Dental Notation and Tooth Morphology

for the Maintenance of integrity of tooth

Dr. Hirofumi Aboshi
Nihon Univ. Sch. of Dent.

Course Excise for the Maintenance of integrity of tooth

- Brushing Instruction
- Application of Fluoride Solution
- Fissure Sealing

Object

- Human teeth

Human Dental Notation

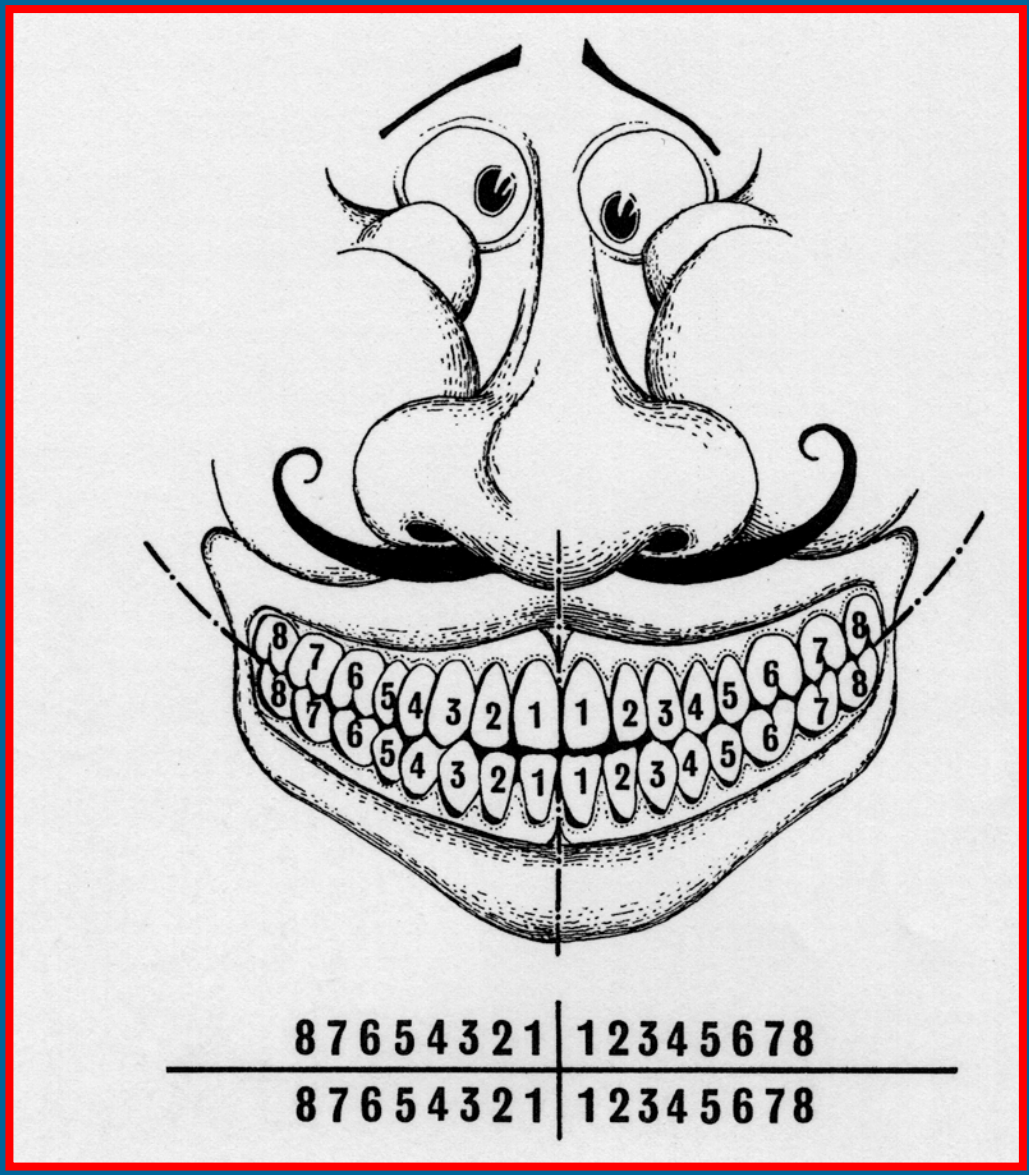
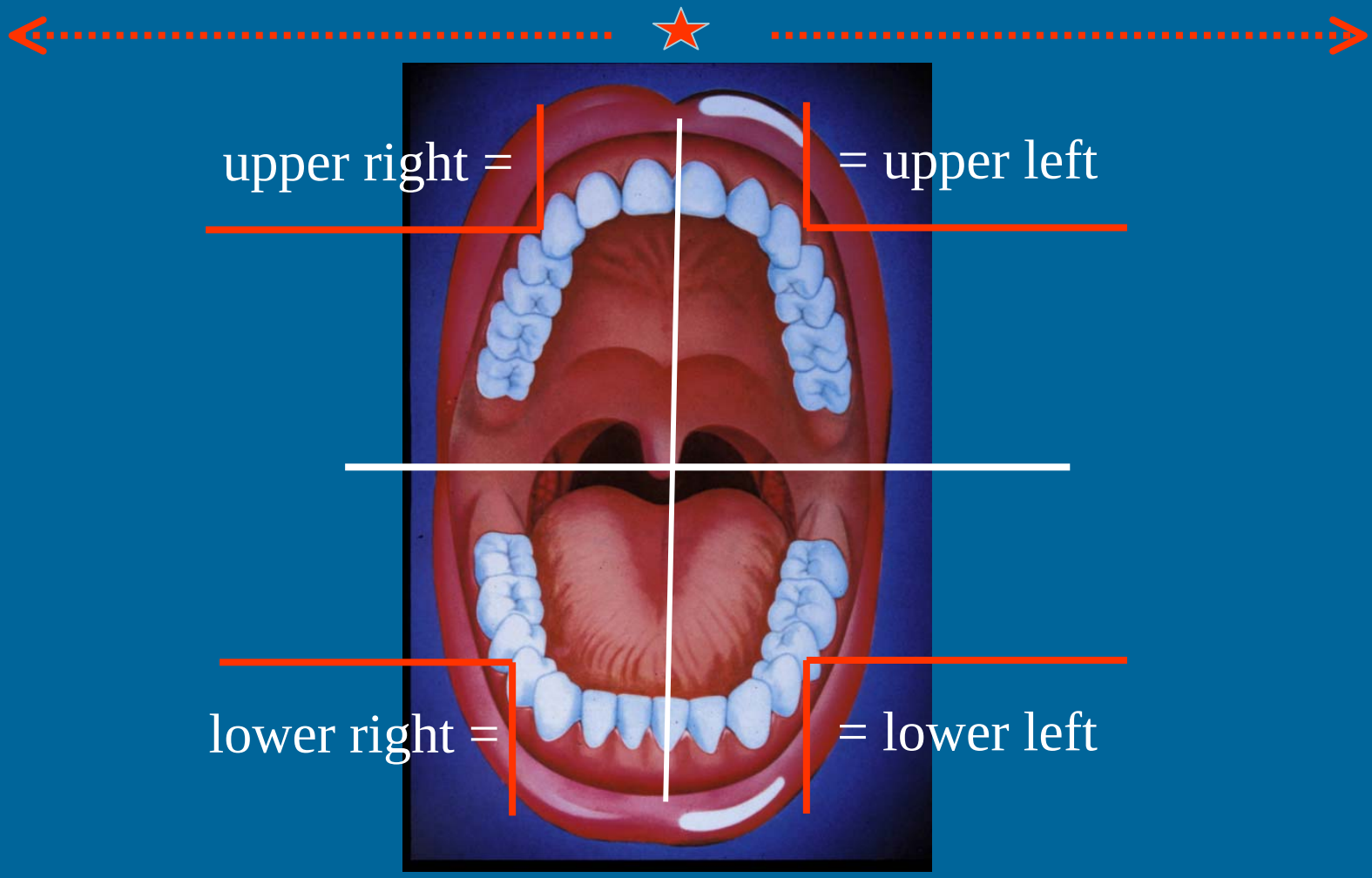
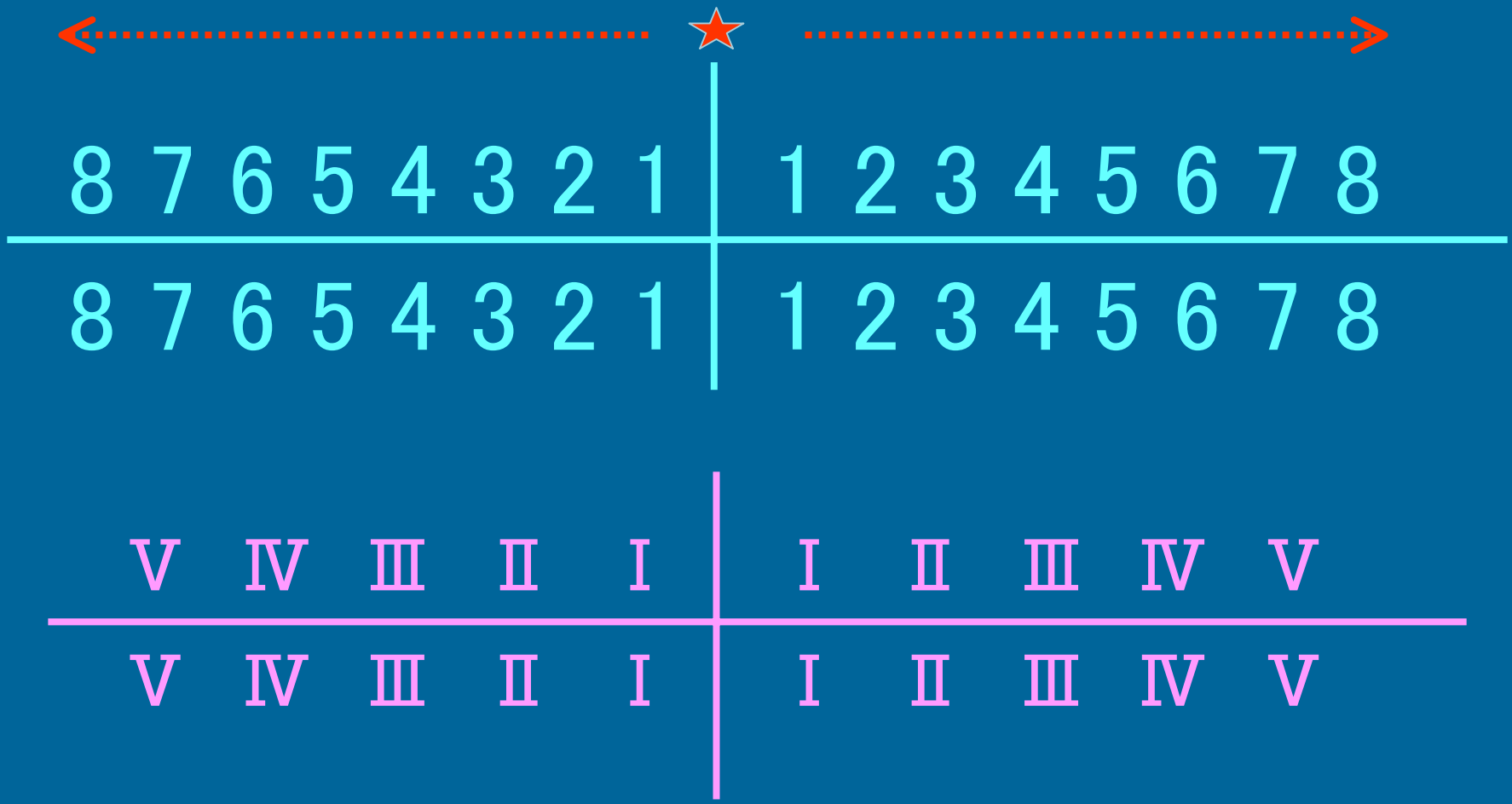


Figure source: Geoffrey C. van Beek; DENTAL MORPHOLOGY an illustrated guide, P3, Fig4, WRIGHT・PSG BRISTOL LON DON 1983

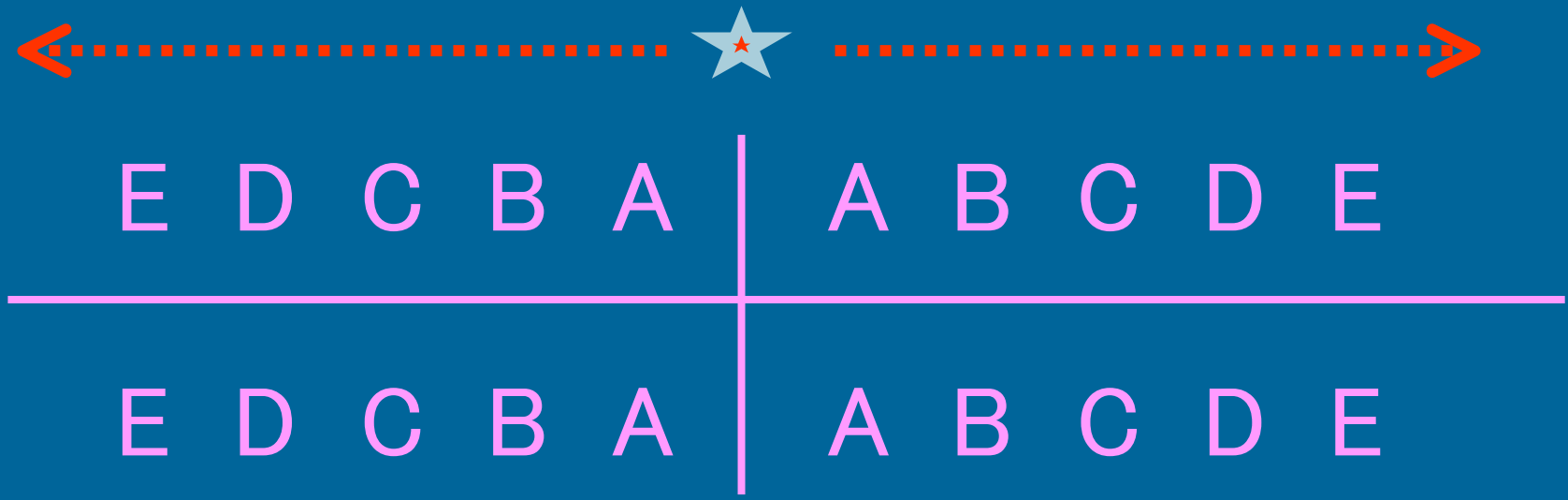

upper right =
= upper left
lower right =
= lower left

The Zsigmondy Notation

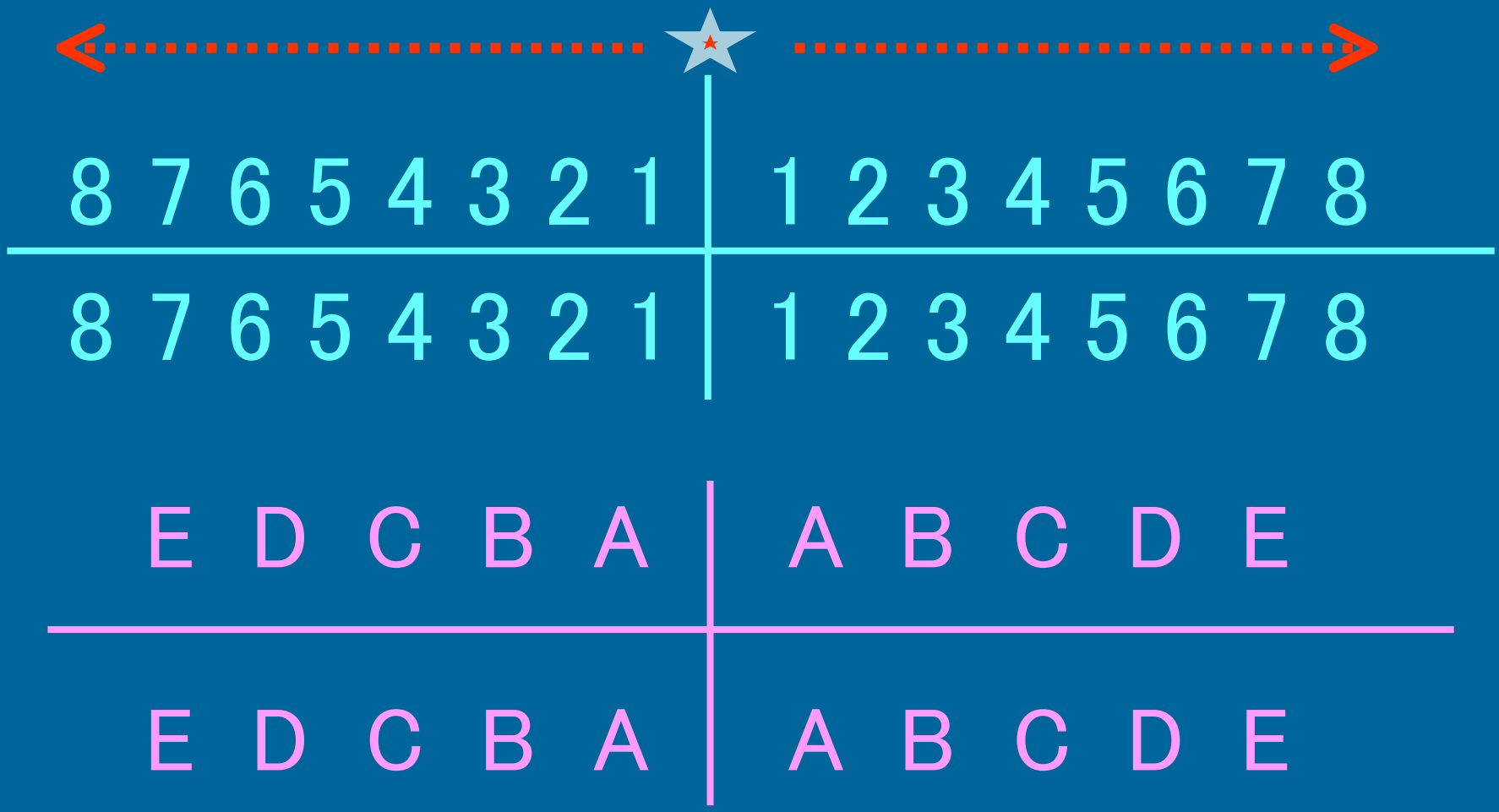


The deciduous teeth

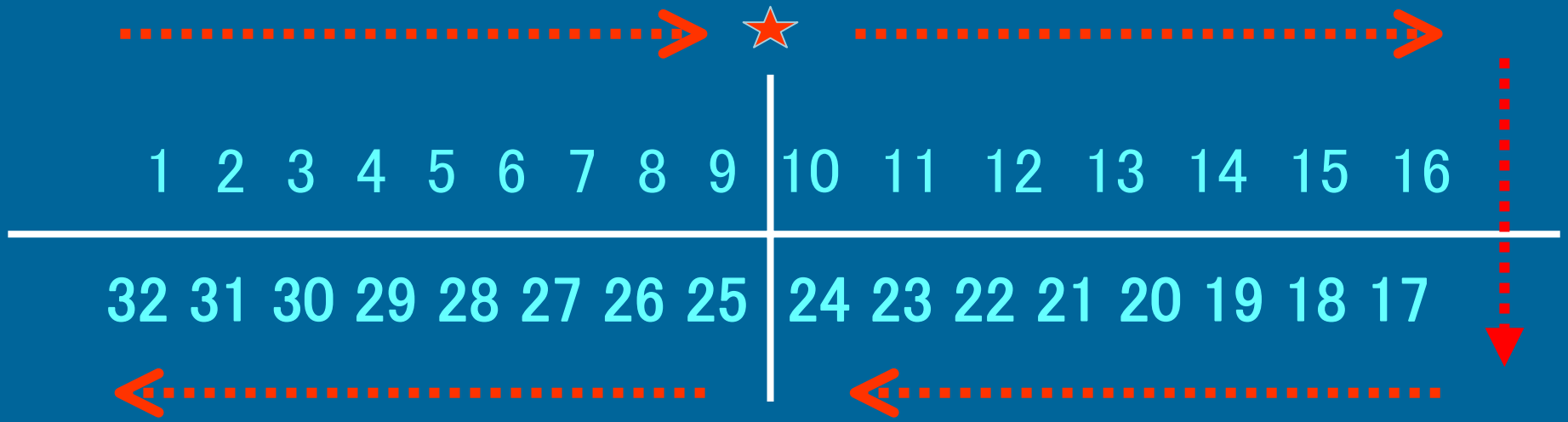
The Palmer deciduous notation

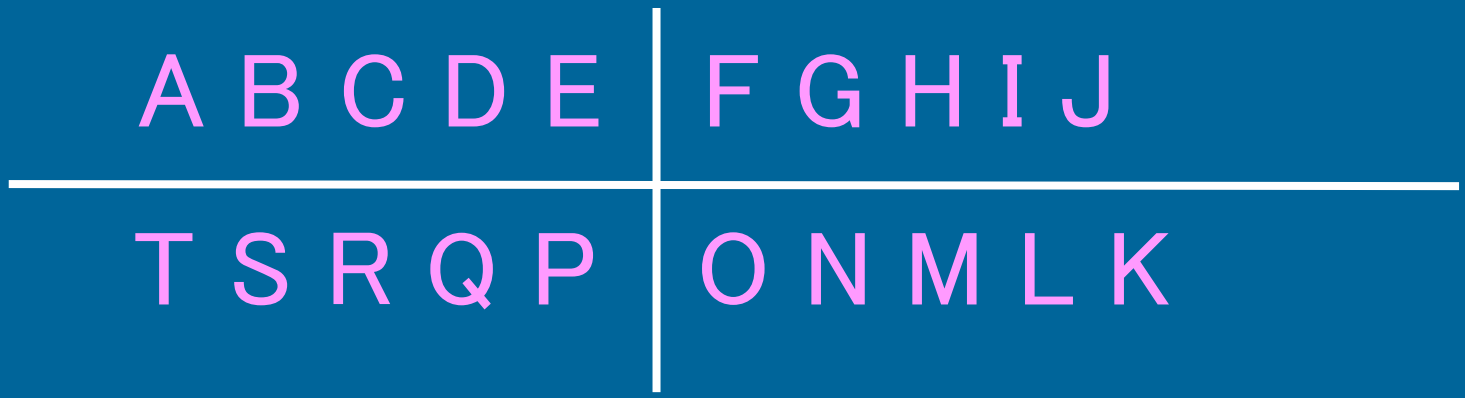


Palmer & Zsigmondy notation

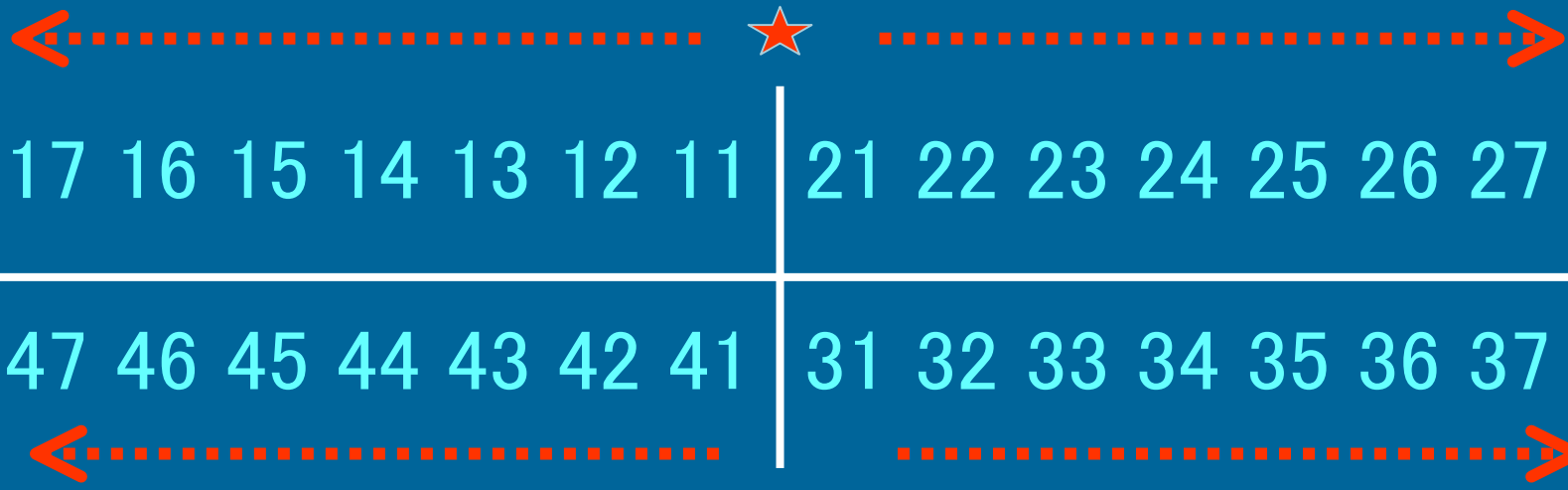


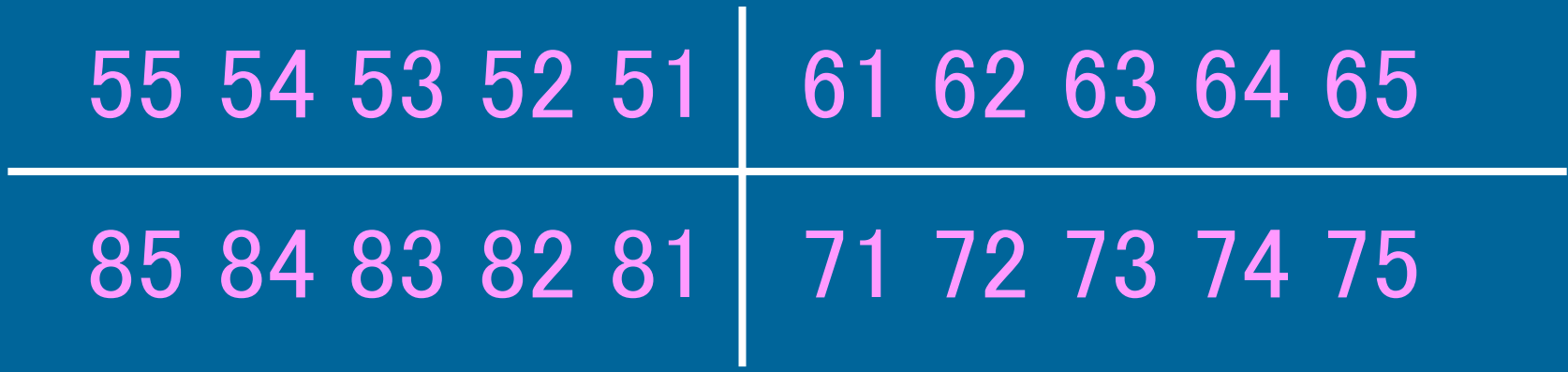
Cunningham's (Universal) notation



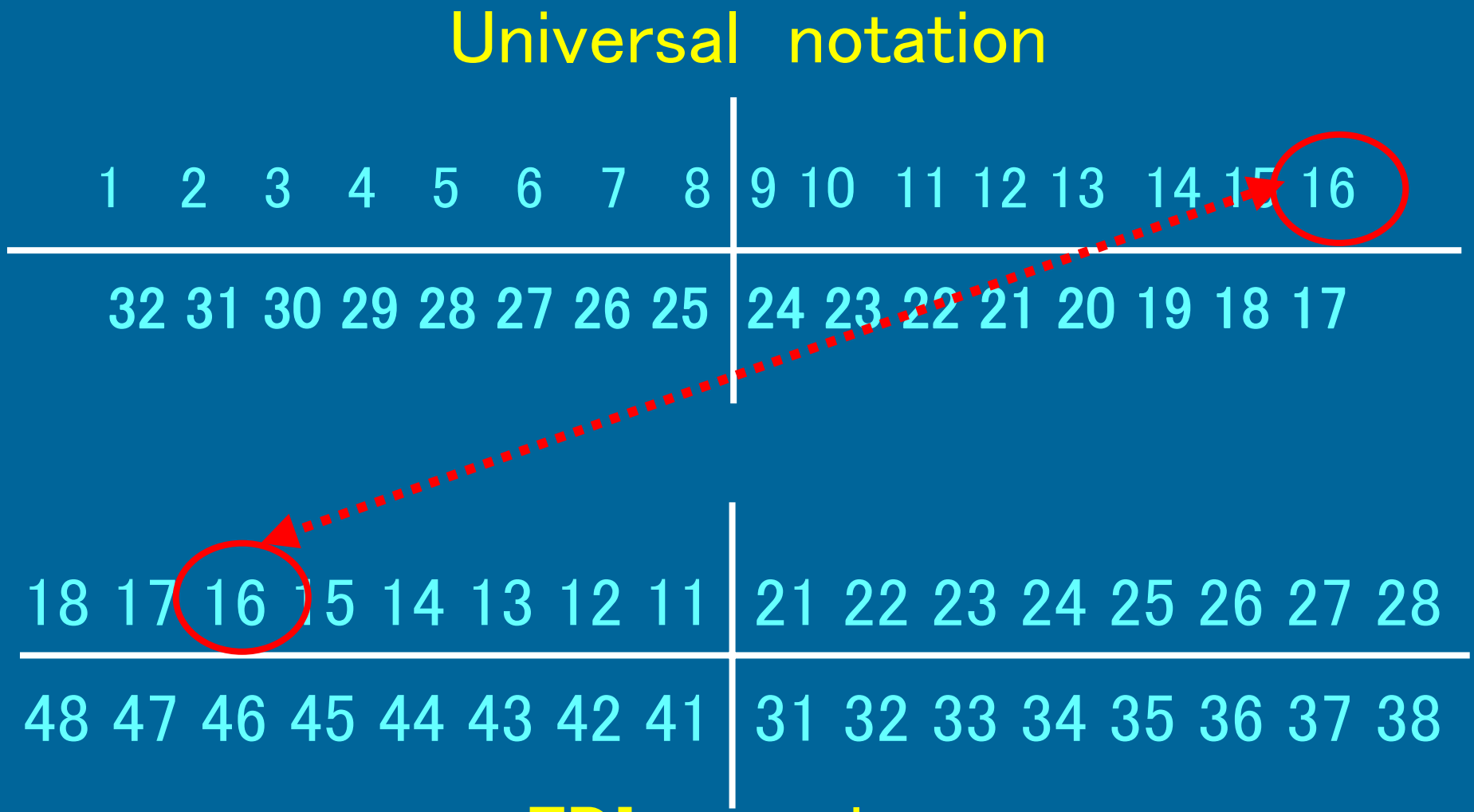


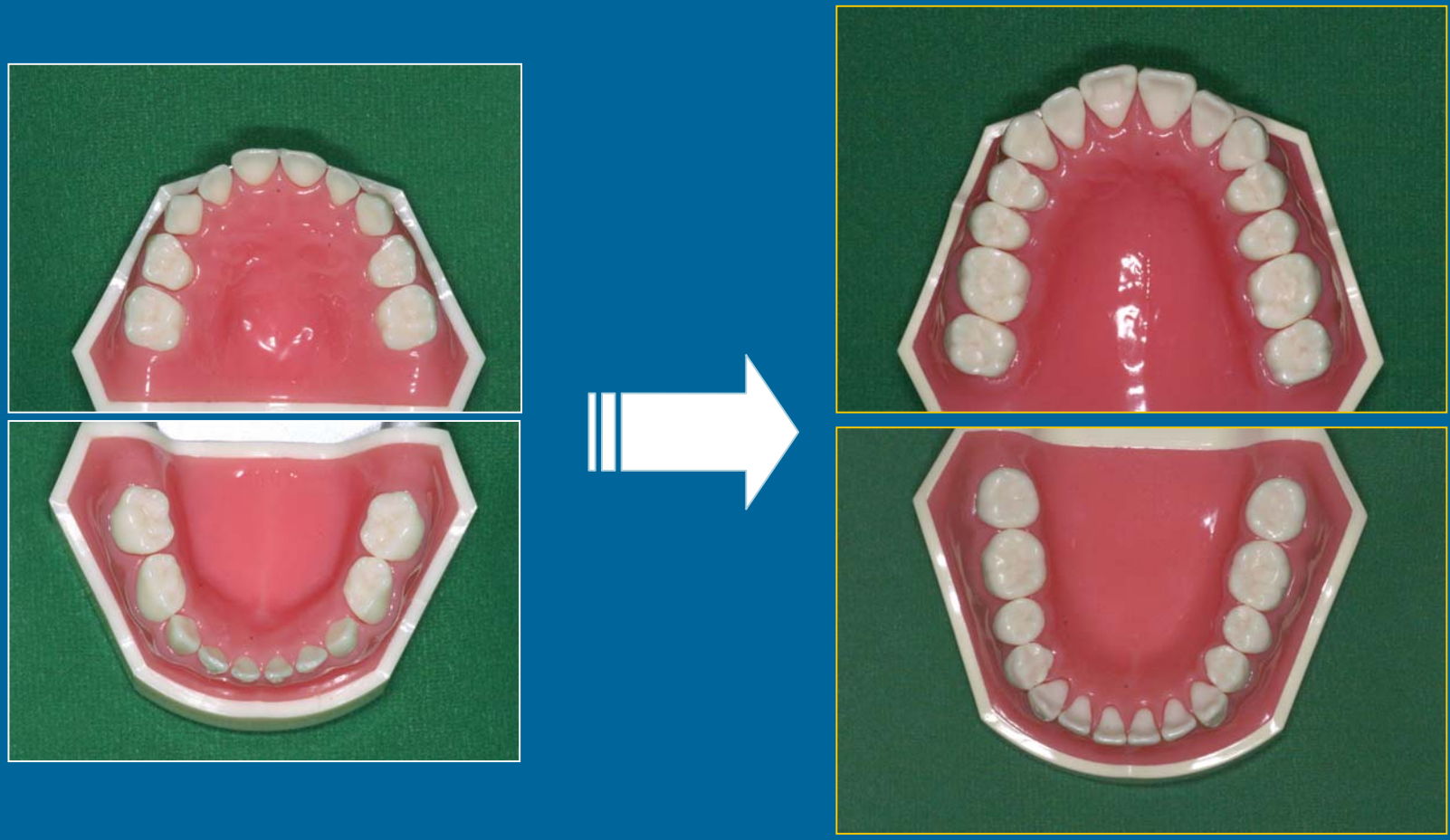
FDI notation



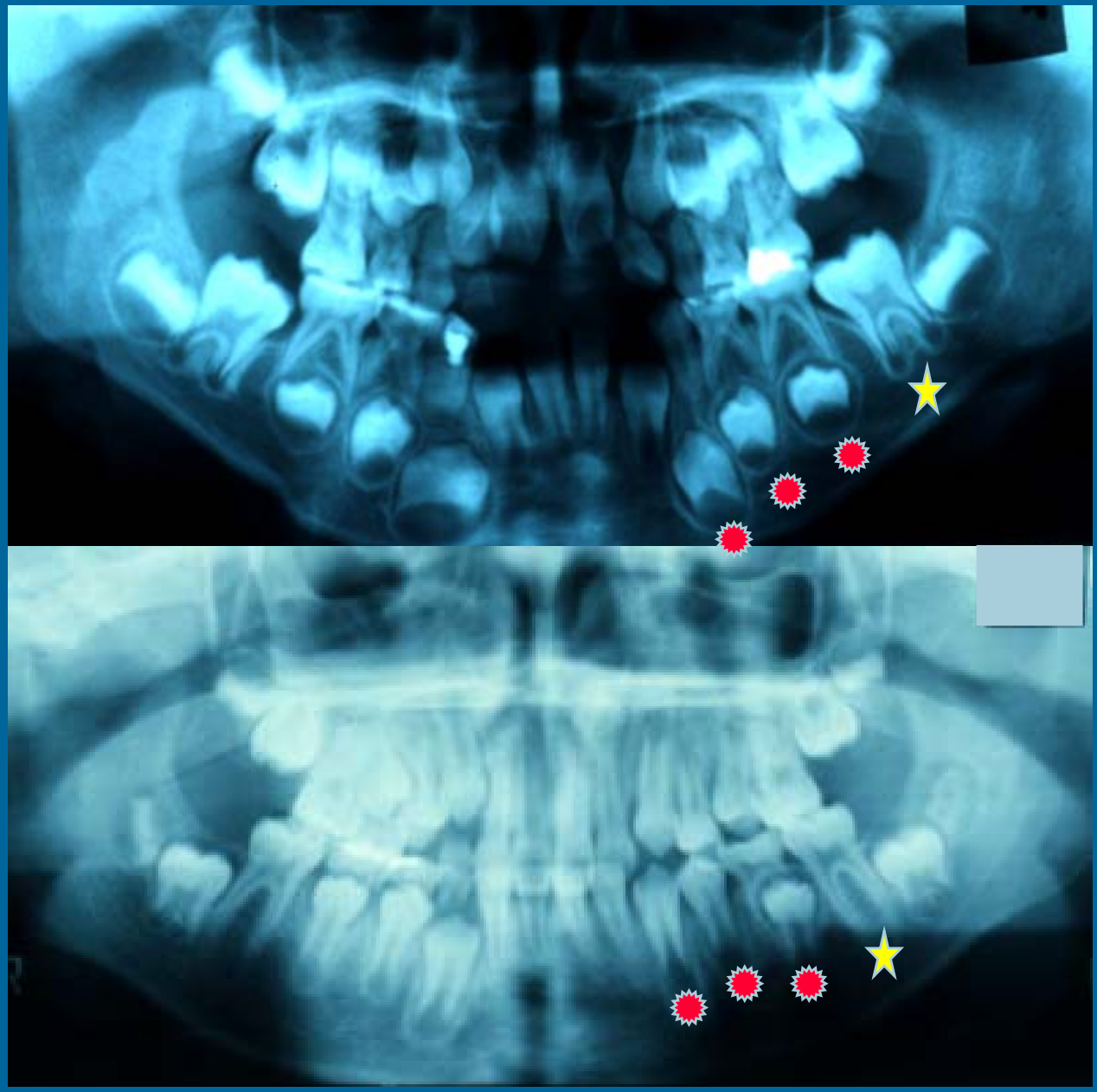


ADA, ISO, IADR, WHO


Universal notation
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28
48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38
FDI notation



Chronology of Dentition

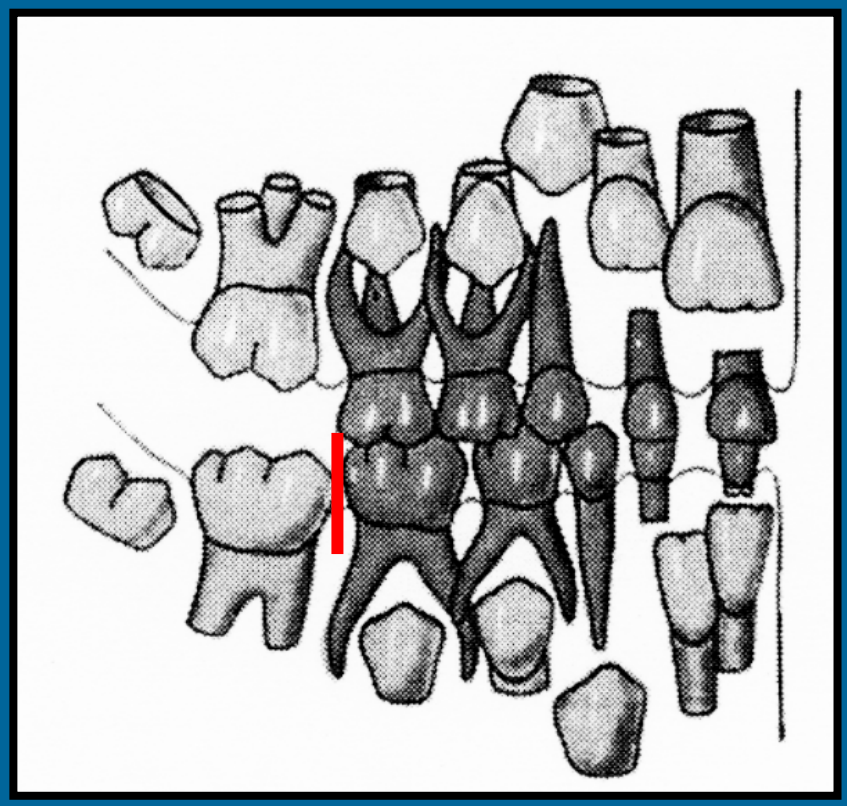


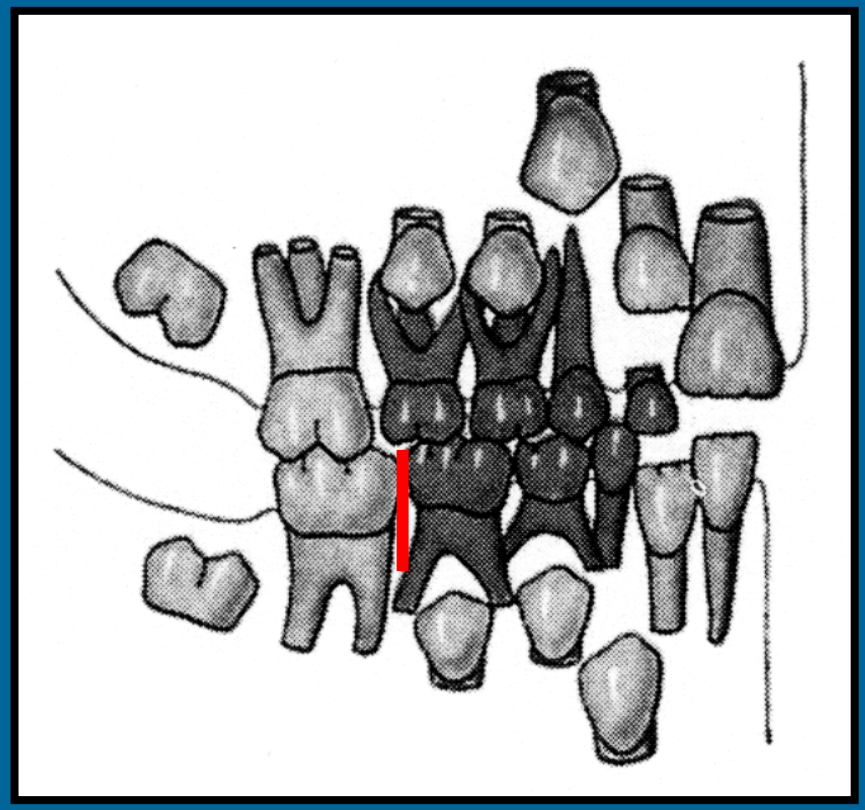
6 years

10 years

Chronology of Parmanent Dentition

Mixed Dentition





6 yrs ⇒ 7 yrs

The risk of getting dental carries

in *Lower First Molar*

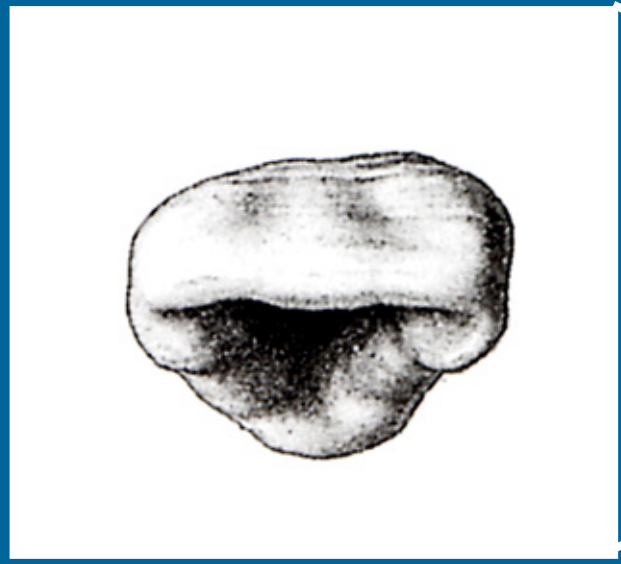
1) Pit and groove, which does not exist in central incisor.

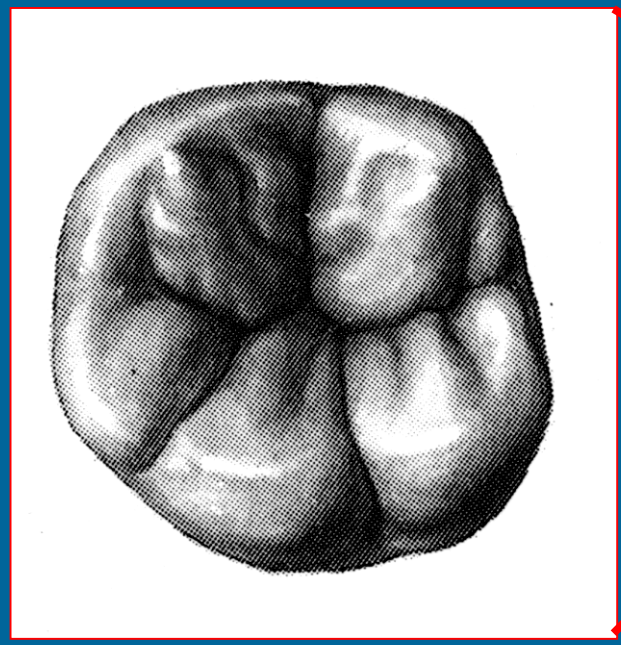
2) Period (6 months to a year) until to have the final position

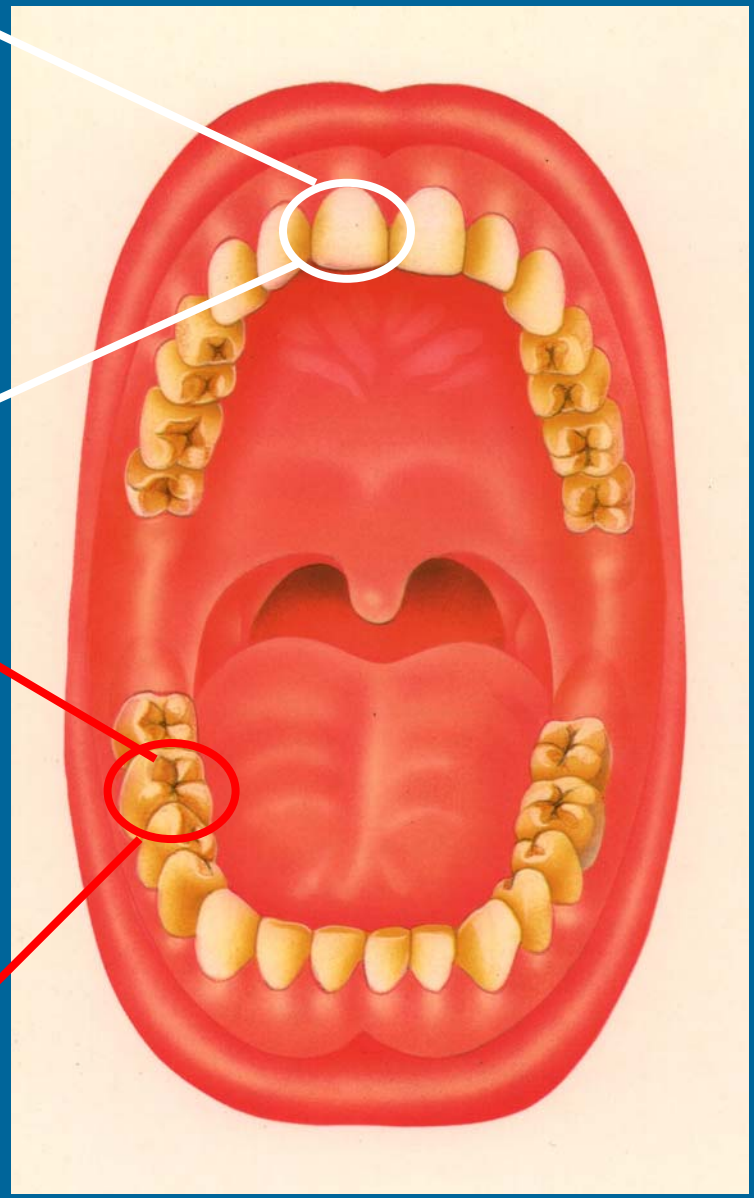
(Decreases the self-cleaning system by the remains of the food in the gap of upper and lower first molars)

3) Difficulty to brush sufficiently due to its location

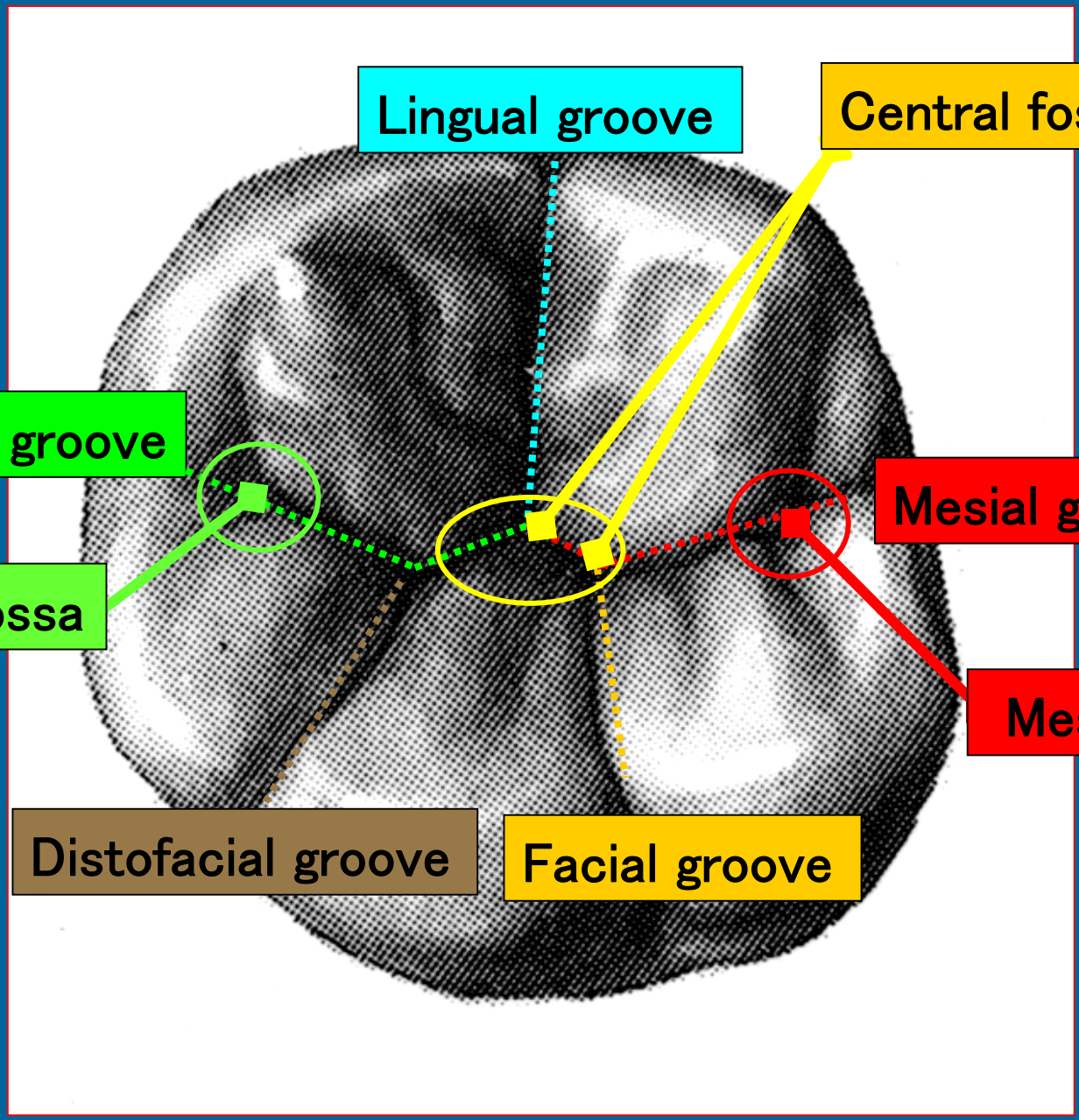
4) Immature of the tooth enamel







46



The existence of pits and grooves

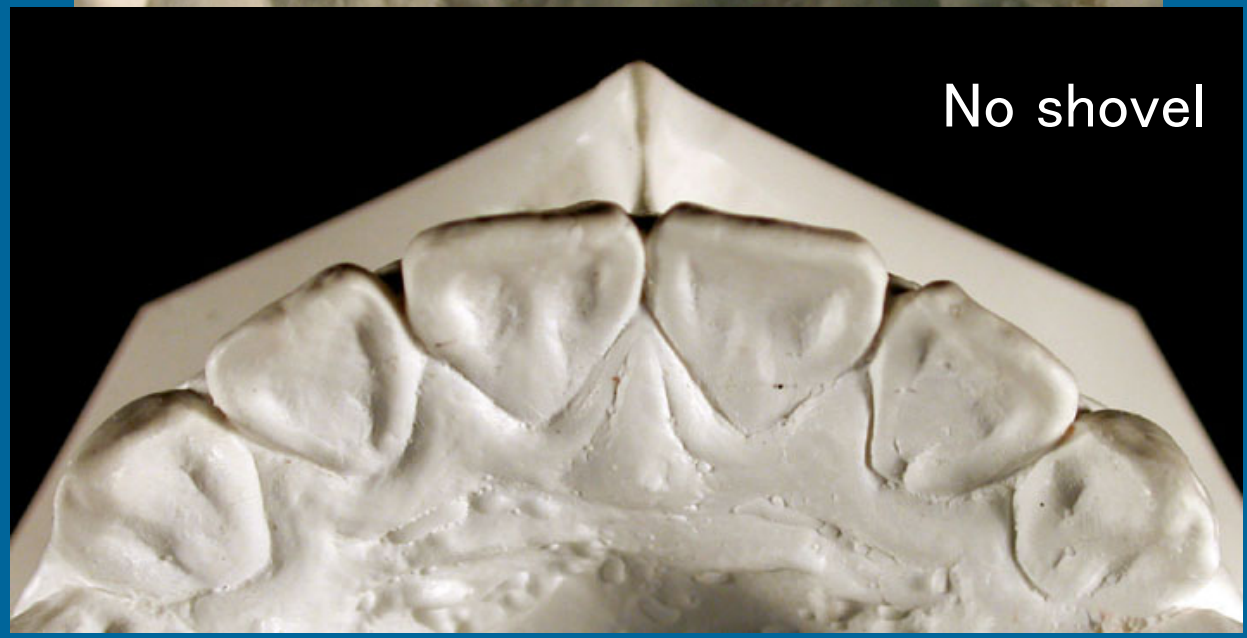
Protostylid

Curved ridge

Carabelli's trait

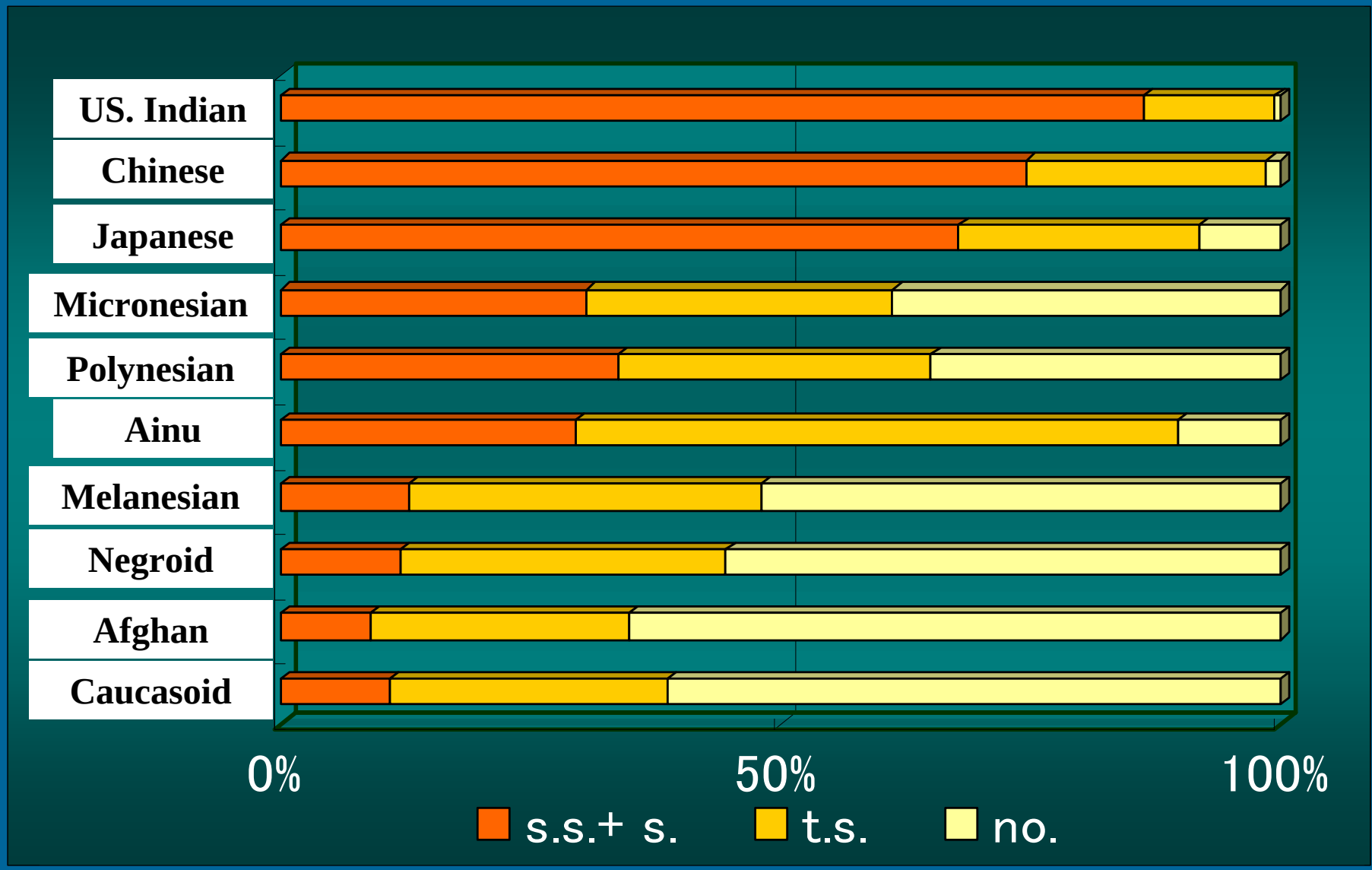
Accessory cusp situated on the mesiopalatal aspect of some maxillary permanent first molars and deciduous second molars.

Carabelli's Trait (UM1)	
All expressions	
Mongoloids	56%
Caucasoids	60%
	(Mayhall 1999)



Incisor Shovelling

Mean % frequency of Upper 1st incisor shovelling (Fujita et. al)



Sundadonty and Sinodonty (1)

- 20,000 years ago, when the sea level was 100 meters lower than today, the people with Sundadont Dental character had their prosperity around Sundadont continent shelf.
- Sundadont continent shelf at that time was the path way between present South Asian countries and other island around.
- 12,000 years ago, due to the rise of sea level, most continent shelf was covered by the sea.
- Part of the people had migrated onto the North from the cost line region and land locked region. They then had adjusted themselves into the tundra climate, and become to have the teeth with Sinodont Dental character.

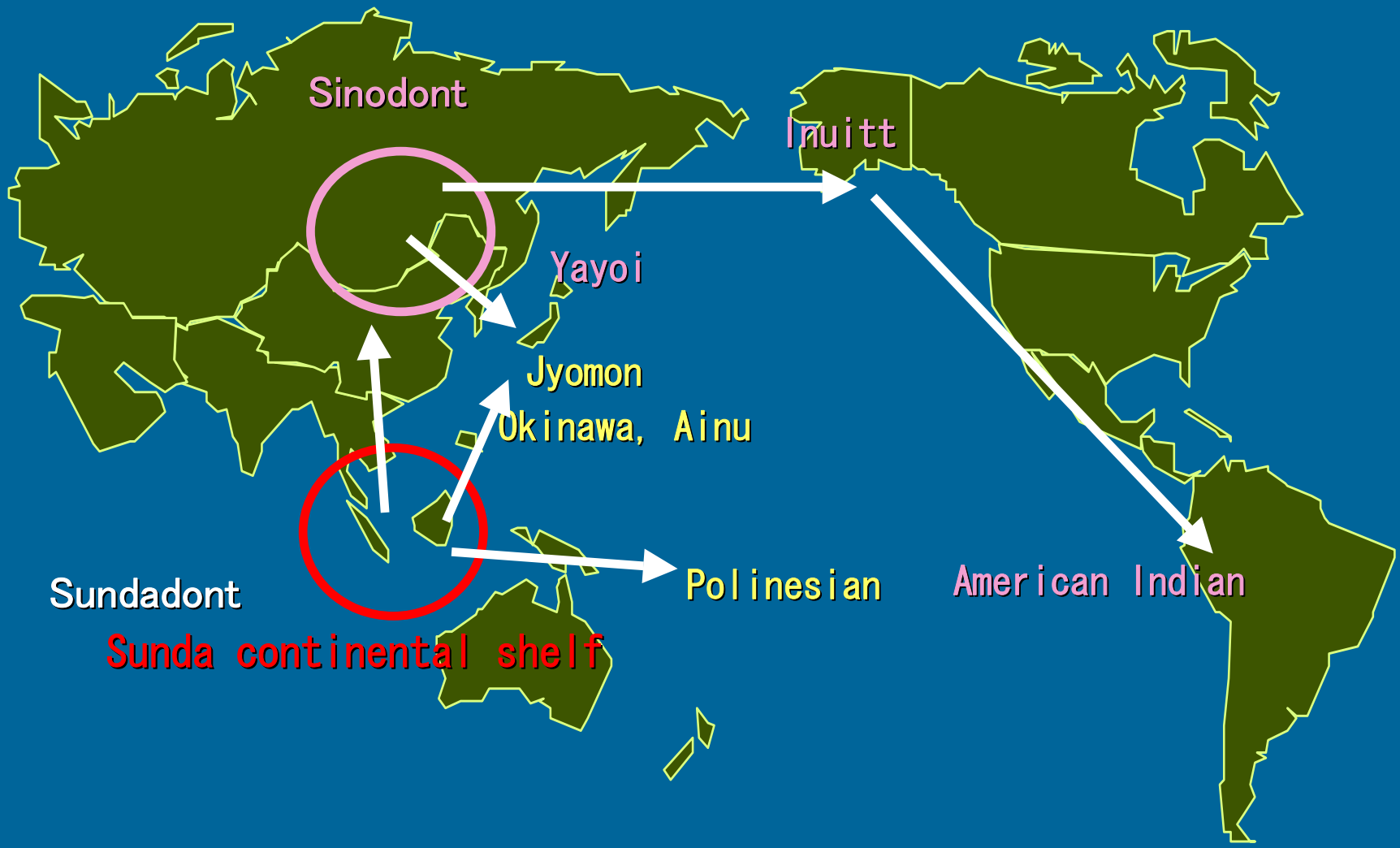
Sundadonty and Sinodonty (2)

- The people with Sinodont Dental character had migrated into Alaska through Bailing by land 12,000 years ago. In those days, the Alaska and Euro continent was not separated by the sea.

  With the gradual move, 11,000 years ago, those people had reached to South cost of present Chile in Latin America

- Although majority of people with Sundadont Dental character had stayed in East Asia, some had moved to present Japan thorough present Taiwan.

- 3,000 years ago, the descendant was migrated into Melanesia and Polynesia



Mongoloid Migrations

Turner II (1989)

Sundadonty and Sinodonty

Variant	Sundadont Mean % frequency (range)	Sinodont Mean % frequency (range)
Upper 1st incisor shovelling (grades 3–6)	31 (0–65)	71 (53–92)
Upper 1st incisor double-shovelling (grades 2–6)	23 (0–60)	56 24–100)
One-rooted upper 1st premolars	71 (50–90)	79 (61–97)
Upper 1st molar enamel extension (grades 2–3)	26 (0–50)	50 (18–62)
Peg/reduced/absent upper 3rd molars	16 (0–27/51)	32 (16–46)
Deflecting wrinkle in lower 1st molars (grades 2–3)	26 (0–58)	44 (0–86)
Three-rooted lower 1st molars	9 (0–19)	25 (14–41)
Four-cusped lower 2nd molars	31 (6–64)	16 (4–27)

Source: Turner Ⅱ （1990）