A Workshop on

Ecology and Time Systems in Australasia and the Americas: New approaches to value systems and calendrical transformations across the Pacific Rim

At the University of Virginia
February 1-4
Sponsored by
The Office of the Vice President for Research at the UNIVERSITY OF VIRGINIA,
EL COLEGIO DE MÉXICO
&
NSF
Sunday, February 1, 2009
Opening reception 5pm
Front Parlor, Colonnade club,
6:00 pm Banquet
Solarium Rm, Colonnade Club

PUBLIC LECTURE 1
8:15 pm-10:00 pm, Clive Ruggles “Encompassing the sky: the last two decades of ‘cultural astronomy’”
Macintyre School of Commerce, (Rouss Hall ) 403

Monday, February 2
Workshop Session 1: 9:00-12:00, 389 Newcomb Hall
Lunch: The Garden Room, 4 tables
PUBLIC LECTURE 2
3-4:30 pm, Helmer Aslaksen, “The Chinese Calendar for the Humanities and the Social Sciences” Helmer Aslaksen, Lower West Oval, The Rotunda

PUBLIC LECTURE 3
8:15-10:00, Steve Lansing, “Perfect Order: Cyclical Time in Bali” Macintyre School of Commerce, (Rouss Hall) 403

Tuesday, February 3
Workshop Session 2: 9:00-12:00, 389 Newcomb Hall
Workshop Session 3: 2-4:30, 389 Newcomb Hall
Evening: Nothing Planned…another dinner on The Corner?

Wednesday, February 4
Workshop Session 4: 9:00-12:00, 389 Newcomb Hall
Workshop Session 3: 2-4:30, 389 Newcomb Hall
The Last Supper, Hamilton’s Restaurant, 6:30pm, on the Downtown Mall, Charlottesville Va.

Thursday, February 5
Departing
A Workshop on

Ecology and Time Systems in Australasia and the Americas:
New approaches to value systems and calendrical transformations across the
Pacific Rim
Lectures and Abstracts

Sunday, February 1, 2009
PUBLIC LECTURE 1
8:15 pm-10:00 pm, Clive Ruggles “Encompassing the sky: the last two decades of ‘cultural astronomy’”
Macintyre School of Commerce, (Rouss Hall ) 403

Using wide-ranging case studies, this overview will examine the different ways in which more contextualized approaches have developed in “cultural astronomy” (an umbrella term for archaeoastronomy combined with ethnoastronomy) over the last twenty years according to the balance between archaeological, historical and ethnographic evidence. I will identify some of the broad issues that have arisen as cultural astronomy has moved away from attempts to identify and describe “astronomical systems,” focusing instead upon the significance of astronomical practices within wider conceptual frameworks, the nature of interaction between competing or conflicting systems, and the causes and mechanisms of change. Finally, I will identify some examples of recent work that begin to consider hitherto largely unexplored connections between astronomy and diverse aspects of cosmology and social practice.

February 2. Monday
Workshop Session 1: 9:00-12:00, 389 Newcomb Hall
Carlos Mondragón Moderator

Frederick H. Damon—Melanesia: “‘GO ASK THEM WHAT THE NAMES ARE!’ Structuring Knowledge and Production in the Calendrical Systems of the Northern Arc of the Kula Ring”

After the fact, Edmund Leach’s 1950 “Primitive Calendars” can be said to have launched the outpouring of interest in non-western or premodern calendrical systems and the questions about the organization of knowledge—systems of classification—that are now fundamental to these inquiries. His argument concerning the Trobriand system, for example, is central to Anthony Aveni’s Empires of Time. This paper returns to the regional system from which Leach drew his material, the Kula Ring of Melanesia. I argue, on the basis of data collected over the last 15 years, that the whole calendar, which Leach described only in part, organizes sequences whose point was precisely to transcend annual orientations to temporality. This calendar is a set of ordered designations whose beginning effectively starts on other islands. It is carried to the Trobriands by means of transformations across differently conceived cultural forms. I begin this account on Iwa Island, the midpoint in the series of transformations, and like many transition points exhibiting the confusion of a phase change. Iwa island inhabitants think they initiate the practices we know from Malinowski’s descriptions of the Trobriand calendar and its rituals, and they do this by means of the heliacal rise of the Pleiades. But Iwa also evinces a relatively shockingly chaotic landscape and almost no knowledge of the names and qualities of the tubers that anchor the productive systems across this region. Arguably these different phases in this system derive from a history of cultural experiments tied to the inceptions and organization of Austronesian societies and raise questions not only about their classificatory orders but what, in fact, is being classed. I hypothesize that they embody, as do other features of these cultural systems, the precariousness of cultures organized by necessity in relationship to El Niño South Oscillation qualities.
Betty Faust –Mayan Yucatan: “Cycles, climate shifts and saints’ days in Pich, Campeche, Mexico”

While the two Maya calendars from Pre-Columbian times apparently date to more than a thousand years before the common era and refer to cycles that began much earlier, the reason that there were two if them continues to be a mystery. Our work on saints’ days and their relation to agricultural tasks in Pich, Campeche, Mexico, connect the ancient Maya ritual calendar to variations in climate, allowing for shifts within the solar calendar. The total length of time for the maize cycle is approximately 260 days, the length of the “ritual calendar”, while the other is a solar year (including some long-term adjustments for the fractional day). While any farmer can tell more or less when the rains begin to be regular enough to risk his seeds by planting them, there is an advantage to coordinating planting times rather closely (see Lansing 1991 for the case in Bali). In Pich, damage by birds and animals is diluted when all major crops are ripening at the same time. Burning at the same time helps control both weeds and insect pests. The “right time” will vary yearly, but certain climate regimes are relatively stable for long periods of time and then shift. As the date of onset of the rainy season has become later, we have observed a change in saints’ days associated with the onset of the rains. This local change probably results from massive deforestation conducted in the area by the federal government in the 1970s.

Evidence of climate shifts during Pre-Columbian times indicate that the periods of Maya cultural flowering were associated with medium global temperatures that benefited maize production in a widespread pattern of shifting cultivation (complemented by intensive systems near major cities). We propose that the more popular saints’ days during the agricultural season serve to coordinate farming activities and that they replace similar sets of dates associated with changing climate regimes during Pre-Columbian times. Thus, the two Maya calendars represent (1) the constant solar year with (2) a superimposed calendar for agricultural tasks whose length was set by the pattern of growth of the long-term maize in this region (Xnuknal). It perhaps was restarted by the priests when the climate regime was observed to shift.

Johannes Neurath –Northwest Mexico: “THE PRODUCTION OF HUICHOL (RITUAL) TIME—Refocusing Mesoamerican calendrics”

The aim of this paper is to refocus the study of Mesoamerican ritual calendars in terms of an anthropology of time. Rather than focusing on the organization of time, as is the norm in conventional studies of Mesoamerican calendars, I will try to approach these constructs from a viewpoint that could be considered the "ontology of time", that is, how time is, and how it is produced, in Huichol ritual.

According to Huichol ritual dynamics, time appears to be discontinuous. The flow of time is not homogenous. Time may speed up, and even interrupted. For all those reasons, I argue that calendar wheels are a misrepresentation of Huichol ritual cycles. Analyzing the ritual production and management of time allows us to distinguish two types of temporality at work here. The first gains notoriety during the dry season, when it is created through acts of sacrifice and the vision quest; by contrast, the other predominates during the wet season, but is considered to be pre-existent or primordial (i.e. not created by humans), and has to be maintained through ritualized gift exchange. The first type of time may be characterized as linear, accelerating and “hot”. By contrast, the second type is circular (or, better, circulating), almost timeless, and rather “cold”. This temporal aspect of (otherwise well known) Mesoamerican hot-cold symbolism shows that such dualisms should be understood as contradictory and non-complementary. That is to say, contrary to the structuralist leanings of much current anthropological theorising of time in Middle America, hot and cold are “parts
without a whole”, and no synthesis is possible, or necessary. The articulation of these two types of ritual time is always problematic, and gives rise to open-ended forms of temporal action and conceptualization.

PUBLIC LECTURE 2
3:00-4:30 Helmer Aslaksen “The Chinese Calendar for the Humanities and the Social Sciences,” Lower West Oval, The Rotunda

Exploring several paradoxes in Chinese history and its relationship to other traditions enables a better understanding of the relationships between science and society in China. In the West, there have been only two major calendar reforms: the Julian and the Gregorian. In China, there have been more than a hundred. Of these, the three principle reforms were all carried out or inspired by foreigners: Buddhist monks from India during the Tang dynasty, Muslims during the Yuan dynasty, and Jesuits during the late Ming and Qing. Why this “obsession” with time, this tinkering with the calendar? Why this reliance on foreign talent? While the Jesuits were some of the harshest prosecutors of Galileo, in China they were sophisticated mathematicians/astronomers. They became high officials at the Qing court. Why? And why were the Chinese rulers so receptive to foreign skills? How do we analyze the searching for order that was and is the Chinese concern with time? I argue that these questions can be approached by understanding the differences between the Western and Chinese calendars and by considering the important role of the calendar and astronomy in Chinese culture.

PUBLIC LECTURE 3
8:15-10:00, Steve Lansing, “Perfect Order: Cyclical Time in Bali” Macintyre School of Commerce, (Rouss Hall) 403

Along a typical river in Bali, small groups of farmers meet regularly in water temples to manage their irrigation systems. Over the centuries, water temple networks have expanded to manage the ecology of rice terraces at the scale of whole watersheds. Although each group focuses on its own problems, a global solution nonetheless emerges that optimizes irrigation flows for everyone. Did someone design Bali’s water temple networks, or could they have emerged from a self-organizing process? This talk describes a series of fieldwork projects triggered by this question, ranging from the archaeology of the water temples to their ecological functions and their place in Balinese cosmology. I explore three models that shed light on different aspects of this process at different time scales. These models derive from game theory, systems ecology and genetics but also consider, respectively: ecological feedback relationships, adaptive social parameters, and emergent community structure and relatedness networks.
February 3
Workshop Session 2: 9:00-12:00, 389 Newcomb Hall
Betty Faust Moderator
Erik Pearson – “Modeling the Settlement of Remote Oceania”
Modeling the Settlement of Remote Oceania

The settlement of Remote Oceania (eastern Melanesia, Micronesia and Polynesia) is generally believed to have occurred in two series of migrations separated by a ‘pause’ in the archipelago of Samoa. The earliest migration led to occupation of the Marianas in Micronesia about 4000 years ago and island Melanesia and parts of West Polynesia between 3500 and 3200 years ago, by the ‘Lapita Peoples’. A second migration some 1500 to 2000 years later led to the settlement of the rest of West Polynesia and all of East Polynesia. If such migrations are autocatalytic then this long pause is surprising. Was there some kind of threshold between the Lapita world and the rest of Polynesia? The objective of this presentation is to try to find an explanation for the pause. A computer simulation is presented that quantifies the difficulty of sailing virtual canoes in the weather patterns in both areas and that links success to seasonality of navigation.

Steve Lansing – “Forwards and Backwards in Time: Simulated Agents in Love, coalescent models and social life in eastern Indonesia”

Until now, most studies of genetic and linguistic differentiation have focused on large-scale regional or continental patterns, characterized from a phylogenetic perspective. But all such patterns (including those at continental scales) arise from processes at the community level. My group has collected genetic, linguistic, demographic, environmental, medical and ethnographic data from ~100 villages in eastern Indonesia, in collaboration with Indonesian researchers and public health teams. Using this data, we investigate how community-scale historical processes produce patterns of sociality, language differentiation and disease prevalence. These emergent phenomena take us beyond the coalescent models of population genetics, to the Lévi-Straussian world of SAIL (Simulated Agents in Love).

Adam Harr – Flores—Eastern Indonesia: “Agricultural time-reckoning in Flores: A comparative overview of systems for an ecologically and ethnolinguistically diverse island in eastern Indonesia.”

This presentation will be a comparative overview of systems for agricultural time-reckoning from Flores, an ecologically and ethnolinguistically diverse island of eastern Indonesia. The focus will be on one lunar calendric system that has been used by Lio people, an ethnolinguistic designation shared by roughly 140,000 highland people who make their living by subsistence cultivation of rice, corn, cassava, pumpkin, and many kinds of vegetables. Ancestor veneration is a cornerstone of Lio life, and a connection to ancestral potency is considered crucial to the well-being and fecundity of the living. Thus, I will argue, the Lio calendar necessarily conjoins two temporal logics: the cyclic agricultural logic of preparing, planting, growing, and harvesting; and a ritual logic of (borrowing Eliade’s phrase) “eternal return,” in which ritual practitioners are absorbed into, and charged by, mythic time.
Workshop Session 3: 2-4:30, 389 Newcomb Hall
Helmer Aslaksen Moderator

I will discuss the two main annual festivals, the birthday of local deity “WuFu” and the Chinese New Year celebration ceremony in my field site, a village by the name of Jinbang in Quanzhou, Southeastern China. WuFu’s birthday, Oct. 8th in lunar calendar, and the Chinese New Year mark two crucial time points in a year. In the former one and everyday life, the fortune-telling practices point out the auspiciousness and precariousness in the coming year for different categories of a household’s or individual’s life (e.g. wedding, haircutting…) at various time points, thus helping to incorporate the official unified ritual calendar and the community cult ritual calendar into every household and individual’s life. I argue that these fortune-telling practices are first a classification system regarding both life events and time, and by fortune-telling, the calendar may construct a year cycle, thus an action frame for each household and individual. At the temple oracles people are given are poems on historical stories. Thus contemporary life is interpreted in a historical context, and temporality is fit into the cycle of repetitive though variable events in history.

Gary Urton—Peruvian Andes: “Ritual and Administrative Calendars in the Andes: Can We Tell Them Apart? How and Why Were They Different?”

This presentation for the UVA calendar conference will focus on the question of how calendars were constructed in the Pre-Columbian Andes -- esp. the Inka empire -- in relation to different ends, or functions. We are aware from various sources that the Inkas maintained an elaborate ritual calendar in the ceque system of the capital city, Cuzco. How was this calendar constructed, organized, and maintained over time? Do we have other evidence confirming this “ceque system based calendar?” In addition to the ceque calendar, we have what appears to have been a different type of calendar recovered from an Inka period burial site in the northern highlands of Peru, in the area of Chachapoyas. The burial site, which contained some 225 mummy bundles, was located in a rock overhang above a lake called Laguna de los Cóndores. Included among the grave goods at this site (in addition to the mummies) was a collection of 32 khipus (knotted-string recording devices), one of which seems clearly to be organized in calendrical-like units, or sections (i.e., 24 groups of ca. 30 strings totaling 730 strings [=2 X 365]). The cords of this “calendrical khipu” contain knots, organized according to a decimal system of numeration, recording different values over
the 24 month-like sections of the khipu. I have argued that these numerical values may have represented census records relating to the Inka system of accounting for tribute labor. The calendar khipu appears to be quite different from the ceque khipu. What does this mean? Were there different calendars for different functions in the Inka empire? How could such a system of multiple calendars have been coordinated? What was the logic -- not to mention the administrative and political/economic background -- of such an arrangement? This presentation will focus on the data and address the various questions outlined above.

February 4, Wednesday,
Gary Urton Moderator
Workshop Session 4: 9:00-12:00, 389 Newcomb Hall

Paul Geraghty — Fiji, “Central Pacific Calendrical Systems”

In contemporary Fiji, a single ‘traditional’ Fijian calendar has been codified and is taught at school as one of the feats of memorisation that Fijian children have to master for their exams; a similar situation obtains in Tonga, and no doubt Samoa too. In this calendar, each of the western months has a Fijian translation, and teachers and students believe that in the old days, the vulainuqalevu, for example, (‘month of the large aggregations of rabbit-fish’) began on January 1st and finished on January 31st.

Such is the loss of traditional knowledge today that the vast majority of adult Fijians, even those living in their villages, know no other traditional month than what they are taught at school, which is clearly based on coastal eastern Fiji. Practically nothing is known of calendars used in the interiors of the large islands, or anywhere in western Fiji, which is culturally and linguistically very distinct from the east.

This paper attempts to collate what is known of traditional Fijian calendrical systems, largely from nineteenth century ethnographic and linguistic sources, and to compare them with systems obtaining in Rotuma and Polynesia, and elsewhere in Oceania, in order to obtain a plausible reconstruction of the calendrical system of the Lapita people who were the first to settle Fiji approximately 3,000 years ago.

Carlos Mondragón — Eastern Melanesia, “‘Without kava, there is no kastom’”: Long-term seasonal variability and cultural linkages across a Melanesian/Polynesian borderland

Despite the early production of seminal research about time systems in Oceania – especially from the Kula Ring, with some monographs derived from Polynesian and Micronesian contexts - the study of calendrics across the Pacific has yet to generate basic data sets for many island regions and, more importantly, to produce substantive frames for comparative analysis. The object of this paper is to discuss the seasonal productive and ritual cycles of the Torres Islands in relation to the broader socio-ecological and regional settings in which they arise, namely North Vanuatu and the South East Solomon Islands. My discussion aims to present seasonal productive systems in ways that transcend dominant themes regarding temporality in Oceania – e.g., the short-term (monthly and annual) ordering of indigenous time frames, the immediate practical/empirical dimensions of environmental knowledge, and the perceived necessity of reading order into local forms of temporality. This will be done by focusing on kava production and major periods of
ritualised activity, both of which are subject to long-term environmental variables that are not normally evident during discrete periods of fieldwork, and have often been ignored in past research (e.g., this data set has been built up from 10 years of successive observations). By taking these and certain other variables into consideration, I also aim to highlight some of the cultural and productive linkages that transcend the imagined divisions between Eastern Polynesia and Island Melanesia. The discussion of kava, ritual activity and cross-regional traits is oriented toward establishing relevant points of discussion with other Oceania specialists in the workshop, and relates to a broader argument directed at rethinking cultural and geographical boundaries across the Pacific.

Fred Damon Moderator
Workshop Session 3: 2-4:30, 389 Newcomb Hall

Helmer Aslaksen—“The Indian and Chinese Calendars Compared, An Introduction”

Indian calendrical systems, relying on solar and lunarsolar calendars, are as fascinating as they are complicated. The solar calendars follow the sidereal year instead of the tropical year, while the lunarsolar calendars are of two types: those having months that span from new moon to new moon or, alternately, from full moon to full moon. In addition to leap months, the lunarsolar calendars sometimes skip months; they also occasionally omit or add days because of their lunar concordance.

Arguably, these features make Indian calendars the most complicated calendars currently used in the world. Regional variation and India’s linguistic and religious diversity further contribute to their complexity. Consequently, there are very few people with a comprehensive understanding of this topic. As in many other regions, scholars who focus on traditional cultures rarely relate to scientific explanations, while scientists who generate these explanations don’t often consider cultural practices.

There are many similarities between the Indian and Chinese calendars, but there are also fundamental differences. Some of these differences stem from political, cultural and religious issues. Given that these two calendar systems have influenced most traditional calendars of the region, it is important to understand their relationship. In this presentation, I will outline the necessary astronomical background in accessible terms and endeavor to provide you with an understanding of the links between science and society. While still at the initial phases of this research, I present it with the hope of inspiring others to contribute to this exciting topic.

Henry Chan—“The Punan Vuhang Calendar Synchronized with the Rainforest Environment in the Malaysian State of Sarawak”

This paper traces a pattern of hunting and gathering activities in accordance with the Punan Vuhang synchronized calendar, showing how people explain the phenomenon of flowering and the occurrence of wild boar, the most important animal in their diet. The former hunter-gatherers start to measure time upon the appearance of the crescent moon during major flowering. They count the first moon as the first month that marks the end of a lean period and the beginning of food abundance. For months, there would be lots of honey, a great variety of fruit, game and numerous fat wild boars that migrate through their forest. Then, after several appearances of the moon, usually up to ten times, measuring of time ceases and coincides with the end of the major fruiting season, when the undetermined time length of lean season recurs.

My argument is part of a long debate in Anthropology concerning the ability of hunter-gatherers to live independently of sedentary societies. Influenced by Marshall Sahlins, the “original affluence” theory suggests that hunter-gatherers can satisfy their needs and wants with comparative ease. In contrast, revisionist anthropologists documented the difficulty of some hunter-gatherer societies in obtaining carbohydrates. The debate extends to hunter-gatherer studies in the tropical rainforest. The Green Desert theory asserts that despite the great biomass and species diversity, most tropical rainforest
plants exist in the form of inedible woody tissue. Edible components are mainly found high up in the tree canopy and are difficult to obtain. Other edible species are widely dispersed and require a high expenditure of energy to travel to reach these food sources. Even if food was available, revisionists use the Liebig Effect, or Law of the Minimum to argue that availability of materials barely reaches the critical minimum for species to survive. They base their assertion that long tropical dry season causes declines in food availability and animals to migrate out of a stricken area. When available, most wild animals are extremely lean and lack calorie-rich fat and prolonged consumption of their lean meat can put a physiological strain on the human body. Yet the Punan Vuhang’s synchronized calendar supports the theory that hunter-gatherers can live on their own without depending on sedentary societies for food.

Clive Ruggles—Hawaii: “Kahikinui, Maui: interpreting Polynesian temples in their landscape.”

Kahikinui, Maui: interpreting Polynesian temples in their landscape

During 2002 and 2003 Pat Kirch and I combined archaeological and archaeoastronomical studies of the heiau (temple enclosures) in the Kahikinui district of Maui, an area where there is exceptional preservation of the pre-European-contact landscape and a tight chronology. This is a landscape that was exploited within at most two or three generations, and therefore is likely to provide an unusually good “snapshot” of social and cosmological principles during a period when they underwent little or no change. The Kahikinui temples appear to fall into four distinct categories, which, Kirch has argued, were dedicated to each of the four main gods in the Hawaiian pantheon. This broad interpretative framework relates the placement of the temples within the landscape and their design and orientation (both topographic and astronomical) to a broader context of ecology, ideology and calendar. Further fieldwork in 2008, extending the surveys to more than 30 temples, failed to simplify this picture as hoped but instead has revealed further complexities. These will be explored in this paper, ahead of our joint publication.

The Last Supper, at Hamilton’s Restaurant, 6:30pm, on the Downtown Mall, Charlottesville Va.
Ecology and Time Systems in Australasia And the Americas: New Approaches to Value Systems and Calendrical Transformations across the Pacific Rim

12-14 January, 2011
Seminar Room 102, Guoguan Building C,
Beijing University, Beijing, POC

Sponsored by
The National Science Foundation (USA)
The University of Virginia
El Colegio de México
The China Center for Sociological and Development Studies
The Chinese Review of Anthropology
January 11 Tuesday
Arrival
5:30-7:30 Reception Dinner
(Boya, 3rd floor, Changchunyuan, outside West Gate, Beida)

January 12 Wednesday
Morning
9:30-10:00 Introduction
10:00-12:00 (including discussion)
Fred Damon: “Sequencing Discontinuity: Temporalizing Variation Across the Northern Arc of the Kula Ring”

12:10-1:30 Lunch
Afternoon
2:00-3:30 (including discussion)
Wang, Mingming: “Ecologies of Relationships: Space-Times and the Perspectives of Life, South China, and Beyond”

3:30-5:00 (including discussion)
Ana Diaz: “Mesoamerican Calendrics and Ecological Variation: Rethinking Indigenous Time Counts in Oaxaca and Central Mexico”
January 13 Thursday
Morning
9:00-10:30 (including discussion)
Matthew Prebble: “Seasonality, food production systems and the last 3000 years of ecological transformation of islands in Remote Oceania”

10:30-12:00 (including discussion)
Carlos Mondragón: “Ecological Fluctuations, Ceremonial Flows and Humanized Seascapes: Synthesizing Patterns of Temporality and Transformation across North Vanuatu”

12:10-1:30 Lunch

Afternoon
2:00-3:30 (including discussion)
Henry Chan: “Punan Vuhang Calendar Synchronized with the Rainforest Environment”
3:30-5:00 (including discussion)

Steve Lansing: “Dreams of the Fourth Age: cyclical and linear principles in Balinese time”

Observation of the rising Pleiades from a megalithic temple in Julah—Messengers bring this news to the great Batur water temple
5-6pm (including discussion)
**Helmer Aslaksen:** “Concepts and Conceptions in Calendrical Structures”
10:30-12:00 (including discussion)

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January 14 Friday
AM Visit to the Forbidden City

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Afternoon
2:00-3:30 (including discussion)
**Liu, Xueting:** “Profitable Time: Secrecy and the Zoning of Time in Southeastern China’s Underground Lotteries”

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3:30-5:00 (including discussion)
**Yang, Qingmei:** “Dual time systems in Xishuangbannan of Yunnan”
5:00-5:30 Closing Remarks (All)

January 15 Saturday
Check out
Assistants:
Ms. Luo Yang and Ms. Yixi Quzhen

Some of our distinguished predecessors