How do we define ourselves as Jewish? By our practices and customs? By our family history? By our beliefs? The implementation of genetic coding has made it possible to use our genetics as a means to better identify who we are. Recently, this area of science has been broadened to help discover people’s religious affiliations. This method of identification has been somewhat controversial, as it may lend itself to the exclusion of people from religion based solely on their genetics, not on their beliefs. However, this method has become increasingly important in determining the origins of many unknown African sects. In the past fifty years there has been a surge of newly discovered African tribes and clans who claim to descend from Jewish origins. With the aid of the human genome project and the cooperation of thousands of Jews and non-Jews around the world, significant headway has been made in confirming the Jewish origin of many African tribes.

For centuries, the world’s Jewish community has had very little knowledge regarding African Jewry. In relatively recent history there has been a surge of interest among world Jewry regarding the Jews of Ethiopia. There are three main schools of thought regarding the origins of these presumably Jewish people. The first opinion suggests that these people descended from Jews who were exiled after the destruction of the second temple. This opinion is not widely accepted because the tradition of the Ethiopian Jews states that there was only one temple. Additionally, when these Jews were asked about holidays that originated after the first temple, like Purim and Chanukah, they were unfamiliar with these holidays. This helps prove that the split between the Ethiopian Jews and the remaining Jews preceded the events of the destruction of the second temple. A second accepted opinion states that Ethiopian Jews are the descendants of Menelik I, the son that the Queen of Sheba conceived with Solomon, the king of Israel. The Kebra Nagast, a compilation of the oral history of the Ethiopian people, contains an account of the initial meeting between the Queen of Sheba and King Solomon. Following the meeting, the work recounts the Queen of Sheba’s return to Ethiopia where she proclaims to the people, “From this moment I will not worship the sun, but will worship the Creator of the sun, the God of Israel.” Her son fathered by King Solomon was originally named David II, but when he grew to adulthood he changed his name to Menelik I. When he reached twenty years of age, he traveled to Israel to visit his father. When they met, Solomon tried to convince him to succeed him as the king of Israel. Menelik I refused, but promised to bring the ways of Israel back to Ethiopia. According to the Kebra Nagast, Solomon sent Menelik I back to Ethiopia with the cloth that covered the Ark. Upon his return to Sheba, he converted many of his followers to Judaism [1]. Although this text is not consistent with the accounts of the Tanakh, there may be some truth behind the Ethiopian legend, as the Tanakh described a meeting between Solomon and the Queen of Sheba (I Kings 10). The third and most widely accepted opinion is that these Jews originated from the lost tribe of Dan, which was exiled by the Assyrians in the year 722 BCE (II Kings 17:3-6). This opinion stems from the oral tradition of the African Jews.

In the year 1964, when many Ethiopian Jews began making the journey to Israel, there was no way to genetically determine if these people were truly of Jewish origin. The only means of identifying their Jewish heritage was through the similarity of their ritual practices and beliefs with those of the Jewish tradition. Like the Jews outside of Africa, the Ethiopian Jews are monotheistic and believe in many of the concepts written in the Torah. The scriptural basis of their religion comes from the Orit (from the Aramaic word Oraita, meaning Torah). The scripture contains the Five Books of Moses and the books of Joshua, Judges and Ruth. Their Orit also contains books of unclear origin like Mota Muse (Death of Moses), Mota Aaron (Death of Aaron), and Abba Elias (The Father of Elijah). Most African Jews keep the strict dietary laws of the Jews that are set out in the Five Books of Moses. They refrain from eating milk and meat together, and they do not eat any pig products. They are also forbidden to eat food slaughtered by someone outside their tribe, a stringency they took upon themselves to ensure the highest quality of Kashrut. The holidays of the Ethiopian Jews also highly resemble traditional Jewish holidays. They celebrate Pesach, Shavuot, Yom Kippur and Sukkot. They also have additional holidays, like a day of celebration for the day that Moses was allowed to see the back of God. Additionally, a majority of the religious Ethiopian Jews fast on Thursday in preparation for the holy Sanbat (Sabbath) [2].

Although the overt similarities between the Jews of Israel and the Jews of Africa led many to accept these African people as Jews, many were still unsure about the true status of the Ethiopian Jews. When technology began to allow for the coding of individual DNA, people began to wonder whether it would be possible to identify specific DNA sequences, which would confirm the genetic linkage between the Jews of Israel and Africa. Due to the immense isolation of the Jewish people and their emphasis on marrying only within the Jewish community, the discovery of a “Jewish DNA” was highly plausible.

There are two non-recombinant portions of our DNA, which would technically remain the same generation after generation, excluding any major mutations. Such DNA includes mitochondrial DNA (mtDNA), which is transmitted exclusively from mother to child, and the non-recombinant region of the Y chromosome (NRY), which is transmitted exclusively from father to son. If it is true that the Jews had limited intermarriage, then many Jews today would share significant amounts of their non-recombinant DNA, despite the large geographic distances between them. After a plethora of genetic screening, it was found that Sephardic Jews shared more DNA with Ashkenazi Jews than with the people of the surrounding Middle Eastern non-Jewish communities, like the Palestinians, Syrians and Druze.
In genetic screening among Ashkenazi Jews, a large drift toward the European gene pool is apparent. This shift is most likely due to admixture with the local European non-Jewish communities [3]. Polymorphisms, which are natural variations in DNA sequences, are most often used to trace Jewish ancestry. A group of people with similar polymorphisms is most likely connected in some way. The more similar these polymorphisms are, the closer the relationship of the people in the group. Studies of polymorphisms of the NRY in both the Ashkenazi and Sephardic communities showed that variation of the haplotype, which is a group of polymorphisms that tend to be inherited together, was strongly linked to the host nations and the communities in which they lived. Much stronger evidence of “Jewish DNA” was found on mtDNA. Researchers found 8 modal haplotypes at the HVS-1 region of the mtDNA in 10 geographically separated Jewish communities. Of these 10 regions of the mtDNA, two haplogroups, the K and N, were found in 40% of the current population of people who claimed to be Jewish. Unfortunately, it was discovered that the mtDNA haplotypes which were shared among the 40% of Jews were overrepresented in the non-Jewish community as well, thus making the high percentage of Jews with the gene statistically insignificant. The analysis of various records confirmed that no genetic motif that was thought to be significant was exclusively Jewish. Because of the inconclusive evidence, it has become virtually impossible to genetically determine if the Jews of Ethiopia truly descended from the same lineage as all other Jews [4].

As the number of black Jews discovered in Africa began to grow, the Israeli rabbinate and government began to discuss the halachic status of these peoples. Would African Jews be given the “right of return” to Israel? Israel’s Law of Return was passed on July 5, 1950, and it gave all Jews the right to return to and live in Israel, as well as the right to gain citizenship. In 1970, the right of entry and settlement was extended to people of Jewish ancestry, yet the question remained whether the Ethiopian Jews would be included in the legislation. Additionally, if these people immigrated to Israel, would they be able to marry mainstream Jews, or would they need prior conversion? In 1973, Rav Ovadia Yosef, the Sephardic Chief Rabbi of Israel, along with Rabbi Shlomo Goren, the Ashkenazi Chief Rabbi of Israel, declared that the Ethiopian Jews were to be accepted as fellow Jews and given the right of return to Israel. In their declaration they stated, “You are our brothers, you are our blood and our flesh, you are true Jews.” The opinion of these rabbis followed the early psak of the Radbaz in the 16th century (Responsa Radbaz 4:219). However, the Israeli rabbinate required that these people undergo a modified conversion process, which consisted of immersion in the ritual bath and a symbolic “re-circumcision” for the men. At the time, many poskim were opposed to this ruling, most notably Rabbi Shlomo Zalman Auerbach and Rav Moshe Feinstein (Tzitz Eliezer 104-105).

Another group of Africans called the Lemba tribe presumably descended from Jews. As the search continued for “Jewish DNA,” it became increasingly difficult for researchers to pinpoint genes with definitively Jewish ancestry. The data collected might have been inconclusive for identifying “Jewish DNA” because it was possible that many of the people who identified as Jews were not truly of Jewish descent, as they may have been adopted or converted. Rather than search for DNA sequences that represented all Jews, a decision was made to focus on the DNA of the cohanim, the Jewish priests. This DNA would be easier to pinpoint because of the discrete laws relating only to a cohen. According to Jewish law, a Jewish priest must marry a woman who was born Jewish and is not allowed to marry a convert, both of which guarantee the purity of his heritage (Leviticus 21: 7,14). Many priests even took upon themselves the stringency not to marry the daughter of two converts, even though she was legally born a Jew and it was permissible to marry her (Shulchan Aruch, Even HaEzer 17:1). This manner of precision in regard to preserving the purity of the priestly line allowed for the increased possibility of discovering cohen-specific DNA. Additionally, since the priesthood is a patrilineal dynasty that was founded by one man, Aaron, it is easier to search for a Y-chromosome haplotype. In order to prove that the specific DNA is from the Cohen line, it is imperative for the DNA sequences to be found in both Ashkenazi and Sephardic men, thereby showing that the origin of the DNA preceded the dispersion of the Jews. Since the priesthood is passed only from father to son, analysis of the NRY produced results that led to the discovery of the Cohen Modal Haplotype (CMH), the “cohen gene.” Original studies on the CMH showed that there was a 6 locus Y-STR (single tandem repeat) haplotype that belonged to the Jewish priests. The origin of diversity associated with the CMH could be dated between 4280 and 2100 years ago, roughly around the time when Aaron lived. The key argument for the legitimacy of the CMH is rooted in its predominance both in Ashkenazi and Sephardic cohanim and its remarkable absence in non-Jewish populations [5]. In recent years, research was done to extend the CMH to include more STR Y-chromosome markers to gain higher resolution and more specific genetic signatures. New finds have indicated that about half of contemporary Jewish cohanim share the Y-chromosomal segment J-P58. The study was done on a sample of 215 cohanim from diverse Jewish communities, 1575 Jewish men from all over the world, and 2099 non-Jewish men from the Near East, Europe, Asia, and India. Their genes were analyzed using several techniques including allele specific PCR, TaqMan, Kaspar, and direct sequencing. 21 Y-chromosome haplogroups were noted, yet 9 of those haplogroups were found in high percentages in other groups as well. As a result, 12 Y-STRs were isolated as purely cohen DNA. In most cohanim from diverse backgrounds, it was found that 5 haplogroups accounted for 79.5% of the Y-chromosome. The most important finding was the finding of the J-P58 gene, which is present in 51.6% of Ashkenazi and 39.7% of non-Ashkenazi cohanim. The rest of the haplotypes found were all found at frequencies below 20%. The study concluded that 46.1% carried the J-P58 gene, which supported the single patrilineal origin of the Jewish priests [6].

A stunning discovery in 1995 gave scientists the ability to utilize the newly found CMH to identify the potential lineage of a tribe of Africans living in South East Africa. The tribe, known as the Lemba, had very similar traditions and practices to the other African Jews. In Bantu languages, “Lemba” means “accepted foreigner,” indicating that the roots of these people were from a place outside of Africa. These particular African Jews stand out because they claim that they descended from the priestly line of Aaron the cohen. The people of the Lemba tribe amount to about 50,000 people and are found mostly in Zimbabwe and South Africa. The Lemba tribe observes the Sabbath, refrains from eating many forbidden foods including pig, believes in male circumcision, and forbids marriage outside the Lemba people. These practices closely resemble Jewish tradition and are a far cry from other African practices. The Lemba tribe also places the Star of David on their
tombstones and offers a yearly sacrifice called the Pesah, similar to the ritual Pesach offering of the Jews. Tudor Parfitt, a scholar on the subject, has commented on the amazing phenomenon that there is a group of people in Africa who practices so many Middle Eastern Semitic practices, despite their geographic distance from Israel. The Lemba believe that they are the descendants of Jews who came from Judea, together with the forerunners of the Ethiopian Jews, and that they left to travel further down the coast of Africa. They believe that they stem from a group of white Jewish priests who emigrated from Israel without any women and therefore eventually married local black females [7]. Normative orthodox Jewish laws today state that matrilineal decent determines Judaism, so unless the African women were converted, it is highly unlikely that any of the Lemba people are considered halachic Jews. Although these “Jews” may not be halachically Jewish, it is still intriguing to compare their Y-chromosomes to the CMH, especially because they claim to have descended from the line of Aaron. Buccal samples were collected from unrelated Lemba, local Bantu, Yemenite, Ashkenazi, and Sephardic men. In general, the Lemba population had many genetic markers that were consistent with markers in people originating from the Middle East. These DNA markers are most often found in Jews and Arabs and, considering the geographic distance, were found at remarkably high rates in the Lemba people's chromosomes. The studies of the Buba clan, a subgroup of the Lemba, were specifically intriguing because the Buba clan has traditionally been thought of as the priestly group of the tribe. Genetic studies found that 50% of the Buba men had the CMH gene, which is statistically significant when compared to percent of the general Jewish public that has the CMH gene. Of the Lemba men studied, 13 were from the Buba clan and 7 of them had the CMH gene. While the study cannot define the Lemba as Jews, the genetic results confirm the oral accounts of ancestral males originating from the Jewish priests, the Buba clan in particular. Analysis of the mtDNA showed no evidence of Semitic origin, which is consistent with their tradition that all the females of the clan came from local African communities [8].

While the Ethiopian Jews had a relatively speedy transition into Israeli society, the case of the Lemba has been very different. As Gideon Shimona, a scholar of South African Jewry, stated, “In terms of halakha, the Lemba are not at all comparable with the Falasha. As a group, they have no conceivable status in Judaism” [9]. Even though these people are not truly Jewish, the genetic screenings have proven their origin from the Jewish priestly line of Aaron. Although there are many ongoing debates as to whether genetics can pose as a legitimate basis for halachic rulings, many of the Lemba who have opted to move to Israel have undergone a full halachic conversion, unlike the modified and shortened version of the Ethiopian Jews.

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References: