

Extensive mixing among Israelites and non-Israelites in biblical history

Robert W. Carter

The genetic state of the Israelite nation is a fascinating subject with profound theological ramifications. They have possibly the most well documented ethnological history of any people group in antiquity. But when considering how separate the Israelites should have been from other people, multiple passages indicate extensive mixing between them and the surrounding nations. The question “What is a Jew?” is a complicated one that takes a significant amount of study to answer. In the end, it should be clear that ‘Jewishness’ is more of a religious and cultural concept than a genetic one. If we then generalize this model, we can derive multiple factors that should influence our concept of ‘race’ from a biblical perspective.

To understand the genetic differences between the people groups scattered across the earth, one must look at the human population between the Flood and Babel. The size of the pre-Babel population would have affected the genetic diversity within and among the post-Babel clans. We cannot know how many people were alive when God separated them, for the population size at Babel depends on multiple factors,¹ including the amount of time between the Flood and Babel.

Most commentators conclude that Genesis 10:25 (“for in his [Peleg’s] day the earth was divided”) is talking about the division of the nations at Babel and that the division occurred around the time when Peleg was born.² In the Masoretic chronology, he was born about 99 years after the Flood and lived for 239 years (Genesis 11:18).³ Some people are given nicknames later (see, for example, Genesis 17:5, 17:15, and 32:28), so we cannot know for certain when Peleg was given the name ‘Division’. All we can say is that Babel happened ‘one to three centuries after the Flood’ in the Masoretic chronology. Those advocating for the Septuagint chronology have an additional 430 years with which to work.⁴

The amount of time between the Flood and Babel is an important consideration once we begin to describe what people were doing before the Babel incident. Genesis 11:1 claims they all spoke the same language, and Genesis 11:4 says they intentionally came together to build a single city for themselves, “lest they become dispersed across the whole earth”. Before God confused their languages (Genesis 11:6–9), however, they lived in a homogeneous culture. In such a setting the family lines would be naturally comingled after just a generation or two, and there were five generations (at least in Peleg’s line) between the Flood and Babel.

This means that the resulting post-Babel people groups came from a well-mixed population and we should not expect many differences among them at the start.

Pre-Babel mixing and the origin of ‘races’

Historically, some have attempted to denigrate people of African descent by claiming Ham was cursed by God and the sign of this was the dark coloration of the skin of Africans. This is mainly an American phenomenon. The noted Welsh theologian Dr Martyn Lloyds-Jones said, “I have met some [Evangelicals in the United States] who base their whole attitude toward the coloured people on the fact that the latter are the descendants of Ham.”⁵ He knew this view was biblically incoherent, but, it was also genetically and mathematically ludicrous.⁶

First, Ham’s son Canaan was cursed (Genesis 9:25–27), not Ham. Second, Canaan’s descendants lived in what would later be called Israel (Genesis 10:19), not Africa. Also, the residents of the Mediterranean island of Crete (ancient Caphor) were descendants of Ham (Genesis 10:13). And Nimrod, one of the most famous descendants of Ham, lived in Mesopotamia (Genesis 10:8–11).

We are not actually told how the curse on Canaan would manifest itself, other than that Canaan would be a ‘servant of servants’ to his brothers. This has nothing to do with skin colour, and it is not clear that it had any future prophetic ramifications. Plus, mixing over the multiple generations before Babel would have spread both Ham’s and Canaan’s genes throughout the population.⁷ God separated the clans according to paternal (Y-chromosome) ancestry; skin colour genes are not carried on the Y chromosome.⁸ Thus, there is no way to get those genes into Africa only. Worse, the earliest Egyptian (African) mummies share little to no genetic ancestry with sub-Saharan Africans,⁹ so an even smaller group of Ham’s descendants have dark pigmentation than most people would assume. It is critically important to understand that all of the six founding members of the post-Flood population (Genesis 9:18–19) would have contributed approximately equally to all future populations.¹⁰

The belief that the descendants of Canaan are cursed with black skin is also genetically incorrect, as we can see many otherwise ‘African’ Y-chromosome lineages in Greece today,¹¹ probably a result of interactions between the Greeks and the Cretans over many centuries. There are also ‘African’ Y-chromosome lineages in Spain and Italy (not surprising, considering ancient history¹²), and also England (this was a surprise!¹³). So the biblically and scientifically ignorant people (mostly of European descent) who want to claim the Africans are cursed would also be cursing many of their fellow Europeans.

This is just an illustration to show that if we want to account for the origin of the Hebrews, or any other people group for that matter, we have to focus on the post-Babel time period.

The starting point of the Hebrews

Abraham is the father of the Hebrews. He was the 10th-generation descendent of Noah through Shem (Genesis 11:10–26) and it was with him that God made an important covenant (Genesis 15, 17). He was called a ‘Hebrew’ in Genesis 14:13.¹⁴ The word ‘Hebrew’ could also be translated ‘Eberite’ (Hebrew: עֵבֶרִי ‘Ibri, cf. עֵבֶר ‘Ēber). A great-grandson of Shem and the father of Peleg, Eber was an important patriarch in his own right. Hence, he is mentioned along with Shem in Genesis 10:21.

Thus, all of Abraham’s descendants are *technically* Hebrews/Eberites also. This includes his half-Egyptian son Ishmael (Genesis 16:15) (figure 1), who in turn took an Egyptian wife (Genesis 21:21) and had many sons that settled to the east (Genesis 25:12–18). But it also includes the six sons Abraham had with his third wife, Keturah, whose lineage is unknown. These also settled to the east, and in the account of Joseph the two tribes are discussed almost interchangeably (Genesis 37:25–28); that is, the Ishmaelites, who came through Sarah’s Egyptian servant Hagar (Genesis 16:1), and the Midianites, who came through Keturah (Genesis 25:1–6).

Later, Isaac’s son Esau married two Canaanites (a Hittite and a Hivite) and an Ishmaelite (Genesis 10:6,15; 26:34; 28:9; 36:1–3). These became the Edomite nation east of the Dead Sea (Genesis 33:16, Genesis 36).

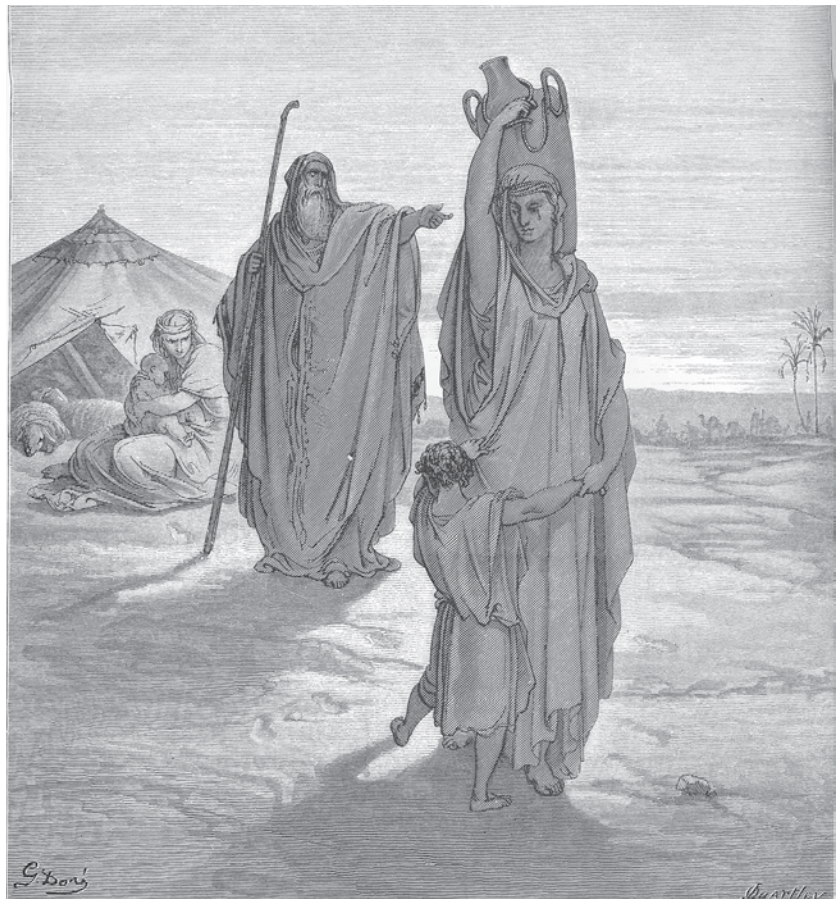


Figure 1. Abraham sends Hagar away (by Gustave Doré). This important biblical event led to the establishment of a major non-Jewish people group founded with Abraham’s Y chromosome.

Lot was Abraham’s nephew, the son of Abraham’s (deceased) brother Haran. Two tribes that lived east of the Jordan, Ammon and Moab (Genesis 19:36–38), descended from him (figure 2).

As we narrow our focus to the origin of the Israelites, we need to remember that there would have been a significant diffusion of ‘Hebrew’ genes out into the surrounding nations, right from the start. But we also expect a reverse flow of genes from the surrounding peoples *into* Israel.

Abraham’s servants

Abraham received menservants and maidservants from Pharaoh (Genesis 12:10–16). Since they came from Africa there is a strong possibility that many had African/Hamitic roots. When Abraham rescued Lot, he had 318 trained men “born in his house”. The household is numerically dominated by people not descended from childless Abraham. In fact, as late as Genesis 15:2–3 Abraham was worried that a relative named Eliezer of Damascus would be his heir.

Multi-generational non-descendants of Abraham were living among the future Israelite nation.

Abraham’s household received another infusion of foreign blood when Abimelech, king of the Philistine city of Gerar (Genesis 20:2; 26:8), gave him additional servants (Genesis 20:14) after Abraham tried the same trick he pulled with Pharaoh.¹⁵ When God made his covenant with Abraham (Genesis 17), all males in the household, including Abraham, his son Ishmael and all the servants, had to be circumcised (Genesis 17:23–27). But once a male was circumcised, he would be considered under the covenant. Even though there would certainly have been issues of ‘status’ and ‘place’, what would have prevented intermarriage between the sons and grandsons of Abraham and the servants? It would have been more difficult (but not necessarily impossible) for a male to marry in, but the women would have been fair game, so to speak. Over time, therefore, the direct lineage of the Hebrews would have become more and more mixed in its genetics.

But there remains an open question: What happened to the ‘households’ of Abraham and Isaac? Upon his return, Jacob initially lived separately from his brother and father (Genesis 35:1; 37:1). Later, he went south to Hebron before Isaac died (Genesis 35:27–28). This was where Sarah had died (Genesis 23:2), and probably Abraham (Genesis 23:19, 25:9). Jacob was living in Hebron when he sent Joseph to find his brothers (Gen 37:12–17), so he clearly settled there.

The ancient process for the division of property upon death of the owner was straightforward. There was no difficulty for Isaac, for his inheritance was never in dispute. But since Jacob was Isaac’s heir (Genesis 27), and since Jacob was in Hebron when Isaac died, and afterwards, there should have been no legal dispute (and there is no evidence that Esau attempted one). Jacob would have received the lion’s share of the wealth, goods, and servants from his father’s house upon his death.

The starting point of Israel

An ‘Israelite’ is narrowly defined as a descendant of Jacob. They started off with a significant amount of inbreeding (Genesis 20:12; 24:24; 29:10, 27). We do not know the full ancestry of Leah and Rachel, and we know nothing of Bilhah and Zilpah other than their names, nor do we know the genealogy of most of the wives of the 12 Patriarchs. But, based on the parts of the family tree we have been given, the 12 Patriarchs would have inherited between 17% and 22% of Terah’s genome, instead of the 1.6–6.3% expected after that many generations.¹⁶

Inbred populations have less genetic diversity. Yet, this would not have produced any ‘new’ genes, only changed the frequencies of the genes already there. And despite this starting point, it would not take much ‘outbreeding’ to get the diversity back up.

Even though ‘70 souls’ went to Egypt during the famine (Genesis 46:26–27; Acts 7:14), these are specifically listed as ‘descendants of Israel’. Nothing is mentioned about the others, but note that Genesis 46:1 says that Jacob took “all that he had” to Egypt. This does not specifically say they took the servants with them, but they were a major part of the household economy, were becoming more closely related over time through natural intermixing, and leaving them behind would almost certainly have consigned them to death by starvation.

Whom did the sons of Jacob marry? We have little information. Joseph married an Egyptian woman, Asenath (Genesis 41:45). Thus, two of the major Israelite tribes (Manasseh and Ephraim) had an Egyptian matriarch. Joseph had other children who became part of the general population (Genesis 48:6), and any daughters of Joseph would have also added North African mitochondrial DNA into Israel. Simeon had a son, Shaul, by a Canaanite woman (Exodus

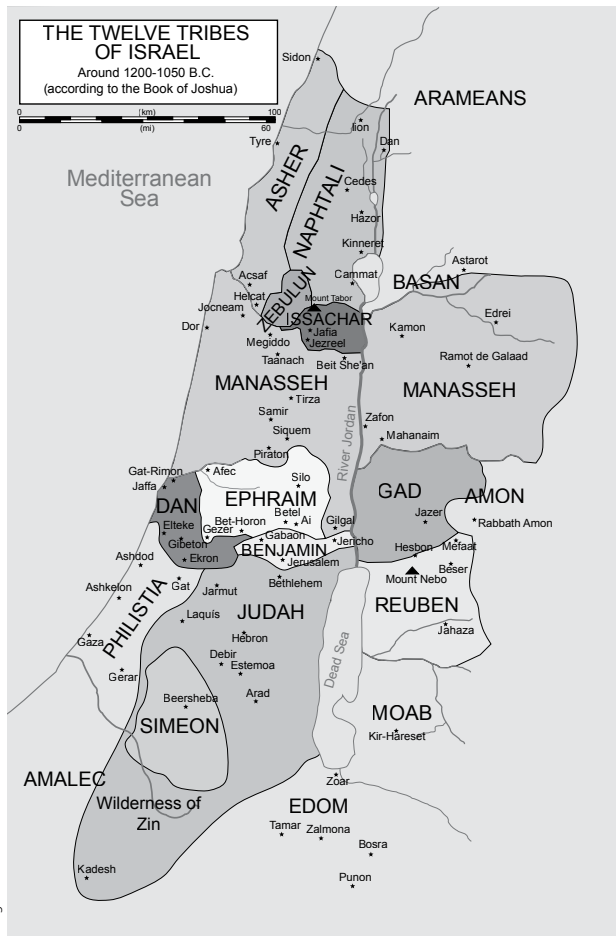


Figure 2. A map of the land allotted to the 12 Tribes and the surrounding nations. This is not the actual land occupied by the Israelites, for the Conquest was incomplete and many of the original peoples continued to live among them afterward.

6:15). The Shaulites are listed as a clan in Numbers 26:13. And Manasseh had a son through an Aramean concubine (1 Chronicles 7:14).

The tribe of Judah also has mixed origins. Judah had several sons by the daughter of Shua, a Canaanite (Genesis 38:2; 1 Chronicles 2:3). Judah's first two sons died because they were wicked (Genesis 38:8), but the third son, Shelah, had many descendants (1 Chronicles 4:21–22; Numbers 26:20). The woman involved in all this, Tamar, is of unknown ancestry, but would become the mother of twins by her father-in-law, Judah (Genesis 38:12–30), one of which (Perez) will be in the lineage of David and Jesus. We should also note that Judah's *intention* was to lay with a non-Israelite woman on the road to Timnah (Timnah was where Samson got his Philistine wife, Judges 14:1), with the potential that a child would result.

The beginning of the house of Israel included ample opportunity for mixing with other nations. It might be that many of the men in Israel would not, in the end, carry the Y chromosome of Jacob, let alone the mitochondrial sequences of the 12+ tribal mothers. But there is much more to consider before we can draw any conclusions.

The Exodus population

The Bible describes a 'mixed multitude' that left Egypt with the Hebrews (Exodus 12:38). These people incited the Israelites to sin (Numbers 11:4), and many died, but the question of who they were and how 'friendly' they and the Israelites were is an open question. Some may have started out in Pharaoh's household (Exodus 9:20). Many of them apparently made it through the wilderness (Deuteronomy 29:11). Sometime during the 40-year sojourn, a man with a Jewish mother and an Egyptian father spoke evil of God and was stoned (Leviticus 24:10–16).¹⁷

Moses married a Midianite woman (Exodus 2:16–22; 4:24–26). Moses sent her and their two sons back to Midian while he was in Egypt. They were re-united, however, and Moses' father-in-law, Jethro, became a trusted advisor to Moses. Jethro also displayed faith in God, sacrificed to God, and was accepted among the elders as they ate 'before God'. He then left to return to Midian (Exodus 18). The boys were counted among the Levites and held leadership roles (two of the grandsons were called 'chiefs'). Eliezer had but one son, but Gershom had many (1 Chronicles 23:14–17).

Later, Jethro is called 'the Kenite' and his descendants lived among the Israelites from the time of the conquest of Jericho (Judges 1:16, and see the account of Jael below). Centuries later, Saul sent them out of the way before he fought the Amelekites (1 Samuel 15:6).

During the Exodus, in a much-disputed passage, Miriam and Aaron complain about Moses' wife, who is twice called a Cushite (Numbers 12:1).¹⁸ The simplest, though not necessarily defensible, explanation is that Moses was not

yet reunited with his Midianite wife and sons, but that he had a second wife who was also not an Israelite.

Another example of a non-Jewish person in Israel might be Caleb, one of the 12 'spies' (Numbers 13:30). Caleb is called a Kennizite (Numbers 32:12) and the son of a Kennizite, Jephunneh (Joshua 14:6). The Kennizites were a Canaanite tribe (Genesis 15:19), which has raised the suspicion that Caleb was not a full-blooded Israelite. But perhaps Kenaz is simply a family name. Not only is Caleb's father called a Kennizite, Kenaz is also the name of Caleb's younger brother (Joshua 15:17; Judges 3:9), as well as one of Caleb's grandsons (1 Chronicles 4:15). Of course this could all just be useless speculation, and Caleb son of Hezron, son of Perez, son of Judah (1 Chronicles 2) and Caleb son of Jephunneh could be the same person. This is a mystery that cannot be answered here, but at least some of the evidence points to Caleb being half Kennizite. I include the argument only for the sake of completion.

Laws against intermarriage with foreigners are surprisingly few in the Bible. Deuteronomy 7:3 excludes Canaanites (Hittites, Girgashites, Amorites, Canaanites, Perizzites, Hivites, and Jebusites, 7:1) because they would turn away their hearts from following God (7:4). Deuteronomy 23:4–8 excludes Ammonites and Moabites from entering the assembly of the Lord to the 10th generation.¹⁹ But it allows for Edomites and Egyptians to enter the assembly in the 3rd generation. There is also a law for marrying foreign women taken captive during warfare (Deuteronomy 21:10–14; but see 1 Samuel 15:3), although this does not include the Canaanite nations and was restricted to maidens (Deuteronomy 20:15–17).

Joshua through to the Judges

When the Israelites entered the Promised Land (figure 3), we know they did not keep themselves separated from the Canaanite nations. Rahab, the Canaanite prostitute from Jericho, is famously in the lineage of Christ (Matthew 1:5), and even though they put her and her family "outside the camp" (Joshua 6:23), Rahab is said to have "lived in Israel to this day" (Joshua 6:25). Since she lived with the Israelites, even marrying one, there is a possibility that her family was also incorporated into the community.

Very early in the conquest of the Promised Land, the Israelites were duped by the Gibeonites (also called 'Hivites', in Joshua 9:7, and 'Amorites', in 2 Samuel 21:2).²⁰ The Israelites could not break the treaty they had made, so they allowed them to live in the land as servants (Joshua 9). This pattern of failed conquest repeats multiple times (Joshua 13:13; Judges 1:27–36). Once they started worshipping the Baals (Joshua 2:11), what would have prevented them from further rejecting God by marrying with the locals? After all, people as zealous as Phinehas (Numbers 25) are rare,



Figure 3. While this map is better than most attempts at delineating the geographic locations of the various biblical tribes, it fails to take into account that extensive mixing would continually be occurring among the neighbouring peoples. Also, the Table of Nations (Genesis 10) upon which it based was a one-off document that gave only a rough location of the tribes within a certain distance of the writer and at a specific time. Since humanity is in a constant state of flux, one should not assume this is a static situation. Genes ‘flow’ much more rapidly than most people assume, genetically homogenizing neighboring cultures. This is the reason why there are no ‘Jewish’ genes. They are a Middle Eastern people group, with typical Middle Eastern genes, who derive from a mixture of ancestral stocks, and who have mixed extensively with the people among whom they have lived from the ancient past until today.

and even prominent people in Israel (Numbers 25:14) were disobeying God by ‘interacting’ with outsiders.

Judges 3:31 and 5:6 give a brief mention of a judge named Shamgar, the son of Anath. His father’s name is decidedly non-Jewish.

Jael, who is known for having driven a tent peg through the temple of Sisera, the oppressor of Israel during the judgeship of Deborah (Judges 4), was married to Heber the Kenite. Jael is praised by Deborah and Barak (Judges 5: 6,24–27), and has an Israelite name meaning ‘ibex’, but she was married to a non-Israelite descendent of Jethro.

Sampson took a wife from the Philistines (Judges 14:1). The Philistines were in the land back in Abraham’s day

(Genesis 21:32). Archeologically and biblically they have deep connections with ‘Hamitic’ Crete (Deuteronomy 2:23; Amos 9:7; Jeremiah 47:4). After the murder of his wife, Sampson lay with a Philistine prostitute (Judges 16:1). Sampson’s more famous partner, Delilah, was also a Philistine (Judges 16:4). No children are recorded from any of his dalliances (legitimate or otherwise), but one can see the potential for genetic mixing among neighbours from this account.

Ruth, the great-grandmother of David (Ruth 4:18–22), was a Moabite (Ruth 1:4). As mentioned earlier, the Moabites descended from Abraham’s nephew Lot and one of Lot’s daughters (Genesis 19:37). They were also excluded from the assembly by Deuteronomy 23:4–8, which technically should have excluded Ruth and David!²¹ And even though they are recorded as having died, let us not forget that Naomi’s two Jewish sons had married Moabite women (Ruth 1:4).

David’s sister Abigail had a son named Amasa (who later joined Absalom in his rebellion) by a man named Jether the Ishmaelite (1 Chronicles 2:17; 2 Samuel 17:25–26). An even more distant relative of David had no sons, so he gave his daughter to his Egyptian servant Jarha, who then founded a long line of descendants (1 Chronicles 2:34–41), all of whom would have carried an Egyptian Y chromosome. This is the second mention of a non-Israelite Y chromosome entering the population (this time successfully), but certainly these are not all! Yet another distant relative of David, a man named Mered, had two wives. One of them is named Bithiah, the daughter of Pharaoh, through whom he had three children (1 Chronicles 4:17–18).

Kingdom period

Since she is the mother of King Solomon (2 Samuel 12:24), Bathsheba has an important role in biblical history. Although her name (“daughter of an oath”) is clearly Hebrew in origin, she was first married to Uriah, the Hittite (2 Samuel 11:3). The Hittites are mentioned several times in the Bible (see Genesis 23 for example). If she and Uriah had any children, what would their status have been?

After David became king, he wanted to bring the Ark of the Covenant from Kiriath Jearim, where it ended up after the Philistines returned it (1 Samuel 6:1–7:2), to Jerusalem. But after Uzzah was killed when he touched the Ark, they brought the Ark to the house of Obed-Edom the Gittite. God blessed Obed-Edom while the Ark was with him (2 Samuel 6:5–12). Was he a Philistine, as his name might suggest?²²

David also married Maacah, daughter of the King of Geshur (2 Samuel 3:3; 1 Chronicles 3:3) and mother of Absalom and Tamar (2 Samuel 13:1). Tamar’s status as a half-breed technically excluded from the ‘assembly’ partially explains the tragic episode of 2 Samuel 13. But Absalom’s

subsequent coup d'état should never have occurred (because the Geshurites were Philistines) if the rebels had been following the Law even in its loosest sense. David had many wives and concubines (2 Samuel 5:13), but we do not know all their names and ancestries.

The rebellion of Absalom gives us another interesting anecdote that might explain the presence of Obed-Edom in Israel. While David was escaping Jerusalem, the Bible says that 600 Gittites had followed him from the Philistine city of Gath, where David once served in their army while on the run from Saul (1 Samuel 21:10–15; 27:1–12). When told to return to his kin, Itai the Gittite replied in terms that clearly demonstrate he was a believer in the Israelite God. David allowed them to stay among his army (2 Samuel 15:18–22). Since there is no specific biblical prohibition against marrying Philistines, the grandchildren of these faith-displaying men would have been accorded full rights in Israel, and their Y chromosomes would then have become 'Jewish'. There is no specific information that these men contributed Y chromosomes to the future population of Israel, but the potential for it is strong.

Perhaps the most famous extra-Israelite marriage was that of Solomon and the daughter of Pharaoh (1 Kings 3:1). Of course, Solomon married *many* foreign wives, including Moabites, Ammonites, Edomites, Sidonians, and Hittites (1 Kings 11:1), directly ignoring the specific injunctions against doing so.

Ebed-Melech was an Ethiopian living in Israel during the time of Jeremiah (Jeremiah 38:7–13). He trusted God (Jeremiah 39:18) and so God blessed him. Of course, the Ebed-Melech example is a poor one, for he was a eunuch.

Yet, not only is there opportunity for the genes of the Israelites to mix with their neighbours, so can their faith. Besides Ruth and Rahab, additional examples include the widow of Zorababbel (1 Kings 17), Naaman the Syrian (2 Kings 5), and the Queen of Sheba (1 Kings 10:1–13). One final example is the sailors who threw Jonah into the sea. After the sea suddenly quieted, they “feared the LORD exceedingly, and they offered a sacrifice to the LORD and made vows” (Jonah 1:16). Marriage between an Israelite and a non-Israelite is not part of these latter examples, but the potential is there.

Captivity to Christ

There are many references to intermarriage in the rest of the Old Testament. We have Esther, although no children are reported. And consider Ezra 9–10 (also Nehemiah 10:28–30 and 13:23–29). Here, many men admitted to marrying foreign women. Many of the wives and children were subsequently excluded. But these children would have gone on to have families of their own, further

spreading Jewish genes into non-Jewish peoples. Although many commentators compliment them for their renewed dedication, they had forgotten their Bible, for in Ezra 9:1 they lumped the Egyptians with the Canaanites, Ammonites, and Moabites. Malachi complained about intermarriage, wishing that God would “cut off from the tents of Jacob any descendant of the man who does this” (Malachi 2:11–12). He was more concerned with removing the temptation to sin than with accepting faithful converts. Of course, the influence of foreign wives (specifically) was a constant problem throughout Israel's existence, so his comments were prophetically justified.

New Testament

Herod the Great was of Edomite descent. He was raised in the Jewish religion and married a woman from Nabatea (the former lands of Moab and Edom).²³ The Edomites were forcibly converted to Judaism by John Hyrcanus in the 2nd century BC, leading to much intermarriage.²⁴

Another mixed individual was Timothy, whose father was Greek. Even though he was a believer, he was not circumcized until Paul decided to take him with him on his journeys (Acts 16:1–3). Timothy is not known to have married, but here we see another example of a person with a non-Jewish Y chromosome being admitted into fellowship with Jews.

Timothy was part of the Diaspora population. That is, Jews who lived in places other than Israel. This included Jews dispersed during the Assyrian and Babylonian conquests. Many Jews also lived throughout the Roman World (Acts 2:9–11) and beyond (Acts 8:26–28). There were also many converts to the faith (e.g. Acts 2:11).

Lastly, the Bible does not tell us which direction the wise men who visited Jesus came from other than “from the East” (Matthew 2:1–12). Yet, one could make a case that they were from Babylon, for Daniel was chief of the wise men of that city (Daniel 2:48), and the Jews have maintained a presence there from the Captivity to today.

Conclusions

It is clear from biblical history that Jewish people were a *mélange* of themselves and their neighbours. They began with mixed roots early and continued mixing throughout the rest of the biblical era. In attempting to be thorough, I have listed several controversial points above, but even if these are removed the case is still clear. Yes, the Israelites are a people group, but no, they did not remain separate. Just as there is no clear Jewish bloodline, given the numerous genealogical data presented in the Bible, there is also no clear 'Jewish' DNA. Instead, they are a typical Middle Eastern population (often

living for millennia among non-Middle-Eastern people), who started out with typical Middle Eastern genes and ended up with a typical Middle Eastern network of relationships with their neighbours.

When looking at people groups across the world, should we expect to see ‘three’ (the descendants of Shem, Ham, and Japheth) or ‘16’ The number of groups descending from Noah in Genesis 16 ... ? Not all of those listed are grandsons. Rather, many people groups (-im) are included in the list. We should expect neither, because we have every reason to expect their lineages to have intertwined extensively. The Bible lists the patriarchal founders of multiple people groups, but each of those groups had their own complex interactions with their respective neighbours, which would create extensive co-mingling of the different lineages. The Jewish nation just happens to have a detailed record of their beginnings and of their interactions with other peoples over time. Thus, they can be used as a model of what we should expect when asking questions about race.

Acknowledgments

I thank Jonathan Sarfati for his critical review of an earlier draft of this manuscript as well as the efforts of two anonymous reviewers.

References

1. Carter, R. and Hardy, C., Modelling biblical human population growth, *J. Creation* 29(1):72–79, 2015; creation.com/population-growth.
2. See Sarfati, J., *The Genesis Account*, Creation Book Publishers, Powder Springs, GA, pp. 651–653, 2015.
3. Hardy, C. and Carter, R., The biblical minimum and maximum age of the earth, *J. Creation* 28(2):89–96, 2014; creation.com/biblical-earth-age.
4. Cosner, L. and Carter, R., Textual traditions and biblical chronology, *J. Creation* 29(2): 99–105, 2015; <https://tinyurl.com/yabhf57e>.
5. Lloyd-Jones, D.M., *The Puritans: Their origins and successors*, Banner of Truth, Edinburgh, UK, p. 338, 1987.
6. See also Sarfati, J., *The Genesis Account*, pp. 618–624, 2015; and Wieland, C., *One Human Family*, Creation Book Publishers, Powder Springs, GA, pp. 44–45, 2011.
7. Some creationists have portrayed Ham’s wife with both Asiatic and African facial features and a medium-brown skin tone, supporting the idea that Africans and East Asians derived from Ham. But population-specific racial features must have developed independently, in isolation, after Babel.
8. Human skin pigmentation is under complex control. To date, the main known drivers are variants in the LC24A5 gene (chromosome 15), but other variants have been discovered on chromosomes 3, 5, 10, and 20, and perhaps others. For a recent study on the subject, see Hernandez-Pacheco, N. et al., Identification of a novel locus associated with skin colour in African-admixed populations, *Sci. Rep.* 7:44548, 2017.
9. Schuenemann, V.J. et al., Ancient Egyptian mummy genomes suggest an increase of Sub-Saharan African ancestry in post-Roman periods, *Nature Communications* 8:15694, 2017.
10. See Carter, R., Adam, Eve and Noah vs Modern Genetics, creation.com/noah-and-genetics, 11 May 2010.
11. Slatkin, M. and Racimo, F., Ancient DNA and human history, *PNAS* 113(23): 6380–6387, 2016. The most common Y-chromosome haplogroup in Africa is E. It may not have originated there but it certainly dominates the genetic landscape today. But we can also trace the branches and sub-branches of haplogroup E, and clearly many ‘African’ E chromosomes have entered Europe over the centuries.
12. Consider the Punic Wars and the Moorish invasion of Spain. We also see many deeply rooted African Y chromosomes among otherwise European people groups within the 1,000 Genomes data, etc.
13. King, T.E. et al., Africans in Yorkshire? The deepest-rooting clade of the Y phylogeny within an English genealogy, *European J. Human Genetics* 15: 288–293, 2007.
14. This was right before he tithed to Melchizedek. Many commentators have concluded that Melchizedek was either a pre-incarnate Christ (after considering Hebrews 7:3b), or that he was the patriarch Shem. Sarfati (*The Genesis Account*, p. 647, footnote 28) notes that the first option is theologically problematic and that there is no biblical evidence for the second option. If one was searching for a biblical person to fill this role, the appearance of the word ‘Eberite’ in close proximity would better indicate that Melchizedek was Eber. But this is just as speculative as the other ideas, especially since Hebrews 7:3a says his ancestry is unknown. Also, if the LXX carries the correct chronology, both Eber and Shem were long since dead by this time.
15. Isaac did not receive anything but approbation from (possibly a different) Abimelech (the title of the ruler) when he followed in his father’s footsteps years later (Genesis 26:6–11).
16. Carter, R., Inbreeding and the origin of races, *J. Creation* 27(3):8–10, 2013; creation.com/inbreeding.
17. Note that he was not called an ‘Israelite’, which is evidence that back then Jewish descent was patrilineal.
18. Josephus said that Moses had married an Ethiopian princess before he fled Egypt (*Antiquities of the Jews* 2:10–11). More recent commentators suggest that Zipporah had died and Moses married an Ethiopian woman who was part of the multitude, or else Miriam just insulted Zipporah by calling her a Cushite.
19. Compare this to a similar exclusion to the 10th generation of children born out of wedlock (Deuteronomy 23:2).
20. Amorite > Canaanite > Hivite > Gibeonite.
21. Most people conclude this must be talking about the male line only. Since Ruth was David’s great-grandmother, he would not have fallen under the moratorium if this were so. The alternative is that David was guilty under the Law, that he was imperfect, and that he could not have stood in for the Messiah even though he was “a man after God’s own heart”. Notice that his son Solomon would later marry multiple women excluded by this same law. Israel was ignoring the prohibitions set up by God.
22. Compare references to his name in 1 Chronicles 13, 15, 16, and 26.
23. Losch, R.R., *All the People in the Bible: An A–Z guide to the saints, scoundrels, and other characters in Scripture*, Eerdmans, Grand Rapids, MI, p. 155, 2008.
24. Josephus, *Antiquities of the Jews* book 13, 9:1; 11:3.

Robert Carter received his Bachelor of Science in Applied Biology from the Georgia Institute of Technology in 1992 and his Ph.D. in Coral Reef Ecology from the University of Miami in 2003. He has studied the genetics of fluorescent proteins in corals and sea anemones and holds one patent on a particular fluorescent protein gene. His current research involves looking for genetic patterns in the human genome and the development of a biblical model of human genetic history. He works as a speaker and scientist at CMI-US.