

A PRECISE CHRONOLOGY OF EXODUS

(Flavio Barbiero)

Summary:- The Bible contains lot of chronological indications, clear and precise to the point of allowing one to calculate the times of the Israelites' exodus in a very accurate way, from the moment they left Pi-Ramses, in "*the 15th day of the first year*", to when they took off from mount Sinai, "*on the 20th day of the 2nd month of the 2nd year*". Those same indications allow us to frame with a high degree of reliability even the historical period when this happened: it was during the 3/5th year of Merenptah, the pharaoh who succeeded Ramses II.

Incredible as it might appear, there are also indications which allow us to find out the precise absolute dates of the main Exodus' events, linked as they are to astronomical events that can be dated precisely, like solar eclipses and lunar months.

Exodus' epoch

The early Books of the Bible began life not as a true historical work, but rather as a "family saga"--one seen through the eyes of the family itself, with the rest of the universe rotating around it. Therefore, apart from those aspects which in one way or another concern the family, it in no way reports the general historical facts of the period and locale in question. For this reason, at least during the period of the Patriarchs, the links with the events that occurred outside the "clan" environment are rather weak and cannot be immediately identified with any known historical events. Thus, it is very difficult to place the family saga in the wider context of Palestinian history with any degree of precision.

Undoubtedly, however, in the Bible there are references to historical events, which contain sufficient information to allow us to pinpoint those particular events. All we need to do first is to precisely determine the historical period in which the biblical events took place. This is not a trivial problem; it has been one of the most highly-debated topics of biblical scholars and is still far from unanimous agreement.

The prevailing opinion among biblical scholars is that Abraham lived at the beginning of the 2nd millennium B.C., approximately in the 19th century. This opinion is based on two lines of reasoning. The first is the desire to identify the biblical events with historical facts that present some supposed similarity, no matter how vague, with them, like for example the Hyksos invasion,

the explosion of Thera's volcano and so on. But no general consent can be reached through this way.

The second line of reasoning is based on certain declarations of time given in the Bible itself which, if they are interpreted literally, go back to the beginning of the second millennium B.C. According to Genesis 15,13 and Exodus 12,40 the Jews remained in Egypt for "four hundred years". If we take into consideration the declared ages of the Patriarchs Abraham, Isaac and Jacob (respectively one hundred and seventy-five, one hundred and eighty, and one hundred and forty-seven years) and suppose that the Exodus could be put at the end of the 13th century, the result would be that Abraham would have been born in the 19th century B.C.

The figures referring to the sojourn in Egypt and to the ages of the Patriarchs, however, are quite contrary to common sense. The Patriarchs and other characters in the Bible were only men, so it is quite unbelievable that they could have lived for such a length of time. Although the "fact" that the Patriarchs lived for centuries may be irrelevant from a religious point of view, it is quite unacceptable to the historian.

In fact, if we then attempt to analyse the narrative from this point of view, the whole thing becomes absurd, even ridiculous, and loses all value, because the times of the story are enormously stretched out, thus destroying the narrative tissue. But there is no reason why mere numbers should be so emphasised to the detriment of the narrative, which is almost completely linear, showing a oneness and a continuity that cannot be split into separate episodes.

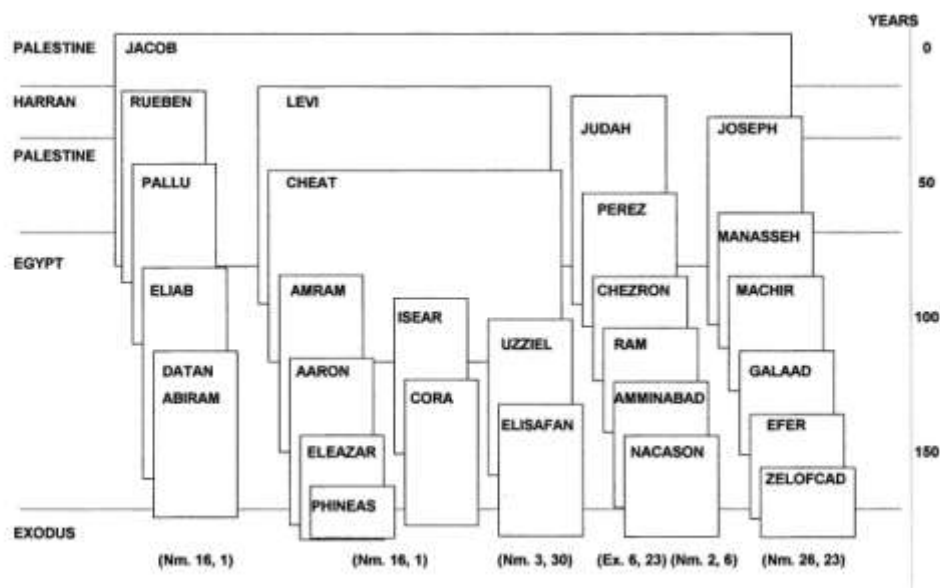
This is even more so since a long series of precise non-numerical and, therefore, more reliable information, is given in the Bible itself, that gives lie to the figures mentioned previously. For example, Genesis 15,13 states that the Jews remained in Egypt for four hundred years. Immediately following, however, Genesis 15,16 specifies that the said period refers to four generations, in complete contradiction to the foregoing figure. The four hundred years' sojourn in Egypt is also contradicted by the genealogies of the leading figures of the Exodus, which includes the fourth to the sixth generation after Jacob. If each generation is calculated on an average of twenty-five years, it is clear that the period in Egypt could not have lasted more than a century.

It becomes evident therefore that the figure "four hundred" and those given for the declared ages of the Patriarchs, cannot be taken literally. There are other figures in the text, such as "three", "seven", "forty" and "seventy" which also seem very unreliable, since they appear too frequently in relation to the normal statistical distribution of numbers. We cannot reasonably accept that these figures always indicate exact quantities. Likewise they cannot be rejected out of hand as being unreliable. It is, therefore, necessary to understand why they are used and if they have a precise meaning or not.

A reasonable and quite fascinating theory is that those figures which appear with excessive frequency are used in the same manner and with the same meanings as we use those common terms for indefinite quantities. Therefore, when a figure such as "three", "seven", "forty", "seventy" and "four hundred" appear in the Pentateuch, we have before us an "indefinite quantity", but set within certain limits roughly known to the narrator.

If we accept that the leading figures in the Bible were in no way different from their contemporaries, it seems obvious that the most reliable criterion for studying the chronology of the Pentateuch is the one based on the genealogy of those biblical characters.

The most numerous, and also the most accurate, genealogies are those referring to the leading figures of the Exodus, in particular the Levites. Aaron, the elder "brother" of Moses, was the firstborn son of Amram and Jochebed; Amram was the firstborn of Kohath, he being the second son of Levi, son of Jacob. Jochebed, however, was the daughter of that same Levi and had married the "grandson" Amram, following the custom of marriages between blood-relations. Other similar genealogies are given for various people who had leading roles in the Exodus, such as Korah, Dathan and Abiram (Num. 16,1), the daughters of Zelophehad (Num. 27,1) and so on (see following table).



From these genealogies it's quite evident that the Jews cannot possibly have lived in Egypt for more than 100 years.

The genealogical lists, therefore, can be used to reconstruct the times of the Pentateuch, by considering the generations in the same way as the growth-rings of tree-trunks. By connecting

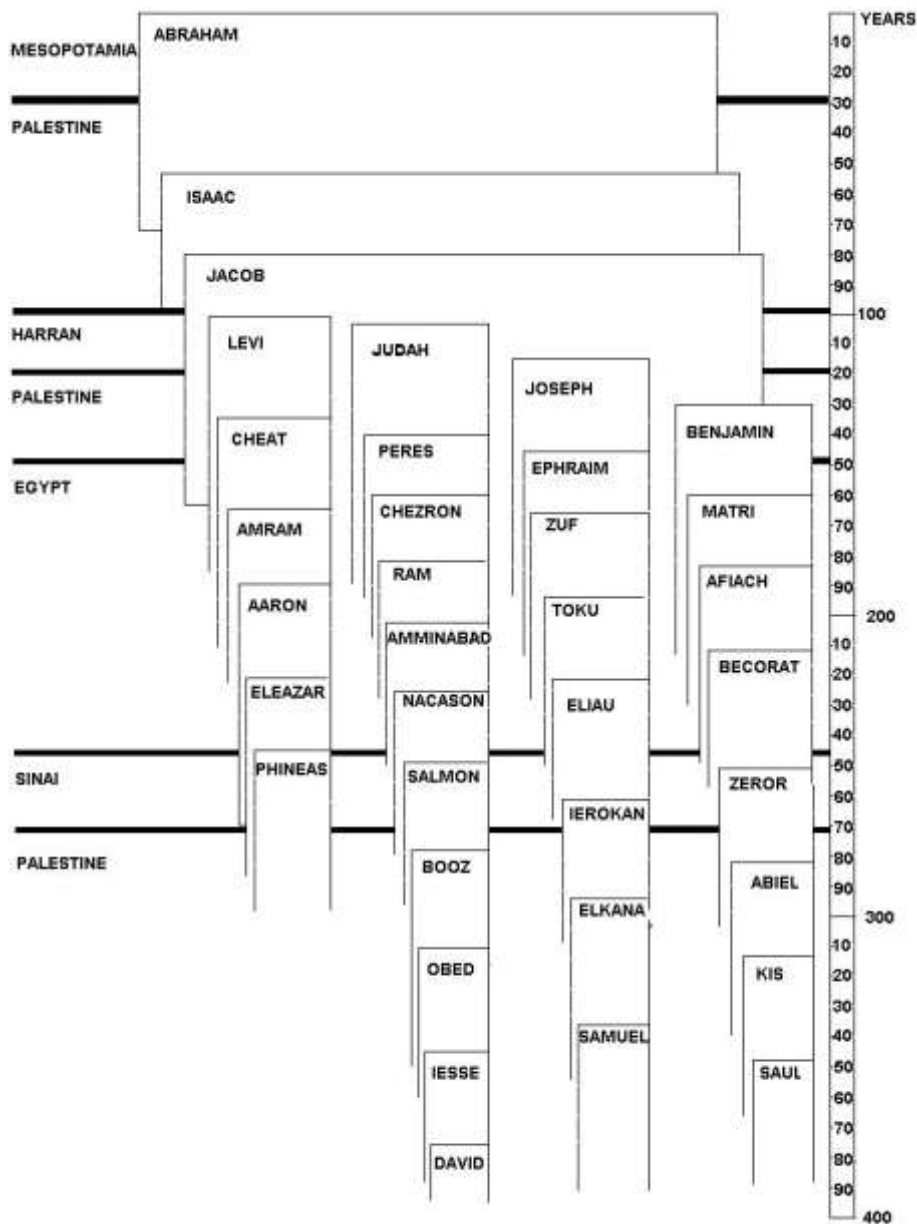
together different genealogical lists in which the same persons appear, complete and reliable sequences from Abraham to the kings of Israel (the existence of whom can be accepted without reservation and dated with sufficient reliability), can be obtained.

Obviously, this method cannot guarantee absolute precision; but, if the genealogical sequences are not excessively long, any possible errors are sufficiently bounded and in any case do not exceed a few decades. This criterion, therefore, is quite sufficient to set with reasonable certainty the historical period in which the biblical events occur. On this basis then, we can determine relatively simply the period in which certain biblical events took place, solely by making use of the data furnished in the Bible itself.

First, let us try to ascertain the Exodus epoch since this is the central episode of the Pentateuch. We can base the calculation upon the genealogy of David since it is sufficiently complete and reliable. It is listed for the first time in the Book of Ruth (4,18-22), great-grandmother of the king, and confirmed in successive Books.

From this list we learn that eleven generations separate Jacob's son Judah, and David. An important figure mentioned in the list is Nahshon, son of Amminadab, who played a key role in the events of the Exodus (Num. 2,3). Salmon, son of Nahshon, but not specified as his first-born, was perhaps born in the Sinai desert, and at the time of the Palestine conquest he was no more than a young boy. His son Boaz, as portrayed in the Book of Ruth (Ruth 3,7), was well-off and authoritative, but so calm and staid that he was inclined to doze off at times. When he married Ruth he was probably middle-aged, perhaps over fifty. Ruth gave him a son, Obed, who fathered Jesse (it is not known whether he was an only son or one of many). David was Jesse's eighth male child (1 Sam. 16,10), born, therefore, when his father was well on in years. Solomon entered the world when his father David was no longer young (1 Sam. 12,24).

On the basis of these considerations we can calculate fairly approximately that between the Exodus and the birth of Solomon, a little more than two hundred years passed. Since we are reasonably certain that Solomon was born about 1000 B.C., we can calculate with equal certainty that the Exodus took place around the end of the 13th century B.C. We can arrive at the same conclusion on the basis of the genealogies of Saul and Samuel (see the following table).



The Stele of Israel

Having established the period in which it occurred, we can more precisely fix the date of the Exodus by making full use of the frequent and numerous references in the Bible itself. In the 13th century B.C. Egypt was ruled by only two Pharaohs: Rameses II, who reigned for no less than sixty-six years, and his son Merenphthah, who held the throne for a further ten years. The last rulers of the 19th Dynasty were quite insignificant, reigning for very short periods over an Egypt

which was in total chaos. This makes the task to identify the rulers mentioned in Exodus sure and simple, since the Bible refers only to two. The first used the Jews as an unskilled labour force to help build the cities of Pithom and Pi-Ramses. This same Pharaoh persecuted Moses, forcing him to flee to the Sinai where he found refuge with Jethro the Midianite. There seems to be no doubt that he was Ramses II; and in any case this conclusion is consistent with a long and well-founded tradition.

We read in Exodus 2,23 that following the death of the Pharaoh who had persecuted him (i.e. Ramses), Moses returned to Egypt and together with Aaron began at once to organize the flight of the Israelites from Egypt. Because of its general complexity and slow pace of establishing the necessary contacts, the organisation of the whole enterprise must have required a period of not less than two or three years. The Jews took forty-four days (Num. 33,3; Ex. 19,1) to go from Pi-Ramses to Mount Sinai and remained there for just less than one year (Num. 10,11).

A few weeks after their departure from Sinai, as soon as Joshua had returned from his reconnaissance mission in Palestine, the Jews suffered a serious defeat at the hands of the Canaanites near Kadesh-Barnea (Num. 14,15; Deut. 1,44). By an extraordinary coincidence, there is a similar historical account in the "Stele of Israel", called thus because for the first time in history the name "Israel" appears. In this stele Merenptah, Ramses' successor, celebrates victories gained over the Libyans who, in the fourth year of his reign, had invaded the Nile Delta. On the same stele there is a list of victories over rebel populations in Palestine, which then was still part of the Egyptian Empire. Merenptah almost certainly never left Egypt and, therefore, these victories were clearly gained by his generals or by populations subjected to him, such as the Canaanites¹ (8). The victory over Israel occurred before the end of the fifth year of Merenptah's reign; since the Jews had left Egypt less than fifteen months before this, the Exodus must have started between the second and the fourth year of Merenptah's reign.

The absolute date of the beginning of Merenptah's reign

Let's then open a book of ancient History and find out when Ramses and Merenptah reigned. Unfortunately, we find different dates for Ramses' death. The Egyptians counted the years separately for each pharaoh, thus we know that a certain event happened in such year of a such pharaoh, but normally we are not able to link this year to an absolute date, unless there are references to some astronomical event that can be dated with precision. For what concerns Ramses II, scholars are undecided between two precise dates: his coronation must have happened either on 1304 B.C., or on 1279 B.C. The calculations have been made on the basis of a sequence of lunar months, listed in the Leyden papyrus, concerning the 52nd year of Ramses. That sequence recurs

every 25 years and in the XIII. Century B.C. it occurred in 1278, 1253, 1228 and 1203. The first and the last can be disregarded, being not compatible with the Egyptian chronology; Ramses II died 15 years later, therefore either in 1238, or in 1213 B.C..

There is a difference of 25 years among these. We cannot ignore a third date, 1224 B.C., that the Cambridge's school proposes as possible, even if not really probable. It is important to note that the exact date of Ramses' death is one of these three and not any intermediate year among the twenty-five. The Exodus of the Jews from Egypt, therefore, must have taken place in one of the following periods: either in 1236/1234, or in 1222/1218 or even in 1210/1208 B.C. The calculations made on the basis of David's genealogy would tend to favour the last of these three figures; but in any case the difference is not so great as to exclude the other two. Let's find out which is the correct one.

The Egyptian calendar

The Jewish Easter (Passover) is celebrated today on the first full moon of springtime. The unanimous opinion, therefore, is that the Jews' Exodus from Egypt begins at this period of the year, at the beginning of spring.

However, by examining the Bible, we can assert with certainty that this tradition is incorrectly based. First of all, we note that the Jewish custom of celebrating Easter, after a long period of suspension, was revived only after they returned from exile in Babylon. During this exile, they not only adopted the Babylonian calendar, which began with the new moon closest to the spring equinox. Since the Bible stated that Easter was to be celebrated on the fourteenth day of the first month of the year (Lev. 23,5; Nm. 9,3-5; 28,16; 33,2; etc.), from that time on Easter was fixed to coincide with the first full moon of Spring.

The Exodus Jews, however, came from Egypt, and at the time of the narrated events they almost certainly followed the Egyptian calendar.

According to most texts, the ancient Egyptian calendar was based on a 365 days "vague" year, with 12 months of 30 days plus 5 extra days. This calendar shifted one day every 4 years, so it couldn't keep any correspondence with the seasons. It was a strictly religious calendar, with no use in civil life. For this purpose, a lunisolar calendar was in use, based on the lunar months (we have seen this on the Leyden stele, for the 52nd year of Ramses), which maintained a strict relation with the seasons.

The Egyptian civil year began in coincidence with the Niles' flood. The river's level began to rise around mid-June in the region of Assuan and towards June 20-25 in Memphis, at the southern

end of the Delta. By the end of June, the flood had reached all the Delta, through its canals. The Egyptian civil year, then, began in June, either on the 15 or the 21, the solstice's date.

The solstice, in any case, was the date of reference for the beginning of the Jewish lunisolar calendar, whose first day fell necessarily on a new moon. With all probability it was the new moon immediately preceding the summer solstice. Fourteen days later, occurred the nearest full moon to the solstice, which was initially the recurrence of Passover.

Epoch of the Exodus

The fifteenth day of the year, when the Jews departed from Pi-Ramses, must have been in June (Nm. 33.3).

Various reasons support this statement. The first is that some of the events that preceded the Exodus are datable; for example, the seventh plague --the hailstorm-- is dated with a maximum margin of error of a week. It occurred when "the flax was blooming and the barley already twilled," but not yet the wheat (Ex. 9.31-32); clearly this was at the beginning of April. After this, three more plagues occurred. The Exodus, therefore, took place some time later; it could hardly have happened during the first full moon of Spring. Other biblical indications conflict with a departure at the beginning of Spring, but there is one that puts it definitively in June. It is reliable evidence because it dates from a period very near the events in question; the Bible states it clearly in the Book of Joshua.

Joshua began the invasion of Palestine during the harvest period (Josh. 3,15; 5,11). In the Jordan Valley, today, the grain harvest occurs during the second half of May. Taking into account that nowadays the tendency is to cultivate early varieties and to thresh as early as possible, we are reasonably certain that the harvest in those times did not take place before the end of May. Joshua crossed the Jordan on the tenth day after the beginning of the year (Js. 4,19); five days later he celebrated Easter (Js. 5,10). There can be no doubt -- it was in June. Exactly fifteen days later came the recurrence of the crossing of the Red Sea -- in the second half of June.

The crossing of the Red Sea

The main reason why modern Scriptural Scholarship rejects an effective historical content of the Exodus narrative is that the crossing of the Red Sea by the Israelites, in the manner described, is presumed to be impossible.

As a matter of fact, at first sight the crossing appears to be so completely outside the bounds of possibility, that all the scholars have rejected it out of hand, preferring to dedicate their research

to other alternatives. However, a more detailed examination of the question reveals this position to be hurried and unjustified. Surprisingly, in fact, the only way to provide a rational explanation of this episode is that we not reject one single piece of indication given in the Bible. Of course the Bible relates the facts as they were experienced and understood by the people involved; they were unable to provide a rational explanation of what happened and, therefore, could only attribute it to divine intervention. But they must have reported the facts in a true and precise manner. The essential facts of their story are these:

- the Jews crossed over in the midst of a real sea, having water both on their left and on their right (Ex.14,22).
- the sea in question was the Red Sea, that is, that branch now known as the Gulf of Suez, not the Mediterranean or any other stretch of water, as is often to be read;
- they crossed the sea by night, a moonless night, and, therefore, it was the time of the new moon (Ex. 14.20; Dt. 16,1);
- before and during the crossing, a stiff breeze sprang up (Ex. 14,21);
- the Egyptian troops rushed to the chase at first light, following the same route as the Jews, but they were engulfed by the waters before they could pass over (Ex. 14,23; 14,27);
- the bodies of the drowned soldiers were carried by the current onto the strand (Ex. 14,30).

These are the main points of the biblical narrative, which are repeated and confirmed time and time again in a wide range of contexts. They must, therefore, be the facts exactly as they happened. On the basis of this narrative, there are no alternatives: the Jews have crossed the Red Sea along the shoals across the Gulf of Suez.

Moses' escape plan had to be based upon elements about which he was absolutely certain; it is unreasonable to suppose that he could or would count on accidental happenings beyond the norm. Not one of the Jewish tribal chiefs would have been prepared to risk the lives of his people and his own by following Moses just in the hope that one day or another a wind would arise strong enough to dry up the Red Sea or any other stretch of water... and that such a wind would last just long enough to allow his people to cross, graciously dying down as soon as the inevitable pursuers reached the middle of the crossing. This is a widely spread theory, but it is quite absurd.

Moses must have had knowledge of some Red Sea phenomenon that existed at that time but does not happen now. The epoch in which these events occurred is very important to this analysis: it was said to be in the third or fourth year of the reign of Merenptah, towards the end of the 13th century B.C., more than three thousand years ago. So, what was different then, compared to modern times? A seemingly insignificant fact: the sea level all over the Earth (and therefore also in the

to know the day and hour in which the sand banks would emerge, and the hour in which they would again disappear.

Some collateral factors that he had certainly taken into account assumed very important significance. The moonless night, for example, allowed the Jews to move without being seen, but could also present a serious obstacle to their march across the sand banks – except that the warm waters of the Red Sea teemed with luminescent organisms, excited by the strong nocturnal breeze and breaking waves, which traced out the route without need of artificial light. The wind, therefore, without having any influence whatsoever on the tide, assumed a fundamental importance.

Once we accept that the sand banks in the Suez Bay emerged during the lowest tides, it becomes relatively easy to grasp the essentials of Moses' plan. If we follow faithfully the indications in the Bible, aware that every single minute detail of the narrative has been handed down strictly in accordance with its importance, and must, therefore, have a precise rational explanation, it becomes clear.

To conclude: the Jews crossed the Red Sea along the sand banks of the Suez Bay, a distance of little more than 5 kilometers. Since they were unaware of the mechanics that made this possible, it must have seemed to them a most extraordinary miracle. In the darkness of the night, they could just glimpse the waters, thanks to the weak micro-organic luminescence and the whiteness of the breaking waves; the optical illusion of two walls of water on either side must have been perfect. One wonders how terrified they must have been as they made that crossing!

The Egyptians rushed in along the same route. Moses must have calculated the exact moment. He had estimated their reaction time and the period they required to prepare for action. Somehow he had lured them on the shoals at the right moment; it was essential that the Egyptians were in the middle of the gulf when the high tide would re-submerge the sand banks.

By dawn the Egyptians would have covered the 5 kilometers that separated the two shores in no more than half an hour. The success of Moses' entire plan and the destiny of the Jewish people depended upon that crucial half hour.

If the Egyptians had arrived at the bay too early, they would have been in time to reach the far shore; if too late, they would have found the sand banks already submerged, in which case they would have rounded the gulf and reached the Jews after a few hours. In either case the reprisals would have been terrible. Israel would have paid a high price for this attempt at escape, and for Moses and his companions it would have been the end.

It was a very great risk, well calculated but with a very narrow safety margin. However one looks at it, this was an enterprise of breath-taking audacity. Moses pulled it off; the Egyptian army was annihilated. The bodies of the drowned troops were spread along the shores of the Red Sea for

many kilometers (Ex. 14,30), tangible evidence of the power of Jahweh and of his earthly spokesman Moses. The Jews were free to go on their way undisturbed through the desert, towards a new life and a new destiny.

The chronological aspects of this episode are clear and precise. They crossed the Red Sea in the pitch dark, in a moonless night. It was therefore 14 days after the departure from Pi-Ramses at the end of the first lunar month of the year. During that night there was one of the highest tides of the year, what occurs during the new moon nearest to the 21st of June, when the water of the Red sea is already warm and swarming with phosphorescent micro-organisms.

The Exodus Itinerary

The Bible offers a number of precise temporal and topographical information also for the month after the crossing of the Red Sea. This allow us to reconstruct the day by day itinerary from the Red Sea to Mount Sinai in a very precise and reliable way. Provided, of course, that we know where exactly Mount Sinai was located. On this point the Christian tradition, which identifies the Biblical Sinai with St Catherine Mountain, on the southern tip of the Sinai peninsula, is useless. No archaeological remains previous to the 4th Century A.D. has been found in this area, and there isn't the slightest correspondence between this mountain and the biblical account.

For these reasons, several scholars have proposed different locations for the holy mountain. The one that appears to be more fitting to this account is Har Karkom, a mountain in the Negev desert, Israel, discovered by Prof. Emmanuel Anati in 1980. Almost certainly the Jews were directed to that mountain, where an impressive amount of archaeological evidence of the Bronze age fits perfectly with the biblical account.

The Jews in their thousands (a fairly precise evaluation puts their number around 30/35 thousand persons. The figure of 600.000 that we very often find quoted is the result of an error of interpretation. The Bible speaks of "600 elef", where the word "elef" has a double meaning: "thousand" and "chief". The 600 "elef" were the descendants of Jacob, who possessed the goods and servants of the Jewish tribes, each of which numbered from 2 to 3 thousand people), with all their wagons, supplies, household goods and livestock, could not possibly have taken any secondary routes, along difficult tracks without a plentiful supply of water. Moses, therefore, was forced to lead them along one of the major passable wagon tracks, which joined Egypt with Palestine across the Sinai Peninsula.

At this point, we know a large number of dates and facts regarding the itinerary and it is clear that a faithful reconstruction of it must correspond exactly to all of them:

- the date and place of departure (Pi-Ramses, the fifteenth day of the first month)
- the date and place of arrival (Har Karkom, the first day of the third month)
- the date and the exact point of the Red Sea crossing (Suez Bay last day of the first month)
- three intermediate dates (arrival at Succoth the 21st day of the first month; arrival at Mara on the third day of the second month; arrival at Sin desert the fifteenth day of the second month --Ex. 16,1)
- the various legs of the journey listed in Numbers 33,7-15 (Pi-Ramses, Succoth, Etham, Pi-Hahiroth, Marah, Elim, Sea of Reeds, Desert of Sin, Dophkah, Alush, Rephidim, Sinai)
- the speed and method of travel (three days' march at a daily average between 13 and 15 kilometers, plus a fourth day of rest)
- the ancient tracks of the Sinai Peninsula (mainly corresponding to today's roads).

With the help of these data, the Exodus route can be easily retraced day by day, exactly and with certainty. After the Red Sea crossing, the Jews had to stop for the whole day at the Ayun Musa wells, just in front of the shoals, in order to water and refresh the livestock and to replenish their own supply. There they celebrated the miraculous passage with dances and singings. Then they moved off northwards into the Etham desert until they reached the track that took them towards Palestine.

It took them two days to reach Bir el Mura, the biblical "Mara", some 20 kilometers away.

Like with other oasis in the Sinai bearing the same name, Bir el-Mura has wells containing very bitter water, and something close to a revolt almost broke out as a result (Ex.15,24). From there, the Jews pressed on toward Palestine at a forced rate of march. It took them three days to get from one oasis to the next and at each one they rested for a whole day. These are the stages of the journey referred to in Numbers 33.

They left Bir el-Mura on the morning of the fifth day, crossing the Mitla Pass on the sixth and reaching Bir el-Tawal during the afternoon of the seventh. Bir el-Tawal is identifiable with the biblical Elim, an oasis with twelve wells and seventy palms, where they rested for the whole of the eighth day. They left again on the morning of the ninth and reached the following oasis, Bir et-Temada after the usual three days' march, on the eleventh day of the month. The daily average for this first stretch was 13-14 kilometers. Bir et-Temada presented a vast expanse of marshy ground invaded by reeds (still visible today by means of Google Maps), from which the biblically attributed name "Yam Suf", Sea of Reeds (the same as the Red Sea), is derived.

Following the usual one day's rest, the Jews set off again on the morning of the thirteenth day, arriving with the full moon at Bir Assane, an oasis which today still maintains its biblical name: the Sin Desert. Exodus 16,1 reports that this was on the fifteenth day of the second month.

According to the biblical narrative, the journey required fifteen days between the Sin Desert and Mount Horeb, including three intermediate stops: Dophcah, Alus and Rephidim. The latter was situated no more than 10 kilometres from Mount Horeb, since the distance between the two was covered in less than a single day (Ex.19,1). We, therefore, have a total of ten days' march, during which the Jews could not have covered more than 150 kilometres. On the basis of these limiting factors, there could be no alternative: they must have followed the track to Kuseima. After three days' march, they reached the oasis of Bir el-Hadira, the biblical Dophcah, where they remained for the entire twentieth day.

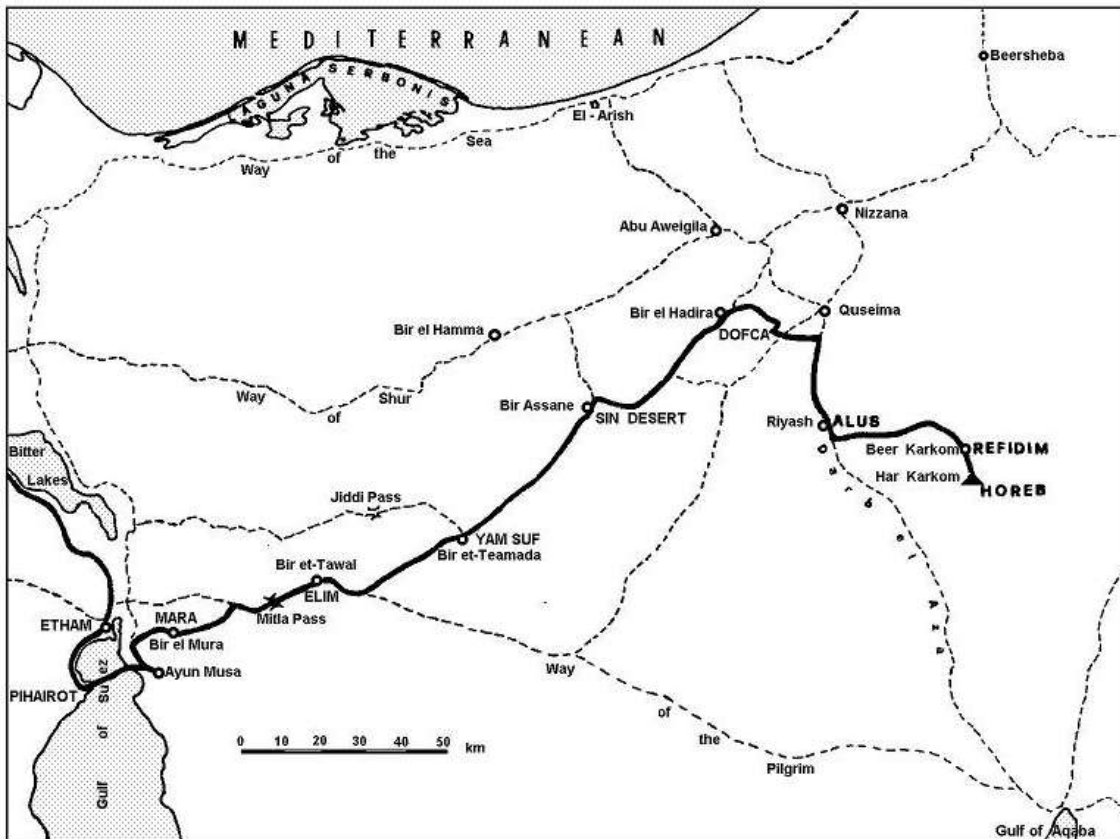
On the morning of the twenty-first day of the second month, they set off from Bir el-Hadira. Toward the end of the following day, they reached a fork: the north-east track goes on to Kuseima and Palestine; on the right, to the south-east, there is a ten-kilometer secondary track to Darb-el-Aza, the high road that descends directly to Eilat on the Gulf of Aqaba. The Jews turned right and that same evening set up camp along the Darb-el-Aza, at Bir Sheida.

They proceeded down the Darb-el-Aza during the whole of the twenty-third day of the month, reaching Riyash, the biblical Alus, situated on the bed of a wadi that still keeps its ancient name: Lussan. They departed Riyash on the morning of the twenty-fifth day and at once left the Darb-el-Aza, moving into the Paran Desert in the direction of Har Karkom. They travelled about forty kilometres, and in the afternoon of the twenty-seventh day of the second month they arrived at Beer Karkom -- a locality seven kilometres from Har Karkom, which Dr. Anati, on the basis of significant archaeological evidence, has identified with the biblical Rephidim.

The following day, the Jews sustained their "baptism of fire," clashing with a local tribe of Amalekites. The battle lasted until the evening (Ex.17,8-13). The hard-won victory over the Amalekites, who were completely wiped out (Ex.17,13), enabled Israel, on the twenty-eighth day of the second month, to take over a territory which, although a desert area and small, constituted a secure base in which they could become organized for the next conquest without being disturbed.

The two days following the battle were spent burying the dead, medicating the wounded, and dividing the spoils of the vanquished. On the first day of the third month, they left Rephidim, and in the afternoon they set up camp on a vast plain at the foot of the Holy Mountain. They stayed there for a whole year, during which Moses went from being a simple guide, to become the undisputed head of the "Chosen People" and changed the course of History.

In the following map is represented this first part of the Exodus itinerary, which is in perfect agreement with the biblical account.



Synthesized below is the entire itinerary, showing the various legs of the journey, the duration of each march and the stops with the respective dates (the dates emphasized are those reported in the Bible or confirmed as certain):

	List of legs of journey (Num. 33)	day of arrival	stop over (days)	day of departure	duration of journey (days)
1 st	1 Pi-Ramses			15 th	7
Month	2 Succot	21 st	2	24 th	3
	3 Etham	26 st	2	29 th	1/2
	4 Pihairot	29 th			
	- "Gulf of Suez"	29 th	1/2	29/1	3

		(Crossing of the Red Sea by night)			st	hours	
2 nd Month	5	Mara (Bir el-Mura)	3 ^d	1	5 th	3	
	6	Elim (Bir et-Tawal)	7 th	1	9 th	3	
	7	Yam Suf (Sea of Reeds) (Bir et-Temada)	11 th	1	13 th	3	
	8	Deserto di Sin (Bir Assane)	15 th	1	17 th	3	
	9	Dofca (Bir el-Hadira)	19 th	1	21 th	3	
	1	Alus (Riyash)	23 ^d	1	25 th	3	
	1	Refidim (Beer Karkom)	27 th	3	1 st	1/2	
	3 ^d Month	1	Sinai (Har Karkom)	1 st			

The "plagues" of Egypt

Having established the time of the year in which the Exodus took place, the next step is to discover the precise date. Incredible though it may seem, the Bible itself provides evidence which makes it possible to determine not only the year, but the exact day on which that event -- the crossing of the Red Sea so fundamental to the history of the Jewish people and perhaps the most important in all human history -- occurred. It all hinges on whether a certain interpretation of the ninth "plague" is exact or not, that is, the "three days of darkness" that fell upon Egypt (except, of course, where the Jews lived).

Most historians view the accounts of the ten "plagues" with scepticism since they are not reported in the Egyptian chronicles. It would indeed be surprising if such a correlation were to be found. When the Bible speaks of the "land of Egypt," it normally refers to that part of Egypt where the Jews lived. Therefore, the "plagues" were certainly local happenings that involved villages and

the countryside around Goshen, and could not have been referred to the Court for insertion in official chronicles.

The plagues were for the most part quite banal happenings that, in any case, recurred often in Egypt. To call some of these happenings "plagues" is ridiculous. In any case all were exaggerated beyond measure. One example can serve for all: the hail. At first, it is described as a scourge never before seen, that cut down men, animals and every kind of tree (Ex. 9,24-25). Then later the truth surfaces: the wheat was not damaged at all, because...it had not yet come into ear! (Ex. 9,32). A normal springtime hailstorm.

The Egyptians certainly were not even aware they were being subjected at that time to so many extraordinary calamities; they were so only in the minds of the Jews. The latter were not able, on the other hand, to ascertain the true extent of these plagues, for they were, of course, regularly exempt from them: this was all part of the marvel.

The final "plague," the most terrible of all -- the death of all the Egyptian firstborn sons -- was probably no more than the chance death of a single firstborn: that of the Egyptian Governor under whose control the Jews lived, and who was, therefore, given the title of Pharaoh (Ex. 4,23). The child died the same night that the Jews prepared for the departure. The following morning, while they were setting out, the entire city echoed with cries of mourning and lamentations. No one turned back to check who had really died.

It appears fairly evident from reading the biblical text, that the ten "plagues" did not have the slightest influence upon the Egyptians' decision to authorize the Jews to go out into the desert to make sacrifices to their God (but never did they authorize the Jews to leave the country). The supposed plagues did, however, convince the Jews to depart -- to leave a situation which was, after all, fairly comfortable and safe and to embark on a risky adventure (Ex.16,3). Little did they realize what they would encounter and how long they would regret that decision!

All the so-called plagues refer more or less to extraordinary events that really occurred, but which in some cases are highly exaggerated. Such was the case with the hailstorm (Ex. 9,24-32).

The question is how can we interpret the "thick darkness in all the land of Egypt for three days...(but all the children of Israel had light in their dwellings)" (Es. 10, 22-23). The most plausible explanation, the one that seems to be the most sensible, is an eclipse of the sun. This is an event which is quite extraordinary, but not sufficiently so to be defined as a "plague;" to become so, the duration would have to be prolonged to an extreme. In fact it became three days, where "three" is clearly a period of indeterminate length.

The eclipse occurred when the sun and moon were in conjunction, that is, during a new moon. Since this was after the seventh plague, which occurred at the beginning of April, it must have been

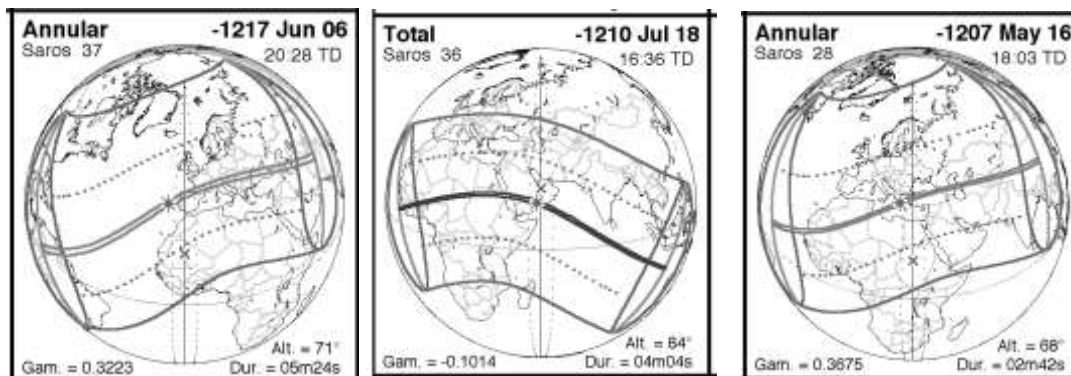
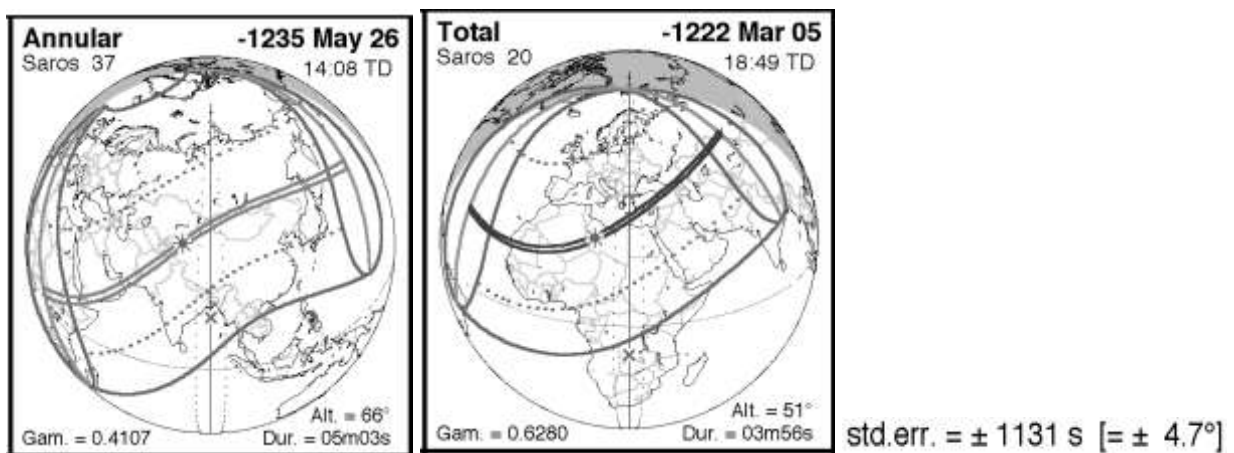
the new moon immediately preceding the one that started the first year of Exodus. This puts the time frame at the end of April, or in the first half of May.

The interesting thing about eclipses is that the dates can be calculated exactly, even those in very remote history. Therefore, we need only ascertain if in Egypt, in what was most probably the time of the Exodus, there was actually a total eclipse of the sun, and then calculate the exact day. The Jews crossed the Red Sea two months later.

Solar eclipses at the end of the XIII century b.C.

In October 2006 NASA published a “Five Millennium Canon of Solar Eclipses: –1999 to +3000 (2000 BCE to 3000 CE)” (NASA/TP–2006–214141--October 2006 *Fred Espenak and Jean Meeus*).

Five solar eclipses occur in Egypt during the time frame we are interested in (see following pictures).



$$\Delta T = 29255 \text{ s } [= 08\text{h}08\text{m}]$$

$$\text{std.err.} = \pm 1092 \text{ s } [= \pm 4.5^\circ]$$

For each eclipse an orthographic projection map of Earth shows the path of the Moon's shadows with respect to the continental coastlines. The dotted lines delineate the locus of all points where the local magnitude at maximum eclipse is equal to 0.5.

Underneath the maps, the maximum possible error in longitude is indicated, due to the fact that the secular variations of Earth's speed of rotation are not known with absolute precision. At the most for these eclipses it can be of 4.7° , which means that the actual path could have been shifted right or left for no more than 4.7° .

To the top right are the dates of the eclipses. A few essential remarks need to be made, in order to understand the correct meaning of those dates:

1) All eclipse dates from 1582 Oct 15 onwards use the modern Gregorian calendar currently found throughout most of the world. For eclipse dates prior to 1582 Oct 04 the older Julian calendar is used.

2) The Julian calendar does not include the year 0, so the year 1 BC is followed by the year 1 A.D. This is awkward for arithmetic calculations. In this publication, dates are counted using the astronomical numbering system which recognizes the year 0. We have to take into account the numerical difference of one year between astronomical dates and B.C. dates. Thus, the year 0 corresponds to 1 BC, and the year -100 corresponds to 101 BC, etc., and the historical dates of the 5 eclipses of the maps are respectively: 1236, 1223, 1218, 1211 and 1208 B.C.

3) A further consideration is important in our case, where the relation between the date of the eclipses and the solstices is relevant. In this respect, the Julian and the Gregorian calendars coincide only for the period around the Council of Nicea, on 325 a.D. (pope Gregory XIII's reform was set in order to reproduce the astronomical situation at the time of that Council, when the rules for the calculation of the Christian Easter were agreed for).

When Julius Cesar, on 45 B.C., started the calendar named after him, the summer and winter solstices fell respectively on 24 June and 25 December, three days later than in the Gregorian calendar, due to the fact that the Julian year is a little bit longer than the Gregorian. As we go back in time, the delay gradually increases to reach 12 days at the epoch of Exodus.

We have therefore the following equivalence between the astronomical dates of our eclipses and the actual dates:

<i>astronomical date</i>	<i>historical date</i>	<i>day of the Gregorian calendar</i>
1. - 1235 May 26	26 May 1236 B.C.	14 May

2. - 1222 Mar 05	5 March 1223 B.C.	21 February
3. - 1217 Jun 05	5 June 1218 B.C.	24 May
4. - 1210 Jul 18	18 July 1211 B.C.	06 July
5. - 1207 May 16	16 May 1208 B.C.	04 May

All five of these dates fall within the time period we are considering. If Ramses II died the 1st of September, as it appears probable, Merenptah ascended the throne at least three months later, when his father was definitely buried. The Egyptians used to count the years of a pharaoh starting from the year following the death of his predecessor, including in it the months from the death to the end of the year.

For our calculations, then, we have to assume that the first year of Merenptah started in June of 1237, or 1223 or 1212 B.C. The account of the ten plagues should provide sufficient indications to decide which is the correct date among these three.

The 7th plague, the hail, we said, occurred not before the beginning of April, therefore excluding the eclipse of the 5 March 1223. The eclipse of 5 June 1218 is too late; if it was the correct one, in fact, the Jews would have been defeated on September 1217, at the beginning of the 7th year of Merenptah, well after the stele of the 5th year was engraved. The eclipse of 18 July 1211 B.C. is not compliant with the indications of the Bible, which place Passover in June, while in this case it should recur in August.

Only two dates, then, are left fitting with both, the indications of the Bible and of the stele: 26 May 1236 and 16 May 1208 B.C.. According to the first, the Exodus should have started in June 1236, at the beginning of the second year of Merenptah, while the second would make it start in June 1208, at the beginning of the fourth year.

Both dates fit with the indications of the Bible and the archaeological evidence, because in both cases the defeat of Israel would have happened well in time to be reported on the Stele of the 5th year of Merenptah. There are, however, a few points that make us decidedly incline for the second. First, the organization of such a complex operation like the exodus of an entire population required time. Communications were slow. Moses had to be informed, in the Sinai desert, that Ramses was dead and that he was no more “wanted” (and this could have happened only after Merenptah replaced the previous officials in Pi-Ramses). He had to come back to Egypt, meet the chiefs of the Jewish tribes and convince them to put their lives and their properties at stake in the risky adventure he was proposing. They had to agree to a plan, to sell real estates, provide the logistics for a long trip in the desert and so on. It’s highly improbable that all of this could have happened in only one year.

Second, from the map of the 1236 eclipse, we can clearly see that Egypt was only marginally interested; there are indeed good probabilities that it was not at all touched. On 1208, instead, the eclipse in Egypt had certainly a magnitude of more than 80%, and the light of the day was almost completely darkened for several minutes.

Third, with this date the exodus of the Jews would have started three and a half years after Ramses II's death, a reasonable time for its organisation. Fourth, the calculations based on the genealogies of David, Samuel and Saul are consistent with the later date. Finally, we have to consider that most Egyptologists agree that the most probable date for the death of Ramses II is 1213 B.C.

Everything, therefore, combines in a convincing way with the theory that the ninth "plague" of the Bible, the darkness, was the exaggerated account of the solar eclipse that obscured Egypt on 16 May 1208 B. C. (corresponding to today's 4th of May).

Exodus' precise chronology

The Jews left Pi-Ramses the "15th day of the first month" of the Egyptian lunar civil year. The beginning of the first month was coincident with the new moon immediately following the eclipse, that is on 15 June 1208 B.C. (corresponding to today's 3d of June). The exodus, then, started on 30 June (18 June of today), with the full moon, and 14 days later, during the new moon, the Jews crossed the Red Sea. It was the night between the **14 and 15 of July of 1208 B.C. (2/3 July of today)**, one of the most important dates in human history.

Thirty days later, "the first day of the third month" (Ex. 19.1), that is the **3d August 1208** (corresponding to today's 18 July) B.C., the Jews set camp at the feet of the Holy Mountain.

The Egyptian lunar calendar was probably like the Jewish calendar of today, where the pace with seasons is maintained alternating one or two years with 12 lunar months and one year with 13. As the 3d of June is an "early" date with respect to the solstice, it's probable that the first year of the exodus was made up by 13 lunar months (no!!!). Therefore the second year must have started the (24 May 1207) 22 of June (**3 July 1207 B.C.**, in Julian date), the very day Moses raised for the first time the Tabernacle (Ex. 40, 20).

On (22 July) **21 August 1207 b.C.** (today's 9 August), the "20th day of the second month of the second year" (Nm. 10,11), the Jews left the Holy Mountain, never to come back again. This is the last date that we can calculate with precision on the base of the biblical account.

The quails

From Mount Sinai (Har Karkom) the Jews went north, towards Kades Barnea. A few days later the biblical chronicles registered a fact that made a long-lasting impression on the Jews and it's still provoking fierce debates amongst the scholars: "*a wind from the Lord brought quails from the sea, and let them fall beside the camp... and the people gathered the quails and ate them*". As a result an epidemic broke out in which many people died. The dead were buried on the spot, and these graves gave the place its name, Kibroth-Hattaavah, 'Graves of Craving or Appetite', (Nu. 11:34; 33:16; Deut 9:22), the first stopping place of the Israelites after they left Sinai.

This episode is quite relevant as chronology and geography are concerned.

The quails (*Coturnix coturnix*) are migratory birds whose habits and characteristics are remarkable. They winter in Central Africa and at the beginning of spring, they fly north returning to Europe. Three major migratory flight ways have been established for these birds. One group in West Africa flies over the Sahara desert headed for the Iberian peninsula, the second group flies over the Sahara headed for Italy, the third group follows the Nile and goes north across the Sinai headed for Greece and the Balkans. In the fall, the quails go back the same way, in migratory waves that start in August and go on until October. A strange characteristic of this bird is that during its migrations, due probably to some seeds they feed on, their meat becomes toxic and produces, when eaten, a sort of poisoning named "coturnism", that causes some people to be afflicted with sharp pains in the bowels and extremities and even to die in the worst cases.

This is indeed what happened to the Jews, who after they had eaten the quails were struck by a "plague", which caused many victims. A fact that has always puzzled the scholars who place the Exodus at the beginning of spring and in the southern part of the Sinai peninsula. During the spring migration, only the western group of quails, heading from West Africa to the Iberian peninsula are poisonous. The situation is reversed for the eastern group of quails; it's only the south-bound birds, heading from Greece to Sinai, which are poisonous.

The fact narrated in the Bible, therefore, can only have happened in the northern part of Sinai, during a period of time between August and October. Which is in perfect accord, both from a chronological and geographical point of view, with the theory that we have developed so far. The Jews left Har Karkom, midway between the Gulf of Aqaba and the Mediterranean, at a date corresponding to today's 9th of August, the actual period when the quails' migration coming from Greece and flying over the Sinai Mediterranean coasts, starts. According to the account, the Jews met the quails a few days after they left the Holy Mountain, therefore around mid of August (in actual date). Everything fits.

After Kibrot Hattahava, the Jews went to a place called Hazerot, from where they left after a little more than a week, to put up camp at Kadesh, in the Paran desert (Nu. 12, 16; 13, 25). It “*was the time of the first ripe grapes*” (Nu. 13, 20), and therefore the end of August or beginning of September.

From Kadesh, Moses send Joshua with eleven other people on a reconnaissance mission through Palestine. The Bible says that Joshua came back after “forty” days, but in reality he had to stay away for the time strictly necessary to reach Ebron (Nm. 13, 22) and return: a couple of weeks, at the most. He came back around mid September, loaded with products typical of this period, grapes, figs and pomegranates (Nm. 13, 23).

A few days later the Jews, against Moses’ will, made a first attempt to invade Palestine, pushing north towards the Negev, but they were severely defeated by Amalekite and Cananean populations (Nm. 14, 42-45; Deut. 1, 41-45), certainly faithful to the pharaoh. Good news for Merenptah, who was then struggling to drive back an invasion of Libyan populations. It’s the victory won by the Egyptians against Israel which is named in the famous stele. It was around mid **September 1207** B.C., in the fourth month of the fifth year of reign of Merenptah. At the end of that same year the stele celebrating Merenptah’s victories was engraved.

The conquest of Palestine

The Bible gives scant information about the years following the Jews’ defeat: only a list of “legs” (Nm. 33), from which we have to deduce that they headed south, into Midianite territory, where they probably stayed for all the “forty” years (Dt 1,3) that the tradition says they spent in the Sinai desert. “Forty”, as in all other verses where this number is used, clearly indicates an indefinite quantity, therefore the years they spend in the desert had actually to be much less. How many, precisely, we’ll see very soon.

Precise information of a chronological type resurface in the Bible only in the imminence of the military campaign carried on to conquer Palestine. “*And it came to pass in the fortieth year, in the eleventh month, on the first day of the month, that Moses spake unto the children of Israel, according unto all that the Lord had given him in commandment unto them*” (Dt. 1, 3). We do not know the year when this happened, so we are not able to transform this information into a precise date; what we know for certain is that it was the day of the new moon in April. In that moment Israel was camped in the Moab valley, on the eastern side of the Jordan river, in front of Jericho that stood on the other side of the river.

On that same day Moses convened an assembly of all Israel and pronounced a great speech (quoted in the book of Deuteronomy), at the end of which he took leave from the people, moved up

to Mount Nebo and ... died. A mourning of thirty days followed (Dt. 34, 8), after which Joshua made the last preparations for the invasion of Palestine and send two men in reconnaissance mission to Jericho. It was the beginning of the 12th month of the year, in May. A few weeks later Joshua crossed the Jordan river. It was “*the time of harvest*” (Js. 3, 15), therefore end of May, beginning of June. The “*people came up out of Jordan on the tenth day of the first month, and encamped in Gilgal, in the east border of Jericho*” (Js. 4, 19), and “*they kept the Passover on the fourteenth day of the month, and they ate of the corn of the land on the morrow after the Passover*” (Js 5, 10-11), it was the full moon nearest to the 21st of June.

Then the military campaign to conquer Palestine started, which had to be concluded before the end of summer, with the partition of the conquered territories between the Jewish tribes. By autumn, each tribe had taken possession of its “inheritance” and finally, after a summer of slaughter and destructions, order and peace were restored in Palestine.

Chronology of the conquest

The “seasonal” frame of the conquest is quite correct and precise, based on a number of elements provided by the Bible. To calculate the precise year, however, we have to look at the historical records of that period for that area. During the reign of Merenptah Palestine was firmly under Egyptian control and we know for certain, both from historical and archaeological evidence, that it was still so at the time of Ramses III, the second pharaoh of the XX dynasty.

In the 8th year of his reign, Ramses III carried on a great military campaign in Palestine, to stop a horde of the so called “people of the sea”, Pulasti, Sicala and Sardana, who had settled along the coast of southern Palestine and threatened to invade Egypt.

The People of Sea were defeated and Egypt’s invasion averted, but Ramses had to accept the permanent settling of the Pulastis (Philistines) in four towns of the fertile coastal plain of Southern Palestine, Gaza, Ashcalon, Ashdod and Ekron. On that occasion Ramses built a series of strongholds along the road to Egypt, and established Egyptian governors on several Palestinian towns, as testified by numerous archaeological findings bearing his name.

From the book of Joshua, we know that several of these towns, like Ghezer, Lakis and Megiddo, had been destroyed, or depopulated, by the Israelites during the conquest. This necessarily means that Joshua invaded Palestine before the settling of the Philistines and therefore before the 8th year of Ramses III. As the Jews had to sojourn in the Sinai desert for at least 15 years, the chronological window is rather narrow and we can further reduce it through simple considerations.

First, we cannot possibly believe that the Israelites could have conquered Palestine fighting directly against its legitimate “owners”, the Egyptians, and even less against Ramses III, who was

the most powerful sovereign of that time. Certainly they had to enter the land during a period of temporary eclipse of the pharaohs' power in Palestine, or rather with the consent or even with the support of the pharaoh himself.

After the death of Merenptah, in 1202 B.C., Egypt went through a gloomy period, during which inept sovereigns succeed each other on the throne, who let the land fall into disorder and chaos.

XIX DYNASTY	<i>Merenptah</i>	1212 - 1202 b.C.
	<i>Amenmesse</i>	1202 - 1199 b.C.
	<i>Sethi II</i>	1199 - 1193 b.C.
	<i>Merenptah Siptah</i>	1193 - 1187 b.C.
	<i>Tauseret regina</i>	1193 - 1185 b.C.
XX DYNASTY	<i>Sethnakht</i>	1185 - 1182 b.C
	<i>Ramses III</i>	1182 - 1151 b.C

Egyptian chronology of the Exodus' years (by Von Beckerat)

The chronicles of that period are reported in the "Harris Papyrus I", written during the reign of Ramses III. They portray an apocalyptical picture of Egypt's situation during the reign of the last four pharaohs of the XIX dynasty, when the nation was left a prey to anarchy, plunder and widespread destruction.

If this was the real situation of the country, it's difficult to believe that Egypt could have maintained control of Palestine; we have to presume that it was left to itself, with no military garrisons, which had to be withdrawn to support the intestine conflicts in the motherland. All the towns of Palestine suddenly found themselves free and in charge of their destiny, but at the same time, they were left without any protection and exposed to be assaulted by relatively weak enemies like the Israelites.

We can therefore presume that Israel took advantage of the absence of Egyptian military forces in Palestine for invading it and conquering large extensions of territory, during the reign of Siptah or that of the Queen Tauseret, between 1193 and 1185 B.C., relying on the inertia of the pharaoh, too busy with his domestic problems. They certainly couldn't rely, however, on an indefinite eclipse of the Egyptian power in Palestine: sooner or later it had to be restored, as actually happened with the XX dynasty. Certainly Moses had to take into consideration this scenario when he planned the invasion; he therefore had to think out something to avert reprisals by the Egyptians, once they would come back to Palestine. In this way we might explain some very inhuman dispositions that

he left to Joshua immediately before the invasion: he recommended Joshua to exterminate all the inhabitants of the conquered towns down to the last child, which Joshua thoroughly executed in all the conquered areas.

Such atrocious order has no justification, but one: it had to be intended to eliminate once and for all the possibility that somebody could advance future claims to the possession of those territories. Once a strong pharaoh would have restored his control on Palestine, he would have been presented with a *fait accompli*, with nobody asking him to make good the wrong suffered, and with new subjects professing unreserved loyalty to him and ready to appease him with enormous donations. For this purpose Moses had ordered to reserve for “Jahweh” (where this name indicates the godlike sovereign of Egypt), all the valuable objects plundered on the conquered towns, gold, silver and precious vests.

This logic looks correct and it would be even convincing, if some precise facts reported in the Book of Joshua were not outlining a completely different scenario. According to them, indeed, the Israelites invaded Palestine with the consent and the support of a pharaoh, or even on his express request. We find the evidence for it in the following verses (Js. 5, 14-16): *“And it came to pass, when Joshua was by Jericho, that he lifted his eyes and looked, and there stood a man over against him with his sword drawn in his hand. And Joshua went unto him and said unto him:*

‘Art thou for us or for our adversary?’

And he said:

‘Nay; but as captain of the host of the Lord am I now come.’

And Joshua fell on his face to the earth, and did worship, and said unto him:

‘What saith my lord unto his servant?’”

These verses are clear evidence that soon after Joshua had crossed the Jordan river, he was met by the commander of the Egyptian army and put himself under his orders. Immediately after this encounter, in fact, as a clear sign of submission and a token of absolute loyalty, Joshua circumcised all the males of Israel. Circumcision was an Egyptian custom and was imposed to all the subjects of the pharaoh. The Jews born in Egypt were all circumcised, while those born in the Sinai desert, outside the control of the pharaoh, were not. The first thing that Joshua did as a result of the encounter with the Egyptian commander was circumcising them (Js. 5, 2-8).

Under this light, we can easily understand why a small population like the Israelites (they had in total a little more than five thousand fighting men) could invade Palestine without serious problems. They were utilised by the pharaoh to conquer territories which evidently had gone out of his control. He gave them the order of exterminating the rebel populations, replacing them and getting hold of their territory and their cattle; gold and all precious objects plundered, instead, had to be

handed over to the pharaoh. Orders that Joshua scrupulously complied with, to the point of executing an entire family of Judah's tribe, on a charge of having stolen some precious objects after the destruction of Jericho (Js. 7, 24-26).

Sethnakht, the pharaoh of the conquest

Who was this pharaoh? No doubt about it: he only could be Sethnakht, the founder of the XX dynasty. We know very little about him, almost nothing. Probably he was an old soldier, who had served in the army since the times of Merenptah. After the death of the last sovereign of the XIX dynasty, the queen Tauseret, he rebelled and took the power, restoring order all over Egypt.

There is no information about military campaigns carried on by him in Palestine, but we know that he left to his son Ramses III a completely pacified empire. Therefore it was certainly him who restored order also in Palestine. Did that country rebel against Egypt? No historical source makes any mention of a rebellion of Palestine during the last years of the XIX dynasty. The apocalyptic description of the miserable conditions of Egypt during those years, had the precise purpose to legitimize the usurpation of the throne by the founder of the XX dynasty; therefore it is certainly very much exaggerated. It might be that Palestine never rebelled. Traditionally, the small feudal lords (the Bible call them "kings") who governed its main towns, pledged loyalty personally to the legitimate pharaoh in charge. In all probability, then, they were loyal to queen Tauseret, the last sovereign of the XIX dynasty.

Sethnakht, however, was an usurper and as such he couldn't rely on a pacific submission of the Palestinian populations to his authority. He had to submit them by force, but he couldn't do it while the main part of his army was engaged in taking control of metropolitan Egypt. He solved this problem brilliantly, with a minimum employment of men from his side, and on top of that with a large flow of money in his coffers. A solution absolutely unscrupulous, but genial as it appears from the biblical account of the conquest. Somewhere north to Eilat, the Midianite territory was roamed by a population that a little more than twenty years before had fled from Egypt and that Merenptah had tried to annihilate; a population that longed to go back to that Palestine where it left from at the time of Jacob.

Sethnakht planned to replace the hostile and untrustworthy populations of Palestine with the tribes of Israel, who couldn't have had any problems pledging loyalty to him, the usurper of the detested XIX dynasty. And in fact, Joshua immediately submitted to the officer sent by Sethnakht to Gilgala, to support and lead the invasion of Palestine. It was he who gave the Israelites free way for the invasion, he who gave the order of exterminating down to the last child of the populations of the conquered towns, evidently with the purpose of avoiding any future complication and in the

same time to give a terrible example to the neighbour towns. The Israelites were allowed to settle in the conquered territories and get hold of the good and cattle of the populations they exterminated, but they had to confer the gold, silver and any other precious object to Sethnakht, who in this way was assured a large flow of financial resources to consolidate his position in Egypt. It could be that these resources and the terror inspired by the ruthlessness and ferocity of the Palestinian campaign were decisive for the success of the usurper in Egypt.

Without the support of Sethnakht, Israel would never have been able to conquer Palestine, but also the opposite might be true, that without Israel Sethnakht would not have succeeded in sizing power and the XX dynasty would not have been installed. A couple of years later, Sethnakht left to his son Ramses III not only a pacified Egypt, but also a quiet and completely loyal Palestine. He could install Egyptian governors there without any opposition. Archaeological evidence of his administration has surfaced in a long series of towns, several of which had been conquered for him (but not destroyed, see Gs. 11,13) by the Israelites, like Megiddo.

The precise year when Palestine was conquered

Is there any possibility to calculate when Palestine was conquered? If we succeed in doing this, we could also calculate how many years, exactly, the Israelites spent in the Sinai desert, and to fix the precise dates when the operations for the invasion started. Unfortunately we do not know when and why Sethnakht decided to seize power, and how he managed to do it; even the year when he was crowned as pharaoh is not known with certainty, neither when he died. In the following table, there are several proposals by different scholars:

Author	Years of reign of
<u>Redford</u>	1200 b.C. - 1198 b.C.
<u>Arnold</u>	1996 b.C. - 1994 b.C.
<u>Krauss</u>	1990 b.C. - 1987 b.C.
<u>Grimal</u>	1188 b.C. - 1186 b.C.
<u>Dodson</u>	1187 b.C. - 1185 b.C.
<u>Malek</u>	1186 b.C. - 1184 b.C.
<u>Shaw</u>	1186 b.C. - 1184 b.C.
<u>von</u>	1185 b.C. - 1182 b.C.

The dates regarded as more probable by the Egyptologists are those proposed by von Beckerath, that is from 1185 to 1182 B.C. which we will rely on for the present analysis. Almost certainly the Israelites entered Palestine not before the second year of Sethnakht. The encounter of Joshua with

the representative of the pharaoh, in fact, happened soon after the crossing of the Jordan river, in June, right at the beginning of the year; it's highly improbable that it could have been the first year of Sethnakht. According to this theory Israel should have entered Palestine on June 1184 B.C. after 24 years had passed since the beginning of the exodus, on June 1208 B.C.

Most probably Sethnakht entered into negotiations with the Israelites, through Moses, since the beginning of the adventure that took him on the throne of Egypt, or even before. It might be that in his strategy aimed at conquering power, an important role was reserved for them: that is, to take care of Palestine while he was taking care of Egypt. In this case, we have to assume that a pact of alliance was stipulated amongst them.

There is no way of knowing who had taken the initiative to contact the other, Sethnakht or Moses; but in any case we cannot exclude that it was Moses himself. He had promised to "his" Israelites that they would have settled into Palestine, and the only way to fulfil his promise was to seek the support of a pharaoh, possibly not belonging to the XIX dynasty. We can even hypothesise that it was he who suggested to Sethnakht the idea of seizing power, proposing him a well detailed plan. He was indeed capable of doing that. After all it was he who conceived that most daring enterprise of robbing Merenptah of an entire population and destroying in the Red Sea the war chariots charged to stop him. The advice of a personage like him couldn't be discarded too lightly.

At that moment, the Jews were dispersed in the Midianite territory, centred on the Ovda Valley, north of Eilat. As soon as the negotiations with Sethnakht were concluded, they got together and went back to Kadesh, passing through Avrona and Eilat (Nm. 33) and then heading along the Darb el-Aza, the main track that from Eilat runs all the way to the Mediterranean Sea. They started the journey probably at the end of summer of the first year of Sethnakht and in autumn they reached Kadesh. A few weeks later Aaron died, whom they mourned for 30 days. They then went on heading towards the Jordan Valley.

They annihilated two populations opposing their passage, thus conquering all the eastern shore of the Dead Sea and of the Jordan river, and finally they set camp at Sittim, in the Moab Valley. It was not later than March. Here they stopped for a while, waiting for summer, traditionally the favourite season for the beginning of military campaigns.

In April, Moses died and two months later Joshua crossed the Jordan. If it was the year 1184 B.C. (probable, but not certain), we can determine the precise dates also for these events, just calculating the dates of the new moons of spring 1184; we can easily do it utilizing the eclipses' tables for that year. There was an eclipse on 19 July 1184 (today's 7 July), therefore the preceding new moons of spring happened on 19 June, 21 May and 21 April 1184 B.C. (respectively 7 June, 9 May and 9 April of today).

The beginning of that lunar year, the second of Sethnakht, fell on 19 June. **Moses died** the first day of the 11th month of the previous year, therefore on **21 April 1184 B.C.**, and a little more than two months later, on **29 June 1184 B.C.** Joshua set camp at Gilgala, across the Jordan. That same day, he met the commander of the Egyptian army and put himself under his orders. After **24 years** Israel put an end to its rebellion and willingly accepted to come back into the Egyptian empire, receiving in exchange the authorization and the support of the pharaoh to settle in the Promise Land.

¹ From the "stele of Israel": <<A great joy occurred to Egypt, exultation come out of the town of Tomeri; they tell about the victory that Merenptah won against the Libyans (...). The kings are overthrown and they said Salam! Nobody between the Nine Arches is holding his head up; Libya is wretched; Kheta is pacified; Cannan is spoiled with great ravages; Ascalon is deported; Geser is conquered; Ionoam is completely destroyed; **Israel is desolate, his seed no longer exists**. Palestine is now a widow for Egypt. All countries are pacified, all people who were turbulent were enchained by king Merenptah, be he alive like Ra, every day>>.