

Lunar Phases & Tides

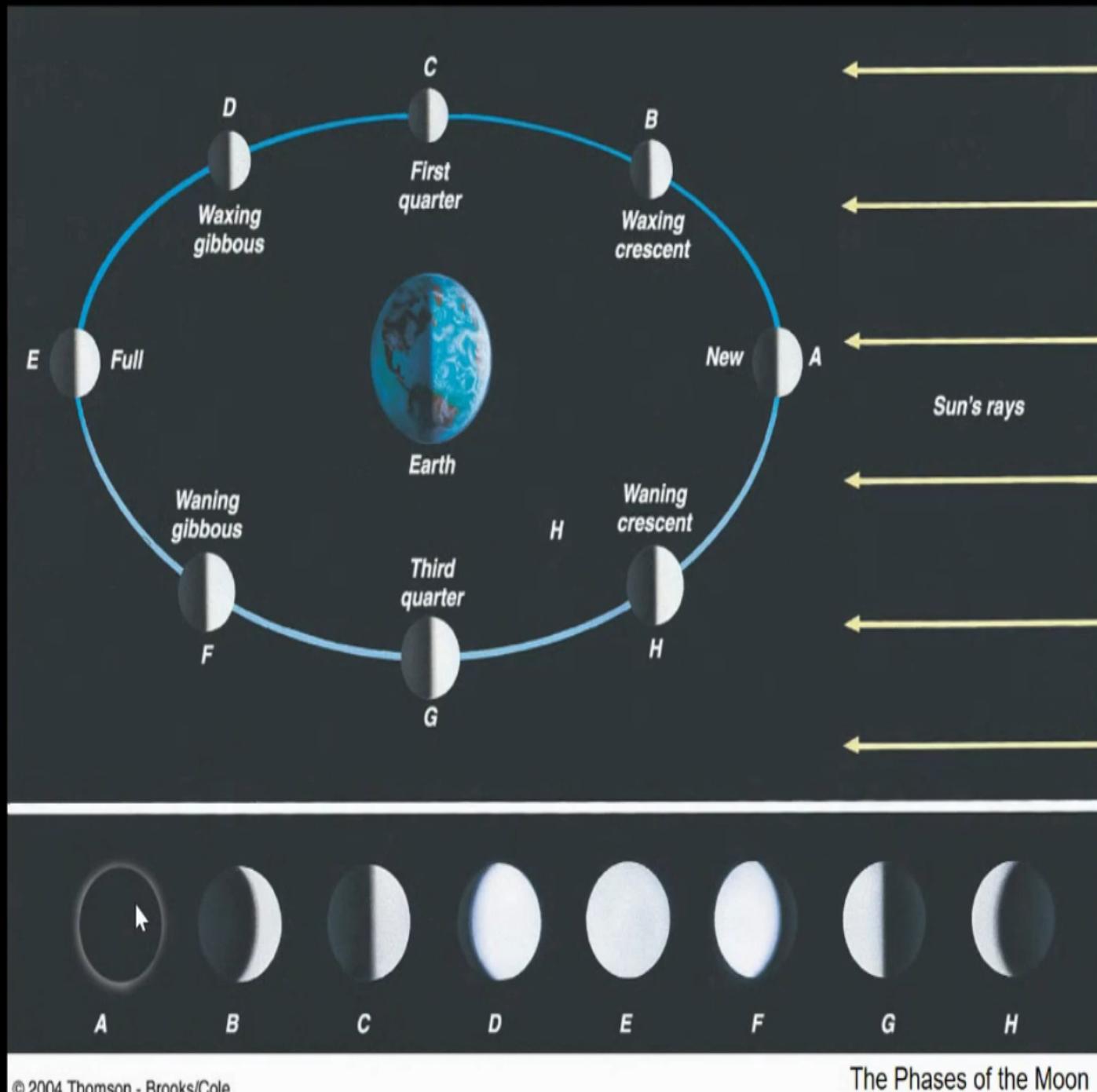
Chapter 3

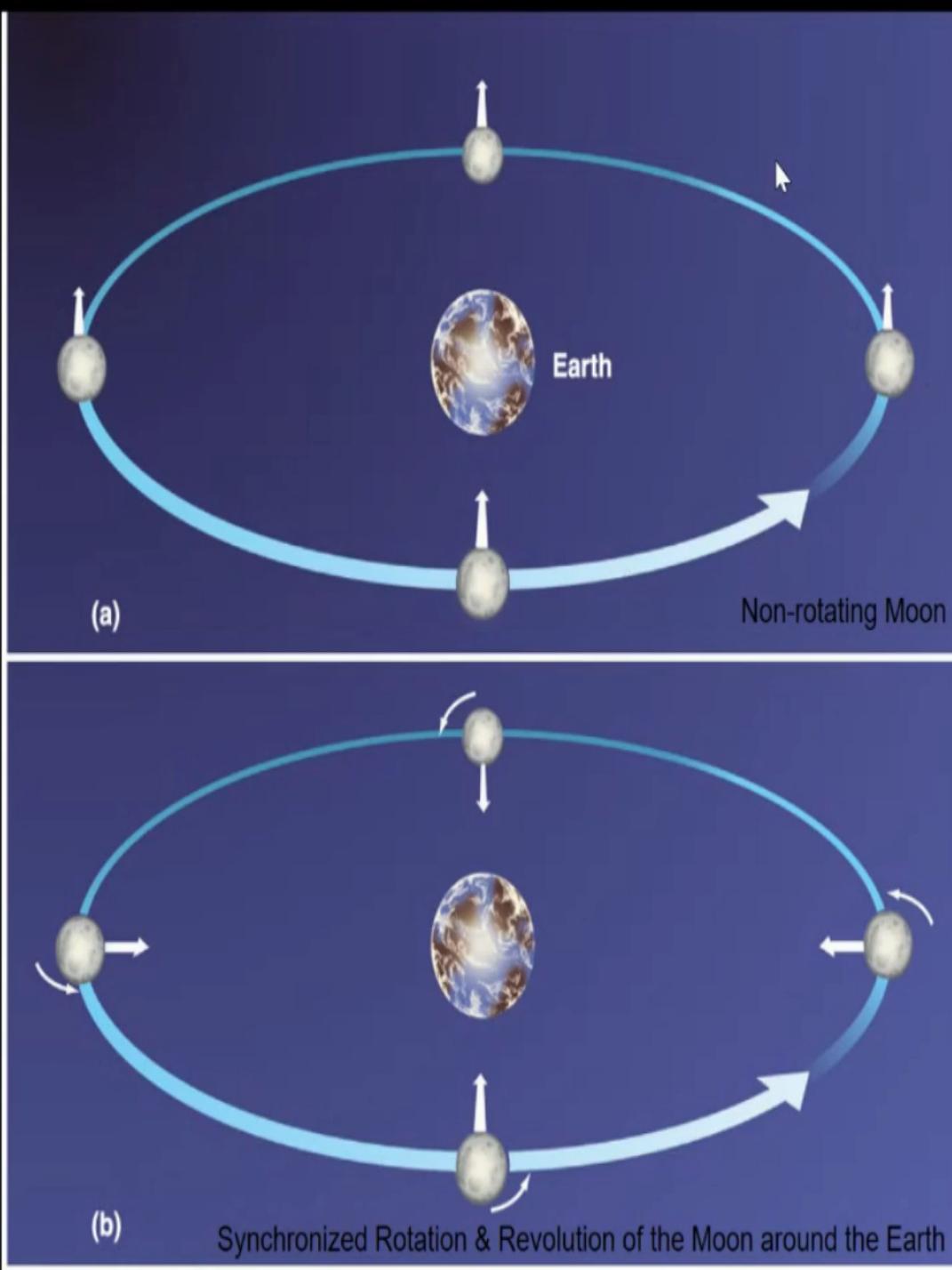


The “Faces” of the Moon



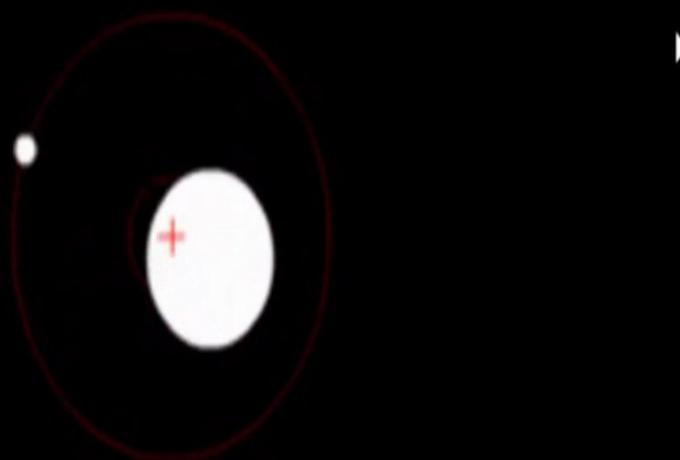
Le Voyage dans la Lune
George Melies





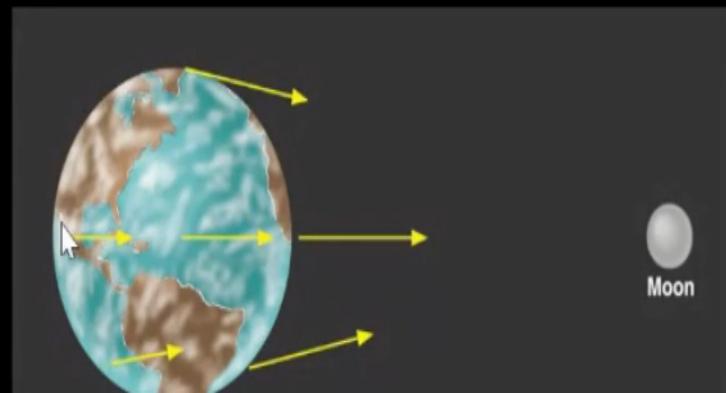
Center of Mass

- A location representative of the mass distribution of a system
- Both the Earth & the Moon orbit the common center of mass of the Earth-Moon system



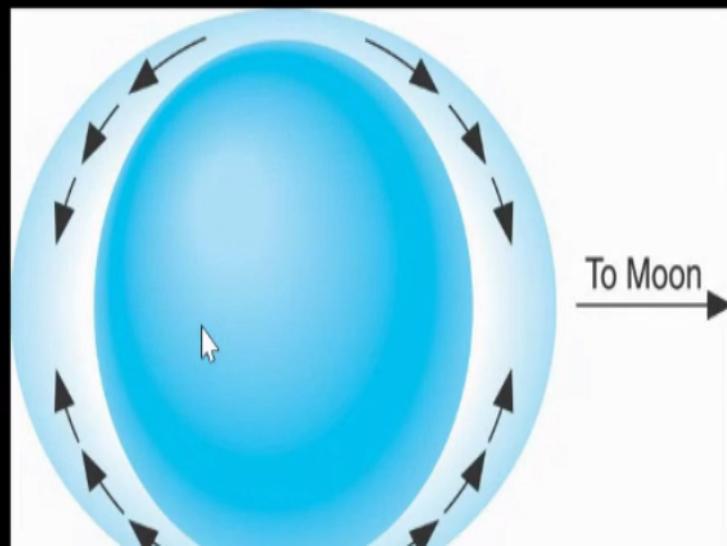
Tidal Pull

- The side of the Earth facing the Moon receives a stronger gravitational pull from the Moon than the center of the Earth does; & the center is attracted more strongly than the side of the Earth opposite the Moon
- The side of the Earth facing the Moon is pulled Moonward, the center is pulled less & the opposite side is left behind
- Difference in pulls stretches planet



Tides

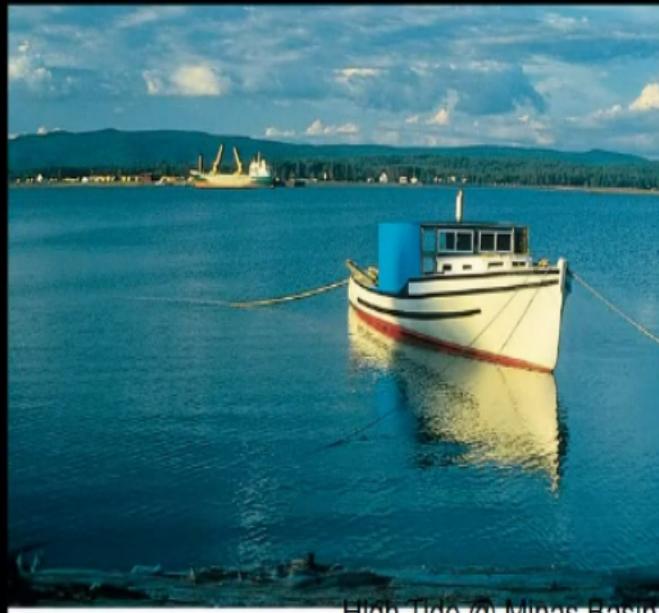
- The side of the Earth facing the Moon is pulled Moonward, the center is pulled less & the opposite side is left behind
- Water (& atmosphere) flow according to pull producing 2 bulges (almost) aligned with the Moon
- The Sun adds a smaller tide by itself





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Low Tide @ Minas Basin



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High Tide @ Minas Basin



Low Tide @ Mt. St. Michel



High Tide @ Mt. St. Michel

