

# Why Hezekiah's Wayward Shadow May Have Been Caused By An Eclipse

Science In Light Of Scripture Series

Richard Balogh

April 7, 2024

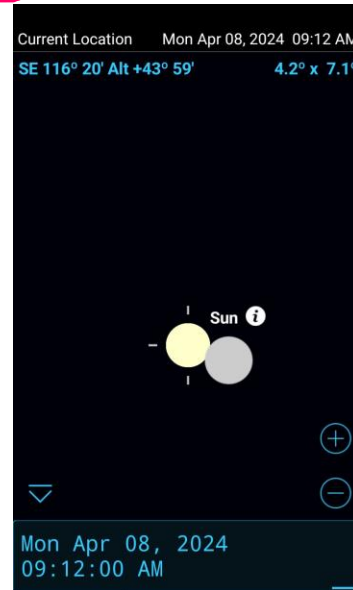
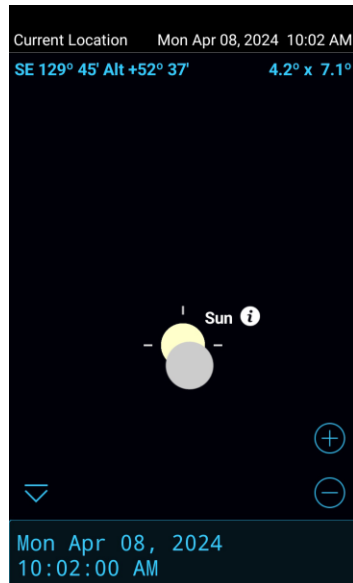
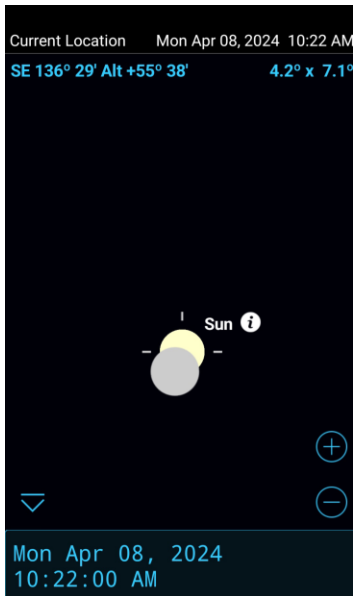
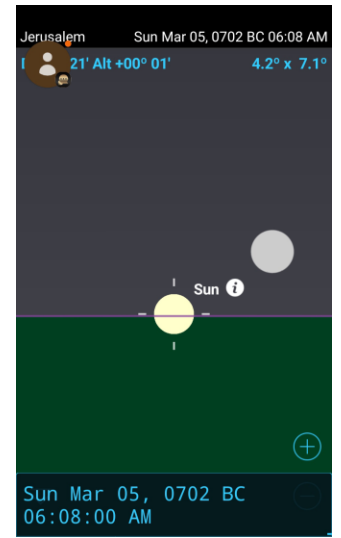
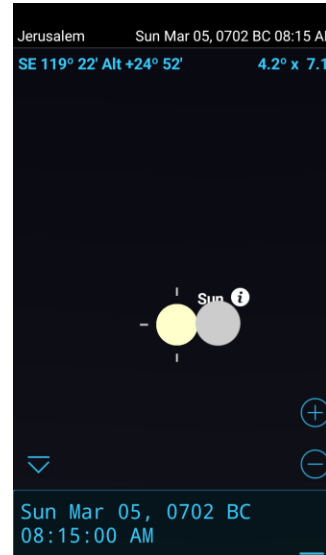
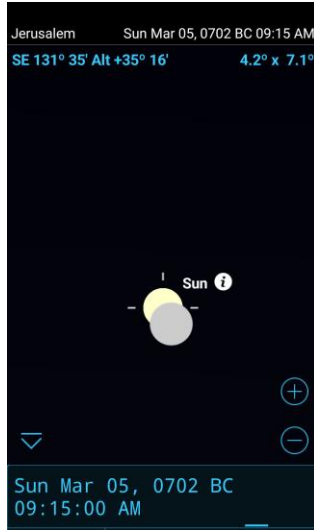
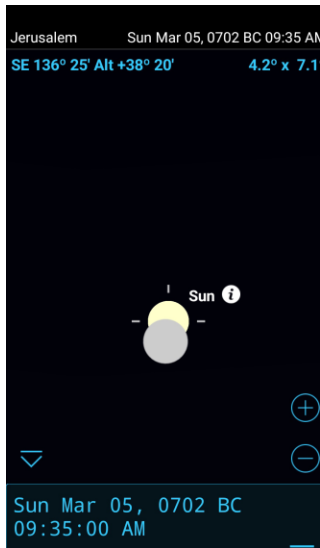
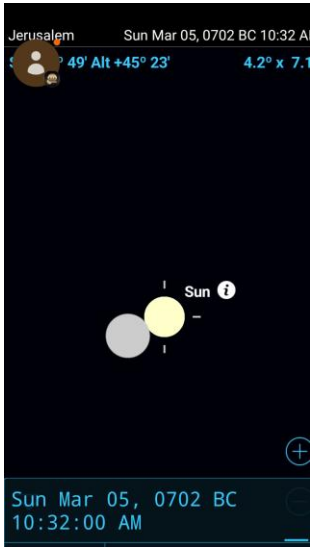
*Consider miracles of providence. These occur when God acts within His ordained natural processes to bestow His benevolence on His creation.*

***They may involve the precise timing of a natural occurrence, or an unusual rate of a process.** A providential event may be extremely unlikely from a statistical point of view, but within the realm of possibility. Usually we consider miracles to be something desirable, a gift of God's grace, but they may be quite catastrophic—a judgment or a chastisement.*

***John D. Morris, Ph.D***

**<http://www.icr.org/article/it-scientifically-impossible-for-miracles-occur/>**

702 BC



APRIL 8, 2024

# 2 Kings account

- 2 Kings 20: 8 Now Hezekiah said to Isaiah, “What will be the sign that the LORD will heal me, and that I shall go up to the house of the LORD the third day?” 9 Isaiah said, “This shall be the sign to you from the LORD, that the LORD will do the thing that He has spoken: shall the shadow go forward ten steps or go back ten steps?” 10 So Hezekiah answered, “It is easy for the shadow to decline ten steps; no, but let the shadow turn backward ten steps.” 11 Isaiah the prophet cried to the LORD, and He brought <sup>7725</sup> the shadow on the stairway back ten steps by which it had gone down on the stairway of Ahaz. NASB, 1995.
- **7725.** A verb meaning to turn, to return, to go back, to do again, to change, to withdraw, to bring back, to reestablish, to be returned, to bring back, to take, to restore,



# Isaiah 38 account

- Isaiah 38: 7-8 “This shall be the sign to you from the LORD, that the LORD will do this thing that He has spoken: “Behold, I will cause the shadow on the [**upper**] stairway, which has gone down with the sun on the stairway of Ahaz, to go back ten steps.” So the sun's *shadow* went back ten steps on the stairway on which it had gone down. NASB, 1995 where **upper** is an addition found only in the Dead Sea Scrolls



# Notice the wording in both accounts... both the “down” and “back” are mentioned

- *“the shadow on the stairway back ten steps by which it had gone down”* (2 Kings)
- *“the sun's shadow went back ten steps on the stairway on which it had gone down.”* (Isaiah)
- So, the shadow went down (forward in time, normal direction), then it went back up (backward in time abnormal direction) **the same amount** “by which it had gone down”
  - This could mean that it went down normally, then backed-up (abnormal) and stayed at this position so time was “lost”

or
  - It moved down abnormally (perhaps moving faster), then backed-up abnormally , finally returning to the former position it had **without** a net loss of time
- Perhaps the going down was also unusual (faster than normal?) since going down is mentioned specifically
  - That is, why didn't the text just specify the back, since sun dials always go forward? Perhaps there was something special going on before it backed up.



# Josephus, an early Jewish Historian makes this comment

- *“And when Isaiah had asked him what sign he desired to be exhibited, he desired that he would make the shadow of the sun, **which he had already made to go down ten steps [or degrees] in his house, to return again to the same place, and to make it as it was before.** And when the prophet prayed to God to exhibit this sign to the king, he saw what he desired to see, and was freed from his distemper, and went up to the temple, where he worshipped God, and made vows to him.”*
- The Works of Josephus, Chapter 2, Book X, Antiquities of the Jews



# 2 Chronicles related account

- 30 It was Hezekiah who stopped the upper outlet of the waters of Gihon and directed them to the west side of the city of David. And Hezekiah prospered in all that he did. 31 Even in the matter of the envoys of the rulers of Babylon, who sent to him to inquire of the **wonder** that had happened in the land, God left him alone only to test him, that He might know all that was in his heart. - 2Ch 32:30-31 NASB1995
- **wonder** is *mopet* ( מִפֶּת, [H4159](#)), “wonder; sign; portent.” ... this word signifies a divine act or a special display of divine power. Vines

# 2 Chronicles account continued

- 32 Now the rest of the acts of Hezekiah and his deeds of devotion, behold, they are written in the vision of Isaiah the prophet, the son of Amoz, in the Book of the Kings of Judah and Israel. - 2Ch 32:32 NASB1995



# Where did this happen?

- 2 Kings **16:1** In the seventeenth year of Pekah the son of Remaliah, Ahaz the son of Jotham, king of Judah, became king. **2 Ahaz was twenty years old when he became king, and he reigned sixteen years in Jerusalem;** and he did not do what was right in the sight of the LORD his God, as his father David *had done*.
- Ahaz, the father of Hezekiah, built the sundial in Jerusalem. But was likely torn down by King Nebuchadnezzar.



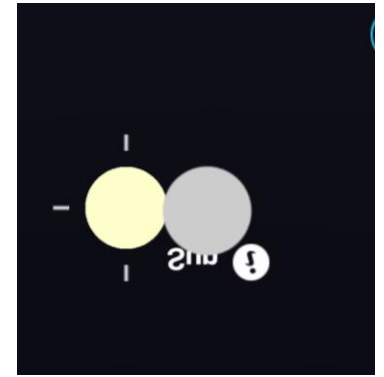
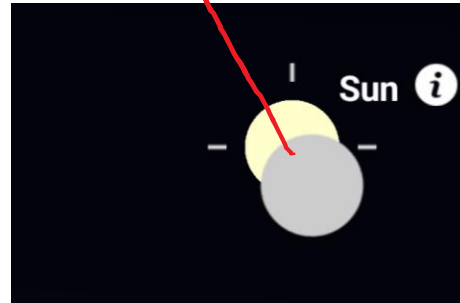
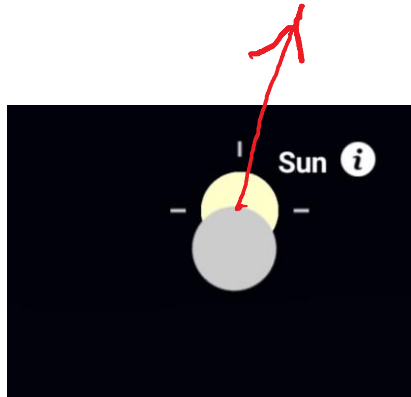
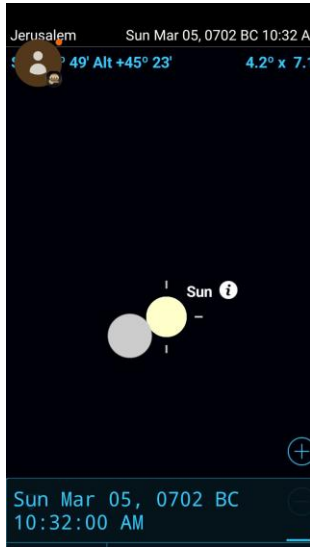
The “stairway of Ahaz” (wording the same in both 2Kings and Isaiah accounts) may have been stairs he built or modified connecting his palace with the Temple (red below) on which a shadow fell, not necessarily a sundial made as such.



# Since the moon moves eastward faster than the earth rotates, it overtakes the Sun

- Just like passing a slower car, looking out the car window, the slower car looks like it is moving backwards. As the moon passes the Sun the Sun appears to backup affecting which side of the Sun gives light to earth; first one side then the other, changing the shadow.
- While the moon orbits eastward, it appears to move westward across the sky because the angular speed of Earth's rotation,  $360^\circ$  / day, is greater than the angular speed of the moon's orbit,  $13^\circ$  / day. Earth's rotation makes the entire sky rotate westwards faster than the moon circles eastwards. So both Sun and moon move westward but not at the same speed.
- The moon travels at about 3680 km/hr as it orbits eastward. Earth also rotates eastward, but even at the equator, where it moves fastest, it's only about 1660 km/hr. That's why the moon moves east overtaking the sun

ROTATION OF LIGHT



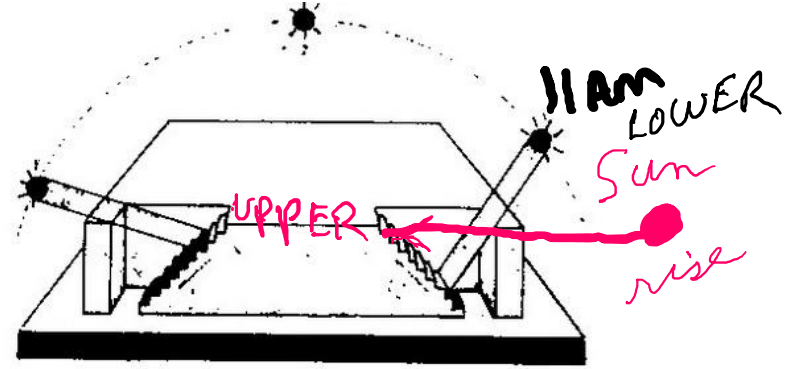
END  
ECLIPSE

Time  
MOON OVERTAKES SUN

START  
ECLIPSE

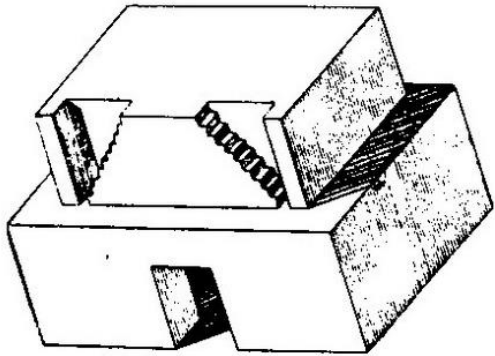
Moon moves right to left but light source (exposed sun) rotates left to right

# Clues To Consider

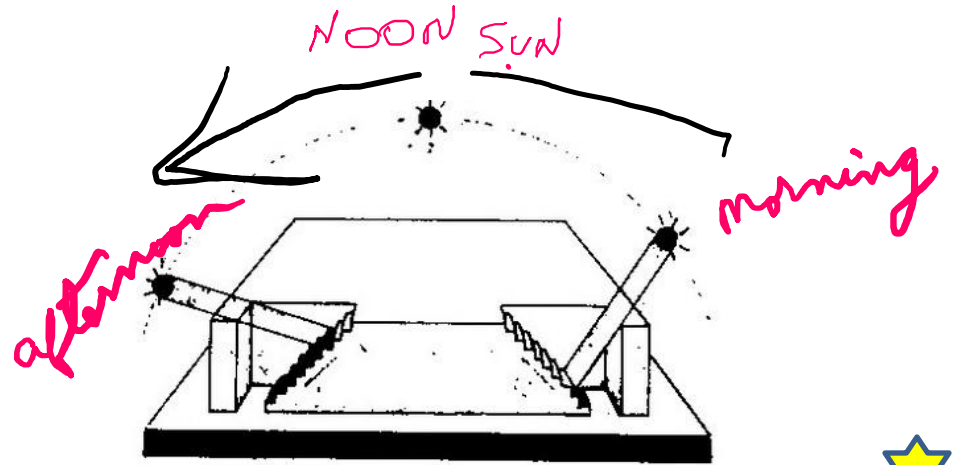


1. Shadow position was measured by steps
2. God set up the timing and details of the situation, Hezekiah only had a choice to make
3. To decline was normal on certain sundials...see sketch above.
  - 2Kings 20:9-10 “9 ...shall the shadow go forward ten steps or go back ten steps?” 10 So Hezekiah answered, “It is easy for the shadow to decline ten steps; no, but let the shadow turn backward ten steps.”
4. The shadow went backwards then returned to normal position
  - “11 Isaiah the prophet cried to the LORD, and He brought the shadow on the stairway back ten steps by which it had gone down on the stairway of Ahaz. “
5. May have happened not long after sunrise if this kind of sundial was used because
  - Isaiah 38:8 “Behold, I will cause the shadow on the [upper] stairway, (Dead Sea Scrolls)
6. Backwards sundial shadow was very unusual
  - 2 Chronicles 32:31 “...a wonder in the land...”

# Possible Sundial Type Looking North



מצד שמאל - נסיגת הצל בבוקר; במרכז - המעלות מוצפות  
שמש בצהריים; מצד ימין - עליית הצל בערב (ע"פ י"דין,  
ארץ ישראל ה).

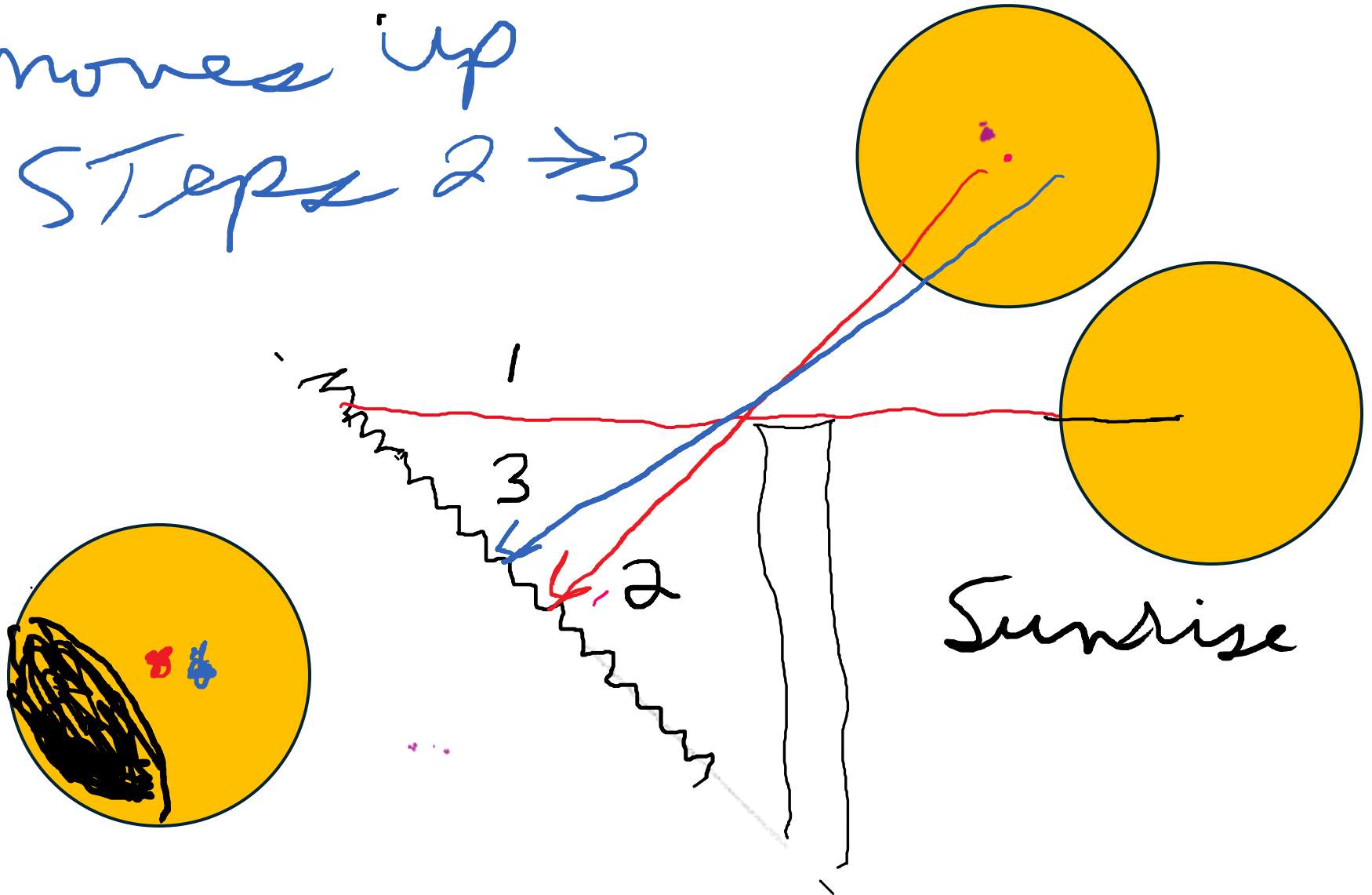


Shadow moves down steps sunrise to noon  
normal motion

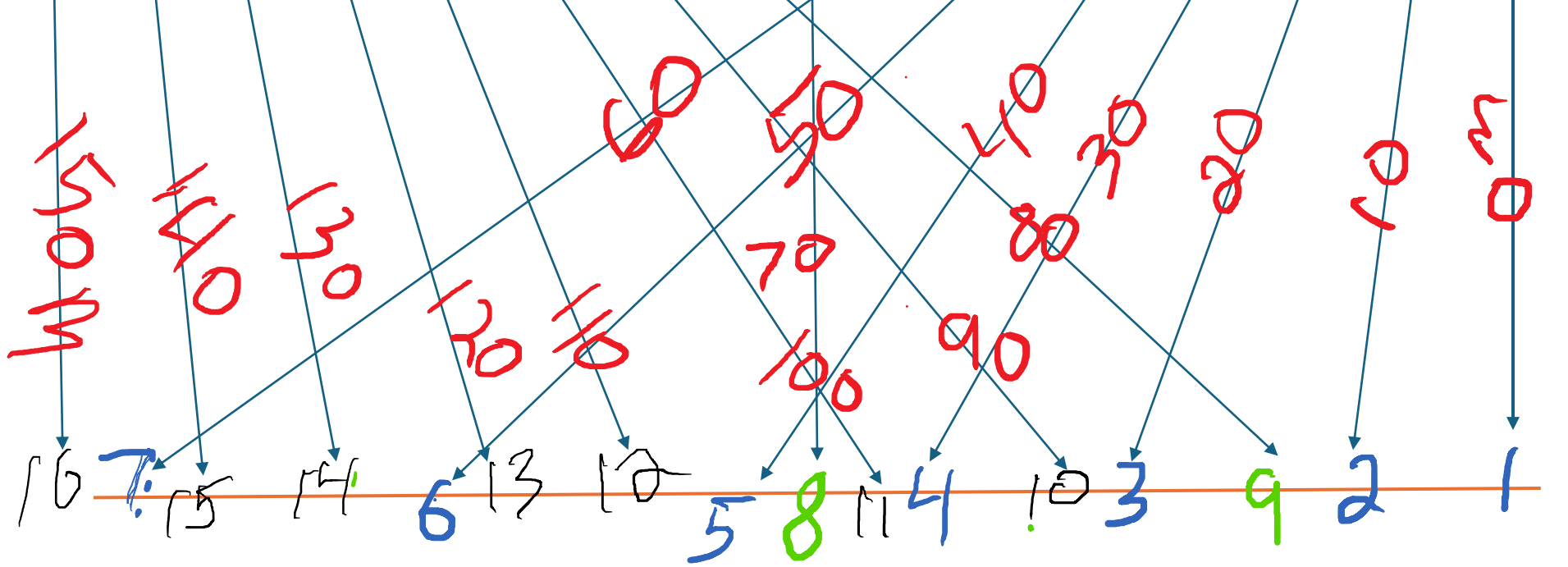
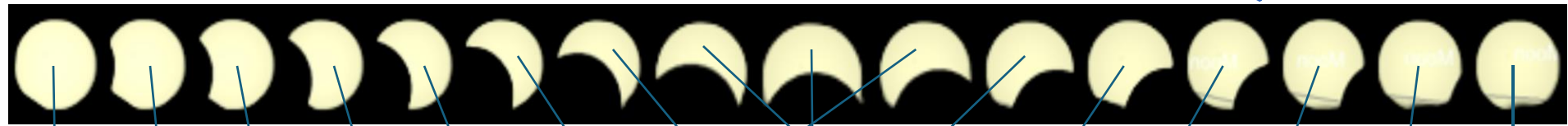


Shadow  
moves up  
Steps 2  $\rightarrow$  3

after mid point

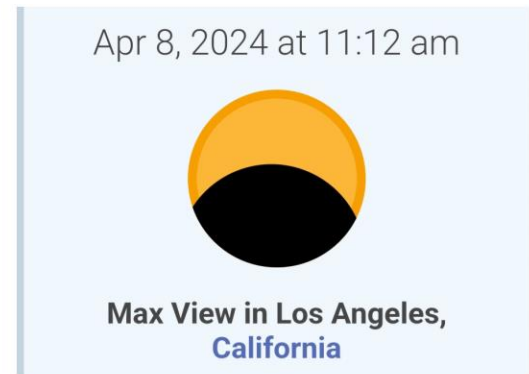


Resume ← ← ← ← ← **BACK** → → → Forward ← ← ← ← ←





Balogh will be in VBC parking lot tomorrow, April 8, 2024 at 9:45am to mark the shadow of a light pole on the ground every 5 minutes...if the shadows show different spacing then the eclipse is affecting this makeshift sundial. Movie will be on VBC web site by next day.



<b>Global Event:</b>	Total Solar Eclipse
<b>Local Type:</b>	Partial Solar Eclipse in Los Angeles, California
<b>Begins:</b>	Mon, Apr 8, 2024 at 10:06 am
<b>Maximum:</b>	Mon, Apr 8, 2024 at 11:12 am 0.580 Magnitude
<b>Ends:</b>	Mon, Apr 8, 2024 at 12:22 pm
<b>Duration:</b>	2 hours, 16 minutes

All times shown on this page are local time.