya*) made horizontally on a tree to indicate a *dônga* victory (or victories). These places also become immortalized in the songs of the victors, in oral poetry, and Mursi oral history and are an important part of Mursi intangible cultural heritage (e.g., the dueling ground of Banko [in northern Mursiland], the dueling ground of Bongosso [in the south], etc.), areas that are currently being encroached upon by neighbouring groups in the north and large-scale development projects, especially hydroelectric dams and sugar cane factories along the Omo River.

In 2022, Mursi Elders and youth began to challenge assumptions that *dônga* stokes aggressive and violent behaviour by putting on the first-ever Mursi performance about the significance of *dônga* (and *ula*) at the National Theatre in Addis Ababa (in collaboration with the South Omo Theatre Company and SOAS, University of London). This has garnered new media attention for the Mursi, including several Ethiopian television documentaries, that have not only helped the Mursi to see the value in safeguarding their intangible cultural heritage, but have also begun to help outsiders, including some tourist operators and government administrators, to understand the relevance of *dônga* for restoring peaceful relations (LaTosky and Olibui 2023), but also biodiversity. *Dônga* also helps protect the *kalochiya* (*Grewia bicolor*), *girari* (*Olea europaea* ssp. *africana*) and *dokay* (*Harrisonia abyssinica* Oliv.) trees due to their recognized importance in making *dônga* possible. *Lomay* (*Ximenia americana*) is also vital for treating the cutaneous wounds, like those inflicted during dueling contests.

Today, the Mursi and their allies (e.g., the Suri, anthropologists, and some filmmakers) are calling for the urgent need to protect *dônga* in order to “promote peace,” “resolve conflicts,” and “show respect towards the [E]lders” (LaTosky and Olibui 2023:123). One way of doing this is by analysing the prohibitions on *dônga* (*thagine* in Suri), which led to increased violence and, more recently, the reversal of such



prohibitive policies, but also its biocultural significance, namely, the cultural keystone species (e.g., *girari* and *dokay*) and cultural keystone places (e.g., highland areas) crucial for *dônga*'s survival. Another way is by proposing that it be formally acknowledged in the same way that other ancient and modern martial arts are today. For instance, the Indigenous Egyptian fighting art called *tahtib* has witnessed a revival in recent years after it was enshrined in 2016 in UNESCO's "Convention for the Safeguarding of the Intangible Cultural Heritage". Given the many striking similarities between *tahtib* and *dônga*, LaTosky and Olibui (2023:138) argue that a case should be made to recognise and promote the ancient practice of *dônga* (or *sagine*) and its role in maintaining peaceful relations, rather than restrict or redefine it as a mere tourist attraction or as performance theatre.

Measurement of Intangible keystones

By reinforcing the cultural keystone practices concept, we want to highlight the importance of identifying and measuring key intangible elements of a culture to safeguard their well-being and identity. Beyond the well-established proposal of a biocultural vulnerability scale (Reyes-García et al. 2023), when the biological component of a practice is not clear, we still need to measure its vulnerability and its cultural importance. We propose that ecological frameworks like the IUCN's Red List for Endangered Species could inspire the status and measure of cultural keystone practices. In that line, a draft of what a measurement strategy would involve is: to first, identify and name cultural keystone practices; and second, to develop a standardized measurement to track the number of experts in a given community, the frequency of the practice, the time since the last use of the practice, the last training of an expert and degree of access to irreplaceable places or species. This basic approach allows for a structured evaluation of practices' sustainability over time, bridging scientific inquiry with the communities' cultural management. By involving the community's decision-making and focusing on their well-being and identity through cultural keystone practices or other keystones (Table 1), a measurement strategy can empower communities to define and protect their traditions. Standardised, longitudinal, community-driven data would provide a quantitative understanding of the practice's vitality and its role in the community, aiming to preserve cultural practices and to facilitate their revitalisation

and continuation if they are valuable for the community, or for the wider society, and are at risk.

Due to the intrinsic difficulties of cultural measures, in line with cultural keystone places identification, a grass-roots, locally-driven measurement initiative would be more effective than a top-down one (Cuerrier et al. 2015). For example, terminology and use of language are often best clarified by spending time in the community, learning about their lifeways (Cuerrier et al. 2019). Of concern is the difficulty in distinguishing elements fundamental for *all* human groups, from those that might change from community to community, culture to culture, society to society, or generation to generation. Therefore, as with the seeds of cultural keystone places, it is ultimately the communities themselves who must determine a practice's salience or significance—it through their efforts to protect it, the extent of its adoption, or its recognition as both a cornerstone by the community and society at large.

Therefore, following Cuerrier et al. (2015), we argue for the need to involve the communities as the main actors to measure cultural keystone practices, in addition to incorporating the strength of existing international mechanisms, to assess the vulnerability of *keystone practices* around the world, recognizing that such vulnerable practices could number in the tens of thousands. A new IUCN-like framework that serves as umbrella for standardization and homogenization can help structure and set direction for a process which needs substantially more effort from the local practitioners than from outsider observers. UNESCO's role could be that of a centralization of data, or as an umbrella. UNESCO's World Atlas of Languages already plays a somewhat parallel role in identifying the vulnerability of languages, but unlike the *keystone places* framework, it mostly relies on external assessment of language vitality. In a similar way, eHRAF, which compiles ethnographic literature usually produced by visiting academics or travelers, is done from an external point of view, with little measurement of the vulnerability of the cultural practices recorded.

Discussion and Conclusions

We presented the concept of cultural keystone practices as an extension of the cultural keystone species and cultural keystone places concepts. Cultural keystone practices thinking is contextualised in relation to the other metaphorical "keystones"



defined in the literature (Table 1). While species and places are central to these concepts, keystone *practices* complete the cultural cycle by integrating particular activities that support the identity and well-being of a community, especially when the practice might be overlooked through an ecological lens. By protecting and measuring cultural keystone practices, we are also protecting people's agency to safeguard their traditional species and places. However, we have also raised the cautionary note that simple national and international recognition of a cultural keystone practices, in the form of *intangible cultural heritage*, does not necessarily protect the places and species necessary for its continued existence.

We highlighted the often-overlooked importance of *practices* as a salient element of a culture's deep interrelations between species-places-practices by focusing on conflict resolution practices in different cultural contexts, as they all directly impact the well-being of communities. We proposed three case studies: *tribunal de les aigües*, *Potlatch*, and *dônga*. These cases demonstrate how maintaining or losing such heritage practices can affect community cohesion, identity, and resilience. The unique connection between these practices, territorial governance, and cultural survival is shaped by regional and societal contexts. For example, the *tribunal* has transitioned from a function institution to a symbolic tourist attraction due to urbanization; the *Potlatch* has survived suppression through revitalization, retaining its role in conflict resolution and cultural continuity; and *dônga*, though under threat, is increasingly defended as a vital expression of identity, reconciliation, and entertainment.

Cultural keystone practices are indispensable for a community's or culture's well-being, environmental management and sustainability. As the conflict resolution practices cited here demonstrate, cultural keystone practices serve as a vital focal point to assess and safeguard cultural resilience. Thus, there is a need for *practices thinking*, and a measurement strategy which ensures that communities retain agency over their cultural heritage while benefiting from a scientific approach to preservation, making cultural keystone practices a central pillar in the broader framework of healthy individuals and societies, in hand line with cultural and ecological sustainability.

Notes

¹*Indian Act, An Act to Further Amend the Indian Act, 1880, S.C. 1884, c. 27, s. 3, "Every Indian or other*

person who engages in or assists in celebrating the Indian festival known as the "potlach" [...] is guilty of a misdemeanor, and shall be liable to imprisonment."

²In 2014, the Haida hosted Heiltsuk Nation leaders and band members at a *Potlatch* in Masset: "to take part in a conversation kuuniisii ancestors [...] formalized through *Potlatch* law over a century ago. In 2015, Hailzaqy and Haida leaders *Potlatched* the treaty at Waglisla *Bella Bella once again*."

³*Dônga* is both the name of the martial art and the dueling pole made from the strong wood of the *kalochiya golonya* or *kalochiya kora* (*Grewia bicolor*).⁴*Dônga* is also practiced by their agro-pastoralist neighbors, the Chai and Tirmaga (referred as the Suri). Suri girls fight with *dônga* poles; Mursi girls only use the iron bracelet (*ula*) for "girls' *dônga*" or *ujene ula* (lit. striking bracelet) (LaTosky 2015).

⁵Only severe criminal offences that require retributive forms of justice (e.g., murder, rape, bodily harm, cattle theft, etc.) cannot be resolved through *dônga* (LaTosky and Olibui 2023:120).

⁶By attending and competing in dueling contests and by bestowing attention on their favorite fighters and admirers, it is important to mention that girls and young women legitimize *dônga* (ibid.).

⁷Unmarried girls and boys use *girari* and *dokay* purgatives in preparation for *dônga* contests. *Girari* (*Olea europaea* ssp. *africana*) is the most salient cultural keystone species in Mursi. Due to the increasing inaccessibility of *girari* in the highlands (e.g., Mago National Park), *Dokay* (*Harrisonia abyssinica* Oliv.) is used as an alternative purgative (LaTosky 2015).

⁸Cultural restrictions follow other African colonial-era instances, such as Zulu stick-fighting. The British exerted colonial control over this martial art by turning the practice into a public spectacle.

⁹Modern *tahtib*, led by Adel Boulad, is also under consideration as a new Olympic sport starting in 2032 (LaTosky and Olibui 2023).

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