

The Sighting of the New Crescent for the Purpose of Defining the Start of a New Month Should be from within the Biblical Boundaries of Israel

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(1) Using local visibility from outside Israel leads to arbitrary decisions and confusion. Suppose the new crescent can be seen from Fort Worth, but can not be seen from Dallas which is 30 miles to the east. Should people in Dallas accept the testimony of people in Fort Worth for visibility of the new crescent to start a month? What distance should be the limit for accepting someone else's testimony? Suppose the only places in the United States from which people can see the new crescent are over 8000 feet above sea level in the Rocky Mountains. Should people elsewhere accept their testimony? If no one in the United States can see the new crescent, but some people in southern Mexico can see it, should their testimony be accepted in the United States?

(2) Knowing that two priests in ancient Israel were commanded to blow two silver trumpets on the first day of each month to officially declare the beginning of the month (Num 10: 1-2, 8-10), when the time arrived at which the Israelites were to keep the three annual festivals in one place (Deut 16: 5-6, 10-11, 13-16; 12:5-21), Israel did not practice "local" visibility to begin the month and determine the festival dates since, when gathered together at the festivals they were all together in one place with one high priest. Thus Israel was united in keeping the festivals on the same days and beginning the months on the same days which is against local visibility throughout Israel.

(3) In some years local visibility could make the difference between a month being considered as the 13th month for part of the earth and as the first month for the remainder of the earth. This would cause the holy days to be kept one month apart for different parts of the earth in such a year, resulting in confusion. The year 2007 provides an example.

(4) The land surface of the earth was once one land mass as is indicated from how a world map shows the land fitting together. In this one land mass, to avoid confusion over where to begin the sabbath, it is only sensible that the international dateline go through the great body of water that is now the Pacific Ocean. This international dateline should never be changed. Hence a first day of each month should respect this international dateline rather than change it every month with a new curved line of first visibility (with exceptional regions due to high altitude visibility or lack of visibility due to rain). Thus the day of sighting the new crescent from Israel should be the first day of each new month beginning at the international dateline.

(5) The biblical focus of attention for world government is on Israel, and specifically Jerusalem (Deut 11: 11-12; Ps 132: 13-14; Isa 2:3; Micah 4:2).

(6) According to Num 10:1-2, 8-10 the priesthood is commanded to blow two silver trumpets on the first day of each month. The Levites were commanded to be disbursed in 48 cities throughout

the 12 tribes (Num 35:2-8), not all over the world. The priests must observe, or reliable witnesses must inform them where they are, concerning the new crescent (Num 35:30; Deut 17:6; 19:15; Mat 18:16; John 8:17; II Cor 13:1; I Tim 5:19). In concept, even though we do not have the Levitical priesthood functioning today, one must still view matters from the standpoint of the priesthood blowing trumpets ON THE FIRST DAY OF THE MONTH using two silver trumpets, implying their being blown from one central location.

(7) The role of the land of Israel must be appreciated in the plan of Scripture. This land is called the inheritance of Israel (Num 26:51-56; Deut 4:21; 31:7) while the resurrection to eternal life is called the inheritance of the saints (I Pet 1:3-6). Entering the land of Israel is called a rest (Deut 12:9; 25:19; Josh 22:4; Ps 95:11; Heb 3:11) which is a type of the rest of the resurrection to eternal life (Heb 4:1, 8, 11). Among the adults in Israel who left Egypt, only Joshua and Caleb were allowed to receive the inheritance by faith (Num 14:6-9, 24, 30, 38; Heb 4:2) which is a type of the faith of the saints that is needed to receive eternal life. The land promise to Abraham, Isaac, and Jacob (Gen 12:1; 15:7, 18; 17:8; 26:1-3; 28:10-15; 35:12; Deut 34:4) was a theme for over 430 years (Ex 12:41; Gal 3:16-17) before the beginning of its literal fulfillment. A stranger could become a full citizen in Israel through fleshy circumcision which made him become like a native of the land (Ex 12:48) which is a type of the circumcision of Christ (Col 2:11-12). The land was to have a sabbath rest (Lev 25) which is a type of the sabbath rest of the saints (Heb 4:4). Finally, according to Deut 11:11-12, the eyes of our Creator are always upon this specific land. From time to time through the history of Israel in this land, the priesthood moved from place to place. The first passover in the land was kept at Gilgal by all of Israel (Josh 5:10). Soon Shiloh became the political center (Josh 18; I Sam 1:3, 24). At first King David reigned from Hebron (II Sam 2:11), but afterward he reigned from Jerusalem (II Sam 5:5). For approximately the first 400 years of Israel's history in the land, the political headquarters was not Jerusalem, but the calendar continued regardless of the political center.

(8) There is a biblical principle that in the mouth of two or three witnesses a matter shall be established (Num 35:30; Deut 17:6; 19:15; Mat 18:16; John 8:17; II Cor 13:1; I Tim 5:19). Does it make sense that if the weather is rainy at wherever the political center of Israel happens to be, no citizens of Israel from elsewhere in Israel may appear as witnesses before the priests for having observed the new crescent? No.

(9) If the boundary for ending the sighting point for visibility of the new crescent does not stop at the land of Israel, where does it stop? The further to the west one goes, the easier it becomes to see the new crescent, although higher than about 4000 feet above sea level it gradually becomes ever easier to see the crescent, and low humidity favors seeing the new crescent. How far to the west can one go? The answer is to the international dateline in the Pacific Ocean. If one goes there, then everyone's attention would be focused on the international dateline to give the very last look to the most western line before deciding that that day will not suffice for starting the new month. In other

words, some islands in the Pacific Ocean would get all the attention instead of the land of Israel or its headquarters, Jerusalem. That would mean that local or worldwide visibility to determine the new crescent would be redefined to visibility at some islands in the Pacific Ocean. This makes no sense.

(10) Suppose some ancient Israelites went exploring on a ship to North America. How would they begin a month? Without the internet, without long distance telephone service, et cetera, they could not contact (even through intermediaries) the high priest for a knowledge of when each month began. They would have no choice but to use visibility of the crescent from wherever they were. If such a ship gave rise to two colonies separated by 100 miles, and if these colonies remained isolated from one another, there would no doubt be months in which they began a month one day apart. If they kept in contact with one another, then it is reasonable to think that the colony with rainy weather would accept the witness of the other colony, so that both would be in harmony on the start of a month. As we add more colonies it becomes ever more difficult to hypothesize how one could define local visibility.

(11) Anciently, if appropriate technology were available, the ideal situation implied by Num 10; Isa 2:3 would result in all people everywhere accepting the word of the high priest, whose responsibility would include questioning witnesses who came from the Promised Land. Some people imagine that it is "not fair" to use modern technology to report on such visibility, and instead we must pretend we only have what people had in the days of ancient Israel. Such pretending should also include pretending we are with ancient Israel, i.e., in the Promised Land. Certainly in Israel all were united on the day, following the lead of the high priest; hence rainy areas accepted testimony from clear weather areas in Israel.

(12) The question arises of how to put this into practice. In today's world we can use the internet to determine whether the new crescent was seen in modern Israel because sighting reports are available.

(13) During the years 1907 - 1927 the German astronomer Karl Schoch developed an astronomical table or curve based upon certain angles of the sun, earth, and moon with respect to one another at the time of sunset, assuming clear weather, no air pollution, and a reasonably low altitude above sea level (from today's knowledge we can say, under 3500 feet, which is higher than Mt. Zion). He observed both with and without binoculars, and correlated data with the results of others. His curve assumes naked eye observations (no binoculars, except perhaps for initial location to examine without binoculars). Above that curve one can expect visibility of the crescent; below that curve, no visibility. In live practice, there is a narrow band near Karl Schoch's curve where it is near borderline and uncertain, so that some people with sharp vision looking at the right spot do see it, and others do not. Before internet reports of crescent visibility were available, I used a computer program that utilized Karl Schoch's curve. I still use it and can tell whether it is near borderline, but it's not known exactly how wide the near borderline condition

should be (roughly plus or minus 1/4 of a degree, but even lower on Schoch's curve if the humidity is very low or during the autumn when a low crescent looks like a flattened backwards C in the northern hemisphere). Before such technology and astronomical theory, one would have been reduced to local visibility (although I do not know how to define this and have never seen a definition of this that may be applied in a uniform manner). The first goal for a proponent of "local visibility" should be to define it so that the definition covers the issues of distance, height above sea level, humidity, the international dateline, bad weather, the use of modern communications, et cetera. Perhaps one may give a definition of local visibility in terms of technology that was available about 1800 before the telephone and telegraph, but even the issue of using race horses for separated groups of people to communicate would begin to complicate matters. Can one apply a definition from 1800 to today, thus forbidding telephone calls and driving automobiles to learn what others have seen?

(14) In a covenant with Abraham the southwest border of the Promised Land is stated in Gen 15:18. There it states (on the southwest) the River of Egypt. The Pentateuch and Haftotahs, 2nd edition, edited by J. H. Hertz (London: Soncino Press 1968) comments on this verse that the River of Egypt is "the Wady-el-Arish, which is the boundary between Egypt and Palestine". A map on page 71 of Baker's Concise Bible Atlas by J. Carl Laney (Grand Rapids: Baker Book House 1988) shows the Wadi el-Arish at the place where other maps show the Wadi of Egypt or Brook of Egypt that starts at the Mediterranean Sea and goes toward Eilat (also spelled Elath or Eloth), but appears to stop in the desert before reaching Eilat.

The TANAKH (Jewish Publication Society) translation of I Ki 9:26 states, "King Solomon also built a fleet of ships at Ezion-geber, which is near Eloth on the shore of the Sea of Reeds [Red Sea which goes into the Gulf of Aqaba] in the land of Edom". Ex 23:31 states, "I will set your borders from the Sea of Reeds [Red Sea at Elath] to the Sea of Philistia [Mediterranean Sea], and ...". The NIV Study Bible (Grand Rapids: Zondervan 1985) map 4 shows the region labeled Edom and continuing down through Elath (using a color marking and an identifying legend) to be part of the Empire of David and Solomon. (I also have a Topical Reference Edition of the NKJV, Thomas Nelson Publishers, 1994, with map 4 color coded to show this whole region down to Elath belonging to Judah.) Because the southern desert down toward Elath was not populated due to lack of rain and opportunity for crops, most maps ignore it and even cut off the map before it reaches Elath. The use of Beersheba in II Sam 24:2 in the expression "from Dan to Beersheba" indicates that Beersheba was the most southern populated city, not that the territory of the kingdom ended there.

Some years ago when Israel agreed to give back the Sinai region to Egypt for a peace treaty, I was very surprised until I investigated and learned that according to Jewish scholars (as summarized in Gen 15:18; Ex 23:31; I Ki 9:26, mentioned above), Israel was only giving Egypt what Israel considered to be reaching up to the boundary specified in Scripture. The modern southwest boundary of Israel is believed to be the boundary

stated or directly implied by the three verses.

(15) Historical evidence concerning testifying about having witnessed the new moon does not exist before the Mishnah which dates from about 200 CE. I do not accept the Mishnah as an appendage to the Torah, for otherwise one would be hard pressed as to why one should arbitrarily pick and choose what one wanted to accept from it. Also, Mat 15; 16:11-12 and Mark 7 imply opposition to accepting the Mishnah.

(16) Isa 2:3; Micah 4:2 says "the law will go forth from Zion", but that does not prevent witnesses from traveling to Zion and testifying in Zion. After testifying, the law goes forth from Zion. Anciently, Israel would often be forced to keep a second day as the alternative start of the seventh month (I Sam 20) until time passed for witnesses to arrive and testify, so it would be clear which of the two days began the month. If no one testifies for the first day and the second day, how long should the priests wait? Why not wait up to the time of the ninth day of the month to accommodate the fast day, the tenth day of the seventh month? While it is true that priests could not go back in time and perform ceremonies over again, they can accept the testimony of witnesses retroactively and thus avoid artificially limiting the location of witnesses within Israel. (This is both sensible and consistent with statements in the Mishnah, and this would be workable in ancient times.)

(17) If we today were to propose that ONLY Jerusalem sighting of the crescent mattered, then since there are people today who report on sighting on the internet, we would ALWAYS be changing close to the festival date based on rain or heavy clouds over Jerusalem, even if other areas of Israel were clear, it was NOT a borderline case, and humidity was not an issue. This shows that Jerusalem sighting does not make matters easier, but actually complicates matters because there would be more uncertainty on more occasions than using visibility throughout Israel which includes desert regions so that computer predictions would only fail in some rare borderline cases.

(18) If we had NO reports of actual sighting from Israel, then a calculation is the only choice, and the vast majority of the time (no borderline condition or slightly under borderline where low humidity is a question) these two will agree. The calculated dates will work over 90 percent of the time.

(19) In ancient Israel where no calculations were available, there was often uncertainty on the day that began the month until shortly before the festivals at or near the middle of the month. In the case of the first day of the seventh month, it is virtually certain that they often kept two successive days for the festival because of no reports of visibility on the first of the two possible days for sighting. Today, due to computer calculations, there is uncertainty under rare circumstances, assuming we accept visibility from desert regions of Israel where it almost never rains. When actual witnesses from Israel are available, if we reject their testimony and only use a computer calculation, it is certainly true that we make matters easy for ourselves, but then we set ourselves up as an authority that

contradicts the use of human instruments for sighting as originally intended, and who would lack the humility to grasp such authority to oneself? In this modern age people often want to be able to plan everything in advance. If we have uncertainty due to a borderline case in a rare circumstance, we can still plan for two successive days and have ourselves covered. People can plan an airplane trip one extra day ahead of time so that either event will work out okay.

(20) The principles of Karl Schoch's curve are explained next, without involving ourselves with mathematics. It is simply that the CONTRAST between reflected light of the moon and the background sky must be DIFFERENT enough to perceive the arc of light.

For example, why don't people see the stars during the day? The stars are MOST CERTAINLY there during the day, but we do NOT see them BECAUSE the CONTRAST between the light of the stars (NOT NOT NOT their SIZE which is much much smaller than the center width of arc of the moon!!!) and the background sky is not enough. In other words, the sun's light is too brilliant to see the stars' light.

The most important word here is CONTRAST or DIFFERENCE. That is why a nighttime bicycle rider is told to wear reflective or brilliant colored clothes. It does NOT matter whether the rider is fat or thin, but what matters is the CONTRAST between his clothing and the blackness of night.

The same is true in seeing the light of the moon. Some computer programs (like YALLOP's criterion) are based upon the apparent width across the center of the moon (or the percent reflection of the light of the moon, for example full moon 100 percent reflection).

When the sun sets, and you look at the background sky to the west, the brilliance of the sky is NOT the same everywhere. The further you look from where the sun set, the LESS brilliant the background sky at that point. Also, it is MORE brilliant directly above where the sun set, than the same distance above, but also some distance to the right or left. It is these angles AWAY from where the sun set that is an accurate measure of the BRILLIANCE of the background sky. If the moon is at a place where the background sky is NOT very brilliant, then AND ONLY THEN, can you see it. Thus the key is knowing the angles (the curve based on the graph coordinates of two angles) of where the sun is compared to where the moon is. This gives a measure of the CONTRAST between the background sky and light from the moon.

SUMMARY: The appropriate angles determine the CONTRAST.

If you take some WIDTH of moon and put it where the CONTRAST is great, you see it. But if you take the SAME width of moon and put it where the CONTRAST is small, you do NOT see it. Hence the WIDTH is NOT the main factor, but instead the CONTRAST. This concept is very very simple, but the mathematics and astronomy are complex.

I DO NOT USE A PROGRAM THAT PREDICTS VISIBILITY OF THE CRESCENT!!! Instead I use a program that gives me the accurate angles I want. Then I use the printed table (or chart) that Karl Schoch determined (which really makes a curve by connecting the dots, so I often call it Schoch's curve) to see if the moon is ABOVE the curve or BELOW the curve. ABOVE means visible. BELOW means NOT visible. But borderline is about 1/4 degree above or below the curve under NORMAL conditions of height above sea level (under 3500 feet), humidity (close to 50 percent), and a clear sky.

The key for borderline cases is HUMIDITY. The further you go BELOW Schoch's curve, the lower the humidity must be to see it, but it still must be high enough when the CONTRAST is there. For the areas with extremely low humidity one can go 1/2 a degree below Schoch's curve and still just barely see it.

SUMMARY: The problems with using local visibility are:

- (1) How is it defined in today's world?
- (2) How is it consistent with Num 10:10?

The advantages of using visibility within Israel are:

- (1) The definition is simple.
- (2) It is consistent with Num 10:10.
- (3) Over 90 percent of the time it is not a borderline situation and is predictable.