



Pearls

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Organic gem

History

- Pearl found in China from 2300 BC.



Fresco of two turtle doves
holding a pearl necklace

Afghanistan, 1st-3rd century

Baroque pearl in the form of a pendant

Spain, Circa 1535

Metropolitan Museum of Art,
NY



Bivalve and Univalve Mollusk

- ◆ Shell
- ◆ Mantel - casing covers the inside of shell to protect organism
- ◆ Animal organs
- ◆ High filtration rate
- ◆ Injury



Shells from Australia, Indonesia, the Philippines, and Myanmar, are grown in the *Pinctada Maxima* mollusk. This is called gold-lipped because of the color of the outer rim of its mother-of-pearl layer.

Bivalve

Mantle and body of the Oysters



Univalve: Queen Conch

Pearls

- Nacre :
- Calcium carbonate
- Conchiolin
- Hexagon prisms

• Siencephoto websie



Salt water cultured pearls

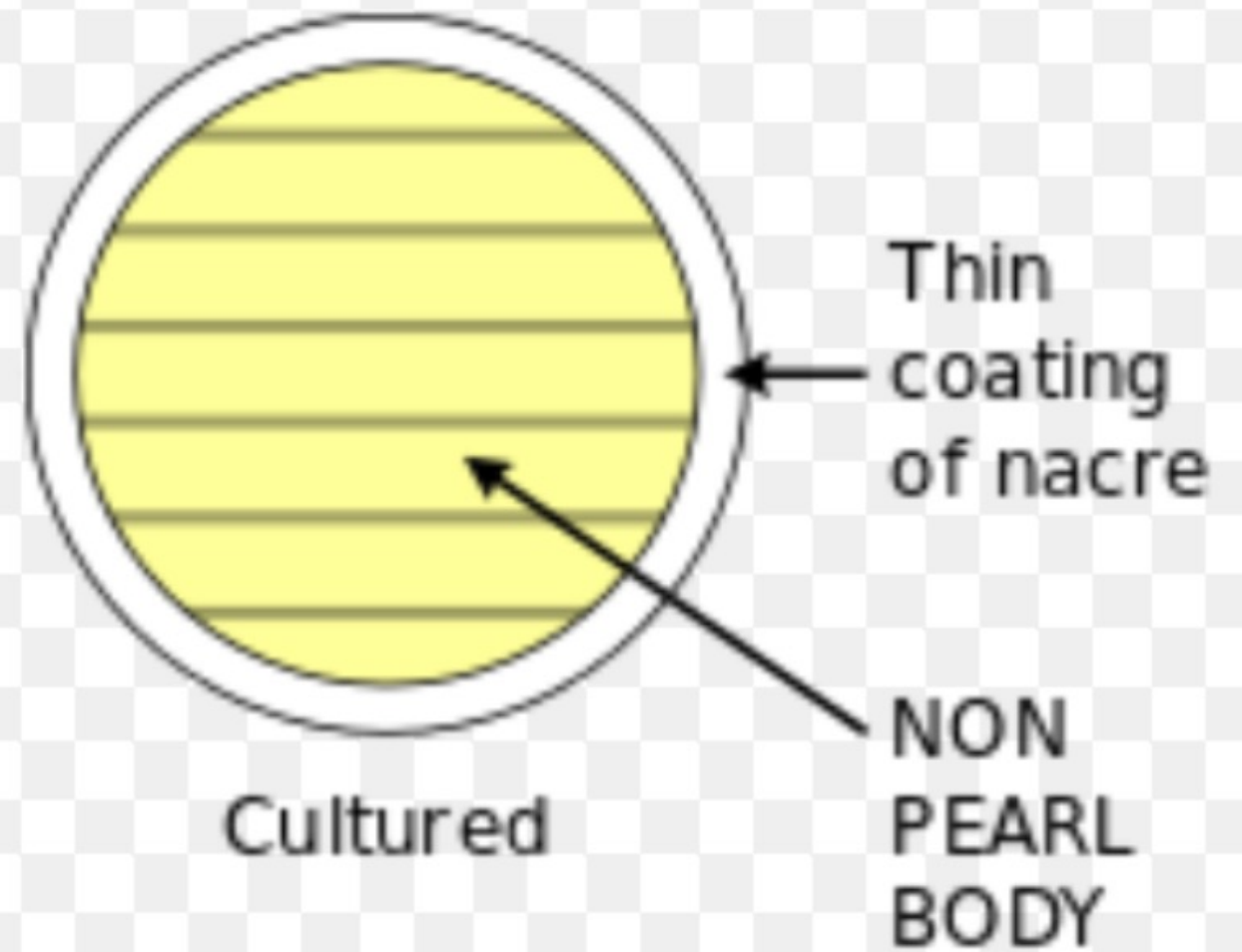
- Oysters
- Water temperatures make a difference in nacre growth, cold slower, warm water
- Nucleus
- Luster

Fresh water pearls traditionally

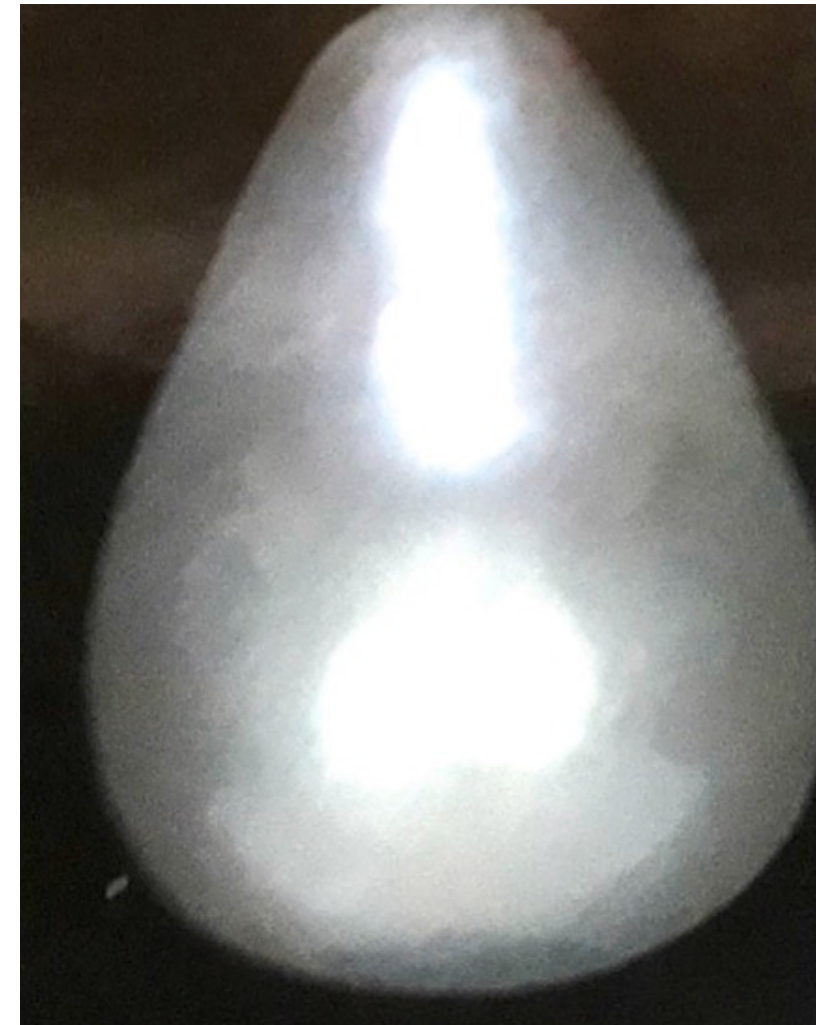
- Mussels
- Farmed in lakes and river
- Colors lean towards pastel
- Nucleus
- Smaller in size than salt water
- Luster - satin-like to metallic

Cultured vs Natural nacre growth

Diagram agt-gem



Characteristics to evaluate when observing PEARLS



SHAPE: Round. Symmetrical. Baroque. Others.

'Jewelmer', Philippines, Metropolitan Museum of Art

Size



Color

Body color



Luster

Reflects light





Orient

Natural History Museum, Washington, DC

Dispersion of light



Blemishes

Circles, knobs, pits, ripples

Treatments

- Dying
- Radiation
- Faceting
- Bleaching
- Polishing



Real vs ... Faux

+ Tooth test

Blemishes

Check drill hole

Weight

Shape



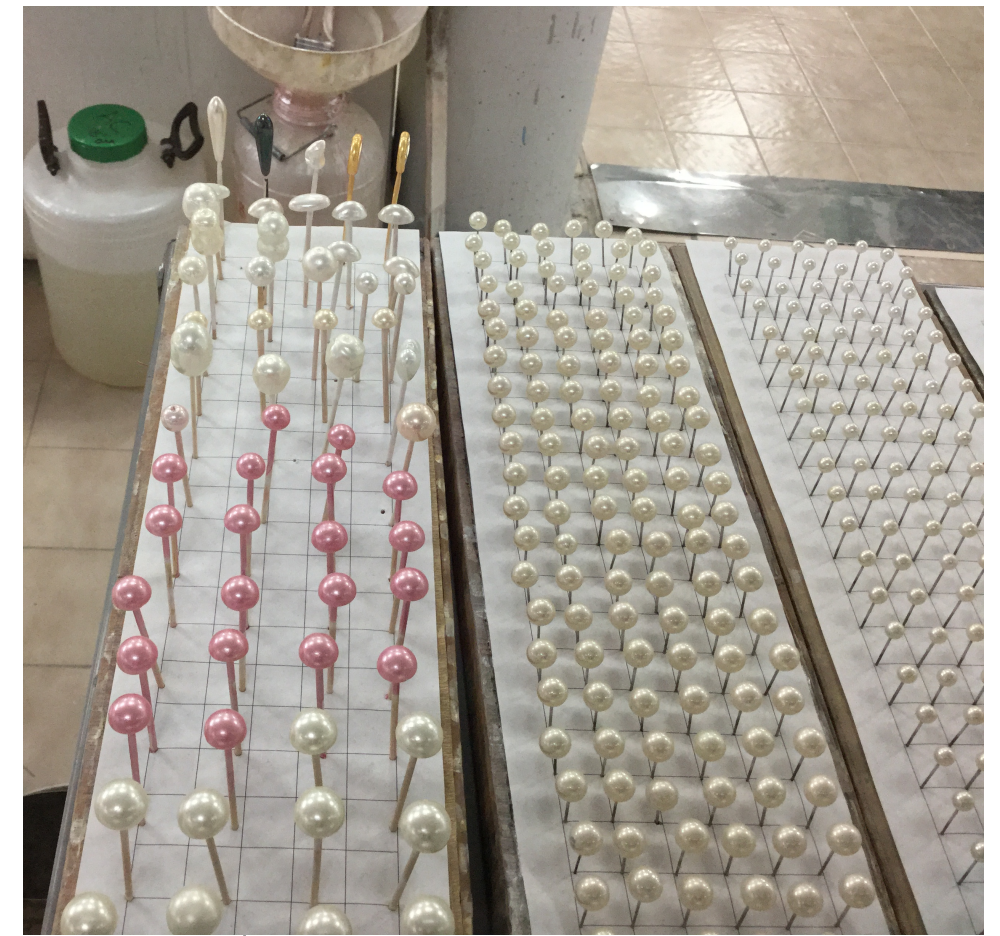


Simulated pearls
holes

Dug out or volcanic eruption appearance



Pearl hole
Smooth cross section



FAUX /FAKE : Majorca pearls, Red Sea pearls, South ocean pearls etc.

Glass, plastic, coral, resins. Majorca Pearl Factory, Majorca, Spain

Advancement in Pearl Culturing

- 2000- Sea of Cortez pearls, Panama/Mexico proprietary right held by a University
- 2003- Chinese mastered the art of acquiring mantle tissue from a prime oyster without killing the mollusk
- 2009- Florida Atlantic University cultured the first cultured Conch pearl
- Fiji- Justin Hunter, first to breed Black Lip Oysters
- 2012- Swiss identity DNA of specific species of oysters; radiocarbon

Evaluate pearls?