Art and the Pearl River Delta Environment

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Pearl River Delta Region

Art and the environment: 1700 and 1800s

- Artists on Western ships traveling to and from Canton (Guangzhou) commonly drew pictures of the land they saw as part of their job
- Most artists favored drawing the land near Hong Kong, its islands, and the narrow part of the Pearl River, *"Bocca Tigris"*, where Chinese forts were situated.
- Chinese artists learned Western painting techniques and perspective drawing about 1750
- Many paintings listed as "Anon." here probably were done by Chinese artists

Historical art and environmental study questions

- Did the Western and Chinese artists accurately represent the Chinese landscape in the 1700s and 1800s?
- What does art tell us about the past condition of the land and wildlife habitats in the Pearl River Delta region?
- What can we learn from historic art about the region’s geology and geomorphology?

Remnant of original forest cover

- Dinghushan, U.N. Man and the Biosphere Reserve, located 86 km west of Guangzhou
- Last 9 km of China's original subtropical, monsoon, moist forest
- This forest was the extensive habitat of the South China tiger; tiger perhaps extinct as of 2004

Dinghushan's forest cover is about 400 years old, *2003*

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South China tiger may be extinct, 2004; 50 remain in zoos

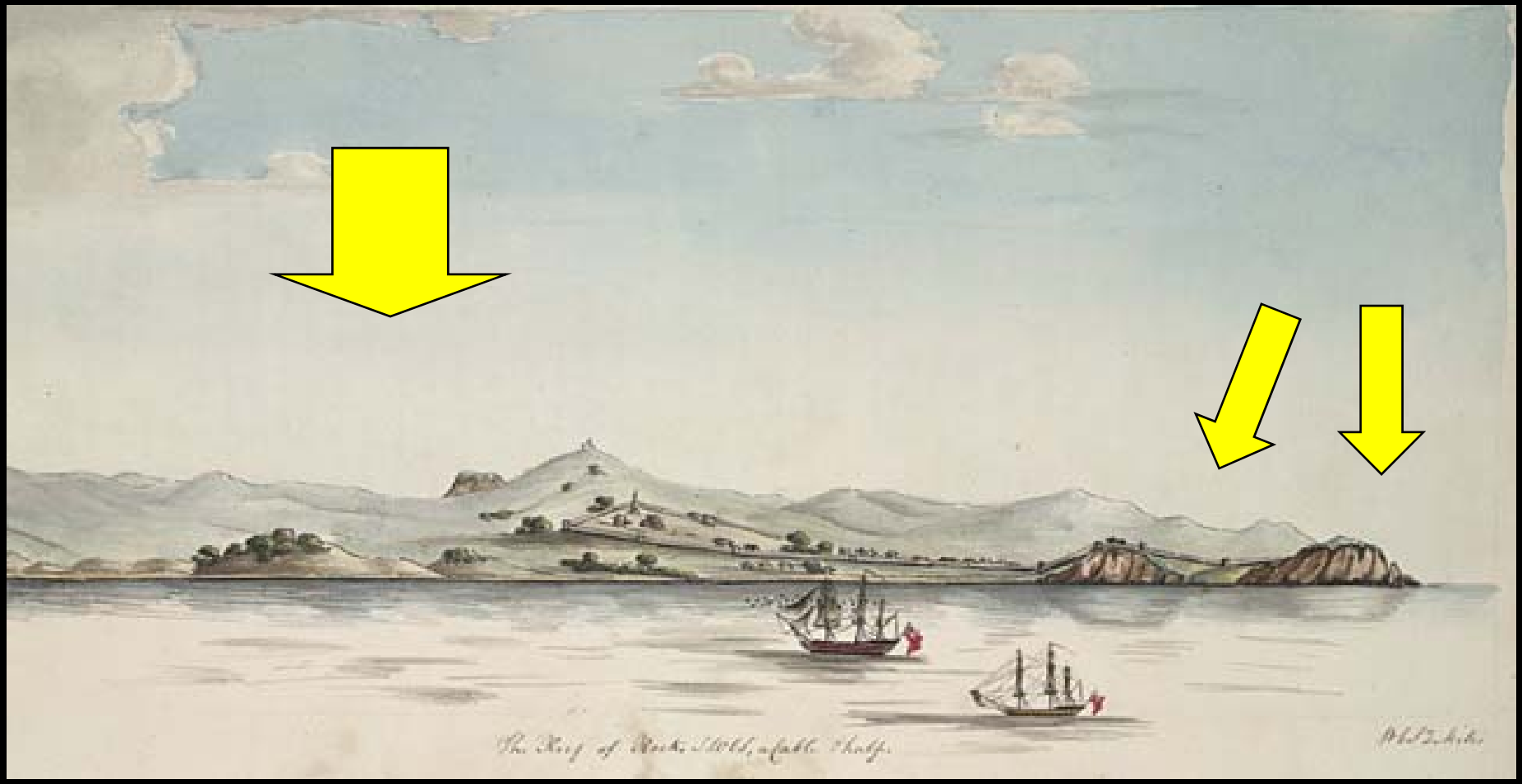
Vegetation destruction and soil loss

- Damage began about 1000 yrs. ago as the Chinese population began shifting from north to south
- Forests were cleared by cutting and burning for farming, fuel, building materials, and for protection from wild animals and bandits
- Seasonally, heavy rainfall eroded much of the soil

Common characteristics of degraded lands of the Pearl River Delta region

- Bedrock largely granite and volcanic rock
- Deep chemical weathering to 60-80 meters
- Land easily eroded where vegetation is absent
- Soil fertility poor
- Frequent fires retard vegetation regrowth
- Landslides common

Deforested land, and landslides near mouth of the Pearl River, *1793*



Wason Collection of East Asia, Cornell University Library

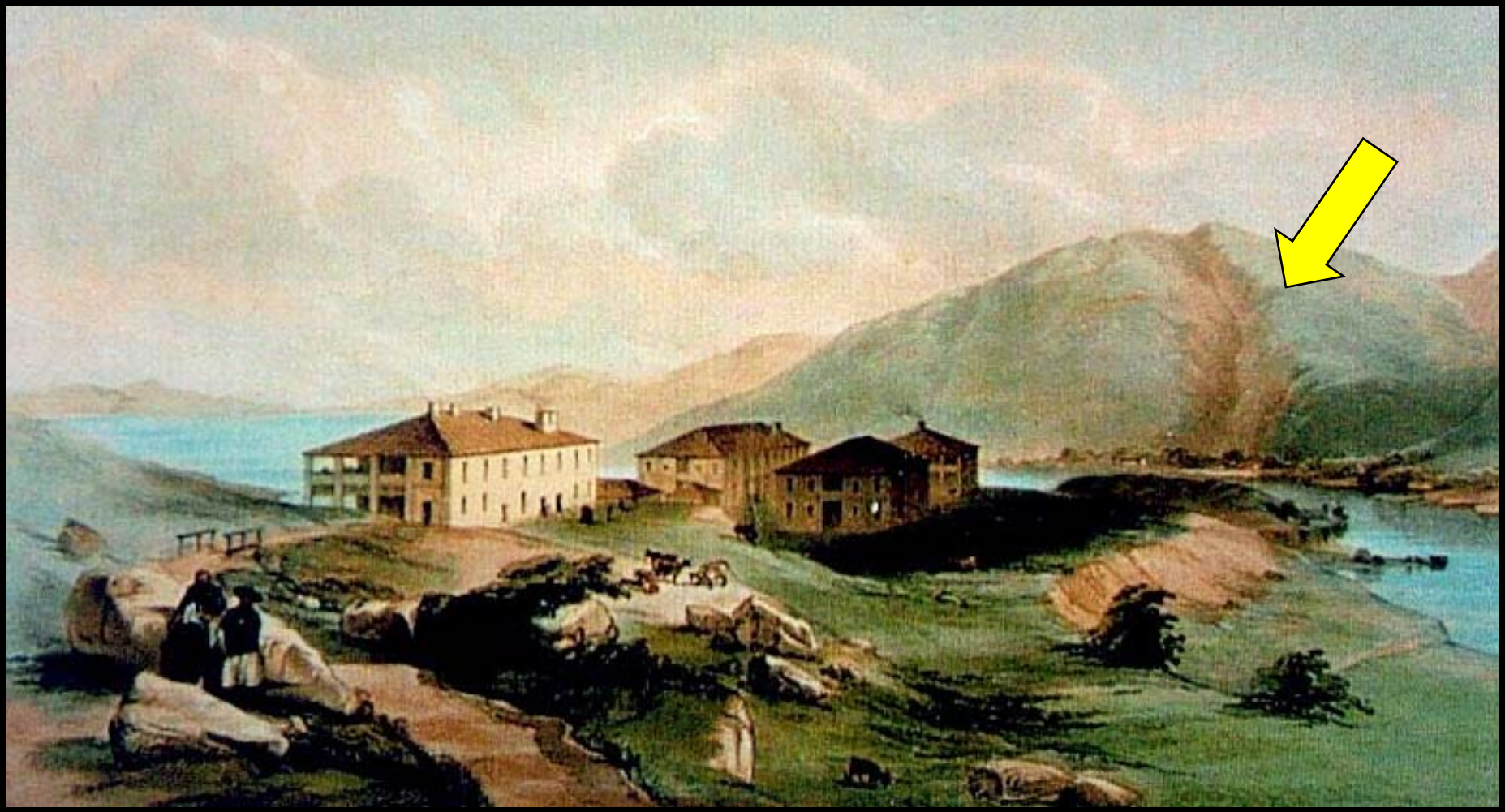
Hong Kong landslide, *1995*

Hong Kong Geological Survey Collection

Once forested, now grasslands

Lan Tau Island, Hong Kong, 1967

Eroded and deforested Hong Kong mainland, *M. Bruce, 1846*



Hong Kong Museum of Art, Historical Collection

Deeply eroded Hong Kong Island

Anon., 1847

Hong Kong Museum of Art, Historical Collection

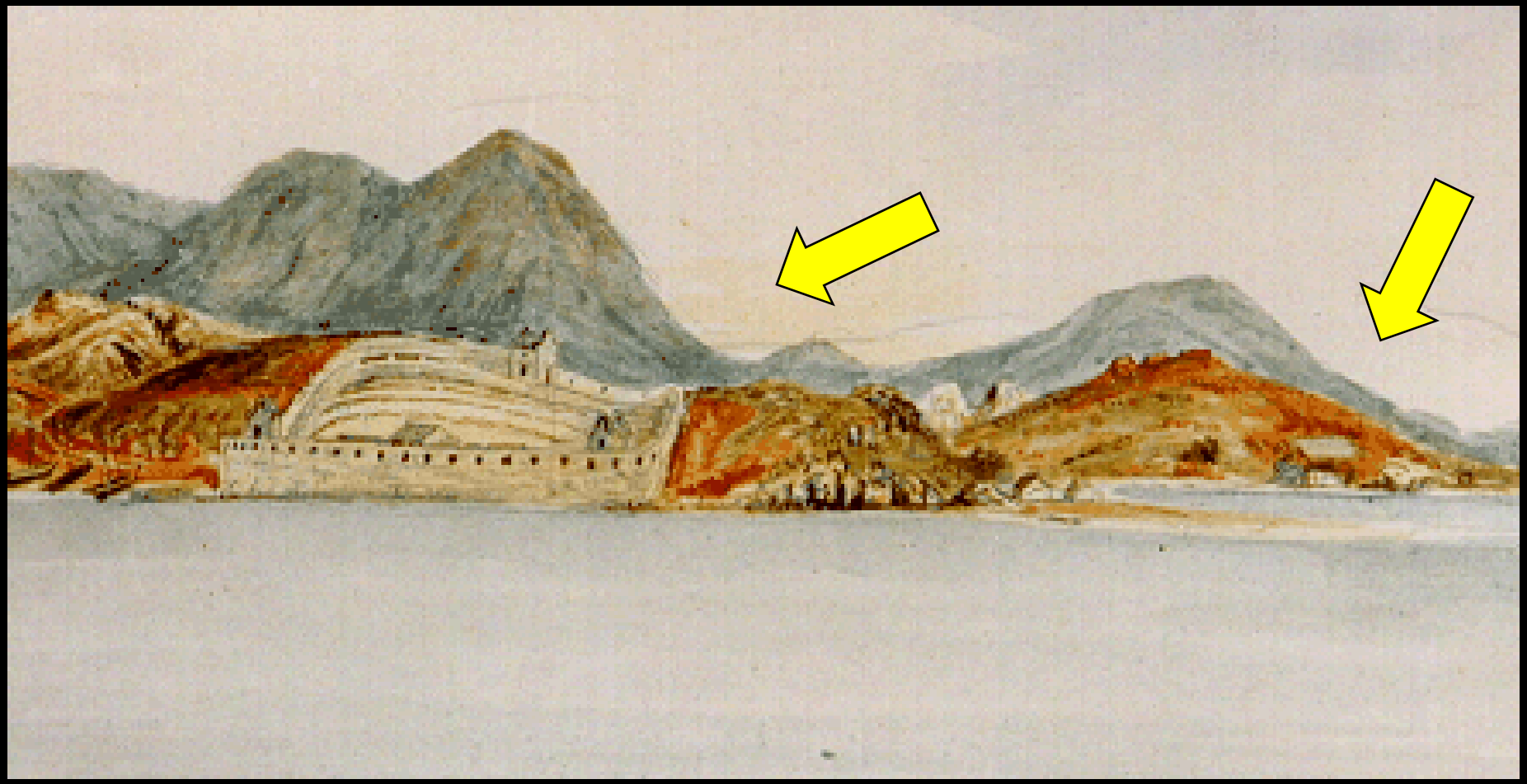
Deeply Eroded Hong Kong Island

Anon. 1855-60

Hong Kong Museum of Art, Historical Collection

Barren Kowloon, Hong Kong

J. Collins, 1841



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Western Hong Kong and islands,
E. Hildebrandt, 1860s

Hong Kong Museum of Art, Historical Collection

Scalped Landscape, Hong Kong

Lodder 1833-57

Hong Kong Museum of Art, Historical Collection

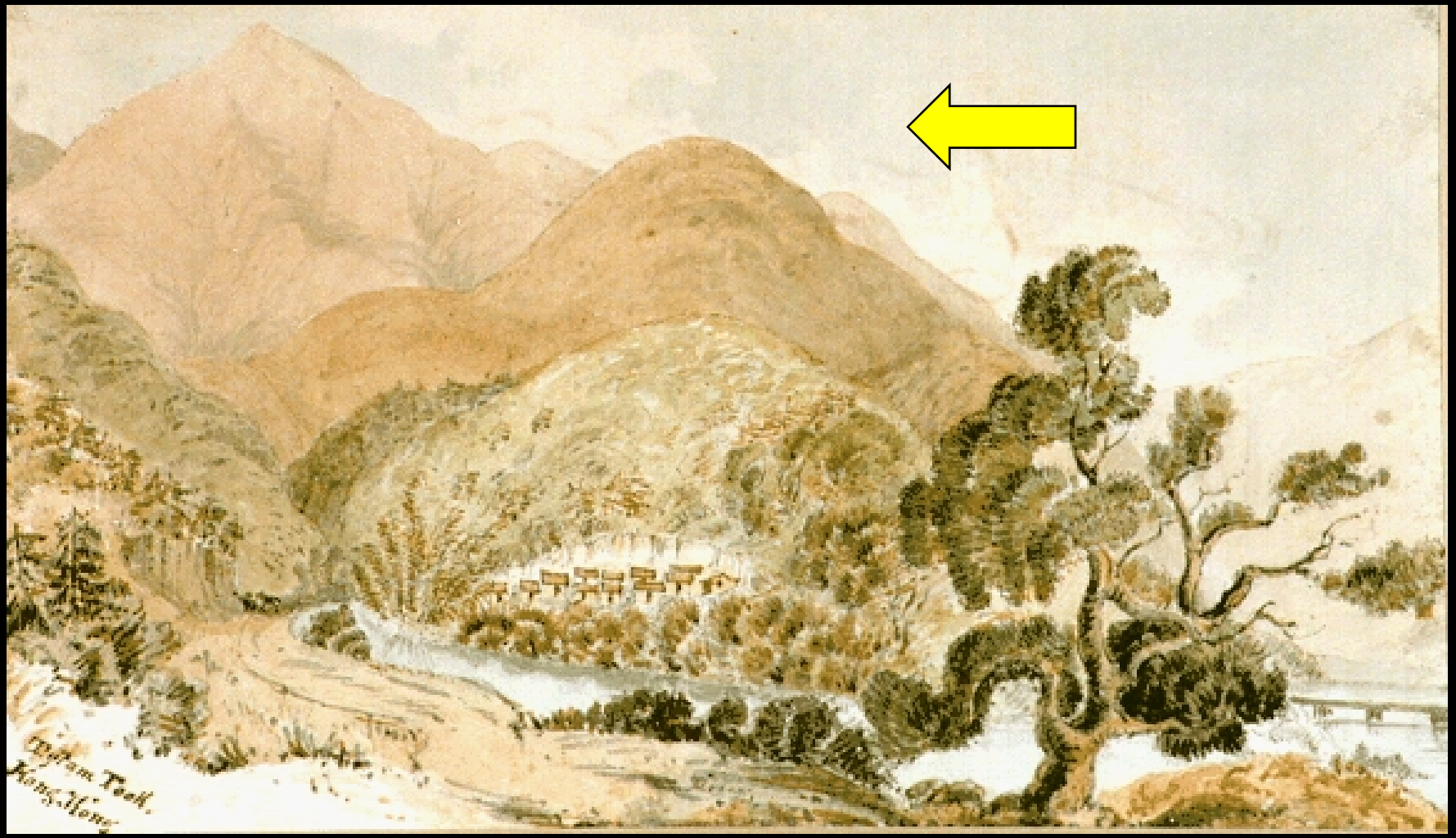
Erosion-exposed tree roots, Hong Kong,
A. Borget, 1838

Hong Kong Museum of Art, Historical Collection

Eroded South side of Hong Kong Island,
E. Hildebrandt,1860s

Hong Kong Museum of Art, Historical Collection

South Hong Kong barren hills,
Wm. Lodder, 1833-57

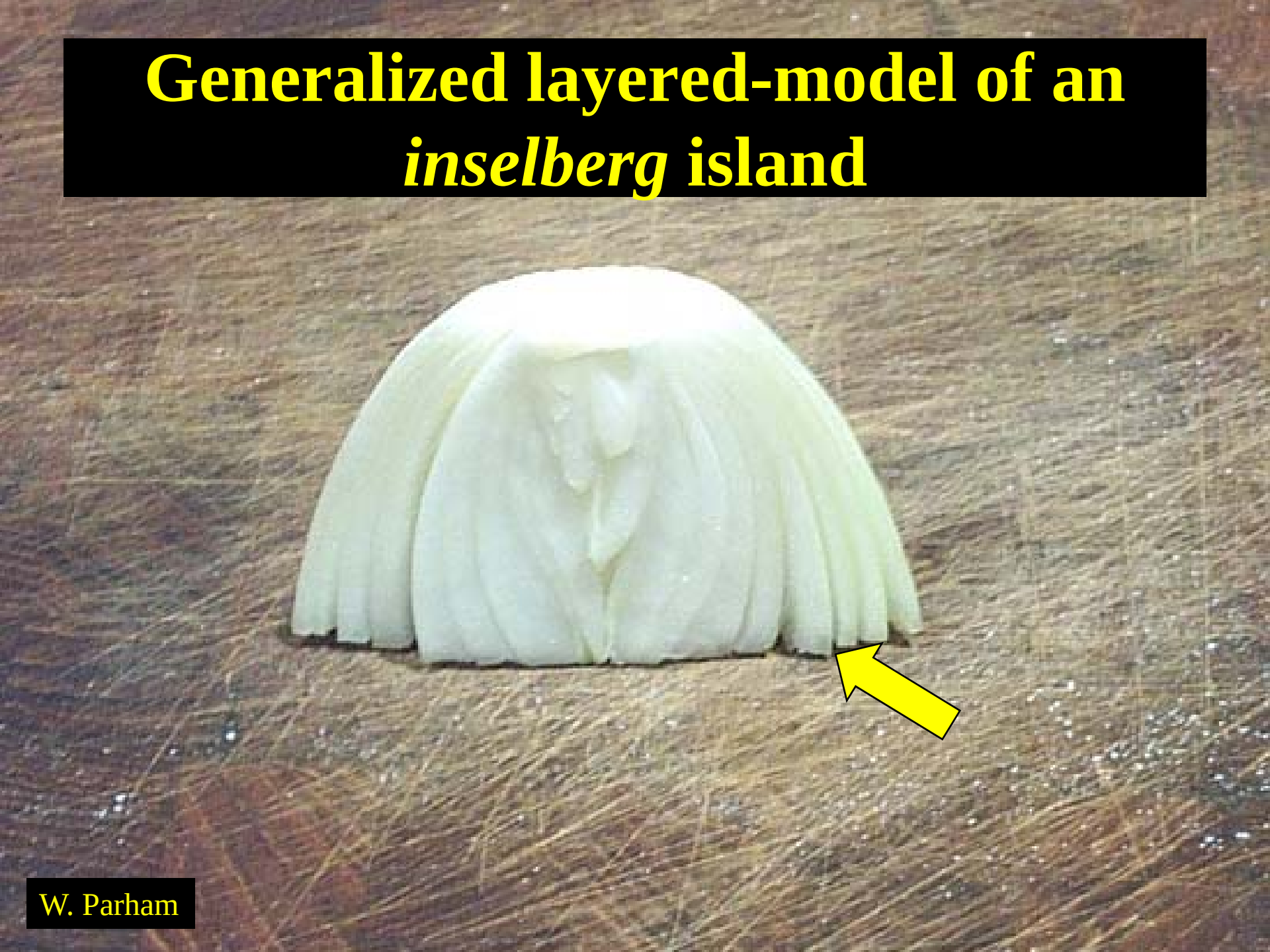


Hong Kong Museum of Art, Historical Collection

Inselberg island of the Pearl River Delta

- This domed-shaped island is made of concentric, thin layers of granite (an onion-like structure). As rock layers exfoliate during weathering, the island continues to maintain its characteristic smooth, dome-like form.

Generalized layered-model of an *inselberg* island



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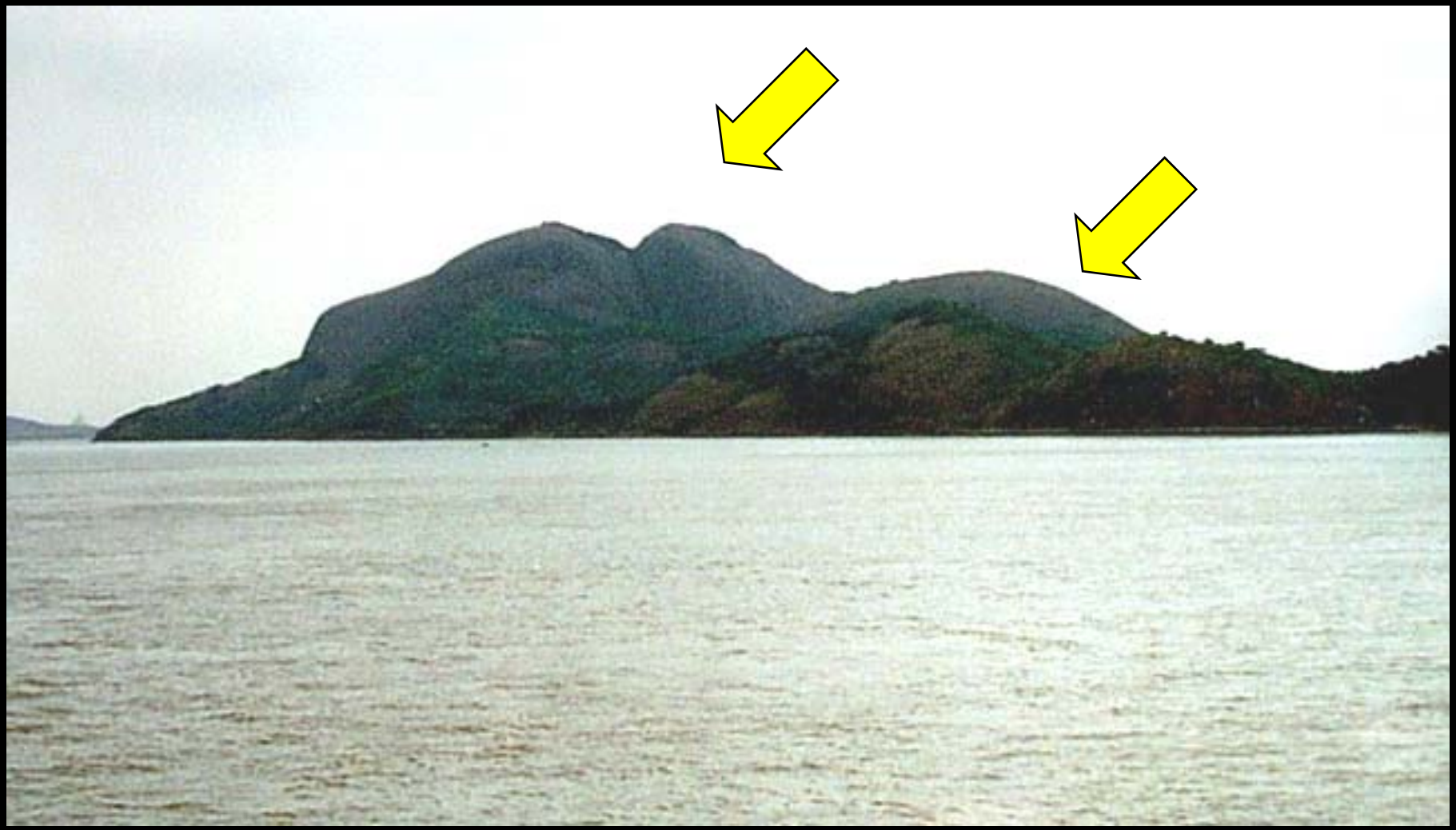
Granite *inselberg* island (background), near Humen, *1994*



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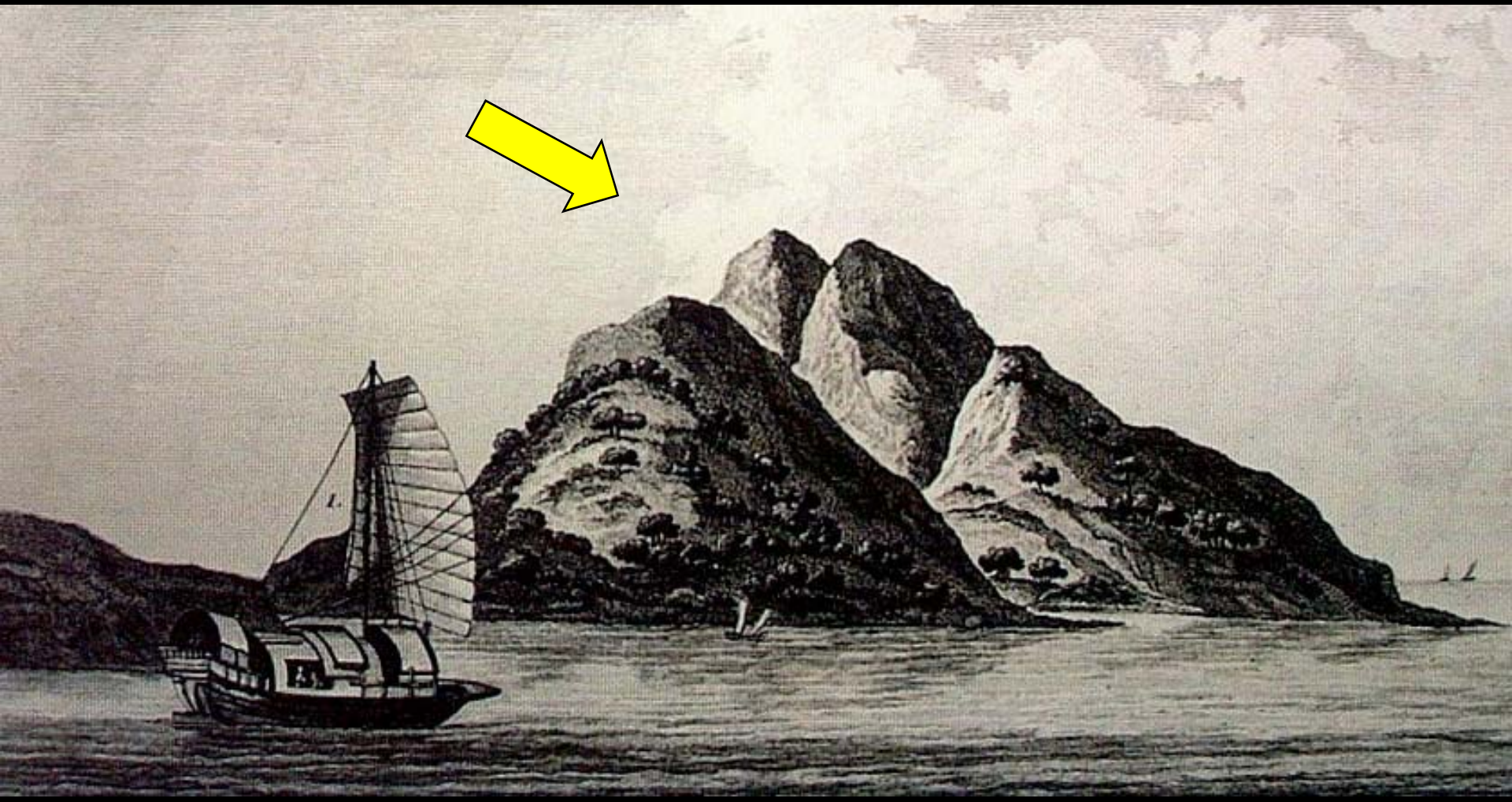
Pearl River *inselberg* island

John Meares, 1794



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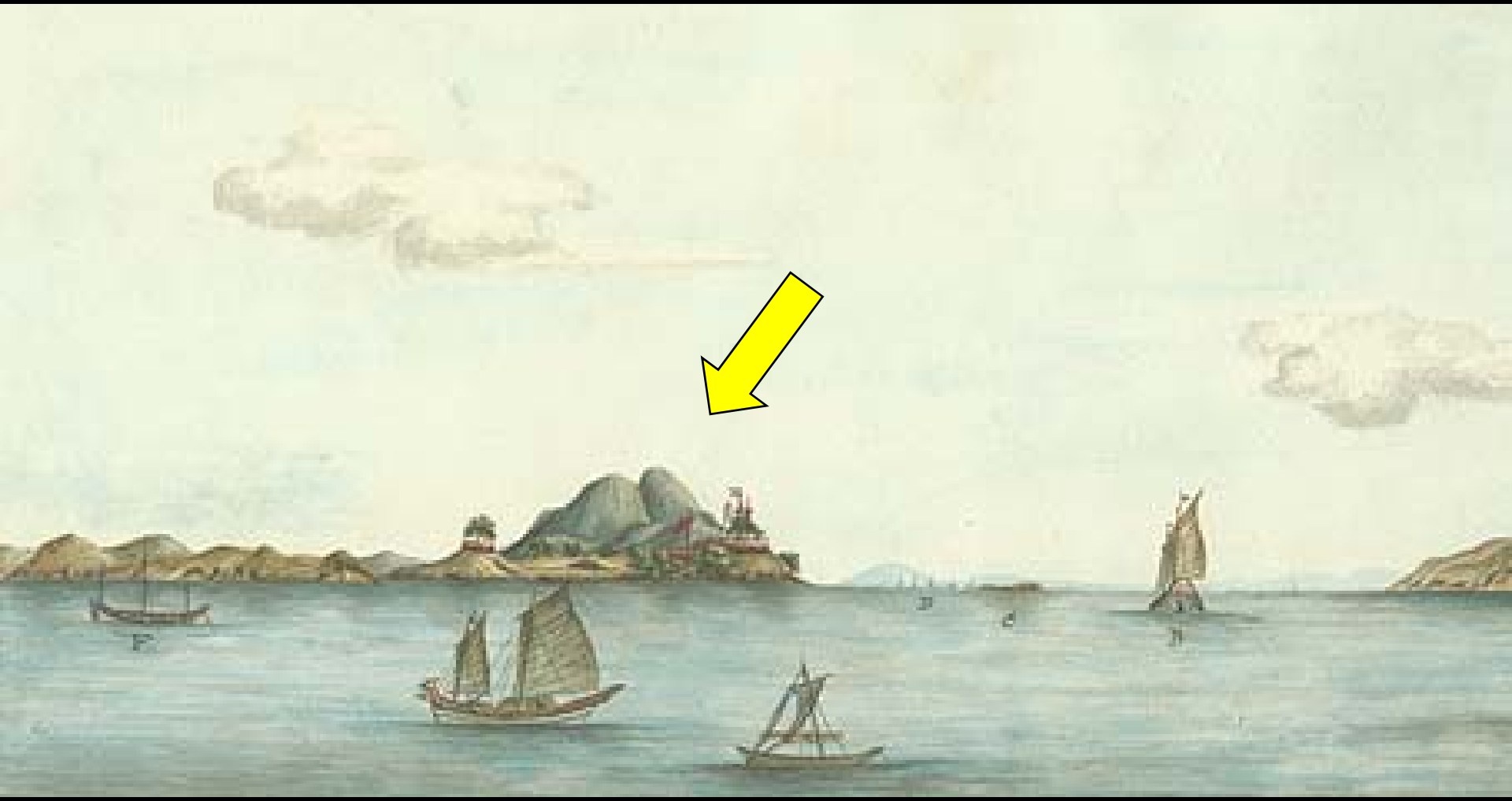
Pearl River *inselberg* island
HMS Lion log book, 1793-94



Wason Collection of East Asia, Cornell University Library

Pearl River *inselberg* island

Wm. Alexander, 1796

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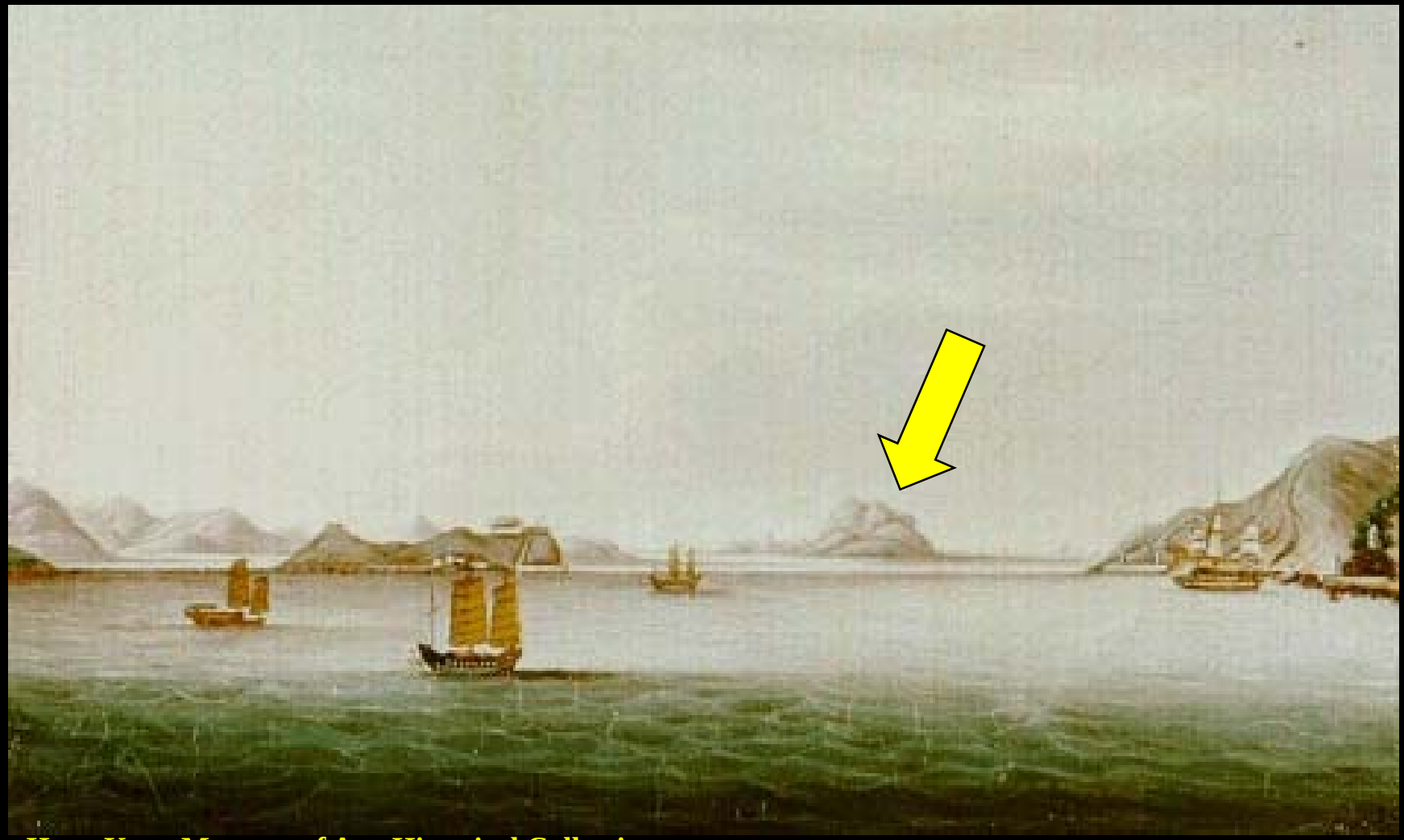
Pearl River *inselberg* island
Anon., early 1800s



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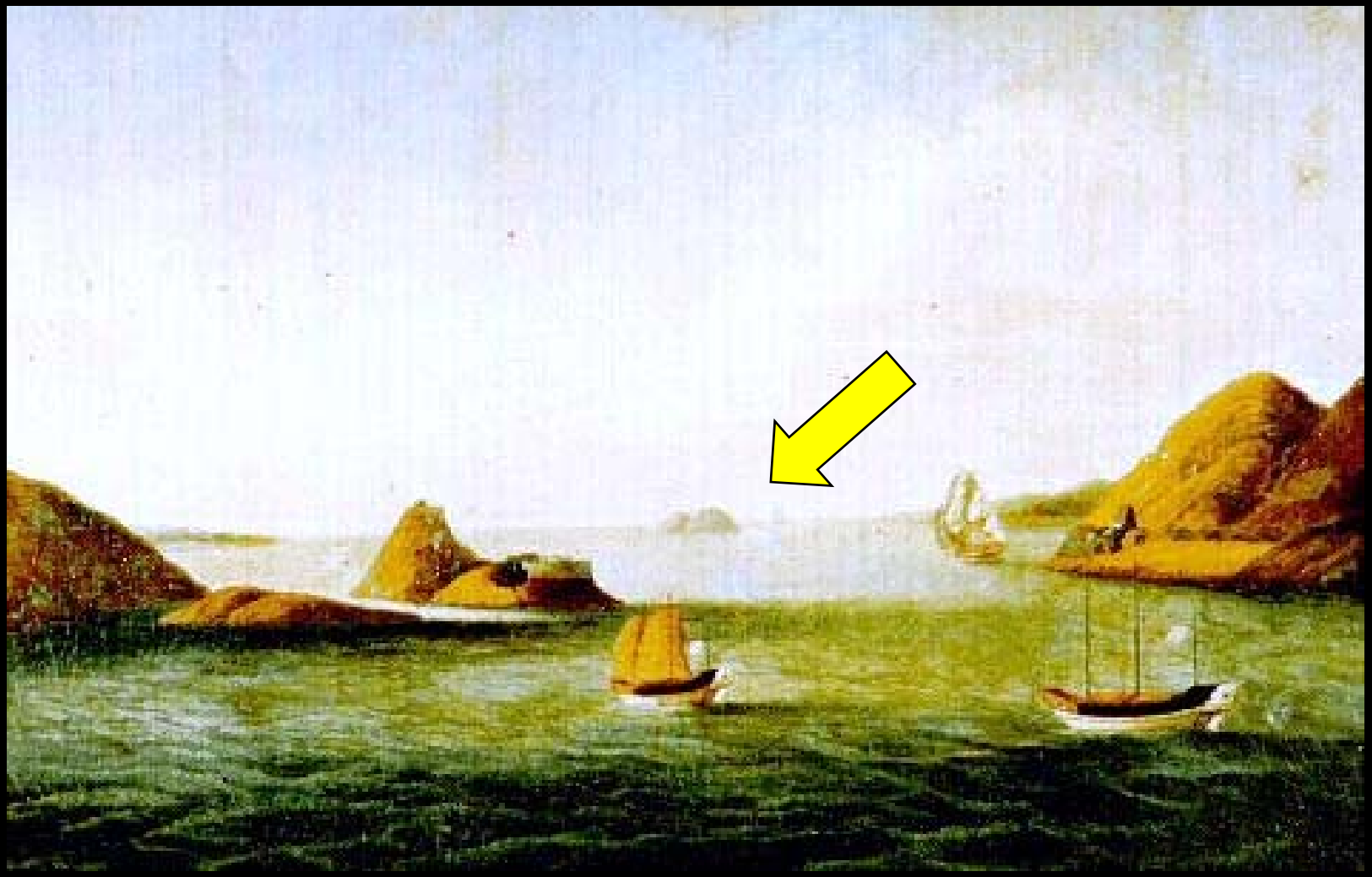
Pearl River *inselberg* island

Anon. 1800s



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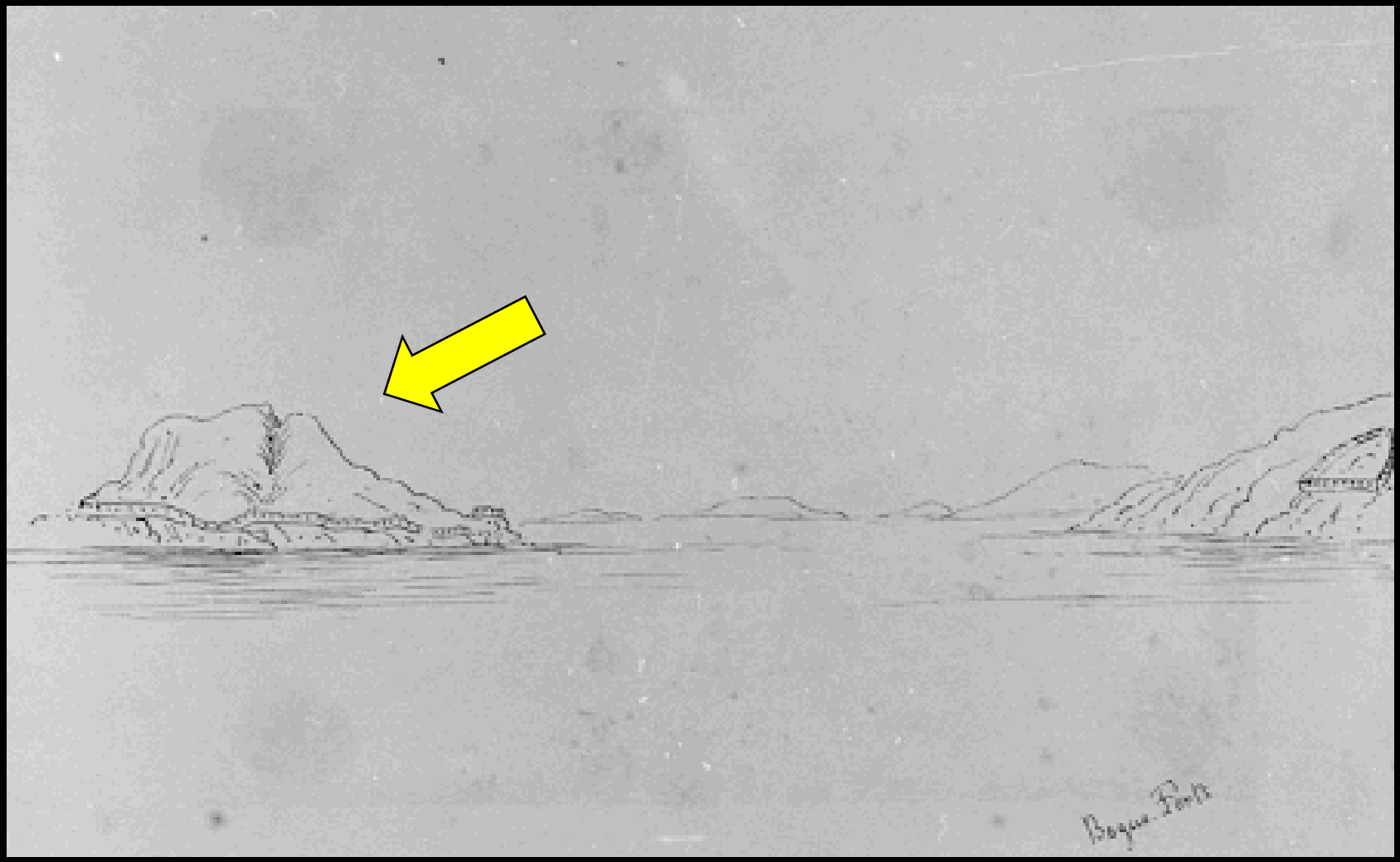
Pearl River *inselberg* island

Wm Lodder, 1833-57



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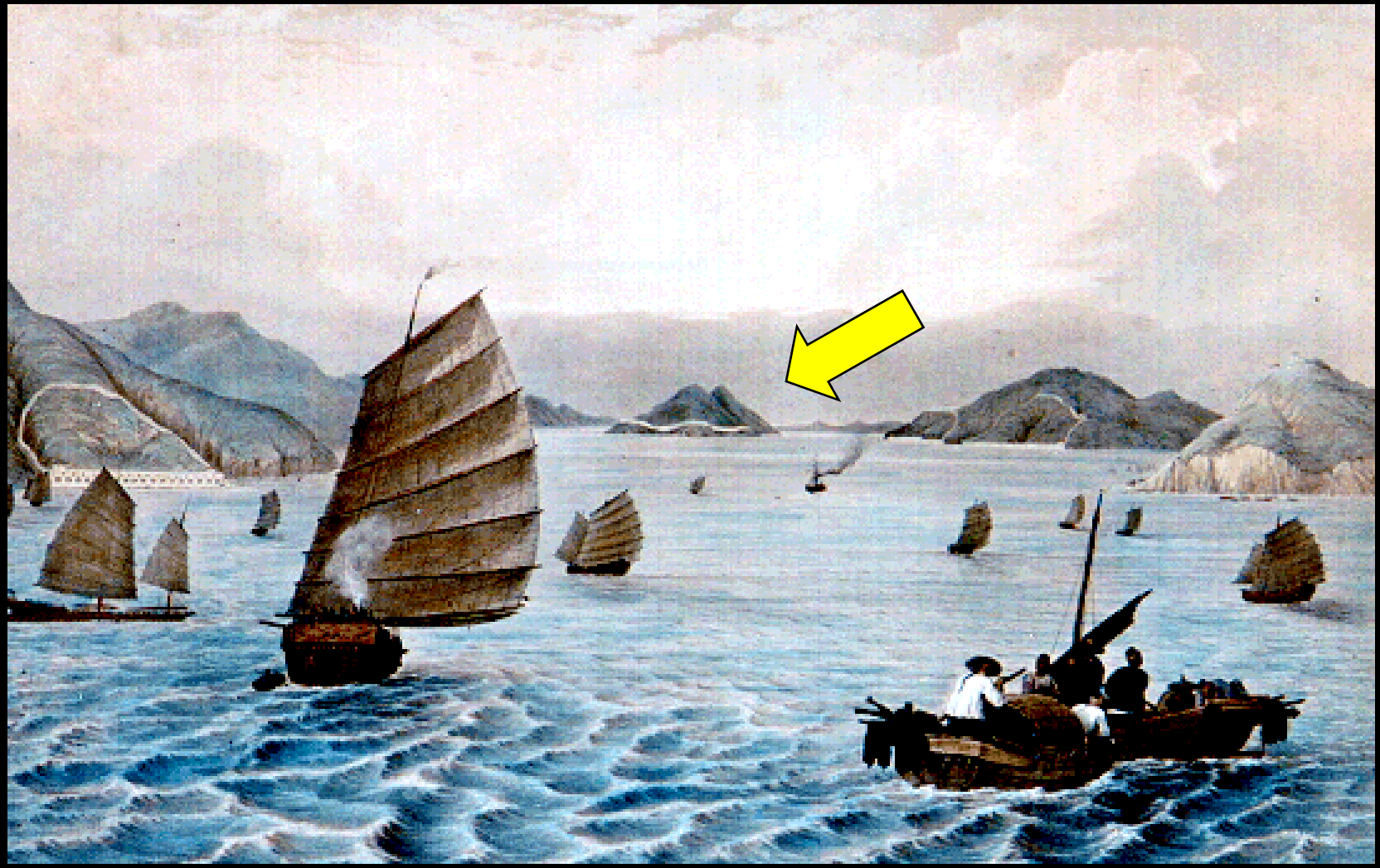
Pearl River *inselberg* island

Lt. Martin, 1847



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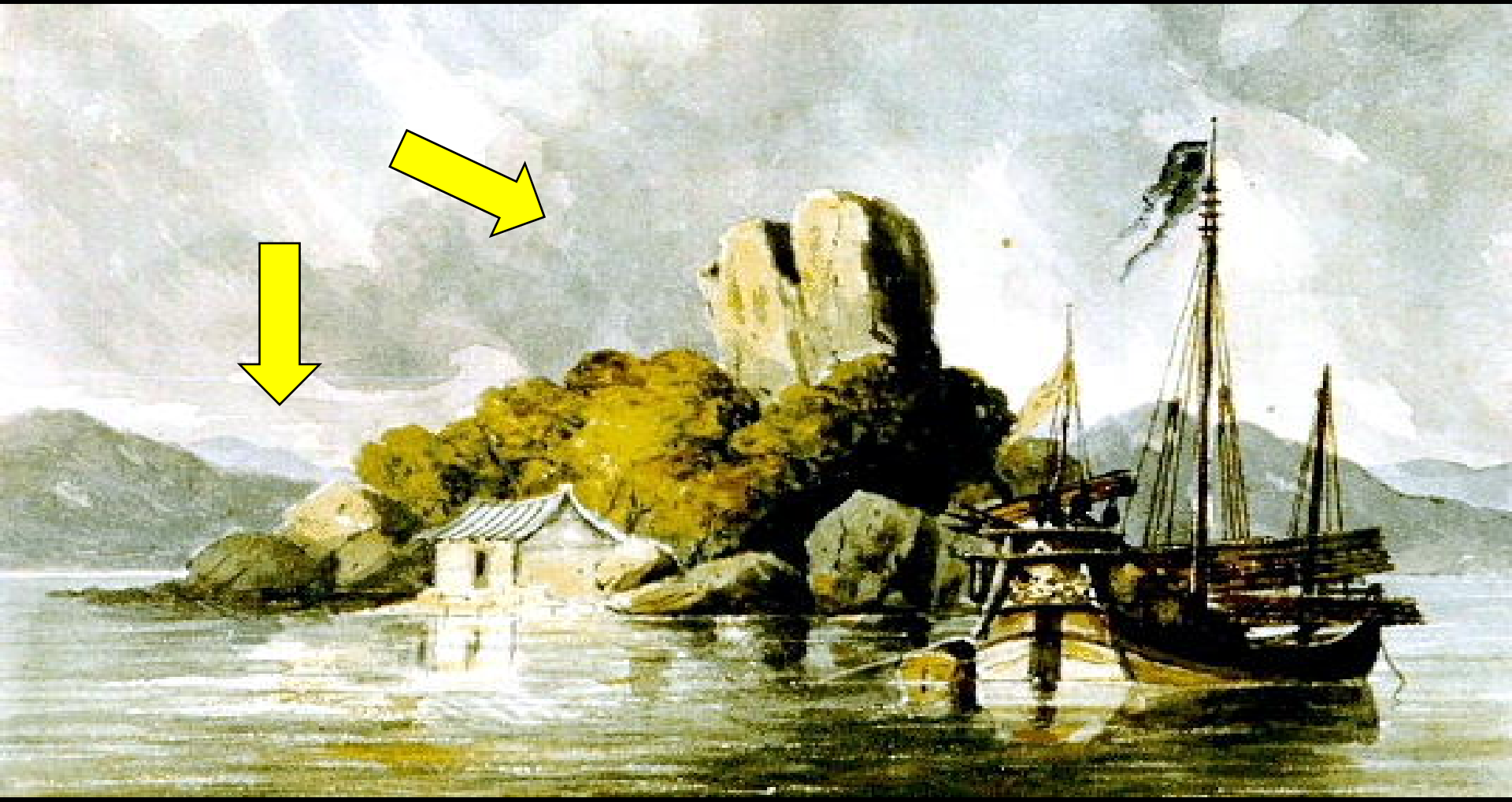
Granite tor, Hong Kong

J.Johnson, 1840s



Hong Kong Museum of Art, Historical Collection

Formation of core stones

- Chemical weathering along joint planes produces collections of fresh, granite core-stones similar to a pile of sugar cubes
- Core stones are common on the land surface where weathered granite is subjected to erosion in the wet tropics
- Core-stones slide and roll down hills during heavy rains

Model of core-stone formation

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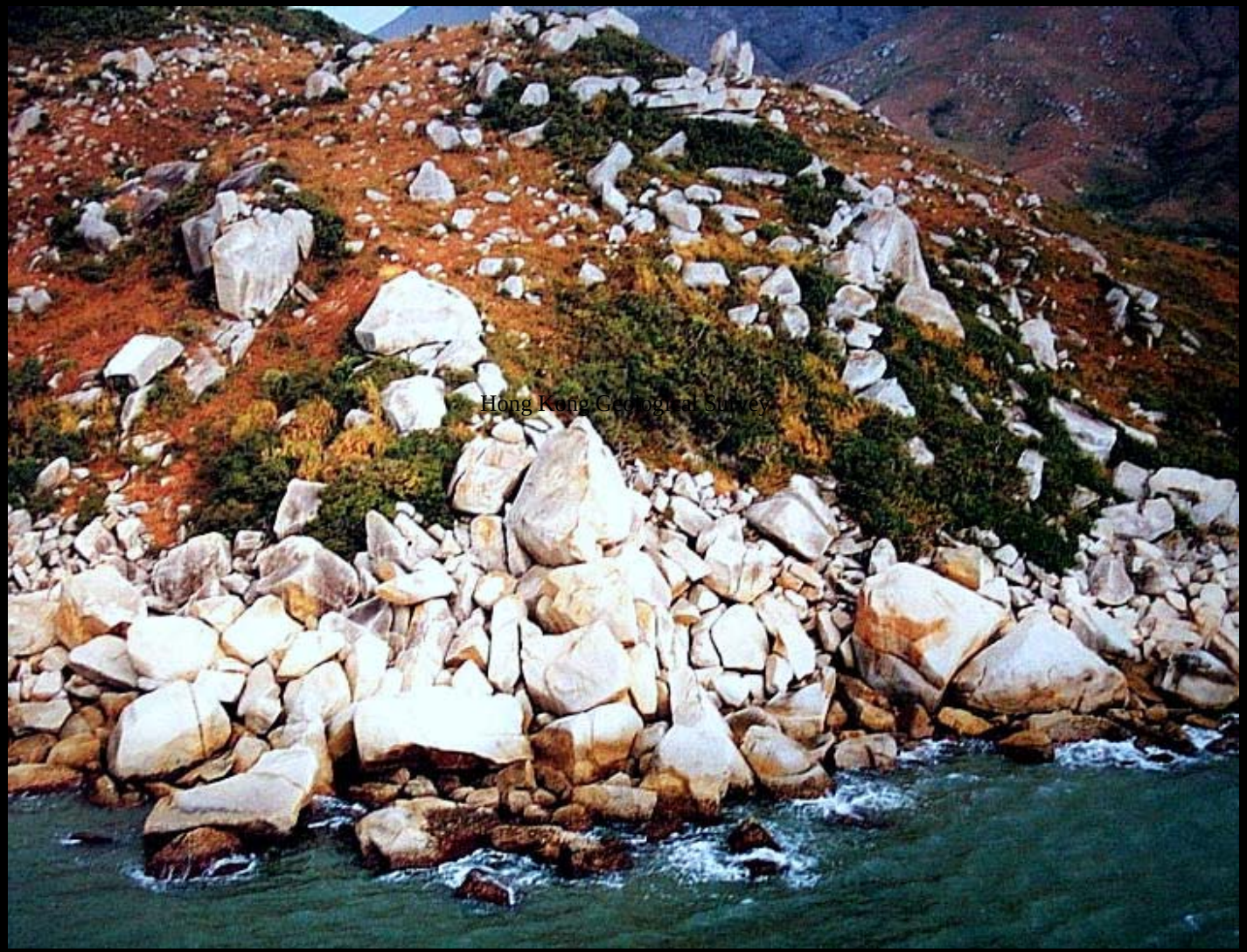
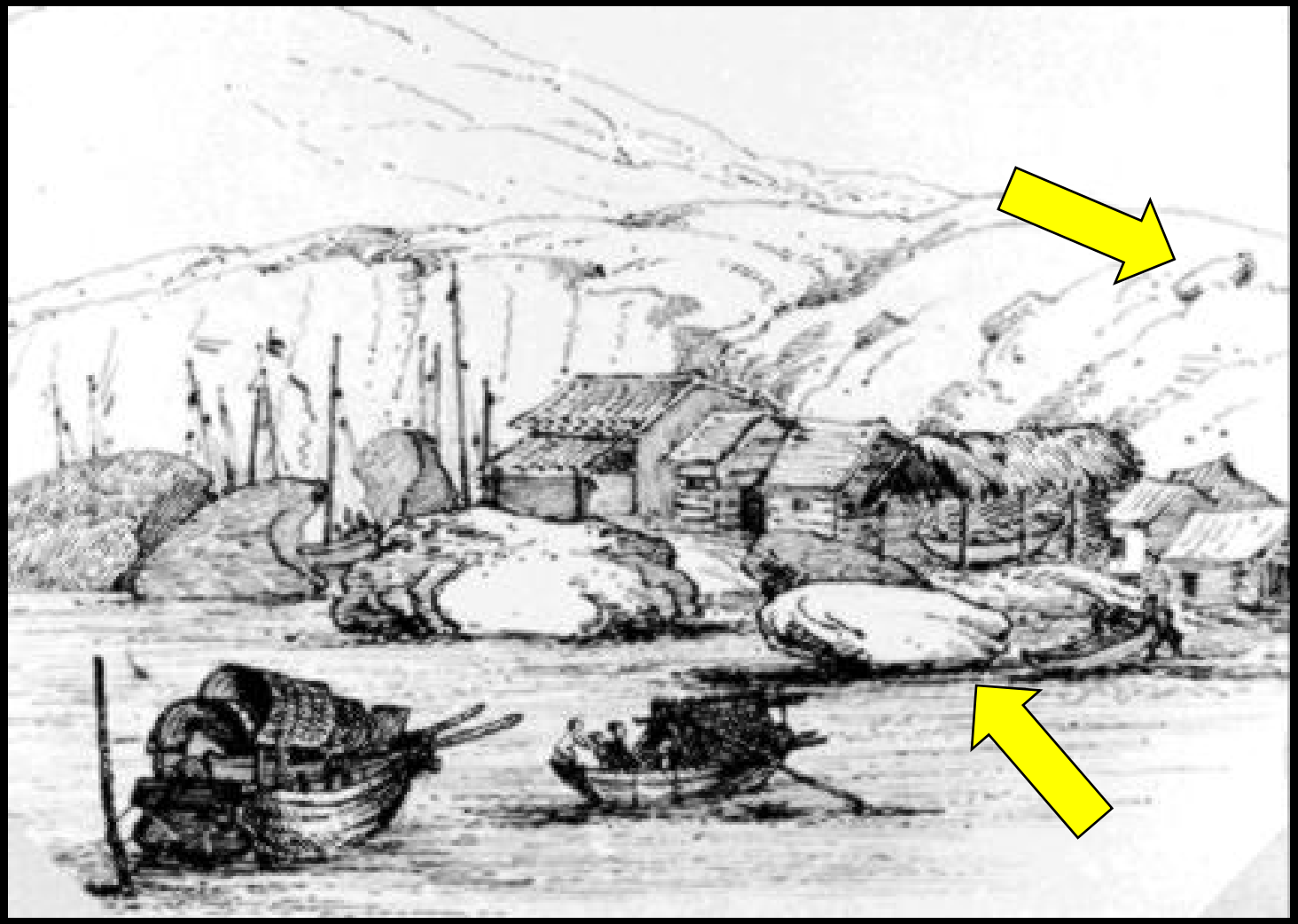
Core stones on Tai A Chau, Hong Kong, *1998*



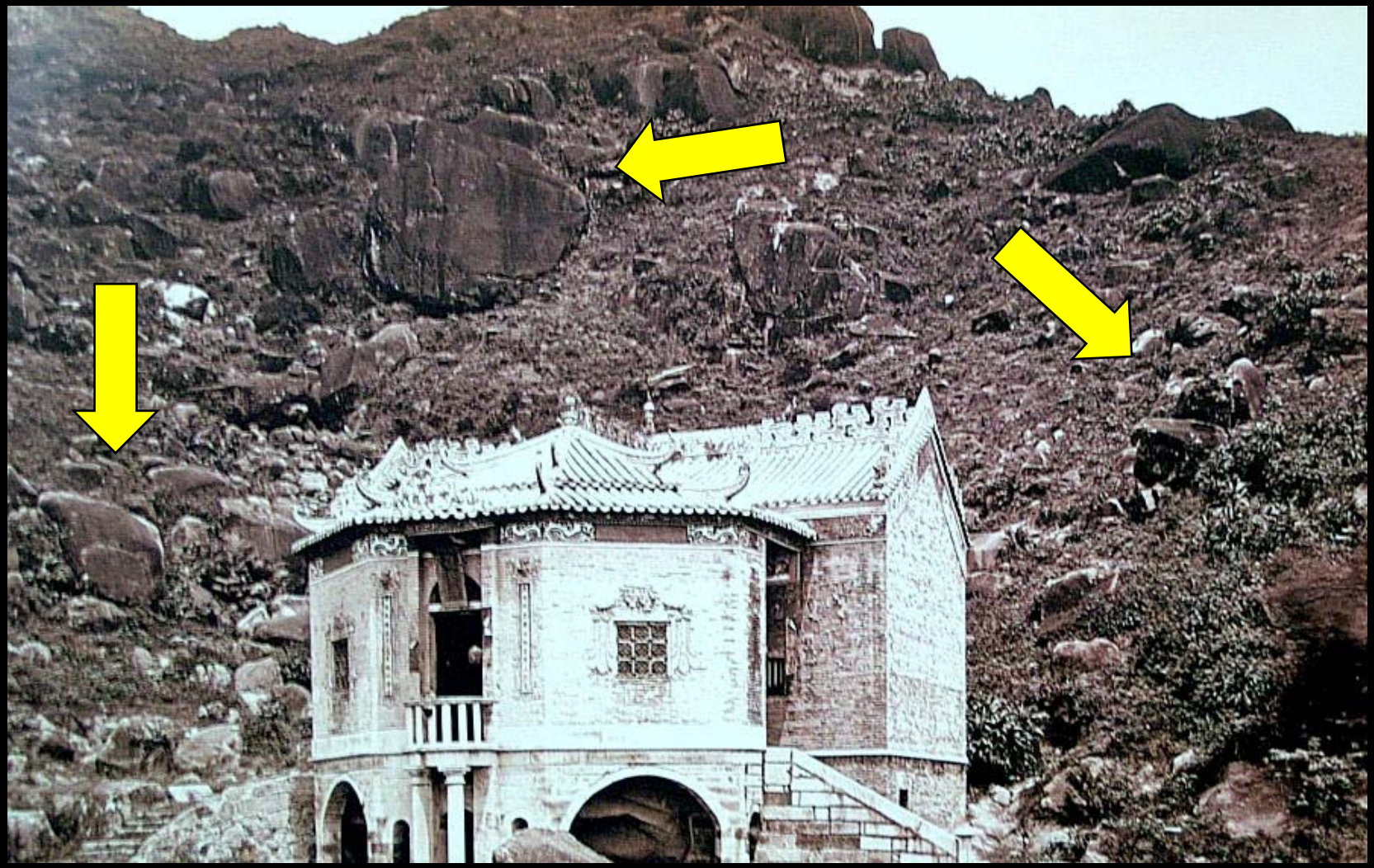
Hong Kong Geological Survey Collection

Barren land and core stones, Hong Kong, *Wm Lodder, 1833-57*



Hong Kong Museum of Art, Historical Collection

Core stones, Hong Kong,
Daguerreotype, 1860s



Wattis Fine Art Collection, Hong Kong

Core-stone covered granite (left), Hong Kong, *Sunqua (?), 1854*

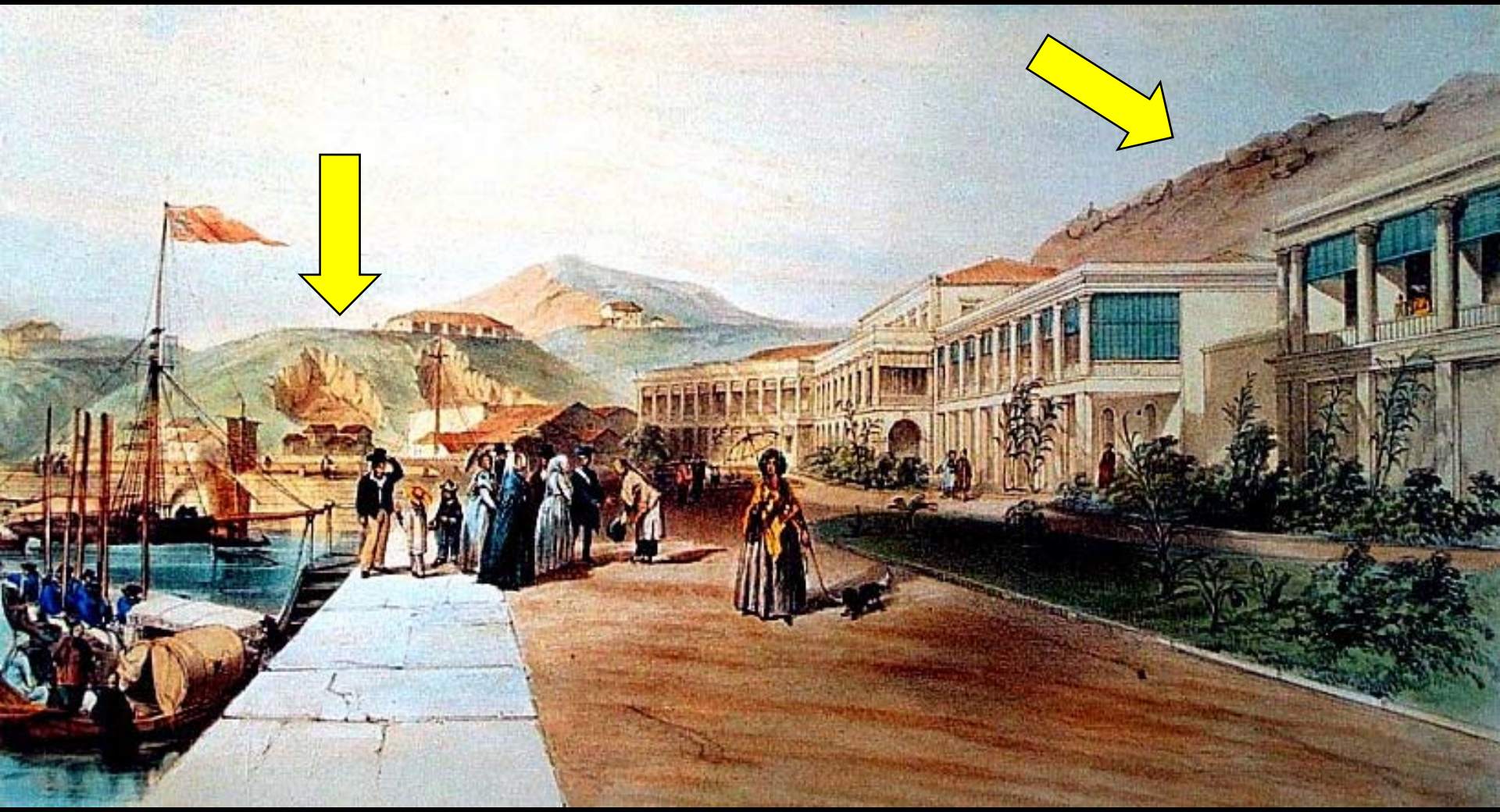
Hong Kong Museum of Art, Historical Collection

"Beng-gang" **gulley erosion**

- Chinese name for horseshoe-shaped gulley erosion feature with a steep back wall and a narrow outlet
- A common water-erosion feature formed in deeply weathered granite
- Can form rapidly in degraded sites under heavy rainfall

Beng-gang erosion in weathered granite, *Zhuhai, 2003*

Beng-gang erosion, and core stones, Hong Kong, *M. Bruce, 1846*



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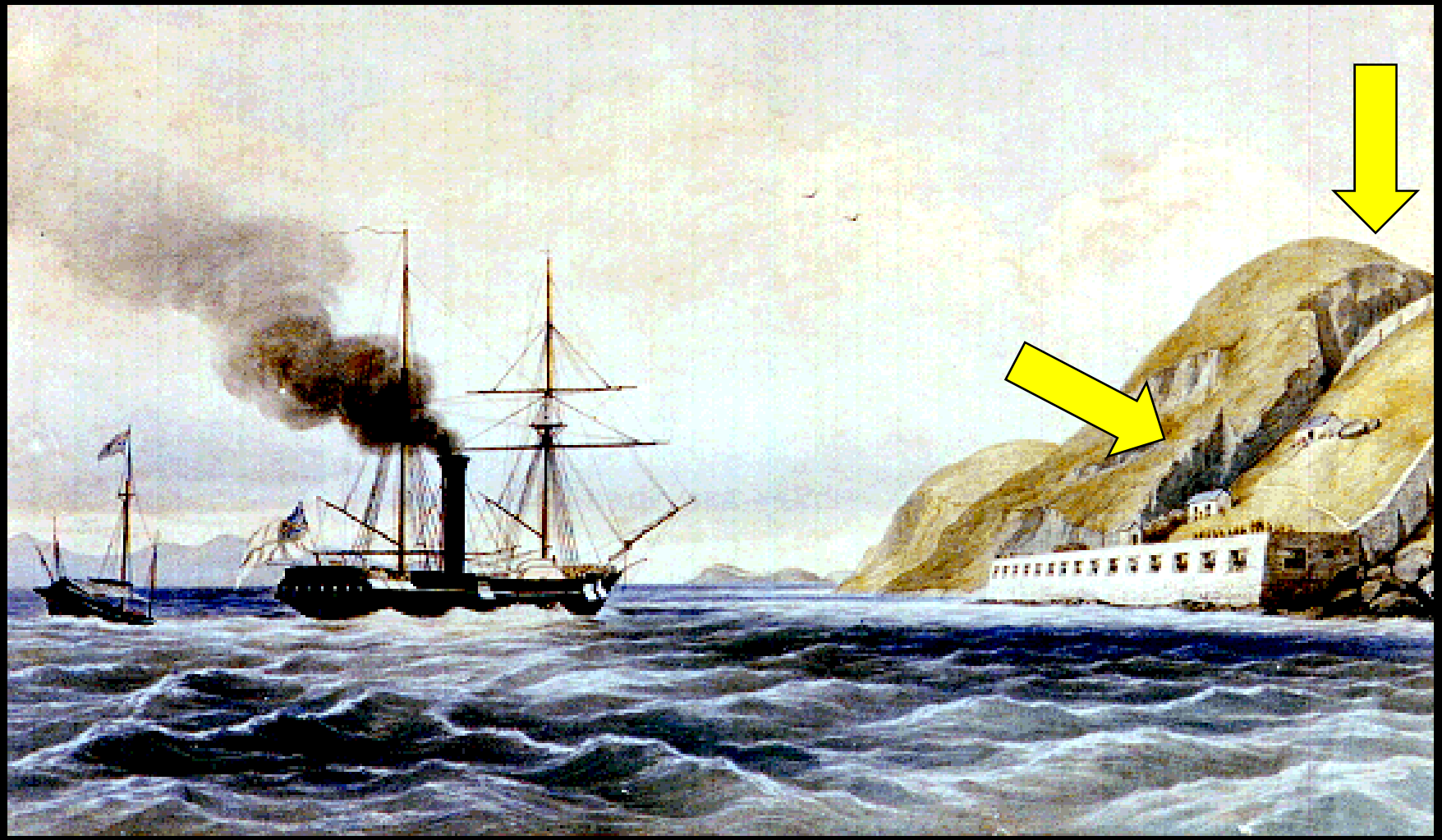
Beng-gang erosion, Annunghoi, Pearl River, *Lt. Martin, 1847*



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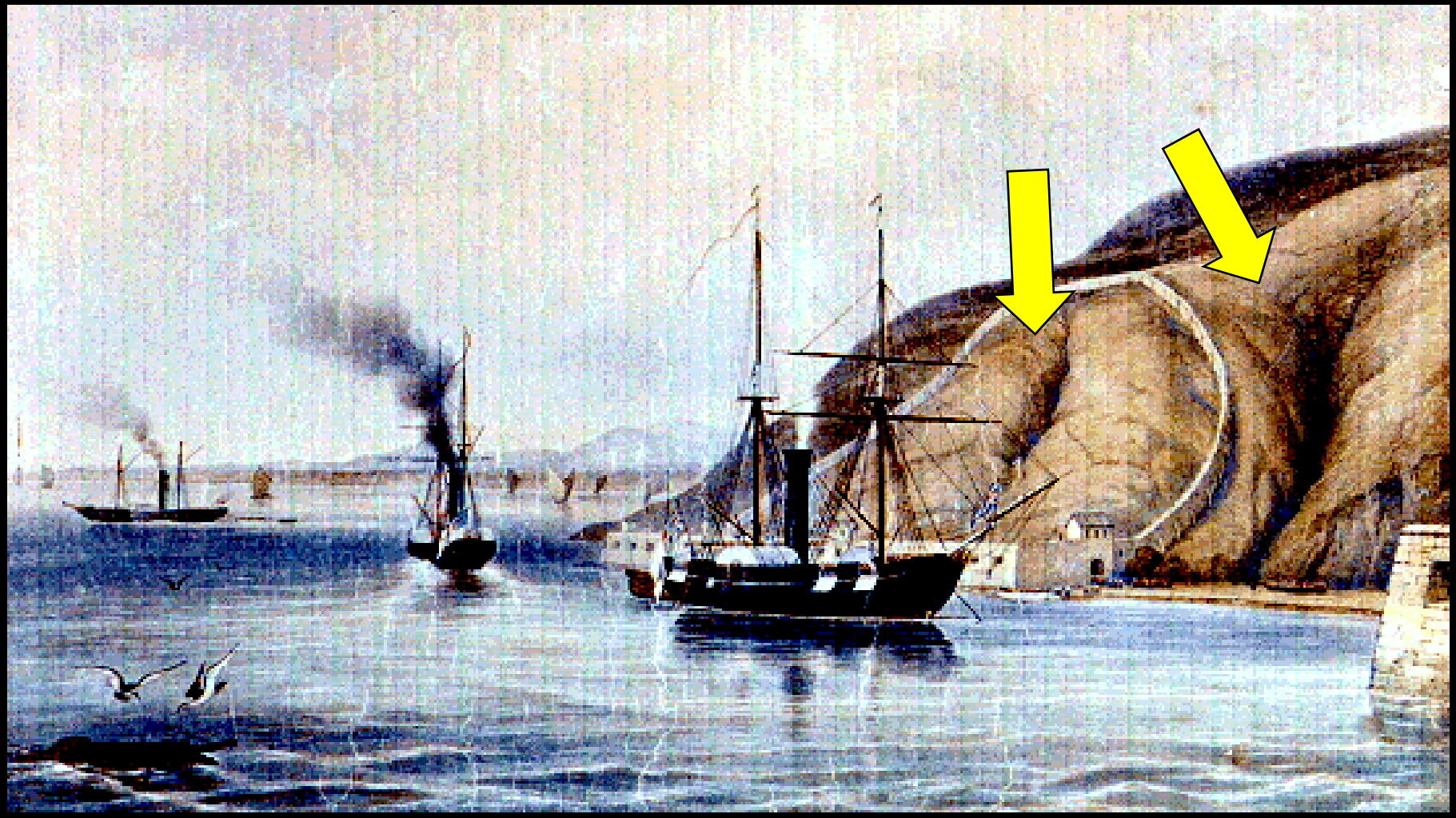
Beng-gang erosion, Annunghoi, Pearl River, *Lt. Martin 1847*



Hong Kong Museum of Art, Historical Collection

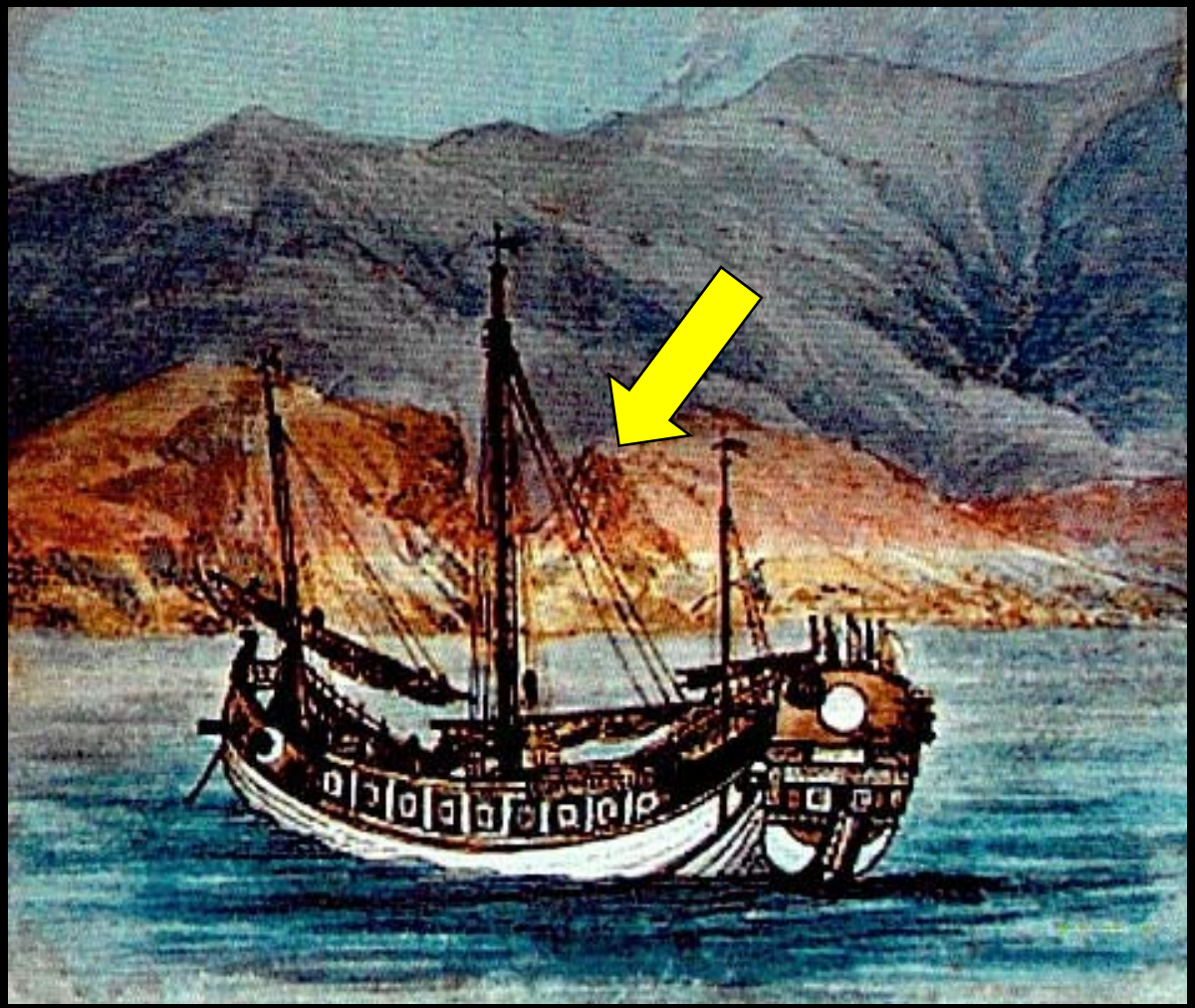
Beng-gang erosion, Hong Kong

Wm. Lodder, 1833-57

Hong Kong Museum of Art, Historical Collection

Beng-gang erosion, Hong Kong

Wm. Lodder, 1833-57



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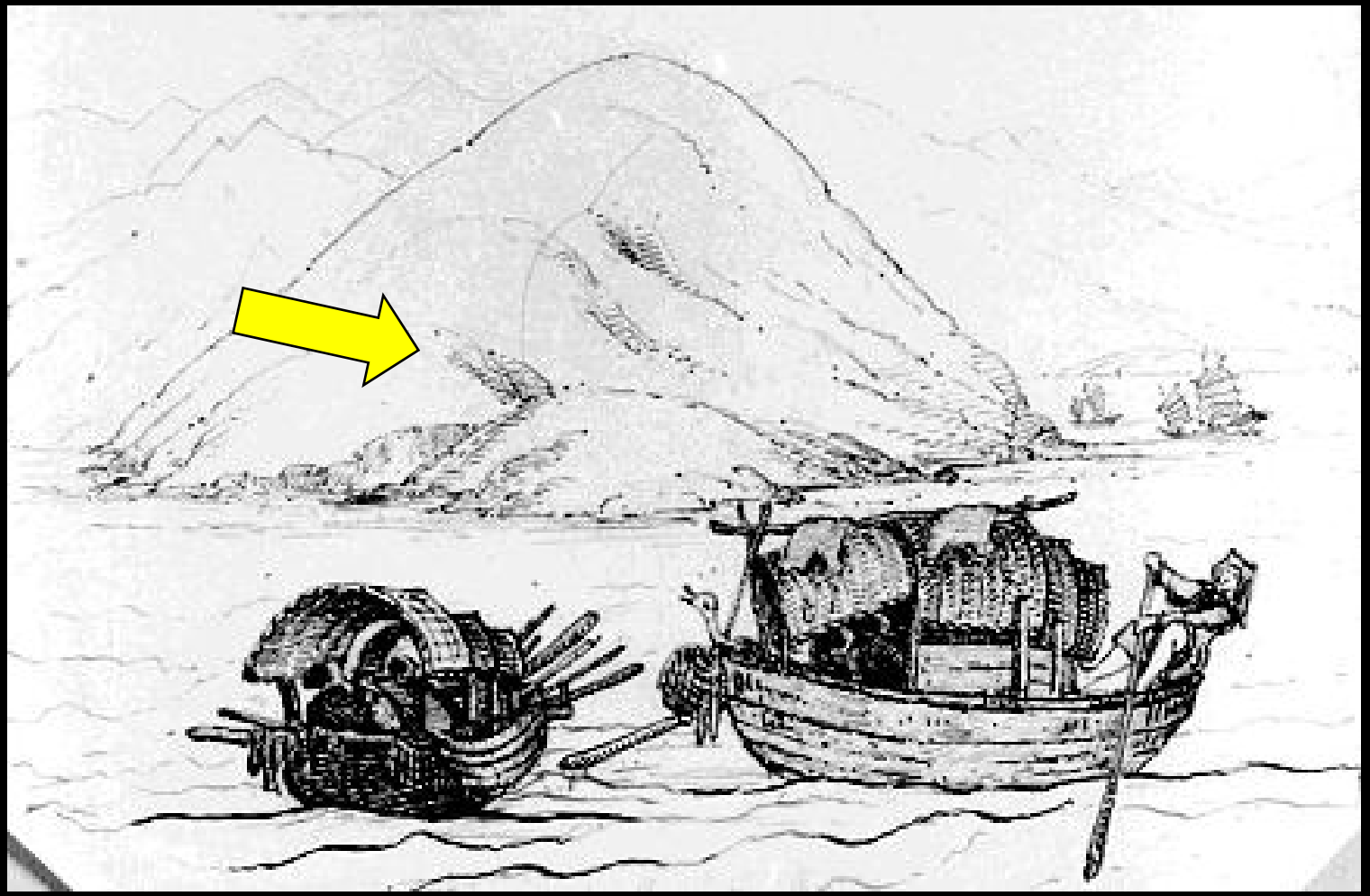
Beng-gang erosion, Hong Kong
Wm Lodder, 1857



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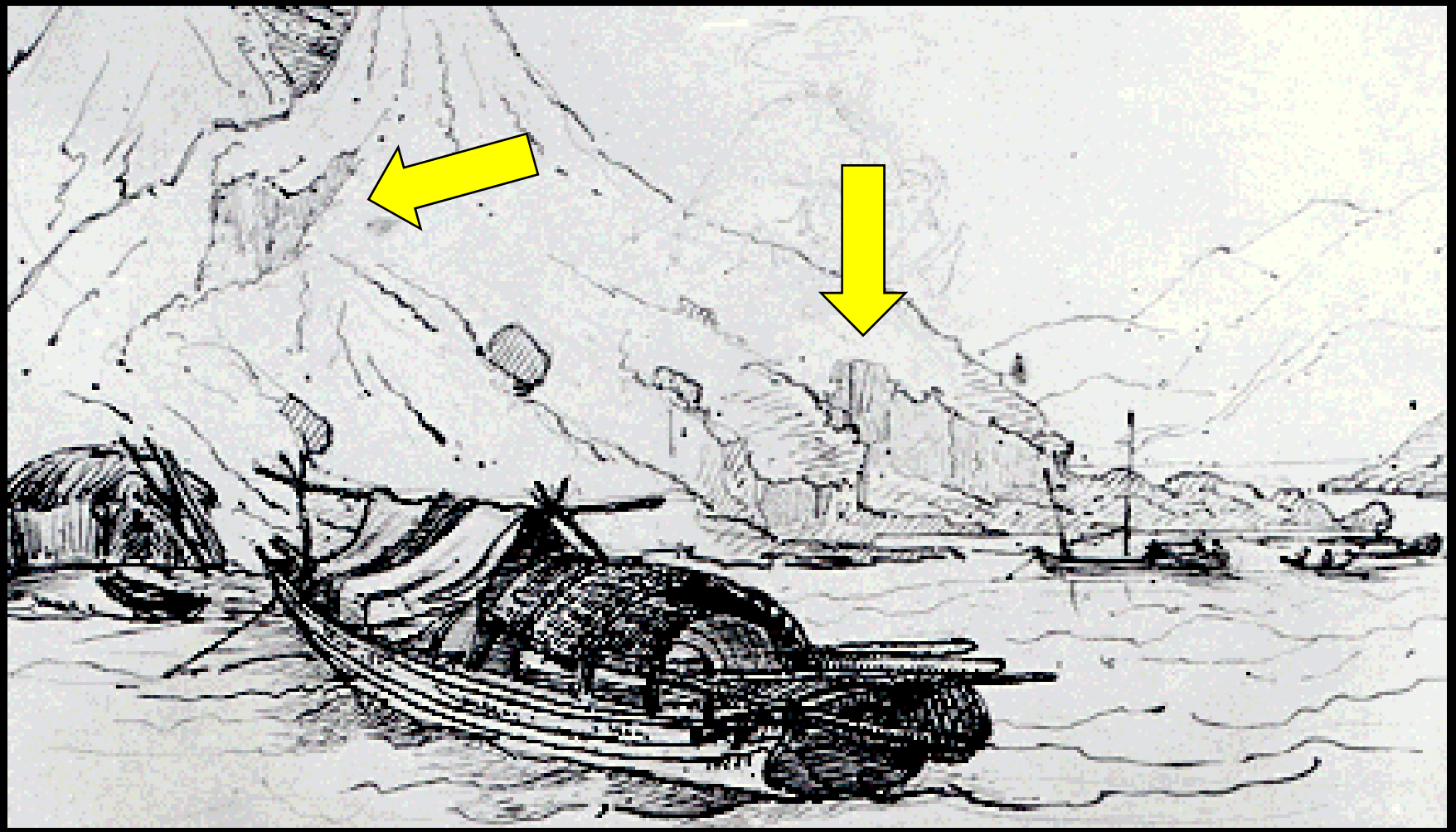
Beng-gang erosion, West Point, Hong Kong, *Wm Lodder, 1857*



Hong Kong Museum of Art, Historical Collection

Findings from review of Pearl River Delta region art

- Much of the artwork produced by Western and Chinese artists about 150-200 years ago shows that they accurately represented the Chinese landscape.
- The land, and wildlife habitats were already severely damaged in the 1700s and 1800s.
- Some geological information inadvertently captured in historic art matches current geological knowledge.

Contact Information

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