From Culinary Traditions to Nature Conservation through Cultural Identity

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Philosophy of Natural Resources

For many years, there has been talk of natural resources. However, a mistaken concept has been promoted, where the inaccuracy of the term is reflected in the definition of "assets of nature that currently or potentially serve to satisfy human needs," under the shadow of neoliberal doctrinal principles. While it identifies among these needs obtaining food, building materials, energy sources, medicines, clothing, etc., it does so within the common trends of market economies. In these, assigning monetary value and setting prices is prioritized over inquiring into their intrinsic worth.

One of the most dramatic consequences of this issue is that, incredibly as it may sound, biological and genetic diversities are being claimed as property—almost as if life itself has owners. The new proprietors are industrialized countries or their capitalist vanguards: private companies representing their interests, which rush in and seize expressions of life, acting as 21st-century pirates and corsairs in a new modality of plundering others' wealth. Today, there is no need for ships, cannons, or muskets; it suffices to identify genetic sequences of species, varieties, and wild lineages to patent their code and claim ownership of their DNA; as if to say: assume ownership of life's information. This is the sublimation of neoliberal capitalism at the expense of the legitimate owners of biodiversity.

The United Nations Food and Agriculture Organization, FAO (*Organización de Naciones Unidas para la Alimentación y la Agricultura - FAO*-), attempted to counter this apocalyptic view at its twenty-second Biannual Conference in November 1983, when it adopted Resolution 8-83, declaring "plant genetic resources" as the heritage of humanity. The Resolution ignited a fierce dispute between industrialized countries (the industrial North), representing the major producers of processed foods, and countries in the less economically developed South, which, although economically disadvantaged, possess significant genetic diversity and provide the raw material that guarantees food industrialization in the North.

In the height of neoliberal cynicism, the champions of this capitalist modality defend it by arguing that "no region in the world is genetically self-sufficient and cannot remain isolated. Resolution 8-83 is impractical from any perspective. Southern countries must recognize the rights of seed-producing companies to own their improved lines. Industrialized countries must acknowledge that plant genetic resources are just another natural resource…" By the end of this essay, we will have provided sufficient arguments to dismantle this type of thinking, and we hope to have given cultural identity the necessary relevance to make natural resources that support it a crucible of invaluable values.

It is worth asking then, who are the true owners? Why are they owners? Who is this "humanity" to whom the FAO has assigned such an imposing "heritage"? The answers require much explanation, and this is precisely what we will try to provide. We will begin with a simple reflection on what happens when different peoples coexist within the same territory. Each has a view of its immediate surroundings or a real, differential, and distinctive worldview. It follows that, whether in spiritual, material, or social culture, they demonstrate different patterns

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in the utilization of nature's assets. It is a manner of use that gives substance to the concept of natural resources defined according to cultural identity.

It is not difficult to observe that Nature offers them references for expressing rites, rituals, traditions, customs, and religiosity. One more thing, the old paradigm of "man against nature" is shattered, falling to pieces when one assimilates the idea that no society, as such, undermines one of the sources of its collective identity. Here lies the essence and purest concept of a natural resource, understood as that *element of nature that supports the maintenance of cultural identity by being integrated into the events inherent to it.*

Shades of Cultural Identity

The life of human communities oscillates between the past, present, and future. In this temporal journey, their ways of life reveal the spontaneity with which they express and manifest themselves. These expressions are spontaneous in that they are learned by each individual even before birth. Reinforced and strengthened from the earliest stages of development, adults suddenly find themselves marked, sometimes without fully realizing it, by sociocultural imprints and social behaviors which, over time, become traditions, customs, and behaviors that feel as inherent as if they were innate.

At a certain point, the sociocultural impression created independently within each member of society becomes inescapable, even though some may occasionally try to distance themselves from it. It seems unnecessary to point out that the sum of these independent impressions results in a collective sociocultural affiliation—a community identity. This imprint is responsible for making cultural identity so solid, yet unconscious, that a group of individuals who share roots conducts itself socially with an inherent harmony, intuitively displaying a behavioral heritage received throughout individual lives. The further back one looks, the stronger the evidence emerges that these marks are part of social history itself.

This has been true since the earliest days of human life on Earth. In ancient times, this set the foundations of behaviors that differentiated humans from other animals, including their closest kin, apes, and monkeys, marked by complex language, symbolism, and the handling of techniques and technologies. C. Stringer has noted that "*the most significant changes in the evolution of human behavior as a whole occurred in Africa.*" He adds that "*the evidence seems to indicate a gradual accumulation of morphology and behavior during the period between 300,000 and 100,000 years ago*," suggesting some possible modes of its evolution.

It is the changeable nature of behavior over time and space that gives rise to distinguishable and differentiable social behaviors. Continuous evolution brings changes, and transformations reduce or enrich behavioral patterns. Viewed as a whole, which unmistakably defines a particular people's behavior, it becomes merely a semantic matter to call it culture. And since one can *identify* one culture and another among several, nothing should prevent us from calling it *cultural identity*.

Rules and hierarchies of community integration and the entirety of events surrounding spiritual and material cultures are expressions of identity, of belonging to a group composed of similar individuals. They constitute a communal identity; they form a significant part of its *social behavior*. Likewise, the social events framed within a particular worldview, in the set of rites and rituals of spirituality, religiosity, and syncretic communion with other beliefs, in mythology and much of oral tradition, art, particularly popular dance, traditional popular cuisine, the universe of handicrafts, and music, contain many of these acts of social belonging.

Viewed one by one, these identity expressions reveal that they are often

accompanied by one or more elements from the natural environment. There is an intense parallelism between certain natural elements and their concomitant cultural event. This is easily observed in traditional popular cuisine, where each dish requires a specific ingredient or a unique way of preparing, serving, or enjoying it. Or in marimba music and the hormigo tree. In the extraction of aromatic resins from certain tree species. In the ritual use of specific woods in crafting masks for traditional dances, and so forth.

With a new qualifier for natural resources, the benefits derived from environmental protection programs can be linked to the need to conserve natural heritage within the framework of cultural identity. Breaking away from paradigmatic remnants that impose a conservation that may at times sacrifice or limit sociocultural expressions now seems to depend on using a language common to all social groups.

Though it may sound utopian, envisioning a model for the conservation of chipilín or majcuy, for example, opens up new possibilities for social acceptance of a proposal that would not restrict, but rather support the protection of two much-valued foliages in traditional cuisine. Such a message—the conviction of the value of identity-linked natural resources—can make the difference between success or failure, even partial, in establishing long-term programs for enhancing, protecting, and conserving natural heritage. Sometimes, it's a way to spark or strengthen local pride in the ecological environment by tapping into a shared interest that resonates with the roots of the people.

In 2003, we noted that when humans discover what in nature serves them, they take it and incorporate it into their needs, the usage becomes custom, they integrate it into their symbolic cosmos, and they identify with that "natural value." Then the human-nature bond is reinforced, and an unwritten yet solemn respect for natural assets emerges, born of profound spontaneity. The study of the composition and characteristics of this bond is what we call ethnobiology.

Where and with whom does ethnobiology begin? In a 2005 essay, we stated that, based on fossil records, it is possible to sketch scenarios and place the ancestors of humanity there—those who began to define social behavior patterns, the "inventors of human behavior." However the record is fragmentary, and thus knowledge encounters limitations in identifying the oldest humans. Referring to ancestral hominids provides an elegant way to address this issue. Some argue that the first hominid can be placed around 6 to 7 million years ago. This is a skull recovered in the Republic of Chad, in the Sahara of north-central Africa, made known in 2002. Its anatomy is that of an ape with a mix of humanoid traits. It was named *Sahelanthropus tchadensis*.

A rich record of possible early hominids emerges from the fossil fragment of a jawbone with a tooth, dating back 5.6 million years, from Lothagam, in the southern basin of Lake Turkana, Kenya, East Africa. Another record from around 50 kilometers south, in Kanapoi, dates to 4.1 million years ago; and in Allia Bay, east of the basin, another creature, four million years old, was unearthed. These three records belong to ape-like beings that walked upright. Fascinating data are provided by fossils from the unique group of the Dartians, primates of the genus *Australopithecus*, with deep affinities to the human lineage. The oldest is about 4 million years old (*Australopithecus anamensis*, closely followed by *Australopithecus bahrelghazali*). In Hadar, Ethiopia, the incomplete skeleton of Lucy (*Australopithecus afarensis*), a Dartian female dated between 3.9 million and three million years ago, was discovered. A famous Dartian, Raymond Dart's *Australopithecus africanus*, lived between three million and 2.3 million years ago. Others include *Australopithecus aethiopicus* (2.6 million to 2.2 million years ago), *Australopithecus robustus* (two million to 1.2

million years ago), and *Australopithecus boisei* (2.6 million to 1 million years ago).

Around 2.3 million years ago (or possibly around 2.5 million), the wandering of the bipedal, upright creature called *Homo*, the human, began. It coexisted with the Dartians, possibly derived from them, although not as a transformation from one into the other but reaffirming the close genetic relationship that connects them. *Homo* was contemporary with at least *A. africanus*, *A. aethiopicus*, *A. boisei*, and *A. robustus*. The lineage of humans is rich and diverse, including various species that coexisted both temporally and spatially, at a time when ape-like Dartians that walked upright were competing for survival with more than one species of *Homo*, also ape-like but more slender and graceful.

The first human has been traced to Africa and lived around 2.3 million to 1.6 million years ago. It was classified as *Homo habilis*. With a small overlap of 100,000 years, the African *Homo ergaster* lived between 1.7 million and 600,000 years ago. During that same period, but between 1.5 million and 50,000 years ago, *Homo erectus* lived, the first to disperse outside Africa, reaching as far as China and Indonesia. About 500,000 years ago, *Homo heidelbergensis*, also of African origin, appeared in Europe. *Homo neanderthalensis*, the European Neanderthal, lived between 250,000 and 28,000 years ago. And our species, *Homo sapiens*, according to the oldest known fossils—two adults and a child from Ethiopia—has been dated to between 160,000 and 154,000 years ago. From this last lineage, we contemporary *Homo sapiens* descend. There is no linear sequence but rather a web of human species that evolved independently of each other.

The environments they lived in must have been rich in social complexity. Groups of Australopithecines and various types of humans shared space, imagining ways to survive based on the development of physical skills, communication, and elevated doses of ingenuity. A beautiful melting pot where food plays a crucial role in strengthening the bonds between individuals in groups, creating and consolidating hierarchies of group and family organization, fostering task specialization, and pushing the old model of food gathering toward agriculture, technology, and cooking.

Judging by their dental wear patterns, similar to those of current vegetarian primates, Australopithecines and early hominids likely fed on plant products, including fruits, tender foliage, and succulent roots. Most paleoanthropologists believe that later *Homo* became scavengers. They fought for scraps with other scavengers, especially hyenas and saber-toothed tigers, complicating their quest for food. Thus, they may have resorted to a grim variant of scavenging: cannibalism. It may never have been widespread, but it allowed them to access another type of remains, relatively easy to obtain, though only sporadically available. A more advanced stage involved killing for food and incorporating fresh meat into their diet, like other predators.

Our distant ancestors created behavioral patterns born from their relationship with their ecological environment. Their habits likely evolved by increasingly sophisticated levels of group organization, precise communication codes, the development of abstract thinking, clan identity, and undoubtedly the development of strong, well-defined individual-to-individual affinities. This complex process, spanning the times of gatherers, scavengers, predators, hunters, and hunter-gatherers, reached higher levels when humans discovered agriculture and became technologists. Groups grew from one or a few families, perhaps integrated into harems, into larger clans that became increasingly organized. Group humans transitioned from spontaneous behaviors to ever more elaborate patterns of behavior.

The situations surrounding this rich evolution are not necessarily easier to understand and assimilate. For instance, regarding food behavior alone, once a succulent root, nutritious sprout, juicy tuber, or tender stem was discovered

to be good, the spontaneous transmission (or perhaps preconceived and conscious?) of such knowledge, generation after generation, established the condition of “useful plant” and gave it the status of “good food.” This fostered the development of logical thinking, turning knowledge into experience, accumulating experience into practices, and transforming the sum and development of these practices into behavior. Can we now call these expressions of behavior "customs"? Without pushing the argument to extremes, and without swinging between ecological or structuralist views, considering the biological environment to enrich the cultural environment will never be far-fetched.

If we were unable in this essay to speak of cultural patterns in primitive social behaviors, born out of the necessity of the hominid-environment relationship, we would have the right to question the validity of later terms such as "pebble culture" (Lower Pleistocene), "flake culture" (Middle to Upper Pleistocene), or the Clactonian, Abbevillian, Acheulean, Mousterian, or Magdalenian Cultures, among others.

With a chronological hiatus of about 20,000 years since the Würm post-glacial period, not explicitly marked as such but implicitly as our last time in the previous chronological relationship, we now find ourselves in Guatemala. We ask ourselves: what ethnobiological details currently appear linked to our cultural patterns? Or, in other words, what are today’s most relevant nuances of our cultural identity?

Domestication of wild lineages.

Guatemala has long been considered a primary global center of origin and diversification for cultivated plants. Its ecosystems have produced a significant number of wild varieties that ancient inhabitants once took, improved, and now benefit from. Should we name a few examples at random? The indurata variety of maize, various beans, chiles, squashes, and their relatives, güisquiles, and similar crops. Their current cultivation defines the cultural patterns of contemporary Guatemalans.

In nature, relatives of useful species are found, categorized as primitive populations, populations, and wild relatives. Among the former are amaranths (bledos), chiles, pacayas, caimitos, acerolas, beans, pepper, zapotes, cacao, and quequeshques. Wild populations include nances, pitahayas, avocados, cherries, jocotes, chipilines, loroco, miltomate, some beans, and the peculiar pericón. Several lines of beans and maize ancestors still contain wild relatives.

For practical purposes, these lineages contain an immeasurable and exclusive patrimonial value because they are the only source of ancestral genes, still wild, of the species they represent. They contain the genetic information that helps them evolve in ecosystems, achieve resistance, gain adaptive advantages, and survive. They are a natural heritage in that they consist of living beings, but they are also a cultural heritage as they are incorporated into the customs, traditions, behaviors, and practices of Guatemalan human groups.

Handicrafts

An immense wealth impossible to fully cover here, involving works in clay, stone, wood, leather, roots, stems, fruits, textiles, and metal products. Dead coral, mollusk shells, conch shells, tortoise shells—anything that sparks the imagination and creativity of Guatemalans.

If we were to examine them closely, one by one, we would discover that none of them escapes the splendid ethnobiological relationship. However, since we are only providing "glimpses," I will highlight two examples that illustrate the richness of identity patterns tied to native natural resources.

The “nije craftsmanship” of Rabinal is based on the transformation of morro or jícara fruits, stripped of their outer layer by abrasion

(originally using "chaparro" leaves). In this state, they are smoked until blackened using burning pine wood slivers. After receiving the precious coating of nije varnish, obtained from an ancestral process using the cochineal nijera insect that inhabits piñón plants, they are ready to be decorated and transformed into rattles, bowls, or money box. The process involves a team of artisans, and each stage is a beautiful model of ethnobiological interaction.

In Sololá, the Nahualá people, living amidst fragrant pine forests, have developed a special social behavior deeply tied to their relationship with the forest. At some point, they learned to skillfully work with white pine wood, one of the dominant species in the ecosystem. Through their unique designs, both in structure and carving, they gave rise to the famous "Nahualá Furniture." These pieces, born as utilitarian objects and now considered luxury items, are a source of pride and identity, found throughout the country.

Traditional Dances

We cannot talk about traditional dances without mentioning their most notable researchers, such as Carlos René García Escobar. He noted that the ethnodramatic ritual of the palo volador (flying pole) includes “rituals related to selecting the tree that will serve as the flying pole (palo volador), its felling and preparation, and its transport to the community...” as well as the fact that various species of pine trees are used depending on the specific geographical area. In the Baile de los Negritos of Panajachel, the characters playing servants often carry a bewildering variety of stuffed wild animals: snakes, skunks, opossums, weasels, foxes, and coyotes. The meaning of this in the dance context is unclear, but it undeniably demonstrates yet another way that Nature is incorporated into the ritual spectacle.

The goal of these notes is merely to explore ethnobiological relationships, so let’s think about masks, chinchines, rattles, and feathers. The first, particularly those made of wood, are masterpieces of carving and aesthetics. They are crafted from pine, cedar, and pom-estoraque woods. The most mystical ones are made from pom-estoraque (from the botanical genus Bursera), as crafted by master mask-maker Pascual Pérez from Joyabaj, Quiché. This Bursera species also produces aromatic resins, leading us into another ethnobiological dimension: the pom-estoraque or incense used in religious, magical, or ceremonial expressions.

There are also masks made from palo de pito (various species of the Erythrina genus), the same tree that produces the “red beans” called *tzite*. These trees lead us further into ethnobiological mazes because they are a sacred element in the Quiché Maya pantheon, as described in the Popol Wuj; their flowers, resembling small red “machetillos,” are part of traditional Guatemalan cuisine; they are used as living fences, and children play with their seeds.

In traditional dances, metal rattles are used, but we are more interested in those made from morro or jícara fruits. In the past, they were lacquered with nije, but now they are painted with commercial oil paints. Lastly, the most prized feathers were those of wild birds, particularly macaws, for their size and vivid colors. Nowadays, they are typically replaced with feathers from domesticated birds (roosters, turkeys, peacocks).

Vernacular Architecture

This type of architecture seeks in the forest the materials that give its constructions their unique character (note that “materials that give unique character” has a different connotation than “appropriate materials”). In Punta de Manabique, on the Caribbean coast, the author determined that such architecture relies on materials from the immediate ecosystem—a coastal swamp of palm trees. For the posts, they use barillo, San Juan, Santa María, malagueta, jobo, caribe, barbejolote, icaco, zapotón, guatatú, and guastamajaine. For smaller parts (beams,

braces, ribbons, ribs, reinforcements, "friend's feet," and "rooster legs"), they use the branches or stems of barillo, malagueta, icaco, Santa María, caribe, and guastamajaine. For the essential "grass supports," icaco and cane are used. For the walls, cane, exotic wooden planks (probably Guatemalan pine), and occasionally quiaviche. For the roofs, palm leaves from confra or manaca.

The structures built in this way give a unique character to the environment. They are typical in the best sense of the word, traditional, unmistakable, and distinctive. These landscape designs should not be viewed with the morbid expectation of wealthy tourists eager to glimpse rural third-world life. Instead, they should be appreciated and valued in terms of the ethnobiological relationships that have defined these equally unique cultural expressions. How wonderful that the previous example of vernacular architecture comes from Punta de Manabique, and how even better that Punta de Manabique is a Wildlife Refuge, a protected area that supports this type of expression.

Much further away, at the opposite end of the country, in a zone where the mist-covered peaks of the *Los Cuchumatanes* mountains extend, the houses are roofed with *tejamanil*—sheets of fir wood. Even sheepfolds and shelters are made from fir wood. A treasure, a wood obtained from a fragrant, revered, scarce tree that is even at risk of extinction. This is the same fir tree that is brought into homes between autumn and winter as a "Christmas tree."

In the past, more than now, the huts of the western highlands were built with bajareque and roofed with straw, a generic term colloquially used to refer to certain grasses of the genus *Muhlenbergia*. The straw fields were once a prominent feature of the subalpine meadows of the high peaks, where icy winds, fog, and the cries of the sharas reigned, along with the pure atmosphere. With the disappearance of the straw fields due to the spread of agriculture, the straw huts have been left behind only in photographs.

And what about houses, docks, fences, and other architectural details along the Pacific Ocean coast, where mangrove is the king material? And the architecture of Las Verapaces? From an ethnobiological perspective, it seems easier to evaluate regional vernacular architectures. It is enriching to discover the connections with nature and to give a different value to the appreciation of a particular social environment.

Traditional popular cuisine.

Truly Guatemalan cuisine identifies these people with a unique cultural pattern and is based on the use of varieties that have emerged from its ecosystems—some domesticated, others not. Good examples are the popular dishes of green beans in iguashte, güisquil chilaquilas, pacayas, and green beans wrapped in egg, chirmol made of miltomate, tomato, or tomatillo, quilete soup, steamed bledos or in soup, cooked ichintal, güicoyitos, pinol, pulique, pepián, jocón, tamales, guacamole, mushrooms, chipilín tamalitos, loroco tamalitos, chuchitos, xepes, ticucas, boshboles, bollos, boiled corn, stuffed peppers, chocolate, white atol, chilacayote, sweet potato, or manzanilla candies, chilacayote drink, and ayotes in syrup. And without going far: a delicious plate of beans with chili, accompanied by freshly made tortillas straight from the comal.

The plant products that nourish and identify us through food are so delicate that many, like the humble güisquil, incredibly diversify in varieties and culinary applications. Any variety of the species has the virtue of performing wonders in the kitchen. The fruits can be consumed in salads, in soups, simply boiled, or turned into desserts (“chancletas”). They are either part of the everyday diet or selected for special occasions, such as the exclusive “boiled güisquiles for All Saints’ Day.” The plant’s sprouts, colloquially known as “güisquil tips,” are cooked mixed with eggs, alone, or incorporated into “frijolitos parados”; whichever way, they are a delight to the palate. And the root,

the succulent ichintal, also offers endless preparation possibilities.

Green beans in iguashte make up a dish where the former are tender bean pods and the latter is a concoction made from pumpkin seeds, miltomate, zambo chili, tomato, and others. In a different case, stuffed peppers represent varieties of large fruits from the *Capsicum* genus. Meanwhile, pacayas are the tender inflorescences of palms that grow in the undergrowth.

Part of such amazing cuisine goes hand in hand with other expressions of Guatemalan culture. On All Saints' Day (November 1st), güisquiles and boiled corn, as well as sweet ayote, are always present. Ceremonial, not like the ones eaten every day. During Holy Week, there is a solemn traditional display of the capture, drying, commercialization, and preparation of fish in a similarly ceremonial dish. And let's not forget the cultural fixation on the Christmas tamal, that dish made with corn dough, seasoned with tomato, bell pepper, and annatto, and finally wrapped in mashán or banana leaves. So Guatemalan, these species make the fragrant tamal even more Guatemalan.

Regarding these foods, Guatemalans have a culture of gathering bledos, quiletes, miltomates, and chipilines; mashán leaves for tamales, canaq' leaves for flavoring, allspice, Miel de Doncellitas... We do the same with zapotes, caimitos, nances, chicos, cherries, and many other fruits. Species like corn hold a preeminent place in material culture (its cultivation is surrounded by ceremonial expressions, and the culinary aspect forms an identity), social culture (language, festivals, and ceremonies, as seen in the Paach dance), and spiritual culture (in myths and legends, religious rituals, dances—and beliefs, such as those concerning its divine origin).

Traditional Cuisine as Cultural Identity

López García has said that "food, in all cultural contexts, has served to define oneself against others; it has been and still is not only one of the immediate but also one of the main markers of identity. But far beyond exclusively representative identifications, food becomes one of the most important symbolic foundations in the construction of cultural identity and in the genesis of correlates that make social ideologies more intelligible".

This concise statement implicitly emphasizes that "gastronomy" is not merely "the art of cooking" and then eating. It's about respecting an unwritten set of behavioral guidelines that give meaning to a people's identity through their cuisine. The same identity should likely be claimed for the biological species that humans consume, as, in the end, we are nothing more than consumers in a world where the difference between eating and being eaten becomes a law when it comes to ecological relationships among animals. But in the social context, dishes, concoctions, meals, stews, and ingredients in the traditional cuisine of the Guatemalan people are parts of a significant whole within their cultural heritage, largely derived from native species that make up their natural heritage.

An example of the interaction that leads to identity is observed in a short publication about the *Comida de Cabecera*, which gathered the thoughts of maestro Celso Lara Figueroa. He explains that the primary goal of its dishes "is communication between two worlds (the living and the deceased ancestors) and the preservation of the balance between sacred and profane elements." The statement contains references to the spiritual aspect in which it is framed and to human actions projected onto culinary practices and food consumption. It highlights the existence of communication and a means to link the sacred and mundane dimensions, two principles inherent to culture. Food, as a form of communication, possesses its code of signals, signs, and symbols that define a unique pattern of social identity.

In that example, two classic ingredients of the sacred *Comida de Cabecera* are identified:

ayotes and jocotes. In this essay, they help connect the biology of food to the anthropology of eating, providing criteria for understanding how food contributes to defining a people's identity, supporting the interpretation of the symbolism in various traditional dishes, justifying a philosophy of preserving natural and cultural heritage, or, as expressed with the same value judgment once used by Classen, searching among the native lineages that both nourish and identify us for explanations of how our societies create and shape a meaningful culinary world.

The premise, fundamental from an ethnobiological perspective, transforms the belief that foods were initially chosen because they were "good to eat," later becoming "good to think about" in terms of the Lévi-Straussian school, and eventually fixed to cultural patterns when they transcended the purely animal functionality of eating to survive. This is not an apology for some pretended functionalism in food; it merely emphasizes that the food we eat today represents a form of identity and that before achieving this, the foraging period placed humans face to face with their food sources, but with magical relationships through the conception of connections between plants and the gods or with themselves.

Social eating identity must have developed slowly, until food, those who consume it, and the processes that unite them formed a single cultural pattern. This can reasonably be deduced from the study of foods with wide biogeographical distribution and deep cultural fixation; or from the culinary fixation of foods where the areas of ethnicity and food distribution coincide.

When adaptations to social eating and food consumption are related to the primary centers of natural production, rather than denying the symbolic value of food, they reinforce it with facts derived from the existence of edible lineages and the intrinsic value they possess as living forms, representing unique genetic codes.

How to identify and select foods, what should be cooked, the art of preparing meals, sitting down to eat, or making it either an everyday or festive event are actions that help to logically or unconsciously distinguish a certain social structure based on its culinary procedures. This is what followers of Claude Lévi-Strauss would say. Hence, the premise that the existence *of centers of origin and diversification of food plants is concomitant with the appearance of centers for the development of culinary identity patterns.* Their projection should show how culinary identity becomes one of the most solid pillars of cultural identity.

Having confirmed that the gastronomic fact is a strong expression of cultural identity, let us link it to the theoretical principles that guide the conservation of nature, biological diversity, and renewable natural resources.

According to theory, preserved areas contribute to maintaining environmental quality through several actions, including maintaining samples of ecosystems in their natural state and ensuring that their self-regulation processes keep them functioning perpetually; maintaining ecosystem diversity to protect natural heritage integrally and promote environmental stability; and maintaining species variability, fostering in situ care of varieties and subspecies of interest to humans.

Any of these contains enough elements to integrate the issue of identity-related natural resources, yet none does so. A tepid glimpse of this need emerged in 1986 from the Latin American Network for Technical Cooperation in National Parks, Other Protected Areas, Flora, and Wildlife, which encouraged a Latin American expert meeting on the *in situ* conservation of genetic resources in Latin America and the Caribbean.

It's no surprise that the "experts" convened at the meeting merely stated that there is "a large number of species (and that the category) scientific research shows to be of value

(includes those) used by small rural groups, those used by previous civilizations, and those that are complementary and necessary for ecosystem existence." Their brilliant conclusion was that "the level of knowledge is minimal, and we are still far from a list of species. In some cases, their role in the ecosystem and production systems is known, as well as their presence in popular culture.

In the face of such an evident conservation gap, some researchers have turned their attention to more humble but potentially impactful options, such as managing home gardens. These gardens can contain so much richness that they have been compared to biodiversity reservoirs. The plots of land can reach an unimaginable profusion of useful plants, among them, for obvious reasons, many of those that have been incorporated into traditional popular cuisine and other cultural forms.

Some scientists have raised the alarm about what is happening to many of the species that make up the unique heritage of food plants, but little action has been taken. The following is a good example*: "Since 1987, an ethnobotanical and distribution study has been conducted on a species endemic to Guatemala, the *orejuela*, whose dried petals were a common seasoning among the Mayans and Aztecs at the time of the conquest. It is still used by the Mam, Quiché, Q'eqchi', and Poqomchi' peoples to season traditional beverages such as *atol blanco*, *pinol*, *batido* or cacao, and *atol con súchiles*. The Quiché also use *orejuela* to season *recado negro*... It also has a place in magical-religious ceremonies. As for its presence in markets, it was found for sale only in small quantities in important indigenous markets for Q'eqchi', Mam, and Quiché people... It is possible that Jacaltenango was an area where this highly valued species was domesticated and cultivated in pre-Columbian times, and today it is on the verge of extinction."

The purpose of mentioning this tasty example is to reflect on the following: what will happen to the culinary tradition of *atol blanco*, *pinol*, *batido* or cacao, *atol con súchiles*, and *recado negro* in these regions of the homeland if *orejuela* becomes extinct? A certain culinary identity is at stake, and this is significant from an ethnological perspective. It is worth mentioning that the researchers of that study only found "nine trees in Alta Verapaz (Cobán and surrounding areas) and approximately 680 in Huehuetenango, of which 667 grow from the banks of the Azul River to the town of Jacaltenango." How many of these 689 trees will persist today?

The point, in this conservation gap, is that having tasted *atol blanco*, *pinol*, *batido* or cacao, *atol con súchiles*, and *recado negro* seasoned with *orejuela* in Mam, K'iche', Q'eqchi', and Poqomchi' communities offers a different sense of belonging to societies that have their cultural references, which are now on the brink of being lost forever. Perhaps a perspective different from the current one could ensure the survival of the species, and with it, preserve these very special foods in the gastronomic heritage of the social groups that own them, giving conservation a higher meaning.

Biogeography and Culinary Identity

It is not uncommon for traditional popular cuisine to have geographic manifestations as narrow as the distribution of the foodstuffs involved in its preparation. Good examples are *loroco* flowers, frequently found in markets in Guatemala and El Salvador, where the taste for their peculiar flavor and aroma is legendary. A similar case occurs with *miltomate* berries, whose distribution is limited to Guatemala and southern Mexico; hence, dishes made from it are highly appreciated in these regions. A case similar to *miltomate* is the *tomatillo*, or "snake tomato," a wild Guatemalan variety of tremendous importance in native cuisine.

Another wonderful example, studied elsewhere in this essay, is the *orejuela* tree and its use as an aromatic seasoning. Its greatest culinary attachment occurs in Mam, K'iche', Q'eqchi', and

Poqomchi' communities, located within the ecological area where it grows, particularly from the lower Cuchumatanes to the Chamá mountains. It is believed that most of the original use occurred around Jacaltenango, Huehuetenango and that processes aimed at its domestication persist there (unless it becomes extinct first).

It should not be surprising that Garifuna cuisine, particularly dishes like *tapado*, *rice and beans*, and *coconut bread*, incorporates one of the fundamental vegetables of its ecological zone: coconuts! Note that in this case, the culinary tradition has deeper roots than just using coconuts to season a seafood soup, a rice and bean mixture, or a baked flour dish. It is the identity that accompanies these foods, it is the tradition of a people that transforms the soup and the mixture into unique dishes, embodying the spirit and image of a grand social group. If this weren't the case, there would also be *tapado* and *rice and beans* on the Pacific coast, but there aren't.

With the *canaq'* tree, another wonderful relationship of the same kind is established. The species only grows in the mountains of western Guatemala and the southernmost part of Mexico, and only in cloud forests. Its ecological requirements, as determined, are extremely demanding. In addition to being a respected and revered tree, it produces a nectar that is believed to have been used by pre-Hispanic people, and today it holds a prominent place in traditional cuisine. The leaves are used to wrap small tamales made of corn dough to be consumed on ceremonial occasions, and also as a cover and "bed" for cooking equally special tamales. Besides imparting a delicate aroma to these foods, their use is ritual and represents a sacred act. However, the cloud forest habitats where it grows are in a critical state of conservation.

Chipilín is a leguminous shrub that grows spontaneously in a restricted area from southern Mexico to El Salvador. In Guatemala, it has been classified as a weed in corn and bean fields, though it is a delicacy in both soupy and dry dishes. The small plant with yellow flowers prefers to grow below 1,600 meters in altitude. It has given its foliage to local cuisine and is also attributed to medicinal properties (as a sedative). Together with *bledo* and *hierba-mora*, it forms the trio of pre-Hispanic foods most rooted in the national diet, with high nutritional value due to its high contents of protein, fiber, iron, calcium, phosphorus, magnesium, potassium, sodium, vitamin A, and other essential elements. *Chipilín* soup, alone or with chicken and rice, is a very popular dish. The "*tamalitos de chipilín*" or the "*chuchitos*" to which it has been added are exquisite for the flavor and aroma it imparts; sometimes it is added to cooked beans. Its consumption in Guatemala is notable for two exclusive conditions: it is as native here as the species' range is restricted, and Guatemalans have a great appetite for its taste and smell.

A very traditional cuisine with evident geographical restriction is that based on *güishnay*. This is a plant from the Araceae family that grows in the understory of humid forests. The southern slope of the Volcanic Cordillera and the Subtropical Humid Forest biome offers excellent conditions for its spontaneous growth. The edible part is the floral spathe, a cylindrical structure, mildly aromatic with a sweetish flavor. In Sololá, it is added to stews and meat dishes, particularly pork, to which it imparts a delightful flavor.

The department of Petén is famous for its dishes based on *chaya*, a small tree up to five meters tall that thrives in the humid tropical ecosystems of the north. One of two species is found wild in northern Petén, Alta Verapaz, Chiquimula, and on the very humid Pacific slope of the Volcanic Cordillera; it is now planted throughout almost the entire country. The leaves are eaten cooked. In Petén, its dishes are very popular and are offered with pride as "typical," whether in soups, fried chopped leaves mixed with eggs or as the famous "*bollos de chaya*."

The point is that one can observe the existence of a geographic distribution of traditional popular foods linked to the geographic distribution of the species that give them life. This is the key issue in these reflections.

However, the geographical distribution of foods expands as internal migrations occur (regardless of the motivations) or through individual movements (equally driven by various reasons). But no matter how much the cuisine evolves by people's movements, it never loses its identity. It will always be a symbol of belonging, even if what is popularly known as traditional (the most accurate term) begins to be called "typical" or "creole."

This is how it starts to gain status as a national identity element, as has happened with dishes based on *pito* flowers, the magical *tzite* of the *Popol Wuj*, or the turkey stew flavored with *samat*, originating from the Q'eqchi' area and now nationally celebrated under the name *kaq'ik*. This also applies to the nearly infinite variety of *pinoles*, *puliques*, and *jocones*, whose essential ingredients, the ones that make them unique, invariably reveal the powerful link between geography and cuisine. It should also be noted that genetic lines with restricted geographical distribution possess such characteristics not only due to ecological factors but also because human practices impose them through participation in their life cycles, whether through agricultural customs or other cultural fixations.

Protecting Nature

For many reasons, including the formal commitment to protect ecosystems as a debt to future generations, or to safeguard the diversity of life by preserving wild habitats, and to support the existence of subspecies, varieties, or breeds within natural communities, thereby promoting *in situ* conservation of useful lineages, we recognize the importance of protecting nature in its entirety.

But conservation also supports the strengthening of local and regional programs for education, research, and environmental monitoring. It aids water production by protecting springs and aquifers, controls erosion and sedimentation, thus helping maintain downstream infrastructure, and protects sites, objects, and cultural, historical, and archaeological expressions, offering them a contextual framework. It provides opportunities for outdoor recreation, helps preserve the scenic beauty of wild environments, is a source of animal protein through hunting and fishing, wood or firewood, and strengthens rural development.

However, this type of theory, despite its exquisite rhetoric and content, may not be understood if communicated through a semiotic code unintelligible to the audience. More than one well-intentioned conservation program has failed because those promoting it imposed content and contexts that were different from those of the intended recipients. A dramatic recent example is the Ixil Visís Cabá Biosphere Reserve, established in San Gaspar Chajul, Quiché, through Legislative Decree 40-97.

Almost immediately after its declaration and establishment, the people of Chajul expressed their discontent with the Reserve. Their protests escalated into violent acts against the local municipal building and even physical threats against some individuals. In a well-documented study, Nicolás Alfredo Pelicó Caballeros states that "the conflict and its consequences arose due to the opposition of Chajul's inhabitants to the legal declaration of the area. The community complains of being deceived and not consulted about the process and the consequences of the legalization. Additionally, they fear being dispossessed of their lands and do not understand why they are prohibited from extracting resources from the forest."

Pelicó adds some extremely interesting elements, noting that "it must also be mentioned that the Protected Areas Law, instead of protecting the rights of indigenous communities

located in that area, aims to legally evict them and eliminate their right to authority," and that "land usurpations continue today because there are no clear state policies to protect the collective property of indigenous peoples." He further comments that "the implicit argument (of the state entity) suggests that the Ixil people cannot take care of their mountains. On the contrary, the people of Chajul do not accept that 'outsiders,' meaning non-Ixil people, tell them how to care for their mountains, considering that their ancestors have protected and preserved them for centuries, developing local knowledge on the management and use of natural resources."

Key elements in the conflict, as identified in Pelicó's study, include: 1) the lack of popular consultation by state authorities, 2) fear of land dispossession, 3) the absence of state policies protecting the collective property of Indigenous peoples, 4) limitations on the exercise of rights vested in community authorities, 5) interference by non-Ixil people in the care of Ixil mountains, 6) prohibitions on utilizing forest resources, and 7) the disregard of traditional knowledge on the care, protection, management, and use of natural resources.

Pelicó Caballeros' conclusion is no less forceful: "Eyes have been closed to the reality of how indigenous peoples maintain harmony with nature through communal practices inherited over the years, reflected in norms, principles, and values conducive to the rational and sustainable use of natural resources." He continues: "It is very important to emphasize that the Ixil Maya people have been protecting, preserving, and managing their territories, mountains, and natural resources for many centuries, and therefore, they are not opposed to the general policy of resource preservation for the good of humanity."

On a smaller scale, replicas of this dramatic example can be found everywhere. If the aim of establishing *in situ* protection programs is collective well-being, once again, using a common language, respecting other worldviews and their symbolic values, genuinely incorporating the weight of identity and belonging, and respecting the thoughts of other peoples and cultures can support conservation as emblematic, strategic, genuine, and nationally significant elements.

This essay is aimed at affirming such a theoretical approach in the establishment and management of protected areas. However, given the vastness of the cultural field, it has focused solely on the material culture aspect, specifically popular cuisine. And since sufficient argument has been provided on related themes up to this point, we now directly address the identification of identity-linked *natural resources in traditional popular Guatemalan cuisine.*

Wild Lineages in Traditional Popular Cuisine

Just as a blade of grass or velvet flowers spontaneously spring from a mound of virgin soil, thousands of plants emerged from the ancient soils of Guatemala after its lands were formed. Due to its geological origin, the territory and its wildlife were initially part of North America. South America was separated because Central America had not yet formed a bridge between the two. The ancient forests contained pines, firs, ilamos, holm oaks, cypresses, liquidambares, willows, and yews, while raccoons, coyotes, foxes, deer, and weasels roamed. Once the bridge was formed, the southern biota spread northward in a powerful dispersal. Thus, zapotes, grafts, ceibas, acacias, and aripines grew, while tapirs, coatis, hummingbirds, wild boars, monkeys, and howler monkeys wandered alongside toucans and parrots.

To serve as a bridge between the north and the south, to be a narrow land between the Atlantic and Pacific Oceans, and to possess a complex topography made the organization of ecosystems follow a pattern aligned with geological history. The multitude of places shaped by geological forces gave rise to diverse microclimates. In these, there were explosions of variability. Wonderful living beings, such as the

quetzal, the white nun orchid, and the Atitlán grebe (now extinct) marked evolutionary milestones as species unique to a territory that, ecologically and later culturally, expanded into that surprising region called Mesoamerica.

In recent times, counted in just a handful of thousands of years, perhaps just over 10,000, a hairless mammal arrived that organized itself into groups with complex communication, possessed great manual skills, and extreme adaptive capabilities. Man arrived. He lived in Guatemala almost entirely covered in woodlands and teeming with wild animals and aquatic creatures. He gathered plant products, hunted, fished, and collected small invertebrates for food. What about keeping some of these foods close to the burrows?

From an environment full of life forms, the ancestral Guatemalan selected and cared for those he most desired in his backyard. But the cultivated yards were filled with weeds, herbs, and spontaneously growing shrubs. Some, like black nightshade, amaranth, chipilín, husk tomato, loroco, and snake tomato, remain weeds in fields cultivated almost as they once were.

If the relationship between humans and nature had been different in this land of rugged geography and rich ethno-cultural diversity, those weeds might have been eradicated.

But no, instead they were incorporated into the daily diet, resulting in fragrant and delightful dishes, delicate delicacies for the Guatemalan palate, which invariably prove to be rich in nutrition and sometimes even medicinal.

The extreme profusion of Guatemalan culinary expressions stems from an immemorial consumption of the foods that sustain them, and it demonstrates the knowledge and applications derived from the variability of species with food value. Today, in addition to being inventors of our agriculture, we remain gatherers of weeds that are turned into meals or of native fruits that are eaten with total delight: soursop, caimito, cherry, sapodilla, grafted fruit, white sapote, chamomile, nance, paterna, pitaya, sapote, and zunza.

A similar relationship is maintained with spices and seasonings like allspice, the infinite variety of chilies, delicate vanilla, samat, apazote, chucho, canak, elderflower, cordoncillo, bull's herb, and pericón. Likewise, with exquisite products from the undergrowth such as pacayas, güishnayes, or badú.

Contrary to what many "experts" claim about the impossibility of preparing good lists of phytogenetic resources, it turns out that such a task is indeed possible based on food plants. Here, we have provided an example. But to avoid overloading the text with denser information, we refer the reader to the appendix of the essay for more extensive data and information.

Paradigms in Conservation

What happened in San Gaspar Chajul in 1997 is a dramatic example of the great cultural clash that arises from ideological imposition in conservation when disparate philosophical references are employed. When, moreover, the management of values for the hegemonic cultural group excludes the acceptance of worldviews foreign to its own. It is an authoritarian display of the "impotence of free thought," as contemporary philosophers might say.

This dimension, which pertains to the hierarchies of behavioral imposition, was exposed by Max Horkheimer in 1970 in the following terms: "The dominion exerted over Nature, instead of bringing men closer to themselves, makes what exists maintain its objective power. Its elements—population growth, technology leading to full automation, centralization of economic power and therefore political power, and the rationality of individuals sharpened by industrial labor—imply such a level of organization and management of life that the individual's spontaneity barely has the space necessary to follow a prescribed path."

It is extremely interesting to find how the "spontaneity of the individual," in such a context, is limited by having to comply with norms external to himself. If a people are cohesive through their cultural identity, and this is the sum of the spontaneities of the individuals who make it up, limiting or annulling them means reducing that identity.

According to Horkheimer, man becomes "a rapacious race that maintains its existence at the expense of the rest of Nature in a more brutal way than any other species of predatory beasts, because Nature has endowed him very poorly in more than one sense." But what if the use of natural resources is achieved in the manner of the cosmogonic model of pre-Hispanic Guatemala? There are fundamental differences in both behaviors.

For Hegelian philosophy, Nature, a non-rational entity, represents the external aspect of reality, that is, the idea outside itself. And since he saw the "logical idea" underlying all reality, he found as the synthesis of his dialectic that the unity of Idea and Nature leads to Spirit (thesis: Subjective Spirit; antithesis: Objective Spirit; synthesis: Absolute Spirit). The Absolute Spirit (Subject, Reason, or Mind) governs the world, and it is both objective and absolute. These principles point to another vision of Nature, not as a source of riches in a mercantilist sense, but as an integration of man and environment that we, in turn, can project onto the concept of natural resources in a vision of identity-based imagination.

Now, when seeking the conservation of species and the genetic diversity associated with them, man faces a primary dilemma: either he cares for them in the environment where they live spontaneously, or he moves them to spaces he conditions for that purpose. The first mode is that of protected areas. It seems like a reasonably simple matter, but from there arises an unexpected paradigm, harmless only in appearance, that results from decision-making that is rarely based on the collective imagination.

This presents a new paradigmatic dimension: in the end, man takes the liberty of choosing which species to protect, which ecosystems to maintain, or which lineages to preserve. Thus, the existence of many conserved areas responds to individual "preferences" of decision-makers (at the hegemonic level) rather than to collective needs. A strong dose of "impotence of free thought" if we consider the people's needs as such. The ambitions of a people, omnipresent in the imagination of their societies, increasingly seek their own spaces of expression. As happened in San Gaspar Chajul.

And isn't it paradigmatic that, living in the same space where a vast wealth of biological species thrives, useful in traditional popular cuisine, Guatemalans do not recognize their cultural value for conservation purposes? Just recall that, in the first quarter of the 20th century, a contingent of Russian scientists spread across the world studying crops where great genetic variation and wild varieties could be determined. From their findings, it was possible to identify vital areas as centers of origin and dispersal. The botanist N. I. Vavilov coordinated the work of the researchers. Some were in the Mexico-Guatemala area, the insular Caribbean, and northern Central-South America between 1925 and 1927. Those who worked in the country were led by S. M. Bukasov, in an expedition organized by the then Soviet Institute of Applied Botany. Their results, published in Russian in Leningrad in 1930, showed the formidable genetic wealth we possess.

It is already a supreme asset to possess within the nation's wealth a natural heritage of such magnitude, yet our thesis goes beyond mere biological value. It is about viewing it as part of a cultural heritage. While it is significant that the manzanilla (common name for *Crataegus pubescens*, a small tree that produces tiny pomes) has a limited geographic distribution and is not a very abundant species, typical of mountainous areas, it is even better that these fruits form an essential part of the Christmas fruit punch

tradition in the highlands or are used to prepare a traditional sweet deeply rooted in Guatemala.

Similarly, it is noteworthy that biologists see the canaq' tree (also known as lion's paw, monkey's paw, hand tree, majagua, or tayuyo) as a species with a narrow distribution, confined to temperate cloud forests, classified as endangered due to habitat loss, and valuable as a conservation symbol. But it is even better to understand that this is an ancient spice, now added to highly traditional pre-Hispanic dishes. (It is believed that there was a time when it was revered, respected, and feared, especially by modern Maya who attributed religious meanings to it. It is said that infusions of its flowers were used in folk medicine to treat ulcers and eye ailments). In the realm of gastronomy, it is used to add aroma to tamales, a type of steamed food. A moderate quantity of leaves is placed at the bottom and top of the steaming pot, releasing a delicate fragrance that infuses the food. In a more spiritually loaded tradition, corn tamales wrapped in its leaves are sacredly prepared and consumed during deeply religious celebrations such as the Corpus Christi of Patzún. To cover certain foods in local markets in highland towns, canaq' leaves, with their copper color and velvety texture, are preferred over other coverings. For all these reasons, canaq' leaves are sold in bunches in the markets of these towns. The ancient Maya, fond of mild honey, may have gathered the nectar from the canaq', which pools abundantly in the floral cups. This idea persists in cultural memory, although it remains unproven.

From the start, we mentioned the also important case of the orejuela tree, some beverages and dishes it is involved in, and its classification as an endangered species. It was hinted that only those who have shared white atole, pinol, batido, cacao, súchiles atole, and black stew with orejuela with the Mam, K'iche', Q'eqchi', and Poqomchi' in their communities understand the significance of this species as a symbol of belonging. That both the symbol and the species might vanish, and that with them an entire culinary tradition could be lost forever, representing nothing less than the loss of a cultural fact (as if that were not enough). Linking gastronomic identity to the survival of a species can make the difference between keeping very special foods in the culinary heritage or losing them. In the first case, it is a great reason to ensure that conservation takes on a higher purpose.

Epilogue

We have stopped at only three of the many examples that can be cited on the significance of culinary facts in the appreciation of particular species in Guatemalan flora. It is true that beyond the culinary field, similar considerations are valid to emphasize the importance of ethnobiological relationships as identity markers, and how, therefore, this identity represents a value that Nature conservation management must address.

Undoubtedly, it is much more challenging to preserve traditions and customs than natural elements. The former change rapidly in line with modern life's evolution, with changes that may lead to their loss as they are overtaken by the shifts in human behavior and social norms. In traditional popular Guatemalan cuisine, this is evident in the encroachment, particularly in large cities, of fast-food restaurant proliferation, the folklorization of native dishes under market pressure, contamination by intrusions of recipes, procedures, and additives from "haute cuisine"; hybridization due to inter-ethnic mixing accompanying internal migrations, replacement or omission of traditional ingredients, the intrusion of "chemical recipes" in the form of industrially processed products, etc.

However, the shameful part is the loss of traditional cuisine due to the extinction of biological species that support it. The core issue is that very few environmentalists recognize the importance of incorporating cultural facts into Nature conservation management, and very few anthropologists participate actively in

environmental protection programs. Recently, through Government Agreement 663-2007, the State approved the Conservation, Protection, and Improvement of the Environment and Natural Resources Policy, effective March 14, 2007, opening several avenues for achieving such integration.

One of the requirements in all this is to provoke changes in attitudes and criteria regarding the qualification of natural resources. Our thesis is that these should no longer be overshadowed by market interests or serve merely as the economic source of a neoliberal capitalist system; instead, they should be understood in their most genuine essence as elements belonging to the imagination and culture of human communities, markers of identity, references of social belonging, and parts of the worldviews of peoples with their unique traditions, customs, and social, material, and spiritual practices.

If, as we have done, we link this to people's cuisine and culinary traditions, we can rightly say that traditional popular foods support Nature conservation. Similarly, we can assert that protecting the areas where the lineages that feed us grow firmly fosters the preservation of our traditions and customs.

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