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Clash of Temporalities?: An Interdisciplinary Inquiry into the Hybridity of the Traditional Chinese and Modernized Gregorian Calendars

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by

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For my brother, Alex Gregory McClenon (1993-2019),
and to everyone who struggles to find the freedom to
let their light truly shine in this absurd world.

ABSTRACT

Clash of Temporalities?: An Interdisciplinary Inquiry into the Hybridity of the Traditional Chinese and Modernized Gregorian Calendars

by

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The traditional Chinese and modernized Gregorian calendars represent vastly different ontics of time and have been framed by the Chinese government as being in intractable, existential conflict with one another. "The time of modernity" in general is commonly described as being defined by conflict. This thesis first explores the philosophical implications of the differing ontics between the two calendars, including an overview of the Stems and Branches system and its implications of time being inherently fated and full of meaning, and an investigation into the unexamined features of the modernized Gregorian calendar pointing to the implication that time is inherently open, empty, or full of potential. It includes a brief visual analysis of each calendar to support these claims.

Through ethnographic fieldwork, participant observation, and interviews, the research also explores the lived, on-the-ground experiences, beliefs, and behaviors that Taiwanese-Chinese and mainland Chinese people have and display in relation to each of the calendars. Nationalism and cognitive aspects of temporal understanding are briefly discussed.

The thesis finds that Taiwanese and Chinese ethnographic “field consultants” and interviewees consult each calendar for vastly different purposes, enabling the utilization of

both calendars simultaneously in ways that are neither conflicting nor chaotic, but rather complementary and coexistent.

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I. Introduction

The 20th century for China was a time of cultural and social upheaval introduced through both external and internal forces and agents. Chief among these external forces were Protestant missionaries and the ideas of Karl Marx and Charles Darwin; among internal forces the breakdown of imperial reign and a domestic questioning of Chinese culture for its place in the modernizing world seemed to rip the country apart from within, and the need for China to form itself as the modern version of a "nation" arose in the narratives of reformers.[1]

One cultural artifact that was caught up in this tumult, and ultimately representative of it, is the calendar: that socio-cultural system for keeping track of time, coordinating social activity, and for living in accordance with an existential framework as a cognitive, orientational artifact.[2] In China, matters of time-reckoning are at least as ancient as Chinese writing itself, and Chinese calendrical systems have historically placed emphasis on—if not being born entirely out of—the need to understand certain qualities in the flow of time, using patterns to predict those qualities and how they might cyclically reappear in the future. The various Chinese calendrical timekeeping methods of China and their distinctness against the default time-reckoning method today (the Gregorian calendar-based system) is remarkable. A very brief history will be given in the opening chapter to the main part of this study.

The Gregorian calendar is the *de facto* dominant yearly time-reckoning system used by humans throughout the world in almost every country today, including Taiwan and

[1] Such as Kang Youwei and Liang Qichao.

[2] See *Objects of Time: How Things Shape Temporality*, Kevin K. Birth; Bradd Shore's Cultural Models Theory; and Reuven Tsur's ideas about artifacts as cognitive fossils.

China.[3] Though the roots of the Gregorian calendar are religious, the calendrical system has propagated to non-Christian countries around the world in a secularized form, and in the U.S. it takes on a particularly Protestant interpretation that implies and emphasizes freedom of will and individual agency in contrast to submission to cosmological forces or belief in fate. It is one of the most accurate tropical-year[4] calendars ever made, and is a consistent, universal time-reference system effective for carrying out and coordinating all of the most critical necessities of human physical life—the acquisition and maintenance of food, shelter, and social ties. Despite meeting these fundamental human social needs, other calendars continue to be used alongside it even when they have drastically different underlying calculative and epistemological structures emphasizing fate over free will or agency, including the traditional Chinese calendar and its Stems and Branches system of correspondences.

A. The Context of Conflict

In the 19th and 20th centuries, as both Nationalists and Communists in China, on the shoulders of the reformers, tried—from their perspectives—to bring China "up" to the level of modernity of the rest of the world, the traditional Chinese calendar was targeted for eradication. Elements of Darwinism and Marxism combined at that time into a particularly destructive form of political-social-evolutionary theory in China, under which the country was viewed as being behind or backwards in a 'natural' evolutionary timeline (Yang 2008; Goosaert & Palmer 2011; Billioud & Thoraval 2015; Wah 2004). Under this new epistemological regime, political authorities and revolutionary thinkers viewed the

[3] Except Iran, Afghanistan, Nepal as of 2020.

[4] The tropical year is the same as a solar year and refers to the year as understood by a reference point from Earth which sees the center of the Sun return to the same position in the sky from one equinox to the same equinox.

traditional Chinese calendar as a dangerous guidebook of superstitious practices and beliefs, and as such, it was targeted for urgent, direct, and immediate eradication from the 1920's through the early 1980's. Indirect efforts continue today. Given the cultural and social power that the calendar held throughout Chinese history, eradicating the old one left an urgent need for a new one, and the Gregorian system was adopted first by the Nationalists and then by the Communists—purposefully framed and embraced as a calendar wholly different from and incompatible with the traditional Chinese calendar.

In light of historical contexts like this one, the modern timescape is depicted by humanities scholars and social scientists as marked by conflict, due to "competing temporalities" such as those embodied in the Gregorian and traditional Chinese calendars (e.g. Boretz 2010; Bear 2012). Clifford Geertz remarked in *The Interpretation of Cultures* in the chapter "Person, Time, and Conduct in Bali" that "we hear cultural integration spoken of as harmony of meaning, cultural change as an instability of meaning, and cultural conflict as the incongruity of meaning" (404). The apparent incongruity of meaning implied by the traditional Chinese calendrical system as juxtaposed against the modernized Gregorian calendrical system thus lends itself to the notion or the impression of "cultural conflict".

Indeed, anthropologists and thinkers today describe the time of modernity as being defined by conflict and chaos. Many studies highlight the oppositional or conflicting nature of differing temporal regimes. See Barber & Cham (2018) on capitalist confrontations with multiple temporalities, especially in the last chapter; see Herzfeld (2012) on how neoliberalist temporality constrains political-power minorities; and Dalsgaard (2013) discusses how state-time exercises power over social time in Papua. Laura Bear's work on the anthropology of time sees conflict as a defining feature of "modern time" (2012).

The most vital time-reckoning needs of humans seem to be met by the Gregorian calendar, and in the aftermath of a highly targeted eradication campaign against the traditional Chinese calendar (TCC) leading to the current era of the marginalization of indigenous knowledge systems like the TCC, it seems the traditional Chinese calendar might just disappear. In considering this calendrical conflict, this study turns to Geertz when he says we:

> "cannot simply run symbolic forms through some sort of cultural assay to discover their harmony content, their stability ratio, or their index of incongruity; one can only look and see if the forms in question are in fact coexisting, changing, or interfering with one another… the nature of cultural integration, cultural change, or cultural conflict is to be probed for there: in the experiences of individuals and groups…as…they perceive, feel, reason, judge, and act" (404-405).

This thesis then focuses on how the traditional Chinese calendar is actually perceived, reasoned about, judged, and acted upon by Chinese and Taiwanese people, and as such, it seeks to partially rectify the record of the modern timescape by anthropologically investigating the nature of the roles that two apparently incompatible, meaning-incongruent temporal structures—the traditional Chinese calendar and the modernized version of the Gregorian calendar—play in a small but diverse cross-section of mainland and Taiwanese-Chinese lives in the second decade of the 21st century. Ultimately it finds that the two calendrical systems and the highly distinct temporal ontologies implied by them fill equally important, unique roles in Chinese people's lives in ways complementary to rather than counter to, competitive with, or duplicative of one another.

B. Acknowledging the Literature

Anthropological and sociological studies of time are not new. Time is an important and at times central consideration in some of anthropology's earliest works (Geertz 1973), in

its sister fields' earliest works (Durkheim 1995 [1912]), as well as in its intellectual predecessors' works such as sociology. Anthropology gives us detailed, qualitative and culturally sensitive analytical "thick descriptions" (Geertz 1973) of human religious activity as relates to the use, meanings, creation and transformation of both contemporary and historical concepts of time as embodied in calendars.

Clifford Geertz's seminal work on the Balinese calendar in the abovementioned chapter describes the Bali people's distinct way of what he calls "immobilizing time" through the Balinese calendar's repeating cycles as tied to personal identities. A sense of a kind of stasis or stability is achieved through that system such that the focus is not so much on "marking the passage of time" as it is delineating "what kind of time it is"; he calls this a "punctual" and "qualitatively ordered" kind of time. There are some face-value similarities between this system and the Chinese system, but more so as they stand in contrast to the Gregorian schema rather than due to a strict likeness between the first two, a nuance that will be discussed later.

Thorough reviews of anthropological calendrical and temporally-focused studies are available in such works as Alfred Gell's *The Anthropology of Time* (1992) where he walks readers through the thinking of such giants as Durkheim, Levi-Strauss, Evans-Pritchard, and Clifford Geertz; and in Johannes Fabian's *Time and the Other* (2014), discussed in more detail below, which puts many of the same thinkers under a critical gaze for unwittingly deploying evolutionism as a constitutive part of ethnography.

Werner Bergmann's "The Problem of Time in Sociology" is a cornerstone article that carried out a massive survey of humanistic and social scientific studies of time up to the late 1980's. At the end of this significant survey, Bergmann claims the literature "lacks above all empirical studies in which the time aspect is the main theme" (Bergmann 1992,

126). In this study, time via calendrical manifestations of temporal ontics is the main theme and is explored via empirical ethnographic research on the adherence to and deployment of those temporal ontics.[5]

Within China studies, there are excellent historical-anthropological and modern anthropological descriptions especially of lunar calendar-based official-religious and folk-religious festivals—a defining feature of Chinese calendars in many versions. Two thorough historical accounts of festivals as intertwined with the lives of humans in China include Stephen Teiser's *Ghost Festival in Medieval China* (1988) centering on a depiction of medieval practices of the still presently ongoing annual, autumnal festival honoring and appeasing ghosts, and chapters four and five of Jacques Gernet's *Daily Life in China on the Eve of the Mongol Invasion* (1962). Descriptions of modern festivals and their associated rituals, practices, symbols, and lore are also available in studies such as Boretz's, where they take a lens on ritual violence and masculinity presented in local festivals (Boretz 2010), and in illustrations of distinctly Taiwanese and Hong Kongese versions of traditional festivals (Latsch 1984; Wang 2002). Rebecca Nedostup produced a precise modern-historical account and analysis of the shift in China to the Gregorian calendar initiated by the Nationalist Party, the *Guomindang*, under a critical sociological framework, a piece which greaty informed the present study (Nedostup 2008). Other studies do not engage temporality as a core framework for their inquiries, or may sometimes neglect its consideration altogether as an important cosmological element affecting daily lives of even non-specialists (Herrou 2013; Boretz 2010).

The Buddhist and Daoist concept of Deep Time as an alternative frame of temporal reference is discussed in a forthcoming manuscript by anthropologist Mayfair Yang. It is

[5] A discussion of "ontics" and "ontology" appears in the next section.

one of only a handful but growing number of studies to date that explicitly engages Chinese cosmological systems of thought beyond a cursory level throughout an anthropological discussion. She shows how this concept of Deep Time, with its ranges spanning well beyond tens of thousands of years, stands in contrast to the predominantly shortsighted view of time secular humans have in much of the world now, as I explain in this manuscript's section on modern ontics of the Gregorian Calendar. Matthews recently examined the cosmological implications of the *Yi Jing* in an anthropologically grounded study in the metropolis of Hangzhou, China. Like Yang's piece, it is one of a few that blends anthropology with cosmology in more than a descriptive way—echoing the attempts made in the earliest works of Eliade and Geertz, among others, to capture the phenomenological elements of interacting with and in time as a human.

C. Departing from Social Evolutionism

There is still work to do in the shaping of humanistic inquiries into lived-time. In his paradigm-shifting work *Time and the Other: How Anthropology Makes its Object*, Johannes Fabian shows how ethnography emerged from an epistemological backdrop of universalizing theories of social, political, and economic evolution, a dogma (my word) which has been called evolutionism (2014). Such a perspective imposes a unilinear, uni-teleological[6] progression onto human cultures and civilizations in anthropology and the humanities, which is evident in such terms used in our fields like "levels" or "stages" of development. This is also the source for such outdated and damaging labels as "primitive," "barbaric," and "backwards." Chinese reformers and intellectual elites of the late 19th and early 20th centuries incorporated this type of thinking into their own writings, internalizing

[6] As in, there is only one teleological path.

this discourse, ultimately making its way across Chinese consciousness and the newly forming national identity.[7] Though the notion of evolutionism was eventually rejected in academies outside of China, it did not come with a rejection of the new temporality—that "categorical frame of Naturalized time" (Fabian 2014, 18).

This thesis purposefully and self-consciously shifts away from these Newtonian-derived lenses of time and history—the "Naturalized time" of evolutionism—firstly by calling them out as A. non-universal, and B. as holdovers from the dogma of evolutionism; and secondly by illuminating the possibilities of interacting with time in alternative ways that are not dominated by myopic quantification, such as implied in the primary mode of the modernized Gregorian calendar particularly as used in the United States (as discussed in a later section). In light of this, the later discussion in this thesis of the ontics of the traditional Chinese calendar and Gregorian calendar does not explicitly or implicitly place the two on any kind of developmental scale as evolutionism-influenced works might do. Indeed, both "kinds" of time implied by each calendar have existed for contemporaneous millennia and in various forms across multiple civilizations (Aveni 2002; Hesiod 2006; Yousef 2018; Lerner 1988, on aspects of the *Mahābhārata* as translated by White). China itself had periods and figures in its history that become concerned with the quantitative measurement of time (Needham 1986). A cognitive artifact in Geertz's own works reveal that he was perhaps unwittingly beholden to the modern dominant time scheme even in his descriptions of Balinese time. In particular, he at one point calls their system "detemporalizing" or in other words, he classifies Balinese time as something so Other as to not even *be* time. It is that kind of severe alterity being avoided here: different forms of understanding and reckoning time are simply that; we all live in the same world, but we understand this world differently.

[7] Yang Religiosities

The view that sees the traditional Chinese calendar (TCC) as residing as "low" on such a developmental or evolutionarily teleological scale largely contributed to the Communists' destruction and attempted annihilation of the TCC through the 20th century—it can be a dangerous mistake to apply teleological frameworks where there are none. Additionally, there are no value judgments in this thesis on the fundamental nature of the calendars or their temporal ontics; no calendar is "better" than the other, though they are each better at filling particular roles in people's lives—and this latter point is the crux of the findings in this thesis.

D. A Note on Ontological Inquiry and Studying Time in the Humanities

Taken together, the works above were foundational in exploring understandings of time and temporality from an anthropological perspective, but I return to one point from Gell's[8] contribution to consider it for a moment in greater detail. In *The Anthropology of Time*, although there is much I disagree with, Gell makes important points about how anthropological studies exoticize the Other by exaggerating claims about or mischaracterizing differing cultural views of time, as in the famous and now widely panned linear-versus-cyclical temporal paradigm (Duara 1995; Puett 2004). Gell ultimately argues there is no reason to understand different conceptions of time as ontological differences.[9] Although I do not agree with Gell's conclusions, he accomplishes an important task that has been historically neglected in anthropological studies of time—one which Jens Kjaerulff pointed to in his recent study on teleworking as affecting concepts and perceptions of time

[8] Kjaerulff recently called attention to how overlooked Gell's ouvre is, and does much more justice to his oeuvre overall. I refer interested readers to his 2020 article.

[9] My understanding of Gell was recently greatly enhanced by Jens Kjaerulff, who did a huge favor to the world of applied human time studies, and to Gell himself, by clarifying a couple of Gell's most convoluted points.

(2020). Namely, the task of setting up one's discussions of time with a proper accounting of the operative temporal ontology; in other words, numerous anthropological and sociological studies fail to establish their framework of what temporality *as such* is or is not, despite going on to claim what others understand temporality as such to be or not be.

This has been a persistent and repeated call in academic, non-scientific treatments of conceptions of time for at least a few decades, partly because even those scholars who make that call fail to address it in their own works. Kjaerulff at the end of his article responded directly to the call, and here I follow suit to respond as well.

The perspective operative in this thesis as regards temporal ontology is firstly that there is a fundamental, primordial temporality (this is, a quality which enables the experience of time) that inheres in the universe with or without human involvement. This perspective is influenced by the work of Heidegger's *Being and Time*[10] wherein ontology is described—in my interpretation—as the most fundamental layer of existence; this layer is equally comprised of temporality and Being (an interpretation of spatiality). Derivative understandings of time and derivative understandings of the quality of "there being temporality" are not the ontological feature itself (the description is not the thing), but are ontics—that is, filtered interpretations—*of* the more basic substrates (ontological features) that underly and allow for existence. In this sense, epistemologies are also ontic.

Following this perspective, humans do not fully understand the non-human (or without-human), fundamental nature of time or how it works, only *that* temporality, as the "equiprimordial", qualitative characteristic underlying existence, however conceived, inheres.[11] What is meant and understood here as ontology is Kantian in one sense in that

[10] And perhaps more so by Dr. Thomas Carlson's tutelage of the work in UCSB's foundational 200B course.
[11] I borrow Heidegger's term here self-consciously.

there is *an* ontology that is the true ontology—but whether one calls this ontology "transcendent" or is accessible by humans is a discussion beyond the scope of the present work. Following Heidegger, temporal ontology refers to the actual, as-is nature of the underlying temporal aspect of existence (its temporal-*ity*), not of exclusively humans, but of all things, tangible and intangible within and across the totality of the universe, whether known or unknown or knowable or unknowable by humans. Humans are able to interpret components or manifestations emanating as a result of the nature of temporal ontology, and these interpretations can and should be referred to as ontics. It may be that humans can only ever truly know temporal *ontics* (although we may *believe* we have access to knowing temporal ontology), but our temporal ontics are nonetheless often presented—through religion for example—as temporal ontology, as the ontological quality of temporality. The perspective underlying this thesis is that we humans do not know enough to declare that our current understanding of temporal ontology (as represented by the ontics I will later describe) is complete.[12, 13]

And this is the heart of the problem which has beset our overlapping humanities and cognitive inquiries into time for several decades, no doubt frustrating our philosophy and science readers alike: humanities scholars continue to confuse their own and others' *ontic*

[12] This is not a radical stance. Indeed our own science bears this out, but to claim so in the body of this article would be an appeal to science to justify this understanding, which was anthropologically derived.

[13] I diverge from Kjaerulff and Gell—and certainly many others—in this important regard. Humans are noted in numerous cognitive and psychological studies to perceive time in largely the same ways. Gell takes this similarity in processing to indicate that ontologically, time indeed works in the ways that humans perceive it to—specifically the ways that, across psychological levels of development and across geographic regions, are the same. But human perception is ontic by nature, as perception can only happen in the human-lived and -filtered world, but not in the world as such. I diverge from and disagree with Gell here in that I do not consider the universality of certain aspects of humans' perceptually derived ontic conceptions of time to be a clear, unequivocal indication of a sole, proven, complete, or even accurate ontology of time, possibly not even for humans. I do not debate that humans are subject to time or that we perceive its passage in the simplest sense of being able to identify a present, a past, and a future. My point is that even this is an ontic conception of time.

conceptions of time, and/or epistemologies of time, for *ontologies* of time. But epistemology is not ontology, however much it shapes and creates our understanding of ontology.

This matters because it makes us blind to fully understanding other ontic conceptions of time, and at points makes us blind to fully understanding our own temporal ontics, let alone being able to entertain the alternative ontological conceptions which they point to. Whether the conceptions of time concerned in this study and in my forebears' studies can be classified as "ontological" is an interesting question worthy of its own pursuit. Such an investigation is beyond the scope of this thesis, but I will refer to the conceptions of time herein as ontic, signaling that they are *at least* ontic, while leaving the door purposefully open for a further investigation as to their claims on ontological territory. I also assert that the ontic conceptions of time considered herein are epistemological in that they structure what can "validly" be known about time.

E. Fieldwork Methods

Although forming a small portion of the present work, the research methods used for the anthropologically derived data for this study were sociolinguistic interviews, ethnographic interviews, field observations, participant observation and one focus group discussion carried out with and among mainland Chinese and Taiwanese Chinese nationals on Jinmen island and Taipei, Taiwan, and in Santa Barbara, California in the United States. Emerson, Fretz, and Shaw's work was relied on to form and structure ethnographic field notes and analysis (1995).

Research was performed over 18 months in the Santa Barbara area with Chinese and Taiwanese nationals who had resided in the U.S. for less than a year total over their lifetimes, including those who were only visiting the U.S. briefly; and for three weeks on

Jinmen island in Taiwan and one week in Taipei city, the capital of Taiwan. Field consultants were from a wide variety of professional and educational backgrounds and ranged in age from 14 to 78 years old. The author also draws upon field knowledge from three years of working, living and doing fieldwork for other projects in various locations throughout mainland China between 2007 and 2014.

Jinmen island was one ideal additional location for this study for several reasons including accessibility, rurality, proximity to mainland China allowing a mix of both Taiwanese and Mainland consultants, the solid network of field consultants readily available to the author, and the unique position and history of Jinmen Island at the nexus of Nationalist and Communist fighting.

1. Ethnographic Terminology

Individuals in the field referenced in this study and individuals who participated in interviews are referred to herein variously as “field consultants”, “community consultants”, and “cultural consultants”. The prefixes “field,” “community,” and “cultural,” are because individuals are contacted “in the field,” come from the “community” and discuss “cultural” matters. The term “consultants” is intended to acknowledge the knowledge-value of individuals who choose to share their time with ethnographers like this author. It acknowledges that individuals in the ethnographer’s field are indeed *consulted* for their experience and their cultural expertise, which they retain as a *de facto* condition of being born and raised within the culture of study. It represents these individuals’ agency in that apart from the initial contact, they each can choose whether and when to cease interaction with the ethnographer, and whether and how much to share about their perspectives. The term consultant typically denotes respectable expertise in the United States, so by calling the

individuals in the field with whom the ethnographer consulted, "consultants" the intention is also to show respect to each individual as fellow humans. It is also intended to repeatedly acknowledge and remind readers that the cultural information shared "belongs" to the consultant, because they are its source, and without such individuals this study and others like it could not be produced. Field consultants are and were considered as empowered individuals who are valuable by birthright and additionally valuable for their contributions to this study.

2. Interview Techniques

I used Spradley's ethnographic interviewing techniques in the field for building rapport with cultural field consultants. Speech samples were collected from community consultants through prompting descriptive answers also using Spradley's techniques. Rapid-fire interviewing[14] was used for this study to identify how consultants interpret the unqualified Chinese word for calendar "曆" and to identify the motivations of consultants.

In ethnography, as Saville-Troike has discussed, it is sometimes "best to impose as little structure as possible in an interview, and to insert questions at natural points in the flow rather than having a rigid schedule of questions to follow" (Saville-Troike 2003, 100). Unstructured and casual interviewing styles better reflect "the essence of the ethnographic interview" as Saville-Troike remarks, in that they are "open ended, and carry as few preconceptions with [them] as possible" (100). The ethnographer

> "at least constantly attempts to discover possible sources of bias and minimize their effect. [She] must be open to new ideas, information, and patterns which may emerge in the course of interviewing, and to differences between "ideal" and

[14] Rapid-fire interviewing refers to a technique where the interviewer asks one short quick question of a passerby in a casual manner to elicit a natural response and discover natural vocabulary usage.

> "real" culture as reflected in statements of belief or values and in action" (100).

This is particularly important when an ethnographer comes from a substantially different background than her field consultants as in the case of this thesis. About two thirds of the individuals interviewed for this study were interviewed in the unstructured and casual style, not including follow-up interviews. Follow-up interviews are necessarily more structured because they are informed by previous data from the same study and were designed to fill in gaps left by the initial more casual interviews that could only be discovered after the first round of analyses.

Contrast questions were particularly critical to the completion of this study and several types were used. Firstly, dyadic contrast questions were used, which consist of the ethnographer asking an interviewee to identify differences between two terms without suggesting example differences as part of the question.[15] Another type, contrast verification questions, were useful for "confirming or disconfirming" patterns of differences I noticed in the field between the uses of and attitudes toward the different calendars. This form of contrast questioning is important because it also allows for new types of contrast to "emerge" for the ethnographer which may not have otherwise been apparent or which may have taken longer to notice (Saville-Troike 2003, 101).

I used native-language verification questions to determine whether I was using the appropriate terms to refer to the various calendars. For this end I also used hypothetical-interaction questions (e.g. "If you were with a diviner, what terms would you use to refer to the calendar?") and direct-language questions in the middle of a set of answers (e.g. "Is that

[15] (e.g. "國曆和農曆有什麼區別？": "What differences are there between the national calendar and the agricultural calendar?"; *c.f.* a question not used: "What different types of information are in the national calendar versus the agricultural calendar?" The wording of this latter question makes a suggestion to the consultant that the calendars' primary differences [or that the differences the questioner is primarily concerned with] consist of informational differences, and this suggestion thus shapes the consultants' responses).

the way most people refer to this?").[16] This type of questioning was particularly important for the present study as there are at least two dozen common terms used to refer to different kinds of calendars, some of which carry meaningful social and political undertones. Which terms a consultant used provided useful points of data for helping to understand the consultant's possible unstated attitudes and beliefs regarding the calendars; secondarily this assisted with detecting possible incidents of consultants' biased reporting introduced as a consequence of my presence and background as perceived by field consultants.[17]

3. Sampling

The snowball method was used because the sensitive social stigma attached to discussing traditional Chinese culture with foreigners can make it difficult to access the field in Chinese and Taiwanese contexts. The maximum variation principle was relied upon in order to include the widest variety of backgrounds possible, and I selected both commonly called "reliable informants" (Saville-Troike, 102) as well as traditionally-conceived "unreliable" informants. I accomplished the former by relying on culturally appropriate 关系 (*guanxi,* "connections"), that is, using existing and newly established relationships with people in the community, which then led to additional consultants. However, rather than doing as commonly advised and avoiding "the people who make themselves most readily

[16] Spradley describes the structure and reason for native-language verification questions in this way: "No matter how long one has interviewed [a field consultant], the tendency to translate never disappears. For this reason it is necessary to continually verify whether a particular term is a *folk term* rather than a *translation* created for the benefit of the ethnographer" (17). This is accomplished through asking such questions as, "Is this a term you would use?" as one of Spradley's examples, or, "How do you call this kind of calendar?" as an example used for the specific fieldwork carried out for the present study.

[17] Part of the data collected for this fieldwork also yielded enough patterns for sociolinguistic analysis focusing specifically on calendar terminology in Mandarin Chinese but there is not room in the present study for this separate set of analyses and a review of the concomitant literature.

available to an outsider"—those deemed "unreliable" because they are "marginal" members of the community and thus considered not accurately representative of it—I purposefully included such "readily available" members of the community in this study.

4. Including the Margins

There are many problems with avoiding or excluding marginalized community members from ethnographic studies, and I will briefly highlight three of those problems here: one data-integrity problem, one ethical problem, and one problem specific to the case of Chinese culture.

The first problem, which relates to data integrity, is that excluding marginalized community members makes an ethnography less widely representative of a community's true diversity of members, strictly speaking. The second problem, which seems to be ethical in nature, is that such exclusion reifies those members' marginalization and effectively eliminates those members from the future historiographic record, since ethnography becomes part of the future's historiographic data. Marginalized community members exist and should be acknowledged and included in ethnographic studies.

Another problem is specific to Taiwanese and Chinese culture: people who are open to foreigners and thus most "readily available" to the ethnographer of non-sensitive topics in Taiwan and China just as often are *not* actually marginalized members of their communities. Frequently such people are, at face value, simply the friendliest, for a wide variety of reasons, one of the most notable of these being that a genuine curiosity about and expressive interest in foreigners is acceptable in Chinese-cultural public society. In the United States this is an unfamiliar, even uncomfortable view: to note someone for their foreign-ness is considered rude, and inquiring about their foreignness even more so, but it is not the same

clear-cut case in China. Such field consultants in or from Taiwan and China who are open to foreign interaction may also have had travel experience, education, or other experiences which make them eager to engage with foreigners. I do not intend to create a complete list of why a Taiwanese or Chinese person might make themselves most "available" to a foreign anthropologist, but the above is reason enough to reconsider the case of the typically omitted 'marginal' as defined by a ready willingness to engage an outsider. Additionally, "diviners," are a specific example encountered during the present research who are often thought of as marginalized members of a community but are nonetheless culturally integral to it.

The important points are that 1. Marginalized community members are valuable and valid consultants for ethnographic studies when considered within their respective social and cultural contexts; and 2. China and Taiwan produce a good number of "readily available" field consultants for certain kinds of topics that do not threaten the CCP like this one. Genuine cultural interest and open curiosity reflected back at equally curious and open Chinese and Taiwanese field consultants often reaps great benefits.[18]

Ethnographers who strive to continually accumulate knowledge that is both interpersonally and interculturally sensitive may be able to appropriately read the marginalized status of their field consultants and tailor both in-field activities and post-field analysis accordingly. In all, these are the standards attempted for the present study.

[18] As one field consultant who was also a diviner in the town remarked to me early on in our conversation, "You are a very genuine person, so your fieldwork goes well" (interview, April 2017). This diviner also said to me at the end of our conversation, and three weeks before my stay in Jinmen was planned to end, that I was done with my field work. She said I already had collected enough data and was done. The next morning I woke up to a life-threatening emergency that immediately ended my stay and my research on Jinmen island.

II. Chinese Time-Reckoning

A. Varieties of Timekeeping Systems

In China there have been many ways to reckon time, especially over spans longer than single years, to include decades, centuries, and millennia. Some of these systems include the dynastic or regnal system, wherein dynastic periods are named after the rulers and family lineages in power. Anthropologist Mayfair Yang refers to this as Chinese "political-theological time, which was the temporality of the rise and fall of dynasties and their royal clans" (Yang 2008, 3). There is also the family clan or genealogical time frame, which Bergmann links to ritual and religious practices, "show[ing] itself in action as ancestor worship" (Bergmann 1992, 97). Yang also references the lunar agricultural calendar as a distinct temporality for its direct lunar basis of cyclical festivals and seasons (Yang 2008, 2). Sometimes these systems overlap or combine, for example in the manner of telling the Stems and Branches cycle-named year within the reign of a particular emperor, or as in the traditional Chinese calendar, which blends the lunar agricultural calendar with the Stems and Branches system and the movements of several other important celestial bodies including the Sun.

Multiple complex calculative systems underly Chinese calendars and Chinese divination practices and these ultimately are combined in order to produce the most common type of traditional Chinese calendar purchased or given as gifts by both the non-specialist and divinatory specialist today and is a lunisolar calendar. Although the calendar in China is not without its historical reformations, one of its underlying calculative structures called the

Heavenly Stems and Earthly Branches system (Stems and Branches for short) has remained an integral component of the calendar for at least 2,000 years (Martzloff 2006, 80-82).[19]

Like the physical lunisolar calculations underlying the Gregorian calendar, the Stems and Branches system and the traditional Chinese calendar it helps to structure is by no means China's exclusive framework for making sense of time, but it played and still plays a critical role in a number of dimensions of Chinese life, including economics, marriage and family life, business, health, and especially calendar-assisted divination. Sinologist and French historian of mathematics Jean-Claude Martzloff described the sexagenary cycle of the Stems and Branches system as "the backbone of Chinese calendars, from the oldest to the latest" (2016, 81). Taken as its whole system of correspondences discussed below, it also well-illustrates the implied qualitative ontic of temporality that contrasts with the quantitatively focused ontic of the MGC. For these reasons I select it out of numerous other possible Chinese examples of conceptions of time, some of which are referenced above.[20] [21]

Additionally, it is not the claim of this thesis, either explicitly or implicitly, that such a qualitatively oriented temporal system is in any way unique to China (*c.f.* Beundia de Llaca, forthcoming). In addition, the Stems and Branches system is not the exclusive feature or component of the calendar.

[19] Despite referring to it with a definite article, the Chinese calendar is no more a monolithic entity than is Chinese culture. Some of the most pronounced calendrical reformations happened in 1280 AD and 104 BC, and works by Nathan Sivin and Adam Smith respectively detail these important events.

[20] For a quick review of these see the opening of Yang 2020; for a thorough review see Huang and Zurcher 1995.

[21] It is not the position of this thesis that the characteristics of the Chinese conceptions of time covered here are exclusive to China or to any particular region or people of the world. Many so-called indigenous time reckoning systems contain very similar characteristics.

B. Modern Political Historical Context

Although there is no room in the present discussion to comprehensively detail the modern political history of the traditional Chinese calendar, let alone the further details of its precise, separate trajectories in Taiwan and China—nor its development over the 2,000 years of its life—it is nonetheless critical to place the calendar in at least a brief modern political and epistemological context.

In 19th century China and Taiwan, there was a destabilizing authoritative and intellectual vacuum left by the waning of imperial authority due to the collapse of the Qing empire, which included Taiwan starting in 1683. Mainland China had at least a 2,000-year history of being under imperial and monarchic rule, while Taiwan[22] was historically a massively multicultural milieu of island-based peoples with varying forms of self-governance. Both Taiwan and China were under the rule of the Qing empire, the last true empire of China, from the mid-17th century onward.[23] Both nations were already socially and economically devastated by the Opium Wars of the 19th century, and in 1894 the First Sino-Japanese War broke out, lasting for a year. As part of the war-ending Treaty of Shimonoseki, the island of Taiwan was ceded by the Qing Empire over to Japanese control. Taiwan island remained under Japanese control until the end of WWII in 1945.

The destabilizing vacuum after the collapse of the Qing Empire pulled in to China and Taiwan a cacophony of new political, philosophical, and scientific ideas from around the world, and especially from the United States and Europe, including Russia. Among the

[22] and speaking a collection of Austronesian and Malayo-Polynesian languages, and the earliest Iron Age material evidence of trade between mainland China and Taiwan dates to the Tang dynasty (Tsang Cheng-hwa: https://journals.lib.washington.edu/index.php/BIPPA/article/view/11751/10380)

[23] Although Taiwan was not officially declared a province of the Qing Empire until 1885, Qing forces had begun taking control of the island's western and northern coastal areas starting from about 1644, when the empire took reign.

foreign ideas (which is to say, aside from, and not to discount, China's and Taiwan's own transformative thinkers and generation of new ideas at the time), Protestant missionaries' labels of "religion" and "superstition" as well as certain elements from Darwinism and Marxism had some of the most major impacts on shaping Chinese political and social consciousness in the 20th century (Yang 2008). Where there was arguably no previous equivalent in the Chinese language for the terms "religious" or "superstitious," Protestant missionaries introduced to China the ideas of "true" religion and mere "superstition," along with the ideas of orthodoxy and heterodoxy, and proper and improper "religious practice."

Both the institutionalized and folk religious practices of the two nations—which are and have been a combination of variations of at least Daoist, Confucian, Buddhist and local lore—were easy targets for the newly imported "superstition" label and were subsumed in a shifting paradigm which left many of these indigenous religious practices under a suspicious, mistrusting, and later accusatory gaze. As mentioned in the introduction, pieces from Darwinism and Marxism combined into a particularly (if somewhat ironically) destructive form of social-evolutionary theory in China, under which the country was viewed as being behind or backwards in a social and political timeline of development that all societies were understood to follow (Yang 2008; Goosaert & Palmer 2011; Billioud & Thoraval 2015). Armed with this new epistemological framework, those vying for power saw the traditional Chinese calendar representing a serious threat to the modernization and renewal of China. Because of this, the traditional Chinese calendar itself was targeted in repeated campaigns designed to discredit and ultimately eradicate it from the 1920's through the early 1980's.

As both the Guomindang Nationalist Party (GMD) and Communist Party (CCP) groups formed and rose to power during this time, each viewed the Gregorian calendar and

Chinese calendar as being in a conflict so grave as to threaten the very existence of what they would consider an emerging, world-worthy China compatible with "modernity" according to this new social-evolutionary-Marxist teleology of progress. As Goosaert and Palmer put it, the Chinese political contenders—the GMD and CCP—"saw the demise of traditional religion and superstition as the key to the rebirth of the Chinese nation" (2011, 140).

> Historian Poon Shuk Wah writes that the Nationalist Party "[contended]... Chinese people under the influence of traditional almanacs had become submissive to superstitious concepts such as 'fate' and 'the will of Heaven' (tianming), [and] the Nationalist Party condemned the lunar calendar as the 'headquarters' of superstition and viewed its eradication as crucial to the success of the Nationalist Revolution (*Yuehua bao*. 8 Jan. 1929)" (Wah 2004, 4).

Not only were the Nationalists threatened by the calendar's continued existence, but because the Chinese calendar was historically both a tool and formal political representation of "Divine authority," it was identified by Mao Zedong himself as having a crucial role in "binding the Chinese people under feudalism" (Goosaert & Palmer 2011, 142; Raphals 2013). As a representation of any kind of authority, let alone "divine" authority, the calendar represented competition to what Mao and his contemporaries saw as the burgeoning, revolutionized, newly secular nation of China.

Unifying Chinese consciousness into a national whole was an important motivation for both the Nationalists and the CCP in instituting the Gregorian calendar. In order to see itself as a worthy equivalent to other nations, Chinese reformers and revolutionaries knew they needed to reunify the Chinese people after the imperial system was torn down. Without imperial reign under a single ruler, the Gregorian calendar was a ready framework that would allow Chinese people to identify once more as a whole—this time, as a national whole, rather than an emperor-ruled-whole.

The lunar calendar was abolished in 1912 in mainland China while Taiwan was still under Japanese rule. That year also saw the official establishment of the Republic of China ("ROC") by Sun Zhongshan.[24] In 1927 a combination of the Gregorian and Republican calendars was molded by the Nationalist Party into the new "national calendar" and declared as the official ROC calendar for all of mainland China. In 1949 when the Communist Party came to reign in mainland China, the traditional calendar was once again officially abolished. In each case authorities supplanted the traditional Chinese calendar with the Gregorian calendar, or at least, they attempted to (Nedostup 2008).

The elderly mainland Chinese couple I interviewed looked back on those times as "lamentable" and particularly dangerous for those who owned calendars. They reported that people were "absolutely not" looking at or using traditional calendars during that time period—though they each suspected that secretly "even if one had the traditional almanac, you would hide it and you wouldn't let anybody know. Our family had one but there is no way of knowing who else did, and it was dangerous" ("Xian couple," Interview, Santa Barbara, 2018). "Some people had them... in their homes, but you couldn't take them out… a lot of people were hiding theirs we think" ("Xian couple," Interview, Santa Barbara, 2018). They reported perceiving the authorities during the Cultural Revolution as "having no use for those things [like the calendar]" and recalled that producers of the calendar "stopped publishing them and distributing them… you couldn't find them anywhere" (2018).

And yet, the couple remarked that nowadays people can use the calendar without fear, even those who lived through the literally violent tumult of the Cultural Revolution's peak. Although Vincent Goosaert and David A. Palmer outline how the government abandoned its anti-superstition campaigns in the late 1980's (237), the multi-generational

[24] Wade-Giles: Sun Yat-sen

attack on indigenous Chinese knowledge as embodied in the traditional Chinese calendar caused a kind of colonization of consciousness, which Mayfair Yang has discussed in such works as her "Postcoloniality and Religiosity in Modern China" (2011). She shows how national elites in China actually internalized the Protestant-derived discourses of superstition, as well as Marxist-derived discourses of backwardness.

These combined with Marxism-influenced interpretations of biological evolutionism into social evolutionary theory, where they created structured racial hierarchies and positioned themselves at the "behind" end of what they saw as a social evolutionary continuum all flowing towards Marxist and communist "progress" as the pinnacle of human social development. This colonization of consciousness continues in mainland China today, and to a much lesser extent in Taiwan, where the traditional Chinese calendar is often equated now even by non-elites with superstition and backwardness, as these ideas filtered through the public education system.

The government abandoned its anti-superstition campaigns in the late 1980s (Goosaert & Palmer 2011, 237). Exemplary of this shift is a statement[25] that Paul Katz analyzes which was put out by the Central Standing Committee of the GMD in 1993, which he says "represents a significant change in traditional Chinese policy, which in the past

[25] The statement as it appears in Katz's article which is pulled from Shen Hsu¨eh-yung, "Special topical report to the Central Standing Committee of the Kuomintang," 21 October 1993: "Let us look at our history in retrospect. How did our society evolve? How did the traditional villages, towns and communities consolidate their common identity through various folk art and cultural activities before the cultural centres and the government's cultural administrative systems came on to the scene? What bonded them to a system of mutual ethical beliefs, rituals and rules of order? A unique and united society was created … under the auspices of temples and through various cultural and artistic temple activities … In the face of dramatic social transitions, the traditional social structure in Taiwan, bonded by a common religious belief, has broken down irreversibly. Is there an alternative system … to take over the social function performed by community temples in the past? … We have always hoped that the municipal and county community activity centres and cultural centres would be able to shoulder the responsibility of social construction … I believe that through planned campaigns these [state-sponsored activities] will penetrate levels of communities more deeply … The political connotation of this strategy is apparent. If government authorities do not give priority to the absorption of the private sector's social resources, then the ruling party is handing this valuable asset over to its opponent" (405, 406, Katz 2012)

tended to focus on reforming local cults, reducing the size of festivals and otherwise combating "superstition"" (Katz 2012, 405). Katz writes, "In contrast with China, where religion is only now gradually emerging from the shadow of long-term oppression by a totalitarian regime, in Taiwan religion is thriving and even expanding" (395, 2012). Although the era of Deng Xiaoping saw an immense opening of the economy and certain cultural regulations, mainland China, as is well-known, still lays a heavy hand on practitioners of even its officially recognized religions.

By the end of the 20th century, the Communist Party and Nationalist governments came to once more tolerate at least certain aspects of the traditional calendar, but in new forms. The alternating banishing then re-incorporation of traditional festivals and the traditional Chinese calendar has been the status quo throughout the latter half of the 20th century.

It is under this modern historical context of literal violent conflict over the two calendars in question that this investigation is carried out—what is the nature of this "cultural conflict"?

C. Stems and Branches System

1. Brief History

The earliest known use of the Stems and Branches system is found in what are also the earliest written records in China: oracular inscriptions on bone (Raphals 2013, 84). Records and etymological analysis suggest that the earliest near-equivalent roles of calendar-keepers/makers and historians were in fact filled by the same person (Watson 1963, 70-71). Cosmological influences on time and the unfolding of events have been a critical consideration in China for at least as long as there are calendar-like records (Raphals 2013).

In ancient China, the responsibilities of these scribes as record-keepers, historians, and calendar-makers, also included divination, in particular over "whether courses of action were propitious or disastrous" (Sivin 2009, 35). Blackburn and Holford-Strevens report that in China, "For most of the imperial period, days were far more often dated by the sexagenary cycle than by *quantième* and month; 1 January AD 1 was the 14th cyclical day [in the sexagenary/Stems and Branches cycle, or] *dingchou*" (1999, 698).

The term "traditional Chinese calendar" is used herein to refer to the collection of timekeeping systems influenced by and intertwined with the Stems and Branches system and embodied in the common Chinese hanging wall calendars given as gifts and otherwise widely but somewhat exclusively available during the Chinese New Year. It would be possible, for instance, to technically separate out the strictly lunar calendar from the agricultural calendar (which builds upon the former but with more specific information about growing), and these further still from the Yellow Emperor's Almanac, which is a more detailed rendering of the previous two systems in combination with multiple others, including Stems and Branches, in book or pamphlet form. What is referred to here as "the traditional Chinese calendar" includes the Stems and Branches system of correspondences as overlapping and intertwined with other timekeeping systems like lunar calendar calculations, and as used and represented in timekeeping through those calendrical objects most commonly available during the Chinese New Year in China and Taiwan.

2. Structure

As a simple description, the Stems and Branches system contains two sets of ordinal terms: one set of ten Heavenly Stems and one set of twelve Earthly Branches which are

combined to form a sexagesimal or sexagenary[26] cycle—a cycle of 60—that can be applied to temporal terms such as years, months, days, and hours, among other systems like the human body or the stars. The temporal durations governed by the Stems and Branches cycle span, on the long end, to the tens of thousands of years, such that the overall temporal perspective is more of a telescopic or "deep time" orientation. Each Heavenly Stem is associated with several other forces, terms, or qualities, including not exclusively an elemental phase[27] (wood, fire, metal, air, water) that also alternates its Yin and Yang qualities, one of five cardinal directions including "center", and a planet. The Earthly branches are each associated with an animal of the Chinese zodiac, an elemental phase, a compass point in the denomination of 30 degrees, and a sign of the Solar zodiac. The chart below shows these correspondences, or 对应 , *duiying* as they are referred to in Chinese.

Unlike the modernized Gregorian calendar whose non-physical, religious, or folk associations or correspondences have been largely forgotten from mainstream particularly U.S. consciousness, use, and print, the correspondences (对应) in the Stems and Branches system are constitutive of it; in other words, there is no other primary temporal application of the System *except* as its correspondences imply.[28]

[26] The terms are synonymous here for "pertaining to the number 60". In mathematics, sexagesimal means base-60 while sexagenary has multiple meanings, including reference to the quality of being sexagesimal. Here they are interchangeable.

[27] The term "Five Agents" is currently favored in the field of Daoist Studies but I choose the term "Elemental Phases" to retain a more obvious signal as to the fundamental, essential quality of these cosmological components as "elemental", particularly in the context of the present discussion around the calendar as linked to the (respectively depicted) nature of the universe.

[28] Although there are applications of the Stems and Branches both separately and together as ordinal counting systems and scientific classifiers, however, temporally speaking, the System is constituted by its cosmological correspondences.

Figure 1. Heavenly Stems: The Heavenly Stems and some of their correspondences

Stems	Cardinal Direction	Planet	Elemental Phase	*Yin* Alternation of Elemental Phase	*Yang* Alternation of Elemental Phase
Jia 甲 Yi 乙	East /	Jupiter	Wood	Fir	Bamboo
Bing 丙 Ding 丁	South	Mars	Fire	Kindling	Lamp-flame
Wu 戊 Ji 己	Center	Saturn	Earth	Hill	Plain
Geng 庚 Xin 辛	West	Venus	Metal	Weapons	Kettle
Ren 壬 Gui 癸	North	Mercury	Water	Waves	Brooks

Figure 2. Earthly Branches: The Earthly Branches and some of their correspondences

Branches	Elemental Phase	Animal Zodiac	Solar Zodiac	Double Hour of the Day
Zi 子	Water	Rat	Aries	11p.m. – 1a.m.
Chou 丑	Earth	Ox	Taurus	1a.m.-3a.m.
Yin 寅	Wood	Tiger	Gemini	3a.m.-5a.m.
Mao 卯	Wood	Rabbit	Cancer	5a.m.-7a.m.
Chen 辰	Earth	Dragon	Leo	7a.m.-9a.m.
Si 巳	Fire	Snake	Virgo	9a.m.-11a.m.
Wu 午	Fire	Horse	Libra	11a.m.-1p.m.
Wei 未	Earth	Sheep/Goat	Scorpio	1p.m.-3p.m.
Shen 申	Metal	Monkey	Sagittarius	3p.m.-5p.m.
You 酉	Metal	Rooster	Capricorn	5p.m.-7p.m.
Xu 戌	Earth	Dog	Aquarius	7p.m.-9p.m.
Hai 亥	Water	Pig	Pisces	9p.m.-11p.m.

In addition to the above, the Stems and Branches System is intertwined with other complex dynamics, including the Metonic Cycle,[29] the 28 Constellations, and the solar year's Twenty-Four Joints and Breaths. Specific details of the relationships between the

[29] The nineteen-year cycle the Sun and Moon follow in terms of their relative positions in the sky.

Stems and Branches system with these other systems can be found in studies such as Lisa Raphals' *Divination and Prediction in Early China and Ancient Greece* (2013), Martin Palmer's edited *T'ung Shu: the Ancient Chinese Almanac* (1987), and Nathan Sivin's monumental and groundbreaking first-translation of the *Shoushishu* in his *Granting the Seasons: The Chinese Astronomical Reform of 1280, With a Study of its Many Dimensions and an Annotated Translation of its Records*, which thoroughly covers the mechanical and mathematical means used in calendar making from ancient China up to 1280 (2009). Further technical descriptions may be found in Needham's *Science and Civilization in China*, while numerical details and an overview of historical changes to the associations may be found in Bonnie Blackburn and Leofranc Holford-Strevens' uncharacteristically[30] detailed international compendium *The Oxford Companion to the Year: An exploration of calendar customs and time-reckoning* (2003).

D. TCC: The Meaning of Time

In order to understand the distinctiveness of its system as compared to the modernized Gregorian calendar (MGC) the following is an illustration of the Stems and Branches system and the ontics it implies. The Stems and Branches sexagenary cycle and its correspondences are a systematic detailing of what are considered the most fundamental natural and cosmological forces understood to be at play throughout the universe—namely Yin and Yang, and the Five Elemental Phases. These components and correlates are understood to carry such various and interrelated qualities as growth and decay, transformation and stagnation, fortuity and danger, and more. In contrast with the MGC,

[30] Such massive compendia with encyclopedic-like breadth often necessarily sacrifice detail for scope, but this tome is, in that sense, uncharacteristically detailed considering its historical and international (temporal and spatial) breadth.

these are spontaneous (自然 *ziran*) qualities that occur without the "arbitrariness of humanity" (Sivin's translation of *Shoushishu*). In this way, the cycle is reflective of an all-pervading natural and spontaneous order, of cosmological cycles understood to have a bearing on the entire Earth and cosmos, including human life. Under the temporal ontic of the TCC, humans should care about time because it contains divinely-sourced information that has a direct bearing on our lives.

By fusing this cycle with the quantitatively measured passage of time, every unit of time that passes is understood to have a distinct, cyclical, and cosmologically-provided meaning important to human social and personal life as intertwined with the cosmos. Unlike the inherent "emptiness" (or filled-only-with-the-potential-to-be-filled quality) dominant in MGC time discussed later, units of time carry meaning under the TCC whether or not humans take notice.

To put it another way, whether or not one chooses to schedule activities according to the proscriptions or suggestions in the calendar, the inherent meaningfulness of any given time period is still considered to be present and is understood as a cosmologically-given quality of time itself, with or without humans. Time under this understanding is conceived of as a qualifiable phenomenon, and the calendar communicates those qualities to humanity. This is where the face-value overlap with Geertz's description of Balinese time applies: he similarly describes Balinese time as qualitative, because the Balinese calendar also tells its adherents "what kind of day it is" and not simply what day it is (1973, 393). Like the traditional Chinese calendar, the Balinese calendar is not concerned with "counting and ordering" time units, but instead seeks to "characterize and describe them, to formulate their differential social, intellectual, and religious significance" (1973, 391). Ultimately this is

done so that humans can act according to the fate that is willed by the cycles represented through the traditional Chinese calendar.

1. Visual Analysis

Visibly, the TCC typically comes pre-filled with information, most commonly including the basic auspicious and inauspicious activities for the day. Modern TCC's[31] also include the Gregorian calendar dates, as well as the lunar calendar dates or day-markers. Immediately apparent when compared to the Gregorian calendar images featured later (figures # & #) is the lack of blank space "waiting to be filled" by the calendar's user. Instead, we are told what the days' qualities already are.

Figure 3. Chinese Calendar: A common appearance of a traditional Chinese hanging wall-calendar.

[31] A separate study could yield insights into how the visual appearance of the traditional Chinese hanging calendar has changed over the 20th century, and before. Within the scope of this study, it was not possible to gather sufficient data sources to conclude exactly when the present visual form of the TCC took shape, and it likely happened in waves and at different times in different areas of China and Taiwan.



In the image above, Figure 3, the red and black columns on either side of the large black Gregorian date-number are the warnings or advice for activities to engage in or avoid for the day. The black writing beneath the Gregorian date-number is the day-marker in the lunar calendar style and its numeral. This particular calendar also contains information about the lunar month's Chinese animal zodiac, a description of its predispositions generally, and its prospects for this specific lunar-calendar year. Underneath the English month-name are the Chinese lunar-month names and related correspondences. Note that the auspicious and inauspicious information takes up most of the white-space after the Gregorian date-number. There is very little room to fill in one's own information here as we are not meant to use it that way.

In these ways, the sexagenary elements of the traditional Chinese calendar are not only a collection of measurements and demarcations of the days, weeks, months, and years based upon empirical physical phenomena—indeed, it is based on physical, quantitative calculations as most if not all calendars are—but also populate the calendar with purportedly

definitional qualities of each day, week, month, and year as bearing on any given individual's life.

In the field, when community consultants were asked about the Stems and Branches System in relation to their own lives, a common association was with its prognostications for auspicious and inauspicious activities （吉凶). Eighteen-year-old Li Xiaomei[32] was visiting relatives on Jinmen island from the Taiwanese capital of Taipei when I interviewed her. She reported embracing certain aspects of her rural upbringing on the smaller island despite living with other urbanites in Taipei, who she said spent less time viewing the "peasant calendar" (農曆) and who therefore don't know much about the details of Stems and Branches (具体, 内容). "But if we do look [at the calendar]" she reported, "it's for what's auspicious and what's inauspicious (*ji shenme, xiong shenme*) [吉什麼凶什麼]" referring to the 吉凶 prognostications derived in part from the System (Li Xiaomei, Jinmen, April 2017).

William Matthews' fieldwork in Hangzhou on the divinatory practices involving the Chinese *Classic of Changes*, the *Yi Jing*, makes conclusions about its meaning and use that are applicable here: the configurations of each Stem and Branch pair and their interpretations for effects on the daily lives of individuals "are not simply analogues of the relationship between cosmic configurations but *manifestations of those configurations on a human scale*" (Matthews 2017, 271, emphasis in the original). In other words, the system is not simply a categorical organizing tool or a mnemonic aid, it is understood to be a true manifestation of universal processual aspects of time-bound existence on Earth, not only as

[32] Names have been changed to protect the identities of cultural consultants.

mirroring the macrocosmic universe and fundamental forces at play, but as manifesting them in human lives. Unlike the ontic implied by the modernized GC, ensuring the accuracy of timekeeping under the TCC's ontic does not mean increasing the physical precision of measurements as an end in itself, but means ensuring the accuracy of the interpretation of cosmological, qualitative forces for use by humans on Earth.

E. On the Ground: Traditional Chinese Calendar in Consultants' Lives

The traditional Chinese calendar has its roots in ancient divination and prediction systems used for guiding actions across multiple levels of society from the government and public to the individual and private. Today, the TCC's primary use is for guiding, advising, and informing its users about the quality of time and how it can best be spent—or in other words, scheduling filled-time activities in a way that maximizes the energetic phases of the cosmos to enrich one's good fortune. Consultants reported turning to the traditional Chinese calendar specifically for ensuring good fortune in their own and others' lives, for avoiding misfortune, for appeasing their elders, out of a sense of duty, ritual, or obligation, and also simply for fun. Consultants often contextualized their use of the traditional Chinese calendar in a framework of dispassionately and rationally maximizing good fortune or avoiding misfortune, or otherwise explained it away casually with a "that's just how it's done" retort. In every case, even those who do not believe in its teachings seemed to be nevertheless using it.

Community consultants who reported using the calendar cited many of the same five life events as the ones most commonly requiring use of the calendar. The two most oft-cited situations in which consultants reported relying on the TCC was for knowing when to pray,

and for “big events” or “big days” (大事情， 大日子)—the most commonly referenced of which was planning marriage ceremonies and marriage compatibility. Marriage was the “大事情” or “大日子” that most consultants listed first; moving and having a baby were listed next most often, followed by opening a business and building a house, then repairing a house. Other activities listed in the calendar include things like cutting one’s hair or one’s child’s hair; traveling to or from home and making large deposits or payments, among dozens of other events and activities.[33]

1. A Closer Look: Marriage

To expand in detail on one such common use, for marriage consulting with the calendar, important determinations include astrological compatibility of the potential partners in light of the findings of calculations down to the hour and second, and the timing of the marriage ceremonies also down to the hour, in accordance with cosmological constraints. For mate compatibility, most consultants knew that one must look at their “生辰八字”—astrological and cosmological information based on the exact time and place of birth, and the associated Heavenly Stem and Earthly Branch, which helps one derive a series of eight characters (the 八字, *bazi*) used to divine one’s fortune and determine compatibility with other people’s *bazi*’s. The mainland Chinese couple from Xian described their wedding planning process as being in consultation with a diviner and the traditional Chinese calendar—and this even despite the dangerous stigmatization of such use during the most formative years of their lives.

[33] There is not enough systematically acquired data to make categorical conclusions or conduct frequency analysis but this could be a fruitful study for the future.

Their daughter, a university researcher, chimed in that she will be relying on her parents' help in consulting a diviner and the TCC when she gets married, too. She added that this is how her two sets of friends who recently married also planned their ceremony dates: by relying on their parents, who helped them make appointments with a diviner to read their compatibility and to set dates based on that compatibility. An early-20's consultant from Taiwan described how even the hour-timing of the ceremonies were important according to the Stems and Branches information found in the *Huangli* (黃曆) (College graduate 1, Interview, Jinmen, 2017). Knowledge of the fact that the TCC is relied upon for marriage consulting, and the sentiment that it should be, was widespread across field consultants regardless of demographic factors and, more significantly, regardless of their stated belief or disbelief in the calendar's stipulations. There seemed to be no difference between mainland and Taiwanese consultants' answers about the importance of consulting the TCC for marriage, but this was a fairly small sample size to draw any serious comparative conclusions. This role of the TCC was seen as critical and primary across field consultants.

Of all the consultants with whom I spoke about marriage, even the most enthusiastically disbelieving in the traditional Chinese calendar's stipulations said they nonetheless would or they did consult the TCC for their own marriage ceremonies as well, such as a sewing shop owner whose disdain for the TCC was the most marked among all the consultants. The reasons given by these reluctant adherents were to appease their elders (living parents or grandparents), in order to avoid calamity or misfortune, or simply "that's just how it's done" (就是這樣做的). For example, despite one late-night restaurant owner's firm stance on the "superstitiousness" of the calendar and its underpinnings, when I asked whether he got married according to the calendar he reported, "Of course I did!" just as

vehemently as he might have if he was asked whether he breathed air ("Restaurant owner" Interview, Jinmen, 2017).

Not only did field consultants report consulting the TCC for determining wedding ceremonies and marriage compatibility, but they also reported *following through* on the advice gleaned from such consulting. In particular, if interviewees were to find that their potential marriage partner were completely incompatible according to the TCC, where it indicates the worst compatibility fortune,[34] many interviewees reported that they would reconsider whether they would marry the person at all. As Lisa Raphals puts it, in reference to the TCC, "Marriages may be made, prevented, or ruined by it, even among young urban professionals" (Raphals 2013, 7). Similarly, if there were certain rituals that needed to be performed to help alleviate any divined incompatibility, such as incorporating certain 風水 *fengshui* elements in the household, living in a certain area of the city, or performing marriage rituals on a particular day, yet-to-be-married interviewees did not hesitate to say they would carry out such activities. Two married interviewees reported following such instructions before their current marriage took place. One of the focus group participants shared that they have a semi-permanent fixture in their home to offset the divined incompatibility between her and her partner (Focus Group, Jinmen, 2017).

Once again, consultants reported carrying these rituals out regardless of their reported personal belief or non-belief in the knowledge systems of the TCC. The qualitative aspects of time as communicated by the traditional Chinese calendar in these cases are affecting how people are choosing to live their lives, informing major decisions about mate selection and ultimately the trajectory of their lives.

[34] There are degrees of compatibility and incompatibility among any given pairing, and among a given pairing's subsets of factors of compatibility.

2. A Closer Look: Prayer

After marriage issues, knowing when to pray was the next most common concern, but this was primarily only reported by Taiwanese field consultants as something done (by anyone) in current times. Dexter, a Taiwanese student pursuing a PhD in a STEM field, reported that the TCC's primary use is in telling people when to pray. "How else would we [students] know to pray to *Wenchang*?" he asked rhetorically and playfully, referring to the major academic deity[35] (Dexter, Interview, Santa Barbara, May 2018). Two hostel managers indicated the same,

> "We … use the *nongli* to know when the important festivals are, New Year's, mid-Autumn Festival, double ninth festival, and for the local temple festivals, you know, the deities' birthday [celebrations]. The national calendar doesn't have these birthdays, so we have to look at the *yinli*, or [one] can also look at the temple's calendar" (Li Mei, Jinmen, April 2017).

She went on to explain that the point of needing to know and of using the TCC to find these most important dates is in order to know when to pray, where to pray, what to pray for, and to whom. Four Taiwanese college students in the Santa Barbara area reported not using the calendar much either in Santa Barbara or their homes in Taiwan, "except for standout days like New Year's" one said, to which another added, "we do look during Ghost Festival (鬼門開 *guimenkai*) for example because at that time you need to pray" ("Four students," Group Interview, January 2018). Prayer again took a forefront position, in this case to avoid calamity.

Most Taiwanese field consultants who perceived the TCC's primary role as being a sort of prayer calendar indicated this as an ongoing, contemporary use of the calendar, in

[35]"Of course," he added, "there are no Wenchang temples here so we can't pray to him!".

contrast with mainland Chinese consultants who tended to refer to prayer as something more often done in the past, with many saying "we don't do that kind of thing anymore," or occasionally explaining that "people in big cities" don't use "this kind of information" or "do those kinds of superstitious activities" ("Xian Couple," Interview, Santa Barbara, 2018; Wang Xi, Interview, Jinmen, April 2017).

3. Internalizing "Othering" Narratives

A mid-30's mainland Chinese tourist who labeled prayer as "superstitious" reflects the well-ingrained understanding of many mainlanders who grew up in an education system decrying especially Chinese indigenous religious practices as superstitious and "of the past"; and this, while religions external in origin to China are hailed with official recognition by the Chinese government. This is what Johannes Fabian was pointing to in his *Time and the Other* where he shows how anthropologists deny coevalness to those whom they study, by placing their existence in an "other" time—typically, the past. The tourist above is a living example of the internalization of these lines of thinking that were imported to and then modified in China during the earliest part of the 20th century.

The temporal distancing through calling indigenous practices as belonging to the past, combined with the overt omission of indigenous religious systems from government documents, reinforces continued belief in the damaging, Marxist-inspired social evolutionary theories which Chinese thinkers also internalized personally and nationally in the early 20th century. For these reasons, mainland Chinese in this study typically did not reference prayer as a current primary function of the TCC, but did acknowledge this function as existing in the past, and as being of great importance at those other times.

4. Other Uses

Concerning the birth of one's children, there are times of year it is more fortuitous for the mother to become pregnant and to give birth, and there are times of year it is more fortuitous for the child to be born. Although exact conception and birthing dates cannot be precisely assured, couples make attempts to align with the timing of benevolent cosmic forces and to avoid calamitous ones. In addition, a general store manager described how prescribed actions may be taken, such as placing a certain celestial figure on the wall during the birth, or inside the child's room, to offset any misfortunes arising from poor timing.

Traveling, doing business and opening a business, as well as building or repairing a home were similarly reported by consultants. Such things are planned according to the qualitative timing prescribed by the Stems and Branches system of prognostications, even whether they happen or not.

A college student working at her father's restaurant on Jinmen island reported that her grandmother still calls her on days that are particularly inauspicious for the young woman, or when certain activities on a given day are particularly egregious, to tell her to avoid those activities. Despite reporting believing that the calendar is superstitious, she says she stills follows her grandmother's advice "just in case" (Li Mai, Interview, 2017).

In contrast to the Gregorian calendar, the traditional Chinese calendar is being used by consultants for making decisions that are not purely logistical in nature—considering whether and how to marry a person versus considering what date is most socially convenient to marry (e.g. the date the largest number of one's invitees can attend the potential ceremony). In this way, referring to the traditional Chinese calendar, Rebecca Nedostup says, "it did not simply measure time but shaped human pursuits" (2008, 95).

The Taiwanese Chinese may also view the traditional Chinese calendar as more tied to their present cultural identity, while mainland Chinese may be more eager to reject such a national-identity association with the TCC. Some consultants would use the pronoun "our" in referring to the TCC at national and cultural levels of their identity, by contrasting "our" calendar with others. The recent knee surgery patient and neighborhood diviner discussed the importance of using the Gregorian calendar when attempting to coordinate or have dealings with foreigners; in the context of this portion of the discussion, she referred to "our lunar calendar" as in, "You wouldn't use our lunar calendar to do international business, you couldn't! They [foreigners] wouldn't know what you mean!" (Diviner, Interview, Jinmen, April 2017). This is in line with the previous observation that Taiwanese field consultants often referred to the MGC in the distancing term "the Western solar calendar." In mainland China, the TCC is the calendar more purposefully distanced from consultants' identities, an unsurprising difference given its association by Communists with embarrassment and shame as part of the internalized and culturally damaging discourses of the 20th century.

Overall, field consultants from a wide variety of educational, professional, geographic and age backgrounds describe reliance on the traditional Chinese calendar for ensuring fortunate outcomes to specific events, and for some adherents, for their everyday activities. Consultants followed through on the advice given by the calendar or its interpreters even when they self-reported as not believing in or giving credence to the calendar and its traditional knowledge systems. At the most engaged end of the spectrum, traditional Chinese medical doctors and business people plan their every day schedules according to the TCC in order to ensure successful healing treatments for their clients, and successful business deals for themselves and others; at the least engaged end of the

spectrum, field consultants did the bare minimum of avoiding calamity by praying on the most inauspicious days of the year, like Ghost Festival.

Cosmological forces are, in a sense, yielded to by these TCC adherents, but for the express purpose of actively maximizing the good fortune and minimizing the bad fortune that might befall one at certain times and during certain events and activities. In this way, it isn't wholly accurate to say that TCC adherents are submitting to a fate they have no control over, but rather, they are including considerations of TCC knowledge in their daily and life decision-making processes.

III. The Modernized Gregorian Calendar

In this thesis, the term "modernized Gregorian calendar" (or "MGC") refers to the Gregorian calendar both as it is in mainstream use in the early 21st century around the world, especially in the United States, and also as implicitly representative of a mainstream, globalized understanding of time (described below); this could also be called the modern temporal ontic, modern time,[36] or MGC time.

A. Linear, Empty, Homogenous Time

Walter Benjamin in his "On the Concept of History" coined the idea of modern time as being "empty and homogenous" as an effect of capitalism on the experience of time; he wrote in a Marxist revolutionary context of the need to break out of empty homogenous time in order to maintain redemptive connection with past, outstanding moments in human existence. Rather than live in the eternal present of interchangeable empty, homogenous moments, he argued that humans should live in the eternally time-birthing moment of the present, because it is only there that we retain cross-temporal connectivity in human existence. Both his work and Benedict Anderson's "*Imagined Communities*", which built heavily upon Benjamin's ideas, serve as cornerstones of discussion in a wide range of works of sociology and humanistic studies, having been cited over a hundred thousand times in works indexed by Google Scholar. Benedict Anderson influentially expanded upon the ideas of Benjamin in the context of national identity consciousness in *Imagined Communities* where Anderson presented an argument that one's consciousness of having or belonging to a national identity was rapidly facilitated in Europe by the advent of the printed, daily

[36] The term "modern time" has many meanings in other works and is sometimes not explicitly defined. It is important for the correct understanding of this thesis that the reader understands the term "modern time" as used herein refers to the modern temporal ontic as implied by the modernized Gregorian calendar.

newspaper. Ultimately, he shows, the idea of the nation is an imagination, and our sense of belonging to this community is powerful but totally imagined. The modern notion of the nation is seen as traveling along time in a linear fashion, moving into an open, empty, homogenous future of equally potent and equally empty moments, having been borne from the same in its own imaged past.

Our imagination of national belonging he says is enhanced by such tools as daily newspapers which tell us we are collectively experiencing the same time and involved in the same network of social and political entanglements across "the nation." Importantly, we are also an inextricable part of the nation's birth: its history. Through this discussion of national identity consciousness formation, Anderson shows how Benjamin's conceptions "on history" were applied in this process.

Briefly, in linear-empty-homogenous time ("LEH time"), time is considered linear in that time is considered to move along an exclusively singular line, in one direction, from a single past into the definitive-as-unfolding future. It is considered empty in that time itself carries nothing with or in it—just as in spatial terms an empty room has nothing in it on its own, as built. Time is deemed homogeneous under LEHT in that each moment of time, however quantitatively measured, is equal in all respects in and of itself, to all other equally measured moments.

This frame is a useful starting point for a discussion of what defines the dominant global, and especially U.S. conception or ontic of time as embodied in the MGC; for this project, it is the "E" for emptiness that concerns us most. Importantly, Geertz also uses the term "empty" to refer to a kind of time within the Balinese system, but this is not the same kind of "emptiness" or "fullness" described and contrasted here. Geertz talks of emptiness in Balinese time as those moments or days where no significant festival or ritual is taking

place; full time by contrast is when such festivals are occurring. For purposes of the present discussion, emptiness instead refers to a quality of all time; it is that quality of open potentiality, of time as waiting to be filled with activity.

1. Addressing a Critique

Before proceeding it should be noted that there have since been serious critiques of whether this trope overall can be regarded as true and usefully applied in the field--and to be clear, it the position of this thesis that it can be, but also that serious critiques should be addressed. One concise and representative critique of LEHT is from anthropologist and art historian Byron Hamann, who writes in his "How to chronologize with a hammer, Or, the myth of empty, homogeneous time":

> Western temporality as inescapably "homogeneous, empty time" is a myth. The Gregorian calendar was, in its origins, a project for sacred (re)alignments. That sacred connotation has only recently been forgotten—but it was very much at issue when this calendric system was first promulgated, as well as when it was imposed on much of the world by Christian imperial projects (287).

Hamann makes three main points here: 1. empty, homogeneous time is a "myth"; 2. the Gregorian calendar's origins are religious; and 3. this religiosity "has only recently been forgotten." The next section disputes that "'homogeneous, empty time' is [only] a myth" but first, it acknowledges Hamann's other two points in a brief discussion of the Gregorian calendar's creation.

B. History

Though the modern Gregorian calendar is the currently ubiquitous worldwide time-reckoning calendrical system and may be taken for granted as the *de facto* standard, it was

created only around 438 years ago in 1582 AD (CE)[37] and was not so easily established as the time-reckoning authority even in its originating Roman Empire, let alone for those outside that Empire.

The need for the Gregorian calendar arose when the calculations of its predecessor, the Julian calendar, resulted in a slow drift of the Julian-calendrical reference-date of the equinoxes in relation to the actual physical occurrence of the equinoxes.[38] The spring equinox was and still is a critical date in (not exclusively) Christianity because it is used to identify the appropriate date for celebrating the resurrection of Christ each year. The old Julian calendar began indicating that a given day was the spring equinox even though the Earth's equatorial plane would not actually be in alignment with the Sun's midpoint on that day. Initially the drift was negligible, but after several hundred years, it amounted to well over a week. Pope Gregory XIII, the calendar's namesake, then had the calendar created to correct this drift. In view of this, I do not dispute Hamann's first point, that the Gregorian Calendar was "a project for sacred (re)alignments"; this is plainly correct.

In countries like Germany, it was effectively opposed for at least a decade (Controlling, Gordon), while the UK and the United States did not adopt the calendar until the mid-18th century in coordination with the latter two's push for a worldwide time-

[37] I purposefully use the AD/BC labeling system to clearly indicate that the quantitative reckoning temporal regime we live under is explicitly tied to Christianity's understanding of the world in reference to Jesus Christ. I follow Kevin Birth's stance as described: "With regard to my convention of dating, I continue to use the BC/AD rubric as opposed to the more recently employed CE and BCE. While the latter is more politically correct, it is also an attempt as suppressing the assumptions upon which the dating system is built. The reputed date of birth of Jesus, according to Dionysus Exiguus (1844-1864 [525]), is still the anchor for the CE and BCE convention" (Kevin Birth 2012, vii).
"While there are those who find such systems disturbing because of their religious references, I find the ability to attach their creation to a moment in time and to a particular person or set of people important in acknowledging their historical and cultural lineages" (Birth 2012, ix)

[38] The Earth revolves around the Sun not in a perfect circle, and not on a perfectly flat plane in relation to either the Sun or in relation to the Earth's polar alignment with(out) the Sun. The Earth is both tilted on its own polar axis, and also swings or shifts "up" and "down" in its elliptic around the Sun. The celestial equinoxes occur when the Earth's equatorial plane (imagine a slice through the center of the Earth at the line of the Equator) momentarily lines up with the Sun's mid-point.

reckoning standard (Zerubavel 1982). In Austria, its implementation was met with violent resistance (Gordon 2009). The Gregorian calendar was a religiously motivated correction of the *intentionally irreligious*, civil Julian calendar. In this way, the components of its calculative basis are strictly non-religiously motivated physical measurements of celestial body movements and occurrences, despite its religiously motivated adjustment.

Calendars in Europe, as elsewhere, "represented more to humanity than mere time reckoning methods" but were indeed often part of "religious identity" (McNutt 2006). The seven days of the week as still named in the Gregorian calendar today were originally developed around the time of the birth of Christ, where day names were based on planets and their then-understood distance from Earth, and the planets were understood to have qualities beyond their own physical makeup that were relevant to humans. Some of the Latin-based month names of the Gregorian calendar, as in English and Italian for example, are named after religious figures or times. For example, January was named after either the Roman god of time Janus or the Roman state-protector goddess Juno, and February was named after the Roman spring purification festival Februa.

The Gregorian calendar in its earlier forms was also not without elements deemed "superstitious" by other Europeans; this was one reason the French revolutionaries wanted to disband it in favor of their new calendar, the *Calendrier Re'publican*, ensuring the complete removal of religious elements from calendrical timekeeping. Zerubavel shows that the French Republican calendrical reform of 1793 was specifically intended to emphasize "the new values of secularity, common nature, and rationality" (Bergmann 1992, paraphrase of Zerubavel, 102).

In short, there is no denying or washing over the fact that the Gregorian calendar was created within a religious milieu, under a religious framework, and for explicitly religious reasons (The Galileo Project).

C. Modernization

It is important to also consider that the MGC's calculative structure and basis lie with the Julian calendar, which was originally and specifically non-religious. The Gregorian calendar as used and applied by many nations around the world today, but particularly in the U.S., is largely severed from what religious roots it did have. To Hamann's second point, that its religious roots were only recently "forgotten": the argument about LEHT is not that the Gregorian calendar and its implied view of time were *never* religious, or that they weren't religious in their origins, but that these origins have indeed been forgotten, and not just by those who would write about such things from a scholarly perspective.

The MGC is used in the United States in public spaces intended to be stripped of religiosity, as in ostensibly secular business and in the public, striving-to-be secular classroom, and is also used as the official civil calendar in non-Christian countries around the world, including notably Japan starting in 1873, Egypt in 1875, Korea in 1896, China in 1912 and again in 1949, and Turkey in 1926. Such countries would not embrace a calendar at the official, governmental, national level if it had overt, ongoing Christian religious elements inextricably bound in with it. Although the Gregorian calendar has clearly Christian roots, and though Christians as people see time in general as having meaning in orientation to their beliefs about Christ and salvation, in the United States, the Gregorian calendar's only applied religious remnants lie primarily in its service as a useful tool to *mark* celebratory anniversaries such as Easter and Christmas—but it fills this role equally for

many other religions *and non-religious* organizations as well, serving to mark and collectively refer to dates of notable occasions.[39] In public school in the U.S., for example, the thorough and explicitly religious Christian worldview is not taught to schoolchildren when they learn how to tell the Gregorian-framed days of the week, months of the year, and so on.[40] By contrast, learning the specifically-TCC-framed days of units of time necessarily entails imparting the Stems and Branches worldview.

The most a typical printed Gregorian calendar in the United States will tell someone in modern times "religiously" is what the agreed-upon collective numerical reference-date of Easter is (for example), but it won't tell you what that date or occasion *means*, and the calendar itself won't tell you how to live your life at that time. It also won't tell you how to live your life at all other times of year, let alone on every single day[41].

So two elements Hamann sifts out are true: the Gregorian calendar has religious provenance, and this provenance has been recently forgotten; but, the relative recency of this forgetting does not concern this study. The fact is this religiosity has been largely forgotten in many countries, and the calendar is largely separated from its religious provenance as adopted in the United States and in non-religious or non-Christian countries or societies. Linear, empty, homogeneous time is not simply "a myth," and the next section reinforces that claim.

D. MGC: The Meaning of Time

[39] Christianity may tell their followers that certain times of year mean certain things, but these are specific to congregations, and their propagation and continuation are reliant on communications flowing from sources other than the calendar.

[40] Which is not to say that U.S. public schools are not implicitly instilled with certain Protestant ethics, but that is a separate discussion.

[41] More religious Christian countries, like Italy for example, have different forms of the Gregorian calendar and its meaning may be more intertwined with the original religious roots. This is not the case for non-Christian and more secular countries who adopt the calendar. See the countries referenced in-text above.

The dominant modern ontics of time developed alongside the de-religionization[42] of the Gregorian calendar and it is the subsequently arising sense of "emptiness" of LEHT that concerns this study most. According to Fabian, in addition to the purportedly universal, unilinear ladder of human progress, the doctrine of evolutionism "rest[s] on a conception of Time" that is naturalized to the physical sciences (16). He fittingly calls this an "essentially Newtonian physicalism (Time being a universal variable in equations describing nature in motion)" (16).

1. Physically-oriented and Quantifiable

Time in physics is defined as a rate of change, that is, a quantifiable phenomenon. Modern humans' structuring of time is concerned primarily with quantitative, physically oriented measurement and reference. In both English and Chinese when we ask for the time in 2021，we ask, "What time is it?" or "現在幾點鐘?" (lit. "How many hours is it right now?"). The appropriate answer-form to this question is that the time *is* a numerical referent, e.g. It is 4:32. We do not ask, "What kind of time is it?" nor do we commonly answer with what kind of time it is.[43] What we are actually asking is, "What is the numerical measurement and collectively agreed upon quantitative referent of time right now?" While there are many reasons for this phrasing, two reasons concern the present study. Firstly, because of the social necessity of a common and consistent temporal reference framework,

[42] I do not call it "secularization" here because the term secularization echoes secularization theory, and that theory has been shown to be false. It is not necessary to expand this thesis to include a discussion of broader secularization movements in the world, nor to tie up the present discussion of the TCC in that web of ideas, partly because secularization theory is yet another teleological framework harkening back to evolutionism's left over impact on the humanities. See Casanova et al. for more.

[43] The most likely alternative is inquiring whether it is a particular meal-time yet. E.g. "Is it lunch time yet?" or "It's dinner time!" Consider also the arranging of plans and considerations therein of meal-times as well. E.g. "If we go to the later show, that would be during dinner time" the implication being that a semi-scheduled meal will be interrupted. While these are perhaps the most common non-quantitative references to what the time "is" at a given moment, it cannot be said that they are the dominant mode of reference.

and secondly, due to a hyper-focus in the modern temporal ontic on quantification and quantifiability. This is because the general, dominant, secular understanding of time in modernity is partially an outgrowth of the rewards we as humans have reaped through scientific measurement and physically precise quantification that came with the scientific revolution and concomitant de-religionization of society.

Although we presently think of time in our specific sense of ordinality, counting, and quantitatively measuring time's passage, enumerability is not a quality given or defined by time itself. In his section "Temporal ordering and social structure," Werner Bergmann describes how measuring time is socially and culturally derivative, "Essentially every natural and social event to the extent it recurs regularly could be used as a reference point" for measuring time. "Which 'time indicators' (Khare, 1967:48) are in fact chosen depends on general social values, on economic, political and religious structures, and is closely connected with the prevailing view of the nature of time" (Bergmann, 99). Nowotny, also paraphrased in Bergmann, concludes about this variability: "Methodologically, this means that 1 can infer the time concepts and values systems of societies from their types of time measurement."

Following this reasoning,[44] scientific understandings of time—e.g. time being defined as a quantity, that is, a "rate of change"—dominate the modern worldview through a U.S. lens such that time is primarily viewed and valued as something quantified and quantifiable. Even the definition of seconds is given in relation to the rate of changes that take place in the physical element caesium-133; this is ultimately a socially selected time referent. Bergmann also describes how "The socio-cultural variability of time reckoning

[44] From Bergmann:"Nowotny used these methods by connecting the development of time measurement with changes in views of time, such as the introduction of the mechanical clock with making time a commodity" (Bergmann, 99-100, paraphrasing Nowotny [1975, 325, 338]).

systems arises from the absence of universally valid reference points with which time could be structured" and it is the drive to find a universally valid reference point--combined with the free human ingenuity of the 20th century--that resulted in the selection of caesium-133 and its changes, since these are consistent across human scalable space and time, and the measurements represent the near-apex of human technological advancements. The human achievements in this era are staggering, including the quantitatively precise time measures enabling coordinated human action towards beautifully artistic ends—as in synchronized swimming—and biologically invaluable breakthroughs—as in the timing of the human-heart transplant pump. The modernized Gregorian calendar as applied in daily life today is in turn an outgrowth of this hyper-focus and naturally arising need for stable global temporal-coordination.[45] Its primary purpose now, and arguably its greatest usefulness, lies in its availability as a consistent point of temporal reference across the world, as a sort of universal time-language.

In order for the Gregorian calendar to be accurately and effectively used worldwide, the world also had to align to a globally synchronized clock-time, known until 1972 as Greenwich Mean Time (GMT) and thereafter Coordinated Universal Time (UTC).[46] At the

[45] It may also be worth considering in greater detail at some point that while the primary reason for making the new calendar centered around assuring the proper timing of the celebration of Christ's resurrection and was thus religious in nature, the underlying process for its creation, as with many calendars, was nonetheless one of quantitative measurement and calculation of physical phenomena. By at least a few accounts, participants in the celebrations of Jesus' resurrection in spring, or birth in winter, were not wise to the slippage of the equinoxes, but were visibly upset and even violent when the Church attempted to enforce the new Gregorian calendar dates over the Julian (Gordon 2009). If the celebrations were already considered to have been effectively successful in at least the social sense that participants believed in and performed the appropriate ritual behaviors, satisfying the Church's demands and the masses' intentions, we might then say that the real importance of the calendrical issue actually centered on the physical and quantitative precision of the celebrations over and above the spirit of them. Thus despite the motivating reason for the Gregorian calendar's creation being unquestionably religious in nature, the actual basis of the new calendar and the reason for the Church's insistence upon its widespread adoption, was quantitatively and physically derived and motivated.

[46] Coordinated Universal Time is abbreviated as UTC rather than CUT as an acknowledgment of the variations in syntax between English and French, the latter of which would abbreviate it as TUC from Temps Universel Coordonné. Britain, France, and the United States were three of the most vocal nations in the conference to adopt what would then come to be called Greenwich Mean Time. See Zerubavel, Standardization, for a discussion of this conference.

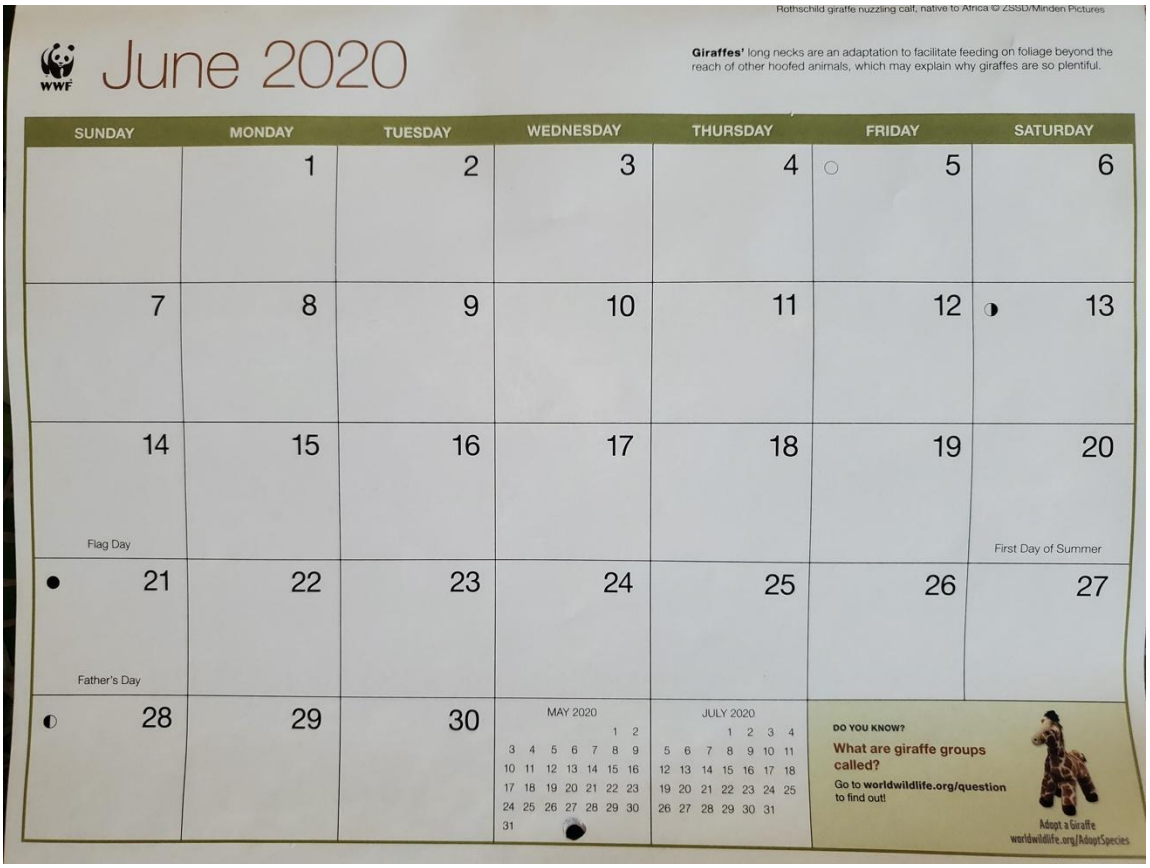
International Meridian Conference in 1884, international representatives gathered to discuss the establishment and official worldwide recognition of a standard time-reckoning system, including the international dateline and time zones. The American and British delegations who were calling for the establishment of Greenwich Mean Time (the now-called Coordinated Universal Time), specifically "claimed that the main principles underlying their decisions were practicality and convenience" (Zerubavel 1982, 11). As Bergmann puts it, "The change...to clock time with its linearity, homogeneity, predictability, purchasability [sp], and divisibility ensures the synchronization of activity at any time" (Bergmann 1992, 112). There was a clear need to be able to practically and conveniently coordinate human planning and activity, and the Gregorian calendar along with Coordinated Universal Time were able to meet that demand.

2. Visual Analysis

Conceiving of "time as such" as primarily a quantifiable phenomenon has spilled over into everyday understandings and applications of time across many sectors. At present, particularly in the United States, the Modernized Gregorian Calendar is used primarily and most commonly as a weekly, monthly, and yearly time-table for the scheduling and coordinating of human individual and social activity, whether or not such activity is religious. Even the physical appearance of a typical modernized Gregorian calendar is as a blank time-table apparent for its scheduling purposes.

Modern Gregorian calendars are printed as a seven-by-four or -five grid of rectangles whose only pre-filled information is the Gregorian month-name, Gregorian month-date, and the names of the days of the week. See an example of a typical modern Gregorian calendar in Figure 4 below.

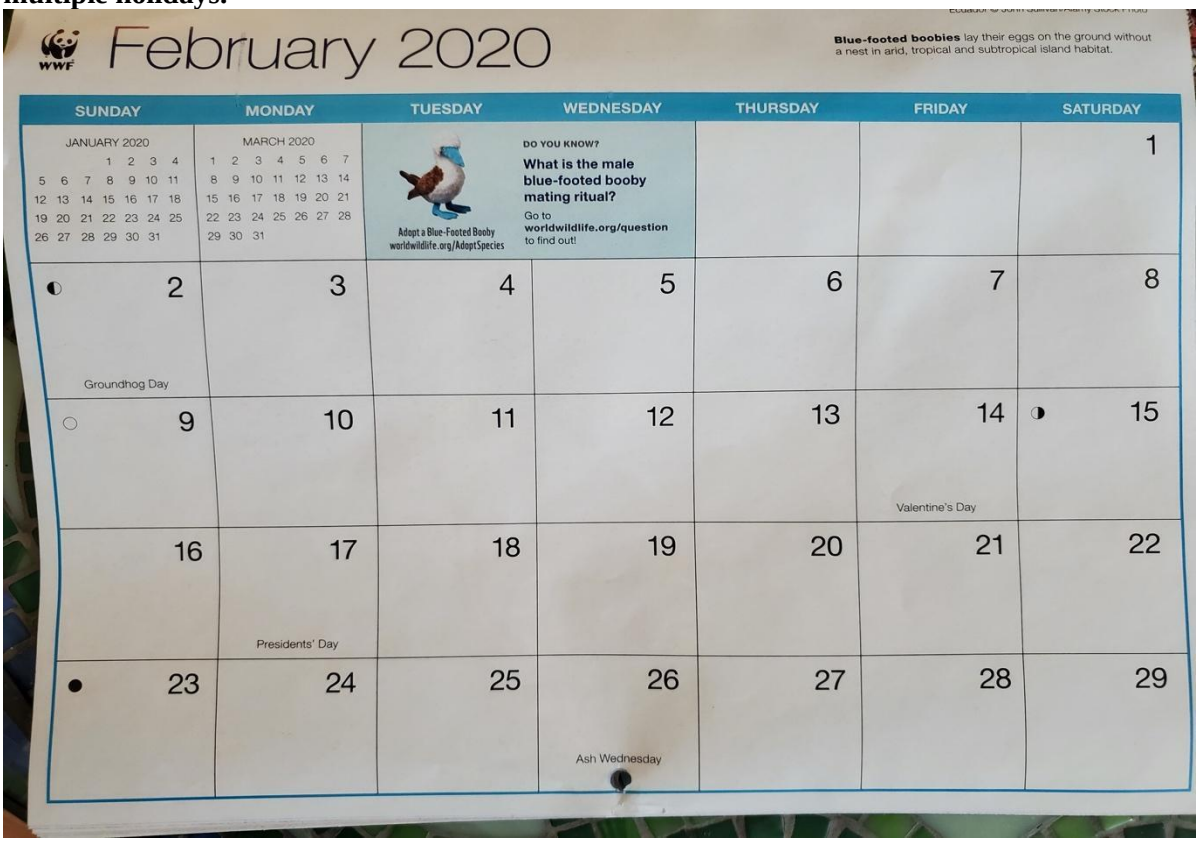
Figure 4: Gregorian Calendar: A common Gregorian hanging wall-calendar.



The month-name and year-number typically appear at the top of the grid and sometimes miniature references for the proximal preceding and forthcoming months are visible as well. Some calendars contain additional advertising-style information or educational information from the company or organization who made the calendar. Many modern Gregorian calendars will include public holidays respective to the country where they are sold and used and may also contain certain major religious holidays, especially from Christianity, Judaism, and Islam, and occasionally will include small symbols indicating the dates of full and new moons, and less occasionally the dates of the quarter moons as well. When such information is pre-filled in a modern Gregorian calendar, the print is relatively fine, taking up a negligible portion of its respective rectangle (less than 20% of the total usable area, as in Figure 4).

As such, even with religious holidays indicated, the standard modern Gregorian calendar's appearance is visibly quite similar to a basic time-table.

Figure 5: Gregorian Holidays: A common example of Gregorian calendar month with multiple holidays.



This visual layout is a reflection of the modern temporal ontic which regards time as a series of empty quantitative durations waiting to be filled by us free-willed humans as masters of our own fate. Time does not come pre-filled with fated stipulations about how to live our lives, rather, it comes as an open canvas for us to act as agents in and through it. The physical calendar is literally a series of empty spaces provided for its adherents to schedule their days and months with meaning-making activities.

According to Michel Foucault in his *Discipline and Punish*, "The *time-table* is an old inheritance… suggested by the monastic communities … [and was] soon to be found in schools, workshops, hospitals" (Foucault 1995,149). He continues:

> For centuries, the religious orders had been masters of discipline: they were the specialists of time, the great technicians of rhythm and regular activities. But the disciplines altered these methods of temporal regulation from which they derived. They altered them first by refining them. One began to count in quarter hours, in minutes, in seconds" (Foucault 1995, 150).

Foucault provides detailed examples of monastic and then factory-work time-tables, which discipline the human body—to which could be added, human mind—with temporal precision and rigidity. He explains how schools picked up this regimented time-tabling by measuring activity down to the unrounded minute, marking off schoolchildren's activities with such particular times as 9:01, 9:12, and 9:58, a precision which remains in K-12 school scheduling today (paraphrase of Foucault, 150). Bergmann's review, summarized in the introduction, show that Thompson, Laermann and Huber also "make clear, time first gained its disciplinary character in the transition to industrial capitalism, where task-oriented time division gave way to work according to the clock" (Bergmann 1992, 111). This shift is a significant one, from task-oriented time where temporal durations were marked by the activities which filled them, to clock-oriented, numerically executive time where the quantitative referent of time--and our agential scheduling of it--determined activity.

Beyond houses of religion, work, and school, human physical recreation and competition—movements of the human body—such as Olympic-level swimming are measured down to the hundreds and tens of milliseconds (one single millisecond is $1/1000^{th}$ of a second). Machine-facilitated human competitions, such as motorcycle racing are measured down to the precision of a single millisecond in such world-class championships

as MotoAmerica and MotoGP. For comparison, to understand just how miniscule these fractions of time are, the duration of a human blink is approximately 300 milliseconds, three hundred times longer than the fractions measured for our sporting events—let alone for scientific innovations. It is as though the modern temporal ontic places time under a microscope, limiting and delimiting one's temporal outlook within ever smaller durational splices.

We are so entrenched in a quantitatively-focused ontic of time that even our critiques of modern time are quantitative. Despite being one of the most accurate tropical-year calendars ever calculated—having tropical year accuracy down to 0.02% of a year, or 20 seconds out of about 31,500,000—critics of the Gregorian calendar point out its quantitative problems and inaccuracies, and the impacts of its imprecision on businesses in terms of profit loss (Achelis 1955, 15-18; n.a. 1966). Similarly, critics of modern time paint post-modern society as inescapably imposing "time-space compression" upon the world (and there is no reason to disagree that it is), but this too is a quantitative critique in that to compress time means to amplify its pace or rate—a numerically derived measure.

All of this reflects the primacy of quantitative measurability and accuracy present in modern temporal ontics and represented in part by the MGC. Under this framework, increasing accuracy of "timekeeping" means increasing the precision of measuring linear time.

3. Empty, or, Full of Potential

According to the current mode embodied in the modernized Gregorian calendar, time in itself is also empty in that it "carries" no inherent prescriptive or proscriptive meanings within it. In other words, it is understood that, inherently, there is an emptiness to all

moments in time, meaning that time in and of itself, as a given feature of phenomenal, or conventional reality, does not provide meaning. Additionally, every unit of time that passes—*as cosmologically-given*—is equal to and homogeneous[47] with every other scientifically measured, comparable unit of time.

The key word to understand here is "inherent." Certain points in time and certain activities in time may have meaning to us as humans. The quality of time spent by any individual does vary phenomenologically and cognitively: reports of the time spent in line waiting for the DMV will be different than reports of the same quantitatively measured amount of time spent playing volleyball with one's child. When time is said to be empty and homogeneous, what is being referred to should be considered as an inherent emptiness and homogeneity, *before* humans furnish it with meaning which it then indisputably has. That is to say, time *as such* is conceived of as being empty and homogeneous, though it is acknowledged that time as phenomenologically experienced has variation and our activities within it have meaning that then becomes "dated" or temporally linked to a date, year, or time. That experience is considered to be human-derived, human-enacted, but not cosmologically given.

Illustrative of the "E" for emptiness in LEHT, a typical, non-specialized Gregorian calendar purchased in the United States, or as pre-loaded onto mobile phones around the world, will come pre-populated with a handful of regionally respective religious and public holidays, but remains otherwise visibly empty as in the examples above. Likewise, calendars on our computers and internet-served platforms serve as blank slates for scheduling events.

[47] Gell says that the concept of the homogeneity of time only holds true for "technical contexts" (106), but it is this technically-derived sense that I argue above which has spilled over into common understandings of time.

Another way to interpret this is that the MGC's purpose is for helping us act as agents of our future by aiding us in scheduling and thus inserting meaning into time. This is a reflection of the unstated understanding that time *itself* carries no meaning within it and is understood to simply show up into our lives filled with nothing but the potential to be filled—by us. As anthropologist Carol Greenhouse wrote, under the current dominant temporal ontic (which she ascribes to the "West"), "time and place are treated as empty stages, awaiting human drama" (Greenhouse 2010, 48).

Given this perspective, any life-applicable meaning we find in time is considered to be a human-made intervention imbuing otherwise "empty" time with that meaning. In other words, one is responsible for constituting or creating from the qualitative nothingness of Newtonian-physical time, personal or collective usefulness and meaning. Time is something that humans fill, ideally with productivity, and—in combination with the quantitative ontic—especially with chrono-efficient productivity, because the latter can be numerically measured and calculated. As Foucault describes it, the dominant modern conception of time as structured by the modernized Gregorian calendar is not only a question of accurate durations, but also "a question of constituting a totally useful time" (Foucault 1995, 150). Nowotny describes the same feature: "Time gained its high value in industrial societies because of the economic and technical developments that made it a factor in productivity" (Nowotny cited in Bergmann 1992, 109 [1975, 330]). The perspective implied in the modern Gregorian calendar, considers social behavior "deviant" if it is underlaid by a perceived or judged mismanagement of time, such as not working during "normal" hours, not being productive enough, or enjoying "too much" leisure time (Bergmann 1992). Even intentionally planning to have unscheduled blocks of time is still a method of filling those times, namely with planned and thus socially acceptable leisure time. If we do not

intentionally plan such leisure activities and instead find ourselves with swathes of *un*intentionally unscheduled time, it is judged that time is being squandered.

The lyrics of Daft Punk's early 2000's track, "Harder, Better, Faster" are like an anthem of this Protestant-derived productivity ethic as intertwined with time: "our work is never over" they repeatedly electronically declare.[48] This intention reflects the fundamentally quantitative and to-be-filled perspective of Newtonian physical time as embodied in the modern Gregorian calendar and stands in marked contrast with the qualitatively filled-time perspective that the Stems and Branches system implies.

E. On the Ground: The Modernized Gregorian Calendar in Consultants' Lives

Because of the pressures for productivity and efficiency under the MGC temporal framework described above, there is a sense of obligation to "fill" time with purposeful, productive activities, events, and occasions. In this sense, we are acting out of an orientation of obligation under the Gregorian calendar in that we are obliged to "make things happen" in a time that is otherwise filled only with the potential to be filled.

Consultants' reports of using the Gregorian calendar reflect this paradigm. Mainly, they report turning to the Gregorian calendar for coordinating, synchronizing, and scheduling time-filling activities in relation to other human beings' schedules, and in relation to material world systems: transportation systems, financial systems, government systems, communication systems, and business and commercial systems, including health and service industries. When consultants shared about using the Gregorian calendar it was

[48] Bangalter, Birdsong, and de Homem-Christo. "Harder, Better, Faster," *Discovery* (Daft Punk). Virgin Records, 2001.

often in such coordinating terms, as opposed to scheduling filled-time activities as with the traditional Chinese calendar discussed earlier.

In concert with Greenwich Mean time, the Gregorian calendar functions as a "practical" and "convenient" synchronizing and coordinating device, temporally linking any person with any other person in nearly the entire world.[49] A 21-year-old college student, "Alfi" on Jinmen island, when asked what she relies on the MGC for, reported its necessity in the establishment of her school and work schedules. She said she could not coordinate her work and school schedules by referring to the lunar calendar, because businesses and organizations (組織 *zuzhi*) use the Gregorian calendar dates to schedule activities and shifts ("他們用的就是公曆" "*tamen yongde juishi gongli*"). In order to synchronize her personal life activities with the time-tables of her places of work and education, she relies on the MGC as the common temporal reference framework.

The process of scheduling classes to fit into particular quantitative segments of time also neatly aligns with the open-emptiness of the MGC. If the student does not act—in this case, by selecting and then attending classes—her school schedule remains empty, and an important temporal unit defined by the school within the ontic parameters of the MGC, "a term," "semester," or "quarter," goes unused and thus squandered. At work, her schedule, also aligned with the dates of the Gregorian calendar, must be filled with hours of her shift otherwise it is non-productive time both in the eyes of the business and in terms of her financial gains. Both of these productivity-centered systems—the educational institution and capital-generation institution—derive the structure of their disciplinary time-tabling from the Gregorian calendar and impose the necessity of the MGC on the person who engages with

[49] **List the few countries not acknowledging UTC**

them, in this case, on Alfi, the college student. It serves in a critical coordinating capacity that allows Alfi to negotiate multiple institutionalized temporal demands. While the traditional Chinese calendar also names days in a way that *could* facilitate this kind of societal coordination, consultants nevertheless use the MGC to achieve such goals.

The MGC's necessity to the action of social coordination—where "social" means involving more than one person from more than one family—is so fundamentally bound up in the ways of modern life it often goes unstated and unrecognized, and this is unsurprisingly also the case for Taiwanese and Chinese consultants as it would be expected of most people living in regions temporally governed by the MGC. Several cultural consultants made statements indicating the taken-for-granted nature of the MGC when our interactions first began, or at the start of structured interviews. During rapid-fire interviews with one-off strangers on the streets of Taipei and Jinmen's Old Town, when politely asked in a manner similar to asking the date, "Excuse me, do you know which day this is?" (不好意思麻煩你，你知道今天是哪天嗎?) respondents typically stated the Gregorian day names. This somewhat awkwardly phrased question purposefully avoided the more conventional "今天是幾號?" "What is the date today?" which typically implies in the question itself that the answer should be in the form of the Gregorian date. Almost every respondent nonetheless replied with the Gregorian day-names. This data was important to establish that the cultural consultants in the area would indeed interpret inquiries about the "day" from foreign strangers as inquiries about the Gregorian date.

The Cultural Revolution survivors, the elderly couple from Xian in mainland China explained: "Most of the time when we're talking to each other about everyday stuff, we just use the public [Chinese Gregorian] calendar to say a time. We wouldn't say [a time from]

the agricultural calendar. (...)" (Xian Wife, Interview, Santa Barbara, 2018). Her husband agreed and explained in more detail:

> "Right, most of the time we just use the public calendar. There are some people who really adhere to the lunar calendar, for example Chinese-medicine doctors. (...) The doctor's methods all rely on the agricultural calendar and its paired correspondences (对应). But, if you want to just get on the doctor's schedule to see them, even if they are a Chinese medicine doctor, then of course we need to use the public calendar to confirm the appointment" (February 2018).

In both cases the consultants describe using the Gregorian calendar as a mutually understood temporal point of reference in order to facilitate social communication and scheduling of multi-party activities, even when one party is steeped in the Stems and Branches system of correspondences in the traditional Chinese calendar. In the woman's case, she describes basic social coordination as being facilitated by the MGC as a reference point, and for her husband, he describes the necessity of the MGC to make appointments in the health services industry. Consultants from Taiwan highlighted the same: "We can't use the agricultural calendar to arrange a time to meet with our friends, right? So then we use the Gregorian calendar" ("Liam," Interview, Jinmen, 2017).

In the hospitality industry, hotel consultants and the hostel managers described using the MGC with customers to book their stays, no matter their cultural backgrounds, whether rural or urban, Chinese or foreign. "Or taking an airplane, for example" one hostel manager interjected, "of course you're going to use the MGC when you want to take an airplane to go somewhere. It would be very strange to use the lunar calendar" (Li Mei, Interview, Jinmen, 2017). Even when flying for a particular lunar festival, she explained, the reference still remains with the MGC, because that's what airlines use and that's what "doing business" requires (做生意). The diviner on Jinmen Island told me, "For business or coordinating and

connecting with others, you have to use the national calendar"[50] ("Diviner," Interview, Jinmen, 2017).

The MGC's role in this manner is apparent through the reports of field consultants who rely on the calendar largely for coordinating and confirming the scheduling of social activity. Cognitive anthropologist Bradd Shore describes such social coordination as fundamental to human experience, and as critically "scaffolded by allocentric models that provide the basis for joint cognition" (Shore 2012, 144). It is the stark allocentrism of the Gregorian calendar which makes it so useful for modern productive humans across the world, including in mainland and Taiwanese China, by "scaffolding" their joint perception of a common experience of time.

In these ways, the Gregorian calendar serves a function others have noted and that Rappaport clues in on in his *Ritual and Religion in the Making of Humanity*: "There seems to be no [given] universal temporal sense guiding all humans through their lives at apparently uniform rates. Nor is there even subjective constancy of rate [and all of this] generate[s] a need for the public ordering of time," (Rappaport 1999, 177). The Gregorian calendar neatly steps in to fill this need for humans around the globe, providing a universal reference to publicly order time so that we can effectively globally coordinate our actions. Benedict Anderson in "Imagined Communities" also notes the necessity of a shared experience of time for the formation of a national identity, which I touch on in the next subsection.

The town diviner also described the necessity of scheduling her appointment for knee surgery according to the Gregorian calendar. In her explanation, anything to do with

[50] The national calendar here refers to a modernized Gregorian calendar nationalized by the Chinese government.

business dealings, especially setting appointments for business meetings, requires the use of the Gregorian calendar.

1. Nationalizing Influence

Yet, in addition to indicating their reliance on the Gregorian calendar for facilitating the logistics of social coordination, many consultants made statements indicating they were also aware of the international implications of relying on the globally dominant calendar in a way that made their consciousness of a shared national identity apparent. For instance, there was a sentiment repeatedly conveyed that interacting with foreigners in particular required the use of the Gregorian calendar, even more so than with fellow citizens. A middle-aged mainland Chinese man touring Jinmen island explained, "Especially if we're talking to people outside the country, then we certainly need to use the public calendar" (Wang Xi, interview, Jinmen, April 2017). This understanding was echoed by several other consultants, including the educator focus group participants. As one participant said,

> "Setting appointments, interacting, [for those things] we use the Gregorian calendar. But talking to foreigners, people outside of the country, you *absolutely need to* use the Gregorian calendar. It is called the '*Western* solar calendar' isn't it? You see, it must be used when interacting with people outside the country" (Italics indicate consultant's vocalized emphasis).

Three others from the focus group verbally agreed.

What is especially interesting about this sentiment is the implicit identification and recognition of the Gregorian calendar as originating outside of China. Though there are other names for the Gregorian calendar (note the couple from mainland China above who repeatedly referred to it simply as the "public calendar"), in many cases in Taiwan, consultants referred to the Gregorian calendar as the "Western solar calendar." Preliminary

data suggests differences in how Taiwanese and Chinese people orient themselves towards the traditional Chinese and Gregorian calendars.

Such a finding would not be unexpected given the much greater and more violent emphasis Communist China placed on the destruction of traditional culture as the means for strengthening and modernizing the Chinese nation through most of the 20th century. These campaigns were successful at separating modern Chinese identity from the thousands of years of cultural heritage contained in the traditional Chinese calendar and conjoining a new identity with the "modern" Gregorian calendar. Rather than mainland Chinese consultants referring to the Gregorian calendar as a Western calendar, they refer to it as simply "the public calendar." This term is identity-inclusive insomuch as any one person can consider themselves a member of "the public" of China. In the previous section it was discussed how the same consultants sometimes refer to the traditional calendar in a more separating tone than they do with the Gregorian calendar, or in other words, as being more "other" than the MGC.

In contrast to this stance, the Guomindang, who fled to Taiwan and found first-hand the aftermath of the Japanese Kominka destruction of indigenous Taiwanese culture, ultimately placed more emphasis on preserving and strengthening the Taiwanese-Chinese nation in part *through* its traditional culture. This played out through a re-adoption of the calendar in Taiwanese China earlier than the mainland, and then a relatively more lenient ongoing allowance of traditional festivals labelled "superstitious;" they may be superstitious, but they were part of Chinese culture, and the GMD's nationalizing campaigns were, by the end of the 20th century, better at incorporating the real, lived celebrations of the Chinese people. Their adoption of the Gregorian calendar also included a new year-date commemorating the establishment of the Republic of China in 1912, so that Gregorian

calendar year 2020 is Taiwanese year 109. This additional distinction gives the Taiwanese Gregorian calendar an overt national underpinning, and today, many Taiwanese refer to the ROC's Gregorian calendar as the "national calendar" (國曆). Taiwanese consultants reported never having heard of the "public calendar" (公曆) and were surprised to hear that it is a common moniker in mainland China.

What this means is that in addition to the role of the Gregorian calendar for consultants as a coordinating tool, it also serves as a cognitive device for synchronizing imagined identities—particularly that of the nation. Benedict Anderson discusses the importance of such synchronicity to the creation of shared identities, focusing in particular on national identity in his "Imagined Communities." Not only is temporal experience synchronized at the micro-social level, but at the national level as well. Anderson shows synchronicity to be constitutive of the identity of "the nation," detailing the rise of print media and especially the newspaper in Europe as foundational to the building of Western conceptions of national consciousness. By making the same printed communication product available to such a wide mass of people at the same time, one that also carries the day's (Gregorian) date, the newspaper (as an institution) facilitated readers' imagining that there were other readers, *like them*, also experiencing the same words and the same information, across a united territory, as a united people: the nation. Both Taiwan and China have taken this nationalizing synchronization function a step further and created their own national calendars—each a Gregorian calendar with Chinese characteristics, one might say.

While Rappaport recognizes the logistical coordinating utility of something like the Gregorian calendar, he also sees its purpose as "to provide a well-marked road along which each individual's temporal experience can travel" (Rappaport 1999, 177). In other words, time must be agreed upon through shared "markings" across a given population in order for

that population to identify as experiencing "the same time." The necessity of a shared temporal reference like a modern national calendar is thus not only for scheduling convenience, but for synchronization of consciousness.

Without a standardized calendar or time-reckoning system, temporal coordination of activity across distances is difficult or impossible and today the MGC fills that important role for people around the world, including in Taiwan and China. The modernized versions of the Gregorian calendar allow both China and Taiwan to unify the consciousnesses and awareness of individual citizens into a national whole, and in both cases the forced switch to the Gregorian calendar from the traditional Chinese calendar entailed precisely such intentions on the part of those rising to power (Nedostup 2008; Wah 2004). Overall, field consultants explicitly reported and made use of the MGC for social coordination including business, health, and transportation processes, and implicitly revealed through their language how the MGC shapes their consciousness of a national identity but through completely different mechanisms. In Taiwan this is overtly linked to the foundation of their Republic of China through the year-count, and inversely, the underlying system of the Gregorian calendar is understood to be "other" in a way that implicitly reinforces their cohesive Taiwanese identity; in the People's Republic of China the narrative of a "modern China" according to internalized and re-purposed Western discourses fits with their accordingly "modernized" national identity in the shared time of the MGC. Overall, the MGC serves a critical social coordination role in the lives of the community members consulted for this study.

IV. 兩全其美 Contemporary Practices of Hybrid Time

In all, field consultants make use of both calendars in their lives to some significant degree. This state of negotiating multiple temporal structures at once shows up not only through their actions in relation to the calendar—i.e. enacting each calendar's temporal ontics—but also in their apparent conscious, simultaneous awareness of each calendar. Community consultants' awareness seemed to be somewhat equally spread over the two forms of the calendar as indicated by rapid-fire and then later structured interviews. I conducted rapid-fire interviews in Taipei and Jinmen Old Town, where consultants were asked casually and abruptly, "Do you have a calendar?", a question which purposefully avoided any adjectival qualifying term addended to the core word "calendar" "曆". If they expressed hesitance out of apparent confusion as to what kind of calendar the first question indicated, then consultants would be prompted with the contingent follow-up: "I just want to take a quick look [at a calendar]," again avoiding qualifying words that would impose limits on their answers. In almost every case, consultants responded by asking which kind of calendar I meant—with common responses from consultants being, "the tear-a-day calendar?" (which refers to the combined TCC and MGC tear-away daily calendars), or "the public calendar?", or "is my phone calendar sufficient?", and sometimes "here, my phone calendar has both," or, "I have both calendars, which one do you need?" and, "what [information] are you trying to know?" (你想看什麼? Or 你想查什麼?"). The information derived from just the rapid-fire interviews could yield its own study, however for the present purposes, it gave enough indication that the current Taiwanese conscious awareness of calendars readily encompasses both the MGC and the TCC.

A mainland Chinese tourist, when asked the same rapid-fire question, immediately showed me his cell phone. Chinese-brand cell phones come pre-populated with a standard calendar that uses the MGC as its framework or base, and then inlays lunar calendar information in a lighter-color, lower-contrast font into the MGC's empty squares--the lighter color and lower contrast makes it slightly harder to see or notice). This is a feature that can be turned off, but cell phone users must go out of their way to remove the lunar calendar markings on some models. According to community consultants, fewer models require users to turn that information *on*. When Mr. Wang showed me his standard cell phone calendar, I asked, "What if you want to see other information? Like from the lunar calendar?" He dismissed such information as unimportant, not useful, and remarked that nobody uses that kind of information "anymore," but said one could download a separate app or look it up on the internet if more detailed "peasant calendar" (農曆 *nongli*) information is needed. Again there is not enough data from this study alone to yield conclusive comparative arguments but there is enough to point to a hypothesis about what one could expect from the differing attitudes of mainland- and Taiwanese-Chinese towards the MGC and TCC.

"Dealings with foreigners" evoked in some field consultants the sense of an emphasized need to rely on the Gregorian calendar, but even such dealings, as well as business affairs and medical services, are all still beholden to traditional calendar information. It is tempting to think of modern business as wholly withdrawn from the religious world, but in some places, not limited to Taiwanese and mainland China, religious knowledge still plays a crucially informative role in multiple sectors.

In the business world, meetings, decisions, and activities are set up and confirmed between parties using the dates from the Gregorian calendar, but the *content* of what is scheduled, what kinds of decisions are made, and the nature of those activities remains

influenced by the traditional Chinese calendar and extended traditional knowledge system. While in some countries like the United States "business" tends to be seen as something stripped of religiosity, sanitized and monotonously machine-like, that is not always the case. As interviewee Dexter shared, "people who are in business are *more* likely to look at the TCC information" than those who are not (Dexter, Interview, Santa Barbara, October 2018; italics added for my point, not Decter's intonation). Along with several other interviewees, he grouped businesspeople in with doctors and farmers as being most likely to regularly rely on the traditional calendar. This is because the regular, day-to-day professional responsibilities entail a cultural responsibility to adhere to the knowledge in the calendars. Although some mainland scholars like to deny its effects, an intriguing study co-authored by Shuw-Miin Liou shows how the macroeconomy in at least Taiwan is affected by the festivals and holidays of the traditional Chinese calendar (Peng, Lin and Liou 2012; for the deniers: Zhang & Li, 2006). Broader studies have shown both the Chinese and Taiwanese stock markets to be affected by traditional holidays (Yang A.S., 2016; Chia, et al. 2015).

In medicine, the appointments are similarly set up using the Gregorian calendar, but the day is chosen and treatments are chosen based on information from the TCC. In another instance of combined usage, the diviner I interviewed scheduled her double knee surgery according to the dates of auspiciousness recommended in the TCC in order to be sure of three things: firstly, that the appropriate deities would be available to oversee it; secondly, scheduling on a date ensuring the highest likelihood that the surgical procedure itself would go well; and thirdly, to take advantage of the most opportune time for healing and recovery, all according to the TC calendar. "But," she remarked, "of course I had to schedule the appointment with the doctor's office using the Western calendar" ("Diviner", Jinmen, April 2017; "阳历"). In other words, what actually takes place on a given day and what

experiences people enter into are partially dictated by the temporal ontics of the traditional Chinese calendar.

As another example, consultants in Taiwan who relied on the TCC for repairing or building their homes reported doing so in order to "ensure good fortune" or to "protect the family." When asked how they managed it if the repairmen's or the home-builders' work schedules conflicted with their (the consultants') desired auspicious dates, they each indicated this would never be a problem because the workers also know to schedule such things according to the TCC. Nonetheless, the date that is confirmed between the two parties is a Gregorian date. Ensuring appropriate timing according to the quality of the time takes priority in this case, while the MGC's role is as a logistical and physically accurate reference point. Anecdotally, a Western expat couple living on Jinmen Island had a similar experience: when they needed some repairs done on their traditional-style Chinese home on the island, the repairmen explained to them it needed to be on particular days, in accordance with the TCC. In each case, the time-system used to confirm the appointment was from the Gregorian calendar, but the time-system used to decide the timing of the appointment initially was derived from the traditional Chinese calendar.

IV. Coexistence: Conclusions

The ontics implied by or underlining calendars are temporal structures having important effects on human life. Weigert (1981) has argued that temporal structures "act back upon individuals by structuring their lives and the meaning they find in their biographies" (cited in Bergmann 1992, 106).

Bradd Shore in his cultural models theory refers to calendars for their ontological structure-giving functions and emphasizes the importance of "Characterizing the symbolic and cognitive affordances for meaning-making" of such cultural tools. In developing this more nuanced picture of modern time as lived by real people and as mediated through the modernized Gregorian and traditional Chinese calendars, in conversation with Geertz's observations in *Interpretation*, it is thus important to empirically account for the functions of those calendars in adherents' lives.

The traditional Chinese calendar (TCC) and its lens of time gives a view that there is inherent meaning to time, as represented through the ancient cosmological, religious and proto-Daoist Stems and Branches system. The MGC on the other hand presents time as a usefully empty and open canvas on which to paint one's life. Like the MGC, the TCC's calculative time is based on regular physical measurements of the Earth and Sun's movements, but it differs in that it is also reflective of an all-pervading natural and spontaneous order, and of cosmological cycles understood to have a bearing on the entire Earth and cosmos, including human life, on a daily basis. While both the traditional Chinese calendar and the modernized Gregorian calendar employ allocentric referents for their quantitative timekeeping, the meaning-making or qualitative contents of the traditional

Chinese calendar are "egocentric"[51] in that they vary according to the individual consulting the calendar. In other words, not only does time in the Chinese calendar differ from the MGC in that time is understood to carry inherent meaning in itself, but also because the TCC in its more detailed form as an almanac carries specific meaning relevant to specific humans.

There is an orientation under this calendrical regime of attempting to optimize the timing of activities, events, and special occasions in accordance with the fundamental cosmological forces at play, those which determine the good and bad auspices (吉凶). A critical function of the annually released traditional Chinese calendar was to interpret these qualities for beneficial use by humans and this is still the case today. The obligatory orientation under this temporal regime is to maximize these inherent qualities of time by taking part in or avoiding certain activities during various segments of time—from the private acts of praying at home or eating to the public acts of opening a business and traveling, or praying at a temple, as just a few examples.

Whether one chooses to schedule activities according to the proscriptions or suggestions in the traditional Chinese calendar, the inherent meaningfulness of any given time period is still present, such that not to act in accordance with these cycles of opportunity and danger is to be avoided. That is why it can be said there is an orientation under this Chinese calendrical regime of obligation to optimize the timing of activities, events, and special occasions in accordance with that inherent meaning. Not to act according to the information in the calendar is to squander the natural ebb and flow of the cosmos which works both for and against humans, as well as with and without them.

[51] Egocentrism is colloquially used to refer to selfishness. The term is used here in its more literal sense of the center being egoic and thus referring to something that can take the individual as its center, as in application of the traditional Chinese calendar to one's own being.

Contrast this with the open-potentiality or emptiness of the modernized Gregorian calendar above, where emptiness in time refers to the sense that time itself carries nothing inside of it, except that with which we, as human agents, fill it. Whether one chooses to fill their time with productive activities or not, time will continue to move on, and slip out of our useful grasp. Our overwhelming sense is that if we do not act, this time will remain empty and unused, and as such, it will be wasted. There is nothing that time itself brings to the table except the canvas upon which to draw our days, our years, and our entire lives—an important role, but one that is filled with the potential-to-be-filled *by us* rather than the TCC's filled-time unfolding.

There is an orientation under the MGC calendrical regime of obligation to maximize the quantitative expenditure of time, to take the initiative to schedule and carry out productive activity that derives meaning from its own doing, and the quantity of its doing, rather than deriving meaning *purely* from its placement in time. Under the MGC, one is acting out of obligation to fill time with activities that are as productive as possible, however one defines productivity in their life. Not to act according to the inherent open emptiness implied by the calendar is to squander the resource of time as a commodity that runs itself out with or without human intervention.

In both cases, the time should not be wasted, but in TCC time, it is the inherent qualitative attributes that should not be wasted, whereas in MGC time, it is the pure quantity of time that should not be wasted.

The modernized Gregorian calendar is used to mark time's passage and to collectively refer to specific days— but the traditional Chinese calendar (as with any cosmological-forces based calendar) is used to tell people what *kind* of day it is—not just what collective referent-day it is—and every day. In other words, the TCC emphasizes a

focus on qualitative rather than quantitative aspects of temporal ontics; that is, it highlights qualitative orientations to time, which concern time's *own* meaning rather than its quantitative values open to the imbuing of meaning into them.

Despite their apparent incompatible or incongruent underlying meanings—one definition of "cultural conflict"—field consultants not only used both calendars in their lives, but sometimes even indicated using both calendars for a single event. Through the analysis of this diverse sample of lives of Taiwanese-Chinese and mainland Chinese people it is apparent that field consultants' lives are dually enriched by two highly distinct temporal structures which both take the form of calendars; this is the case despite the respective calendars implying and emphasizing drastically different temporal ontics. The modernized Gregorian Calendar implies a temporal ontic wherein time is understood to be a sort of blank slate offering and awaiting humans to fill it with meaning, as reflected in the empty squares of the physical calendar, whereas the traditional Chinese calendar, with its physically crowded squares, implies a temporal ontic wherein time is understood to carry with it cosmological forces already meaningful to humans.

By utilizing both calendars simultaneously, Chinese dual-calendar adherents are optimizing some of the best possible and most effective roles of each calendar, but they are also prioritizing (rather than merely optimizing) the usefulness of the traditional Chinese calendar over the MGC. Even for those who only partially or reluctantly adhere to the traditional Chinese calendar's stipulations, the TCC seems to possess a sort of understated but applied priority in the lives of its adherents, in that the contents of people's days are significantly and tangibly shaped by the calendar's temporal ontic of inherently meaning-filled time.

In this way, the traditional Chinese calendar serves a meaning-making function for its adherents in the way cognitive anthropologists have previously noted about calendars' possible roles in human lives in general (Shore). This is in contrast with the modern Gregorian calendar which straightforwardly communicates the basic and bare fact of a date as a shared reference point in time in order to confirm the scheduling of almost any activity at all. People's days under the Gregorian calendrical ontic are shaped by their own will and efforts in coordination with others and with society at large (businesses closed on particular days of the week, for example), but not by any extensive cosmological or indigenous folk knowledge shared through the calendar itself.[52]

For illustrative purposes, at the extreme ends, prioritizing the social efficacy of the Gregorian calendar would look like consultants completely eliminating concerns for auspiciousness and qualitatively timely scheduling of activities as stipulated by the TCC and instead taking advantage of the open-potential or empty nature of time implied by the MGC.

On the ground, this is not happening: field consultants negotiate the duality by optimizing instead the MGC's logistical, social coordinating utility while the actual activities they are coordinating remain initially and ultimately determined by the TCC, resulting in a hybridity of time and culture. Where the open-opportunity, emptiness of the MGC conflicts with the deterministic meaning-filled days of the TCC—as in, for instance, choosing to marry a less-auspicious partner, or deciding on a surgery date using only the MGC—most adherents choose to make gestures through Stems and Branches-prescribed

[52] Like many other calendars, the knowledge contained in the Gregorian calendar is the underlying mathematics and measurements of celestial (astronomical) bodies in relation to Earth, to the Sun, and/or to one another. While this is a plethora of knowledge, it is not a cosmological knowledge that is *practiced or enacted* in one's daily life, rather it is a useful tool facilitating the coordination of social life.

rituals that alleviate this conflict, while still others avoid the conflict altogether, indicating exclusive adherence to the ontics of the TCC.

These choices reflect the ultimate priority of the Stems and Branches information in the TCC, because the information is adhered to regardless of the person's level of utilization of the MGC (ranging on the low-end of, for example, choosing to proceed with a surgery according to an MGC despite the stipulations in the Stems and Branches system and nonetheless incorporating mitigating TCC recommendations, to the higher end of choosing not to proceed with a surgery at all unless on the most ideally auspicious date stipulated by the TCC).

The converse extreme, prioritizing the efficacy of the TCC, would look like adherents refusing to schedule, or insisting on scheduling, surgery, home repairs, or marriage based on the meaning-filled time implied by the TCC. From this small empirical study, it is made evident that on the ground, in contrast with the hypothetical prioritizing of the MGC, this second scenario is presently happening and people are prioritizing the usefulness of the TCC. Some people are choosing to exert their cosmologically given control over the unfolding of future events by relying on the TCC, and when this is the case, the inclusion of the MGC in such discussions at all is a logistical necessity for convenience of coordination rather than a prioritized forethought governing the entire matter.

In conscious avoidance of applying evolutionism discourse to the temporal ontics discussed herein, what Janet Hoskins wrote of Kodi temporality could also be said of the temporality of the traditional Chinese calendar in light of the Gregorian: "Kodi temporality is not, in fact, a "premodern" form, located along some ladder of temporal stages that will ultimately culminate in fully "temporalized" consciousness. It provides an alternate temporality" (1997, 382). Likewise, it is not the case that the traditional Chinese calendar

somehow represents an "outdated" or underdeveloped temporal consciousness just as it is not the case that the modern Gregorian calendar has somehow gone backwards in terms of human development by eliminating its religious and non-scientific roots; rather, the two represent alternate temporalities that fill different yet equally important human needs. But as the ethnographic data from community consultants shows, the two are not alternate in the sense of being necessarily or even primarily oppositional temporal structures; instead, they are alternate in the sense of providing alternative options and derivative tools for making sense of living as humans in time. In this way, Chinese dual-calendar adherents are optimizing and hybridizing the benefits afforded to them cognitively and socially by the calendars together.

Contrary to the narrative that folk religious and indigenous knowledge systems like the Stems and Branches system embodied in the TCC force a fatalistic outlook on adherents' lives, each calendar allows for differing elements of control or agency over one's life. With the modernized Gregorian calendar, adherents have greater control over what kinds of activities to schedule on any given day, but in the face of this open-ended conception of the future, there is greater uncertainty and less control over the successful outcomes of planned present and future events.

Under the Chinese calendar, adherents are supplied with a cosmological map and told they have greater control over the successful outcomes of a given activity, but less control over what kinds of activities should be scheduled on any given day. The concept of fate in the Chinese language and throughout Chinese culture is more complex than the simple idea of all things being already-written in the future.[53]

[53] Lisa Raphals pursues some of these different aspects of Chinese fate in her *Fate, Fortune, Chance and Luck in Chinese and Greek: A Comparative History* (2003).

It is worth considering further that the chaos and uncertainty which particularly mark the current era may combine with the openness of the future implied by the dominant modern ontics of time such that humans' psychological need for control and a sense of control over one's own life could be driving Chinese and other people to seek out the divinatory mechanisms of the traditional Chinese calendar and other knowledge systems like it. Such knowledge systems afford greater sense of control over the future by giving humans additional information with which to make plans, set expectations, and carry out ritual actions believed to have an effect on one's own future. Additionally, the modernized Gregorian calendar may be excellent at telling adherents what date it is, but the traditional Chinese calendar and others like it tell adherents what to do today. Such externally provided structure, temporal and otherwise, may continue to be welcome in the apparently increasing instability facing the world. In a turn away from what Protestantism and Chinese social evolutionism accused of Chinese traditional systems of thought—namely, that the systems are fatalist and destructive of sense of personal agency—the Chinese system provides for agency in ways that secularized modern time does not.

How the traditional Chinese calendar persists despite facing a massive eradication campaign that targeted it directly through much of the 20th century is partly due to the important roles it historically played and continues to play in people's lives. Further components contributing to its persistence warrant further study. Possibilities for such study might include examinations of the calendars' interconnectedness with hyper-local identity in the face of globalization, as in the case of City Gods and local-temple festivals for various gods' birthdays; the failure of the Chinese governments to adequately address the leisure, rest, and enjoyment needs of its populations through the national or public Gregorian calendars; the identity formative and forming ties of particular traditional festivals; the

Chinese governments' campaigns to refashion folk festivals with new national-identity bolstering qualities; ritual and habit as preservers of traditional knowledge in discussion with Roy Rappaport; and the recognition of the Chinese government of the economic profits derived from holiday tourism; among others.

Calendars imply and impose a mode of living such that calendrical adherents' day-to-day actions may be said to be in a certain orientation towards the calendar. As Weigert went on to say, temporal structures "determine the outermost limits in which experiences can occur and obtain meaning" (cited in Bergmann 1992, 106). The differing natures of the Gregorian and Chinese calendars makes it so that people's orientation towards the calendars themselves and towards the information contained therein also differs. The modernized Gregorian calendar is primarily used by field consultants in this study as a tool for scheduling, coordinating, and synchronizing activity, while the traditional Chinese calendar is used as a tool for maximizing good fortune available in one's life and serves as a meaning-making framework for understanding Earthly existence within a larger cosmological framework. In addition, the Gregorian calendar is used to exert a nationalizing influence in both Taiwanese and mainland China, though this could not be explored in depth in the present study. The cultural field consultants in this study seem to be adeptly maneuvering to optimize the cognitive affordances of each calendar by combining their use in a complementary, hybrid way to increase their quality of life through exerting various types of control over their daily lives. Through the distinct orientations explored in this study, it can be seen that the calendars' apparently competing schemes are serving completely different yet equally critical roles in consultants' lives. Consultants do not typically rely on solely one calendar or the other, but instead use each calendar to achieve different ends. The lack of conflict is itself not novel or unique, except perhaps only in

scholarly representations of time. Recent anthropologies of time in other places also find complementarity of local systems with the Gregorian calendar (Abu-Shams, 2014).

At first glance, the traditional Chinese calendar and Gregorian calendar—and the ontics of time implied by them—easily lend themselves to an understanding that they are primarily and necessarily in a relationship of tension and conflict. As Geertz noted, incongruency of meaning is taken to mean "cultural conflict." The Chinese governments also viewed the calendars this way throughout the 20th century, pitting them in literal violent conflict with another through repeated campaigns. While these lines of conflict are useful to understand and may be the more "attractive" way to analyze the calendars—it is said that conflict is "sexy"—they also pit the two calendars against one another in a way that actually betrays their complementary roles in people's everyday lives.

Geertz says that "Culture moves rather like an octopus too—not all at once in a smoothly coordinated synergy of parts, a massive coaction of the whole, but by disjointed movements of this part, then that, and now the other which somehow cumulate to directional change" (408). While Taiwan and China invited the Gregorian calendar into their countries, it did not cause a "smoothly coordinated...directional change" but rather, the people found ways to move this part of their lives, then that, to somehow cumulate to this complementary cultural coexistence.

By examining the underlying qualitative and calculative structures of the calendar(s) in use by the humans we study, we can begin to see just how potentially different these views of time were and are in ways so fundamental to being in the world. By further pursuing empirical research exploring how those views of time are employed on the ground by people in the real world, a clearer picture of peaceable ways forward may be imagined.

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