

The Dynamic Relationship of Food and Indigenous Language: A Case Study of K'iche' Food

Miguel Cuj

Vanderbilt University, Department of Anthropology
miguel.a.cuj@vanderbilt.edu

Abstract. *This paper draws on anthropological linguistics and food studies to examine how K'iche' Maya foodways are elucidated by the study of interactions between language and the materiality of food. The meaning and symbolism of food emerge from the diverse social and cultural settings in which people live. How people talk about food relates to how their cultural identities form around it, all of which become embedded in its physical substance. Thus, the conceptual development of food is inseparable from the structural development of language. In this sense, Indigenous languages in K'iche' communities highlight the importance of cultural meaning, spirituality, and agricultural practices that are interwoven with foodways. From this perspective, the conceptual and structural ties between food and language highlight their intrinsic relationship. By exploring this relationship, this paper examines how K'iche' Mayan language gives food culture a legacy of meanings that have persisted through time.*

Keywords: *Food, Language, K'iche', Guatemala, Foodways.*



Since 2018, I have carried out a long-term study of K'iche' foodways with a sample of ten women and their families in a small K'iche' Maya community located in *Chi u wi' meq'in ja'* (Totonicapán), in the Guatemala highlands. Once, I asked these women why *wa* (i.e., corn-based food like tortillas or tamales) are so important to them. One woman responded “without *wa* in the meal, we don't have food.” In my personal and professional experience as a Guatemalan Maya, the conceptualization of corn-based food through the Mayan root “*wa*” is a crucial concept anchored in a legacy of food, language, and identity which is central to K'iche' Maya foodways.

Through more interviews, I acquired more information about why people associate with food and language. One quote from a K'iche' Maya woman I interviewed was particularly enlightening. After asking her about the meaning of *Ixim* (Maize) to her, she responded (also, see Figure 1):

*“Ri jal q'an are' kaq'alajsinik ri qawochib'al
Ri jal saq are' kaq'alajsinik ri kasaqarik
Ri jal rexwach are' kaq'alajsinik ri uqajab'al ri q'ij”.*

The yellow cob represents our equality
The white cob represents the sunrise
The black cob represents the sunset.

I collected data through ethnographic and pragmatic linguistic research methods, including dietary records, in-depth interviews, and participatory observation. The collected data document both the material and sociolinguistic conditions that influence how K'iche' women make decisions about feeding themselves and their families. For most of my time in the community, I ate a lot of meals (during mealtimes), bought food, helped in food preparation, and accompanied in agricultural activities. This allowed me to connect with the K'iche' food concepts in the local language. I randomly assigned myself to families to collect data on food classification via semi-structured interviews, dietary records, and participant observation. I was part of them, as some women called me “mijo' (son), “don” (mister), and *Kel* which is my name in K'iche'. I focused on my primary interlocutor, the woman of the family, as well as secondary interlocutors that helped in food issues. The data presented here mainly derive from mealtimes as a broader synthesis of my participatory observation. To exemplify this, I examine the food lexicon of the K'iche' Indigenous Mayan language and its interconnections with enduring cultural concepts. Each of the K'iche' food domains – summarized through this paper – must be considered to understand the multifaceted relationships between food, language, and cultural contexts.

Foodways as Food and Language

The concept of foodways has arisen as a framework for understanding the cultural attitudes, beliefs, and behaviors related to food elements. As first defined by Anderson (1971:2), foodways are “the whole interrelated system of food conceptualization, procurement, distribution, preservation, preparation, and consumption shared by all members of a particular group”. As practices, foodways inform how people use their language and food knowledge to conceptualize and interact with social, cultural, and economic issues (Riley 2017, 2019). With a particular focus on the practices and beliefs that surround food consumption, a foodways framework allows for an understanding of cultural categorization of food; i.e., how people in a community allocate and organize food through



Figure 1. The *Ixim* Colors (all photographs by the author).

language. Foodways also address the expression of identity and agency through food. Thus, foodways are a pragmatic theoretical framework used to explore how the formal representation of knowledge and the meaning of food are organized within communities.

Foodways are also defined as material and symbolic practices linked to the production and consumption of food with a particular focus on the role of food and food-related behavior (Riley and Paugh 2018:4-8). As such, foodways offer a crucial entry point to understand the complex contours of the social, cultural, and economic facets of food. Linking food and language within the framework of foodways allows us to understand how people use language and food-related knowledge to conceptualize food (Riley 2017, 2018).

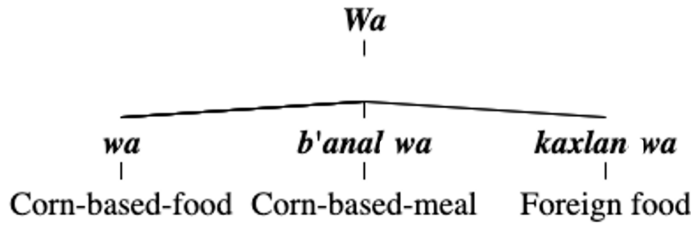


Figure 2. Food Domain of *Wa*.

Language works as a system that provides organization, structure, and hierarchy to the meaning and symbolism of food (Neuenswander and Arnold 1977; Riley and Paugh 2018; Staller and Carrasco 2009). Food and languages shape concepts in relation to one another – both dynamically and reciprocally – to articulate and elucidate food based on its specific cultural meaning. Within the context of foodways, language refers to a dynamic categorization system of semantics and semiotics. In other words, food-related language is treated as a set of symbolic and semantic resources that follow the logic of distinct foodstuffs (Duranti 1997; Riley and Paugh 2018; Salzman et al. 2014).

Food extends beyond the classic definition of biological and chemical building blocks, specifically nutrients, to become a principal medium and object for social interaction with cultural aspects. As such, food contributes to the construction of group and individual identity (Hastorf 2020; Riley and Paugh 2018). The cultural construction of food and language may illuminate the ontology of food among Indigenous communities (e.g. K'iche' Mayan) since, to these communities, food is not only culture but a direct connection with the earth; a way of seeing the world that is both social and spiritual (Pesantubbee and Zogry 2021).

Food and language, as central elements of foodways, trigger experiences that in turn shape identity (Szatrowki 2004). In this sense, people use verbal descriptions of food when talking about its significance as an identity practice. Language also provides context for knowing and talking about food (Boerboom 2015): its production, use, exchange value, and the rituals of its consumption constitute a kind of food language with real-world implications. Food language thus illuminates the interconnectedness between people and the impacts of globalization (Jurafsky 2014); the words used by individuals to describe food illuminate both the past and present. Food and language also have symbolic elements that work to maintain transnational identities, from conceptual ideas to concrete realities, which in turn shape cultural food practices and meals (Balirano 2019). Thus, food and language reflect intimate and meaningful manifestations of cultural experiences.

In southern Mesoamerica, the cradle of Maya civilization, the legacy of Indigenous Mayan languages and food interactions is particularly rich. The cultural practices of contemporary Maya communities reflect certain continuities from past to present. For example, ancient Maya representations from ceramic vessels and stone stelae found in archaeological context often describe food elements shared by modern Maya cultural traditions (Demarest 2004; Houston 2001; Staller and Carrasco 2009). These archeological records suggest that food-related terminology and its related structures are deeply embedded in Maya culture, including that of K'iche' people (Aissen et al. 2017; Justeson 1986; Kaufman 1987; Macri 1997; MacNeil 2009; Taube 1989). Thus, the interwoven domains of food and language may lay the groundwork for the identity practice of contemporary K'iche' Maya communities.

K'iche' Maya Foodways

Modern Guatemala has two main population groups: Ladinos (of Indigenous and Spanish ancestry) and Indigenous Mayas. According to the National Institute of Statistics of Guatemala, 41.7% of the population is Indigenous, representing 22 linguistic Mayan communities with distinct languages and cultures (CENSO 2018). K'iche' Mayan is the largest linguistic group, with about one million speakers. Most of the K'iche' ethnic group lives in the Western Highlands of Guatemala in the departments of Quiché, Totonicapán, Quetzaltenango, and Sololá. Most K'iche' speak their native language and a variable amount of Spanish, but some isolated, rural communities speak only K'iche' (Lewis 2001). Importantly, K'iche' people understand and articulate food concepts through the K'iche' language.

While most scholarship on Mayan languages has focused on their linguistic structures independent of a consideration of foodways (e.g. Aissen 2017; Kaufman 1974; Mondloch 2017; Sapón 2000; Tumm 2001), a few studies have explicitly studied these as related phenomena. For example, in Guatemala, Butler and Arnold (1977) document how Tzutujil Maya communities classify maize based on land and climate in order to produce specific meanings that shape local cultural concepts of maize based on their language. Neuenswander (1977) describes how the K'iche' of *Chi uwi' la* (Chichicastenango) have domains of *wa* (corn-based food) and *riki'l* (food served as a side to a meal). Trabanino (2012) also describes how K'iche' women of *Chi u wi' meq'in ja'* (Totonicapán) use the food concept of *Joch'* (hot local beverage), which is consumed during community celebrations to commemorate religious practices.

Wa and Ixim

Exploring the dynamic relationship between K'iche' food and language can shed light on the ancient Maya heritage of contemporary foodways. For centuries, writing, phonetics, and speech have maintained the legacy of food. Archaeological and ethnohistoric data suggest that corn-based foods such as tamales and tortillas are represented by the word *wa* in Classic Maya art and text (Hull 2010; Justeson 1986; Macri 1997; Taube 1989). Linguistics also demonstrates how *wa* has been consistently used since the Classic Period (250–900 CE; Staller and Carrasco 2009; Staller et al. 2016). K'iche' people use the word *wa* in the context of corn-based food and as a root for the intransitive verb *-wa'ik* (to eat). Additionally, the root *wa* is used to describe a domain of food as well as relevant sub-categories in current K'iche' communities (Figure 2).



Similarly, linguistic and archaeological documentation holds that *ixim* is the ancient Mayan word root for maize and that it has been consistently used for millennia (Brown 2006). In fact, some forms of the ancient Mayan hieroglyph for *ixim* may also have referred to the Maize deity as a way to embed the concept of *ixim* in concepts of sacredness (Bassie 2014; Wagner 2017). For the K'iche', *ixim* signifies sustenance and forms the basis for the cultural, agronomic, and religious organization of communities. The uses of the term *ixim* can shed light on fundamental elements that support communal connections in the Maya area. Even the *Popol Wuj*, a written account of the origins of K'iche' people transmitted orally for generations, describes the centrality of *ixim* in the identity of Maya people (Tedlock 1969). For example, the *Popol Wuj* describes how human beings were created with *ixim* (Colop 1999: 120, Figure 3). As Christenson holds, “This symbolic

K'iche'

Pan Paxil,
 Pan K'ayala' ub'i',
 xpe wi q'ana jal,
 saqi jal.
 Are k'u kib'i' chikop
 wa' k'amol recha':
 yak,
 utiw,
 k'el,
 joj.
 E kajib' chi chikop xb'in utzijel q'ana jal,
 saqi jal, chi ke.
 Chila' kepe wi pan Paxil,
 XK'ut ub'e'el Paxil.
 Are k'ut xkiriqo ri echa' .
 Are k'ut xok utyo'jil winaq tz' aq,
 winaq b'it.

English

Inside Paxil,
 Inside K'ayala' its name,
 came yellow ears of maize,
 white ears of maize.
 These therefore their names animals,
 These obtainers their food:
 Fox,
 Coyote,
 Parakeet,
 Raven.
 They four animals, named its account, yellow ears of ripe maize,
 white ears of ripe maize to them.
 There they come inside Paxil.
 Indicated its path Paxil,
 This therefore they found the food,
 this therefore entered their flesh people framed,
 people shaped.

Spanish

De Paxil
 de K 'ayala', así llamados
 vinieron las mazorcas amarillas,
 las mazorcas blancas.
 Éstos son los nombres de los animales
 los que obtuvieron el alimento:
 la zorra,
 el coyote,
 la cotorra,
 el cuervo.
 Fueron cuatro animales los que trajeron noticia de las mazorcas amarillas
 de la mazorcas blancas.
 Ellos venían d Pan Paxil,
 y fueron los que enseñaron el camino a Paxil.
 Allí encontraron el alimento,
 los ingredientes para el cuerpo de la gente creada,
 la gente formada.

Figure 3. Popol Wuj: The Creation of Human Being.

connection between maize and human beings is an ancient concept evident also in the Popol Vuh. In the account of the creation, the gods came together in the primordial sea to determine how the world was to be made” (2009:581). *Ixim* is a vital element coined in the food identity of K'iche' population. Accordingly, *ixim* is not only the staple food of Maya communities, it is also the main element connecting the individual and the nuclear family with the rest of the community. In this context, *ixim* becomes a central element through which support systems, kinship, and spiritual connection become evident (De Beausset and Cuj 2016). The distinctive cultural elements around *ixim* production, transformation, and consumption are revealed by examining its uses as food, especially in symbolically rich meals and beverages. Clearly, the concept of *ixim* is quite significant for K'iche' communities.

The examples of *wa* and *ixim* highlight the historical relevance of these roots in K'iche' language. Even today, both words have been adapted to express new concepts in K'iche' food language. For example, *kaxlan wa* refers to foreign food (bread and cookies) and *Iximulew* (the land of maize) is the K'iche' word for Guatemala.

*Food and Language Legacy
 among the Contemporary K'iche'*

Archaeological and epigraphic work has documented additional foods that were particularly significant to the ancient Maya, such as cacao (Carter and Matsumoto 2020; McNeil 2009) and beans (Brown 2009; Tokovinine 2014). Beyond maize, these studies highlight how multiple traditional Maya foods

<u>K'iche'</u>	<u>English</u>	<u>Spanish</u>
<i>Ch'a'm</i>	Sour	Agrio
<i>K'a</i>	Bitter	Acido
<i>Ki</i>	Sweet	Dulce
<i>Tza</i>	Salty	Salado
<i>K'ok'</i>	Aromatic	Aromatico
<i>Chu'</i>	Pestilential	Pestilente
<i>Nin</i>	Rancid	Rancio
<i>Poqon</i>	Spicy	Picante
<i>Chaqo'n</i>	Thick food	Comida espesa
<i>Kok'</i>	Not thick food	Comido no espesa

Table 1. K'iche' Food Adjectives of Flavor.

have deep ancestral roots which make them legacy resources for forming cultural practices and identities.

Today, the people of *Chi u wi' meq'in ja'* (Totonicapán) use their K'iche' language to give meaning to food experience beyond the traditional *meq'in* (hot) and *joron* (cold) concepts. The organoleptic (sensory) properties of food describe its physical characteristics as perceived by the senses, such as its taste, texture, smell, color or temperature. Yet, conventional organoleptic categories do not fit how K'iche' people describe their sensory experience of food in their indigenous language. Indeed, culturally-specific K'iche' categories describe food experiences based on local knowledge about flavors and smells (Table 1).

Table 1 showcases the ways in which the K'iche' use language to underline the importance of identity, cultural meaning, and consumption practices interwoven with food. K'iche' sensory characteristics of food are influenced by cultural values and categories that operate in relation to the land and communities within which individuals are born and grow, as well as in relation to localized sociolinguistic traits. K'iche' foods have symbolic meaning beyond purchase and preparation for meeting the physical needs of the family. Beyond substance, flavor, and texture, the K'iche' have sociolinguistic categories for food defined by temporality. Such categories include “solid corn food base”, “solid non-corn food base”, “spicy food”, “liquid food” (including drinks and hot beverages), and “food served between meal times” (Cuj 2020; Cuj et al. 2020; Cuj et al. 2021).

The sociolinguistic domains listed in Table 2 show how K'iche' people have maintained community, social cohesion, organization, and Indigenous knowledge to preserve traditional food as well as to incorporate newly available—and often heavily advertised—foods in local markets (e.g., *Xaq munil* to refer to snacks). K'iche' food categories engage with the complex roles of foodways in many spheres of cultural ideation in ways which differ from conventional western food groups. Indeed, sociolinguistic domains of K'iche' food are based on cultural concepts and language that differ from biomedical and nutritional knowledge. These characteristics reflect how the K'iche' Maya have maintained community cohesion, social organization, and indigenous knowledge to preserve food and language elements threatened by current food transitions despite adverse systemic pressure. In other words, K'iche' people use an organized and allocated food logic to give cultural interpretations that constitute an Indigenous ontology of food. This ontology reflects how the dynamic relationship between food and K'iche' language is a central tie for binding communities together.



Figure 4. *Q'aq'* (Maya stove).

The commensality of mealtimes – when social groups gather to eat and talk – provides the perfect occasion for culturally-specific aspects of K'iche' foodways. For example, K'iche' women eat around the traditional *q'aq'* (local Maya stove, see Figure 4) to ensure that the food is hot and adequate to eat while men eat at the table. Around the *q'aq'*, K'iche' women use an index language to describe cooking processes with onomatopoeic verbs. For example, the verb *poq'owik* (to boil) emulates the sound of boiling water. K'iche' women also use the verb *lejenik* (to make tortillas) which emulates the sound of shaping the tortilla dough. Through this practice, K'iche' women use their language to reproduce K'iche' terms about their foodways (see figure 5).

Other good examples of K'iche' terms and foodstuffs (as displayed in Figure 5) include *sub'*

<i>K'iche'</i> <i>Wa</i>	English Corn-based food	Spanish Comida a base de maiz
<i>Riki'l</i>	Non-corn-based food (served as a side to a meal)	Comida no basada en maiz (servido como acompañamiento de una comida)
<i>Kunel</i>	Seasoning / condiment	Sazonadores / condimentos
<i>Xaq munil</i>	Snacks	Meriendas / Bocadillos
<i>Xaq kaqatijo</i>	Food served between meal times	Refacciones (comida servida entre comidas)
<i>Meq'in</i>	Hot Beverage	Bebidas calientes (Atoles)

Table 2. K'iche' Food Groups.

(corn-tamalitos), *joch'* (local hot beverage), *kinaq'* (beans), and *q'or* (corn dough). Through these mealtime exchanges around the *q'aq'*, this food terminology becomes part of the daily commensal practices of K'iche' women. In this food context, K'iche' language reproduces native words in meal, food, and nutrition conversations that women use to maintain food and linguistic identity. From a language perspective, cultural food practices focus on people's relationships with food and how these impact individual, familial, and community behaviors surrounding commensality, especially through food language. These practices include beliefs and behaviors surrounding food which shape cultural and linguistic practices. Food language encompasses the way in which people express personal and sociocultural meanings through their food habits (Riley and Paugh 2018), including the production, marketing, preparation, and consumption of foodstuffs.

Discussion

People eat food, not nutrients, as noted by several scholars studying the cultural elements of food (Hastorf 2016; Hawkins 2007; King 2003; Neuenswander and Arnold 1977; Staller and Carrasco 2009; Staller et al. 2016). The ways in which a given people speak about food stem from shared cultural elements as well as linguistic structures, individual experiences, and perceptions. The language we use to talk about food thus reflects a culture of eating and provides a framework to interpret food-related behavior. Language and food advocacy—along with many other disciplines and Indigenous activism—needs to consider the central relationship between food and language in shaping broader cultural approaches to food. Importantly, the fact that food has been popularly understood in terms of biology does not mean that cultural conceptions of food have less value. This approach can contribute to understanding how food and its logic impact ontology and language according to varying cultural contexts.

Food and language are fundamental elements of cultural identities. K'iche' foodways open a



Figure 5. A classic *Q'aq'* (Maya Stove) with foodstuff.

only represent one approach to the complex topic of foodways. Nutritional deficiency has been recognized for specific foods that have high cultural importance. For example, maize may be a culturally significant food, but it also carries a lysine and tryptophan deficiency; both of which are essential amino acids in human nutrition. Yet, combining maize with beans provides a complete protein. Nonetheless, as discussed above, maize is vital to the K'iche' social fabric since it enables the integration of cultural aspects of food that may in turn impact nutrition. The intent of this paper is to recognize the cultural and linguistic importance of food without overlooking its nutritional aspects. As a result, I hope to open the door for new approaches to study food as simultaneously nutritional and cultural.

pragmatic avenue evaluate the importance of cultural practices such as digestibility, cooking, and eating Indigenous context. Since Guatemalan Indigenous Maya people are some of the most affected populations with regards to food issues such as chronic malnutrition (Bogin 2022), it is of paramount importance to harness the approach of social sciences in highlighting the centrality of culture and language in defining foodways.

As Christenson points out, specifically Maya foods such as *ixim* are essential to all the aspects of their cultural identity, ritual practices, familial relationships, and even their ability to speak their language properly (2009:599). K'iche' mealtimes constitute private-family spaces where food and language elements arise to tie livelihood and are perfect sites to capture cultural food concepts. The seating orders at the table and around the *q'aq'* define commensal spheres of exchange for Maya dialogues, as well a place where the sharing of food is the central element. The wording and gestures of each of the mealtime participants pave the way for an in-depth analysis of onomatopoeic verbs, names of food, and allocation of specific meals.

While this paper addresses the important interplay between cultural elements and food, we must remember that these

Conclusion

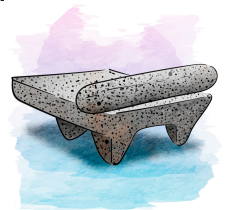
Words from the past serve as social memory in the present. Understanding how language and food are entangled in K'iche' foodways shines a light on the cultural and indentitarian practices forming the cultural legacy of Indigenous K'iche' communities of Guatemala. Paying attention to the connections between food and Mayan languages preserves and promotes cultural and historical heritages. A focus on Mayan languages and food, with their culturally specific concepts and complexities, also pays respect to the speakers' own knowledge systems and helps combat misconceptions that stem from centuries of colonialism and discrimination. Mayan languages influence how food is perceived and understood within Maya sociocultural contexts. Within the Guatemalan context, describing language and food is complicated by the distinct cultural logics of its 22 Mayan linguistic communities, whose definitions of food resources and languages vary considerably. However, these variations share common points for understanding food and language together, thus allowing the language of food to emerge.

Archaeological and ethnohistorical resources offer a wealth of data on the roots of food as contextualized in Mayan languages in the deep and recent past. Tracing these cultural, linguistic, and biological histories from the past to the present is key for promoting and respecting culturally specific understandings of food by Indigenous peoples in Guatemala, including K'iche' communities. By documenting the interaction between food and language in the K'iche' Maya context, this paper helps fill the significant knowledge gap in our holistic understanding and evaluation of cultural foodways, and can hopefully inform others' understandings of the important link between Indigenous languages and foodways.

Acknowledgments

I would like to thank the K'iche' women of *Chi u wi' meq'in ja'* for their feedback on a draft of this article, for the stimulating discussions on K'iche' Mayan language, Maya culture, Maya food, and cuisine, and for their help with regard to Mayan linguistics. I would also like to thank the Center for Latin American Studies and Anthropology Department at Vanderbilt University. Finally, I want to acknowledge reviewers and editors for the feedback that substantially improved earlier versions of this manuscript.

All research processes for this study were carried out in accordance with Vanderbilt's Institutional Review Board (IRB# 170404 and IRB# 201038) and the Institute of Nutrition of Central America and Panama (INCAP's, IRB # 096-2020) research allowances.



References

- Aissen, Judith, Nora C. England, and Roberto Zavala Maldonado (Editors)
2017 *The Mayan Languages*. Taylor and Francis, London.
- Anderson, Jay Allan
1971 The Study of Contemporary Foodways in American Folklife Research. *Keystone Folklore Quarterly* 16:15.
- Balirano, Giuseppe and Siria Guzzo
2019 *Food Across Cultures: Linguistic Insights in Transcultural Tastes*. Springer, Cham.
- Bassie-Sweet, Karen
2014 *Maya Sacred Geography and the Creator Deities*. University of Oklahoma Press, Norman.
- Boerboom, Samuel
2015 *The Political Language of Food*. Lexington Books, Lanham.
- Bogin, Barry
2022 Fear, violence, inequality, and stunting in Guatemala. *American Journal of Human Biology*. 34(2):e23627.
- Brown, Cecil H.
2006 Glottochronology and the Chronology of Maize in the Americas. In *Histories of Maize: Multidisciplinary Approaches to the Prehistory, Linguistics, Biogeography, Domestication, and Evolution of Maize*, edited by John Staller, Robert Tykot and Bruce Benz, pp 648- 662. Routledge, New York.
2009 Prehistoric Chronology of the Common Bean in the New World: The Linguistic Evidence. In *Pre-Columbian Foodways: Interdisciplinary Approaches to Food, Culture, and Markets in Ancient Mesoamerica*, edited by John Staller and Michael Carrasco, pp. 273-292. Springer, New York.
- Butler, James and Dean E. Arnold
1977 Tzutujil Maize Classification in San Pedro La Laguna, Guatemala. In *Cognitive Studies of Southern Mesoamerica*, edited by Helen L. Neuenswander and Dean E. Arnold, pp. 182–205. SIL Museum of Anthropology, Dallas.
- Carter, Nicholas and Mallory E. Matsumoto
2020 The Epigraphy of Ancient Maya Food and Drink. In *Her Cup for Sweet Cacao Food in Ancient Maya Society*, edited by Traci Ardren, pp. 87-123. University of Texas Press, Austin.
- CENSO
2018 *Portal de Resultados Del Censo 2018*. Instituto Nacional de Estadística de Guatemala. <https://www.censopoblacion.gt/>, accessed on October 10, 2019.

Christenson, Allen J.

2009 Maize Was Their Flesh: Ritual Feasting in the Maya Highlands. In *Interdisciplinary Approaches to Food, Culture, and Markets in Ancient Mesoamerica*, edited by John Staller and Michael Carrasco, pp. 577-600. Springer, New York.

Cuj, Miguel

2020 K'iche' Food Collection - The K'iche' Food Dataset (le utasik taq le qawa). *The Archive of Indigenous Languages of Latin America*, ailla.utexas.org.

Cuj, Miguel, Mareike Sattler, and Sasha de Beausset

2020 K'iche' Mayan Food Groups and its implications for Guatemalan Food Guidelines. *Food and Nutrition Bulletin* 41(2) 261-274.

Cuj, Miguel, Lisa Grabinsky, and Emily Yates-Doerr

2021 Cultures of Nutrition: Classification, Food Policy, and Health. *Medical Anthropology* 40(1):79-97.

Colop, Sam

1999 *Popol Wuj: Version Poetica K'iche'*. Cholsamaj. Guatemala

de Beausset, Sasha and Miguel Cuj

2016 The Role of Maize in Forming and Maintaining Community. *Journal of Institute of Interethnic Studies* 27: 46-54.

Demarest, Arthur

2004 *Ancient Maya: The Rise and Fall of a Rainforest Civilization*. University Press, Cambridge.

Duranti, Alessandro.

1997 *Linguistic Anthropology*. Cambridge University Press, Cambridge.

Hastorf, Christine A.

2016 *The Social Archaeology of Food: Thinking about Eating from Prehistory to the Present*. Cambridge University Press, Cambridge.

Hawkins, John Palmer

2007 *Health Care in Maya Guatemala: Confronting Medical Pluralism in a Developing Country*. University of Oklahoma Press, Norman.

Houston, Stephen. D., Mazariegos Chinchilla, Oswaldo, and David Stuart (Editors)

2001 *The Decipherment of Ancient Maya Writing*. University of Oklahoma Press, Oklahoma.

Hull, Kerry

2010 An Epigraphic Analysis of Classic-Period Maya Foodstuffs." In *Pre-Columbian Foodways: Interdisciplinary Approaches to Food, Culture, and Markets in Ancient Mesoamerica*, edited by John Staller and Michael Carrasco, pp. 235-56. Springer, New York.

- Justeson, John S.
1986 The Origin of Writing Systems: Preclassic Mesoamerica. *World Archaeology* 17(3): 437-458.
- Jurafsky, Dan
2014 *The Language of Food: A Linguist Reads the Menu*. W. W. Norton & Company, New York.
- Kaufman, Terrence
1974 *Idiomas de Mesoamérica*. Editorial Jose de Pineda Ibarra, Guatemala.
- King, Janet C.
2003 Doris Howes Calloway (1923–2001). *The Journal of Nutrition* 133(7): 2113–16.
- Lewis, M. Paul.
2001 *K'iche': A Study in the Sociology of Language*. SIL International, Dallas.
- Macri, Martha Jane
1997 *The Language of Maya Hieroglyphs*. Pre-Columbian Art Research Institute.
- McNeil, Cameron L.
2009 *Chocolate in Mesoamerica: A Cultural History of Cacao*. University Press of Florida, Gainesville.
- Mondloch, James L.
2017 *Basic K'ichee' Grammar: 38 Lessons*, Revised Edition. University Press of Colorado, Boulder.
- Neuenswander, Helen L. and Dean E. Arnold (Editors)
1977 *Cognitive Studies of Southern Mesoamerica*. SIL Museum of Anthropology, Publication: No. 3.
- Pesantubbee, Michelene E. and Michael J. Zogry
2021 *Native foodways: indigenous North American religious traditions and foods*. SUNY Press, Albany.
- Riley, Kathleen
2019 *Food and Language: Discourses and Foodways across Cultures*. Routledge, London.
- Riley, Kathleen C. and Jillian R/ Cavanaugh
2017 Introduction to Linguistic Anthropology Food Research Methods. In *Research Methods for Anthropological Studies of Food and Nutrition*, Vol. 2: Food Culture: Anthropology, Linguistics, and Food Studies, edited by J. Brett and J. Chrzan, pp. 131-142. Berghahn, New York.
- Riley, Kathleen, Martha Karrebæk, and Jillian R. Cavanaugh
2018 Food and Language: Production, Consumption, and Circulation of Meaning and Value. *Annual Review of Anthropology* 47: 17-32.

- Salzmann, Zdenek, James Stanlaw, and Nobuko Adachi
2014 *Language, Culture, and Society: An Introduction to Linguistic Anthropology*. Avalon Publishing. New York.
- Sapón, María Beatriz Par
2000 *Ujunamaxiik ri k'ichee' ch'ab'al*. Cholsamaj Fundacion. Guatemala.
- Staller, John, Robert Tykot, and Bruce Benz (Editors)
2016 *Histories of Maize in Mesoamerica: Multidisciplinary Approaches*. Routledge, New York.
- Staller, John and Michael Carrasco (Editors)
2009 *Pre-Columbian Foodways: Interdisciplinary Approaches to Food, Culture, and Markets in Ancient Mesoamerica*. Springer, New York.
- Szatrowski, Polly E.
2014 *Language and Food: Verbal and Nonverbal Experiences*. John Benjamins Publishing Company, Amsterdam.
- Taube, Karl A.
1989 The Maize Tamale in Classic Maya Diet, Epigraphy, and Art. *American Antiquity* 54(1): 31-51.
- Tedlock, Dennis
1996 *Popol vuh: the definitive edition of the Mayan book of the dawn of life and the glories of gods and kings*. Simon & Schuster, New York.
- Tokovinine, Alexandre
2014 Beans and Glyphs: A Possible IB Logogram in the Classic Maya Script. *The PARI Journal* 14(4):10-16.
- Trabanino, Felipe, Navarrete Carlos, Barillas Edgar, y Haeussler Oscar
2021 Joch' tutul, bebida ceremonial de maíz con zapuyul en Santa Maria Chiquimula, Totonicapan Guatemala. *Arqueología Mexicana* 28(168):63-67.
- Tum, Pedro Florentino Ajpacaja
2001 *Diccionario K'iche'*. Fundacion Cholsamaj, Guatemala.
- Wagner, Elisabeth
2017 *Jun Yop Ixiim - Another Appellative for the Ancient Maya Maize God*. Research Note 8. Textdatenbank und Wörterbuchdes Klassischen Maya, Germany.