

Big Moon (must be second day moon?)

Question: If the moon is big, does it mean it is a second day moon?

Answer: As most of us know, the moon goes through several phases. The months of the Islamic Calendar are based on sighting of the new moon every month. In Astronomy, a new moon means "when the moon of the previous month disappears (i.e. the moon goes from a slightly visible crescent to a completely black sphere that is impossible to be seen)." Remember, new moon is dark and invisible. About 17-23 hours after the new moon, a thin crescent becomes visible on earth; this is visible new moon. As we were taught by Allah (Qur'an 2:189) and the Prophet Muhammad (peace be upon him), it is the sighting of this crescent that marks the start of a new month. Therefore, even though a moon may be born on one day, it may not be seen until the next day. Furthermore, if a new moon is born less than 15 hours before sunset on day 1; it will not be seen until sunset of day 2; and when it is finally seen it is $15+24=39$ hours old and will look very thick. This does NOT mean that this is a second day moon. A first day crescent-moon can be very thin in some locations and it can also be thick in other locations because of time difference. As Muslims, we should always remember that our first priority is to follow the teachings of our beloved Prophet (peace be upon him) who told us to start the month when we see the crescent, not when the moon is "born." If we do that, Insha-Allah we will start the month at the "right" time (the time that Allah intends for the month to start for a specific location).

Question: I saw the moon that was so big and remained above the horizon past Isha time. It has to be the second day moon.

Answer: The big moon can be the first day moon also. Think of a case that the moon was 16 hours old on one day and was not visible on clear skies. 16 hour old moon is not visible in certain seasons. The next day it was 40 hours old and was definitely big. 40 hour old moon will be a lot bigger than a 20 hour old moon that was visible in some month and was thin.

Now you be the judge that if it was not visible even with telescopes (16 hour old moon) then shouldn't the next day be the first day moon even though it was a big moon. Same way if it remained above horizon a long time, it does not tell you that it is the second day moon. The higher the moon is above horizon is related to the age also. A 20 hour old moon will not be above horizon for 45 minutes, but a 40 hours old moon could be above horizon for 90 minutes.

Moreover, there is a Hadith, in which AbulBakhtari reported:

We went out to perform Umrah and when we encamped in the valley of Nakhlah, we tried to see the new moon. Some of the people said: It was three nights old, and others (said) that it was two nights old. We then met Ibn Abbas and told him we had seen the new moon, but that some of the people said it was three nights old and others that it was two nights old. He asked on which night we had seen it; and when we told him we had seen it on such and such night, he said the Prophet of Allah (peace be upon him) had said Verily Allah deferred it till the time it is seen, so it is to be reckoned from the night you saw it. [Sahih Muslim 534]

Question: The moon on Feb 24, 2001 was so big, was it not the second day moon? What percentages of the moon surface illumination can be considered a second day moon?

Answer: The answer to your 1st question is in the Hadith of Sahih Muslim:

"AbulBakhtari reported: We went out to perform Umrah and when we encamped in the valley of Nakhlah, we tried to see the new moon. Some of the people said: It was three nights old, and others (said) that it was two nights old. We then met Ibn Abbas and told him we had seen the new moon, but that some of the people said it was three nights old and others that it was two nights old. He asked on which night we had seen it; and when we told him we had seen it on such and such night, he said the Prophet of Allah (peace be upon him) had said Verily Allah deferred it till the time it is seen, so it is to be reckoned from the night you saw it."

Science also confirms this Hadith, that a big moon on the next day does not mean it is a second day moon.

Second question is answered automatically, that a second day moon can be small or big. It depends upon how old it is. This time first day moon in Saudi Arabia on Feb 23 was 6 hours old and in California was 17 hours old. On the next day it was 41 hours old in California and hence it was so big. Percentages of illumination directly depend upon the thickness of the crescent, so the same percentage can be a first day moon for some month and second day moon for another month.

Question: Why is the moon sometimes big and orange and sometimes small and white?

Answer: The moon travels in an orbit around the earth in an oval path, so its distance from earth varies. When it is closest to the earth it looks bigger. The colors variation is due to variation in the pressure, temperature, and humidity in the atmosphere, which gives more pronounced affect for a viewer when the moon is near the horizon.