Winner of the 2021 (28th) International Cosmos Prize

# **Dr. Peter Bellwood**

Emeritus Professor at the Australian National University British (by birth) and Australian (by residence)



COSMOS P R I Z E

Dr. Bellwood proposed the "early farming dispersal hypothesis" based on interdisciplinary research in archaeology and linguistics, clarifying the agricultural origins and the process of early famers' migration and dispersal. At the same time, through this research, he investigated the history of harmonious coexistence between nature and people from a holistic perspective.

# Winner of the 2021 (28th) International Cosmos Prize

Peter Bellwood Emeritus Professor at the Australian National University

#### • Date of Birth:

August 10, 1943 (Born in Leicester, England)

#### Nationality:

British and Australian

#### Present Position:

Emeritus Professor,

Australian National University

#### Area of Expertise:

Archaeology

#### Degrees:

1980 Ph.D. University of Cambridge
1969 M.A., University of Cambridge
1966 B.A., University of Cambridge (King's College)







With his beloved dog (at age 19)



Excavation in Northamptonshire, England (1965)



At Rano Raraku on Easter Island (1975)



Presentation at the 12th Indo-Pacific Prehistory Association Congress (the Philippines, 1985)



With excavation team members on Borneo Island, Indonesia (2014)

# Achievements of Dr. Bellwood

(1) Migration and dispersal of the Polynesians and early Austronesian farmers

(2) History of human migration: Proposal of the "early farming dispersal hypothesis"

3. Human adaptation to the environments of the Southeast Asian Archipelago



#### 【Research achievement (1) Polynesia / Austronesia】

 Using archaeological methodologies, Dr. Bellwood clarified that the Lapita culture (1,500–1,000 BC) that emerged in the Melanesian islands moved eastwards and changed to adapt to the diverse environments of these islands, resulting in the formation of Polynesian culture.





Distribution of Lapita Pottery Source: Exhibition Hall of National Museum of Ethnology



2) Dr. Bellwood traced the migration tracks of the Austronesian language family (distributed in Taiwan and the islands of Southeast Asia and the Pacific, with more than 1,000 member languages), taking an interdisciplinary approach based on joint research with specialists in archaeology, anthropology, linguistics and other scientific disciplines. By integrating these research findings, he clarified that, in the case of Austronesians, fueled by the development of maritime skills, human dispersals had a close connection with the migrations and expansions of early food-producing populations.



た。ラピタ土器や家畜、栽培植物を携え、優れた航海術技術をもっていた。

# The Significance of Agriculture: Productivity and Population Numbers

Population growth: Agriculture supports a large population

	Hunter gatherers	Slash-and-burn farmers	Irrigation farmers
Area of territory	Several km <sup>2</sup>	Several ha	Less than 1 ha
Population density	Less than 1 person/km <sup>2</sup>	3—100 persons/km <sup>2</sup>	High

## Agricultural population increase

: Territorial expansion speed, situations of migration into hunter-gatherer regions

## Population growth following early agriculture

- : Global population increased from 10 million to 50 million people (before the beginning of agriculture)
- : Japanese population increased from 75,000 to 5.4 million people between the late Jomon Period (1,000–400 BC) and the Nara Period (710–794)

### Economic foundation for civilization

# Process of human dispersal: "Early farming dispersal hypothesis"

• (Material culture spread homogeneously over a wide area)

The spread of early farming lifestyles: The hypothesis suggests that these spreads occurred from agricultural homelands and that these spreads were accompanied by human population and language dispersals.

- A discipline that integrates archaeology, comparative linguistics, skeletal anthropology and archaeogenetics
- Rather than the genesis of new cultural or linguistic configurations in homeland circumstances, the dispersal process of such configurations into surrounding regions is illuminated.

"Early farming dispersal hypothesis" (archaeology) Material culture spread homogeneously and extensively, and these spreads were closely correlated with early phases in agricultural prehistories, or with initial human settlements. The figure below shows some cultural complexes in the early agricultural world.



#### Source: Bellwood 2005

"Early farming dispersal hypothesis" (Archeology and linguistics: agricultural origins and dispersal routes)



Figure: Map of the major language families of the Old World. The map was created based on 1987 data, etc. The numbers and letters in the figure indicate the following: 1 (Bantu); 3a, 3b, and 3c (Austroasiatic, Thai, and Sino-Tibetan, respectively); 6 (Trans-New Guinean); 7 (Japanese); 8 (Austronesian); 9 (Dravidian); 10 (Afro-Asiatic); 11 (Indo-European), A (Turkic) ; and B (Nilo-Saharan)

Source: Diamond, Jared and Peter Bellwood. 2003

[Research achievement (3)]

## Human Adaptation to Island Environments in Southeast Asia

Beginning from *Homo erectus*, which reached Java approximately 1.3 million years ago, to *Homo floresiensis* and down to *Homo sapiens*, humans have also migrated to island regions and adapted themselves to the new environments there. Drawing on archaeological and paleoanthropological examples primarily from Southeast Asian islands, Dr. Bellwood illustrated the biological and cultural processes of human adaptation to island environments, from an interdisciplinary perspective. He also made reference to the migration of *Homo sapiens* 50,000 years ago before the beginning of agriculture, as well as the spread of Austronesian peoples and languages from southern China.





[Overview] Dr. Bellwood advocated the "early farming dispersal hypothesis" based on interdisciplinary research in archaeology and linguistics, and clarified the agricultural origins and the dispersal process of early farmers found in various parts of the world.



Dispersal of early farmers (on three space scales: Polynesia, Austronesia, and the whole earth)