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Forensic Historiography of Israel, Palestine, and the Arabs: Evidence from Ancient Canaan to the Modern Era

Dr. Ashokaditya P. Dhurandhar

Orion Geohytech India G-10 Brahmaputra Apartment, Aakar Nagar, Katol Road, Nagpur

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ABSTRACT

The southern Levant—historically referred to as Canaan, the Land of Israel, Judea, and Palestine—has functioned as a nexus of civilizations for over 5,000 years. This forensic historiography integrates archaeological artifacts, ancient inscriptions, genetic analyses, demographic records, and contemporary chronicles to investigate the interconnected histories of Jewish, Arab (including Palestinian), and other Levantine populations. It prioritizes empirical evidence while acknowledging interpretive challenges, highlighting themes of continuity, conquest, assimilation, and conflict. Genetic and archaeological data suggest substantial ancestral overlap among Levantine groups from the Bronze Age, with modern Lebanese populations exhibiting particularly high continuity with ancient Canaanites. Ottoman-era demographics reveal a predominantly Arab Muslim and Christian population in Palestine, with gradual Jewish increases through immigration in the 19th century. Though modern national identities formed amid 19th- and 20th-century nationalism, colonialism, and geopolitical shifts, this study posits that the Israel-Palestine conflict derives primarily from 20th-century developments rather than ancient animosities, while emphasizing the need for balanced scholarly inquiry.

Keywords: Southern Levant, Canaanite, Bronze Age, ancient DNA, Levantine ancestry, continuity, Jewish, Arab, nationalism, Israel-Palestine conflict

INTRODUCTION

The southern Levant has experienced successive empires, migrations, and cultural transformations. A forensic approach emphasizes verifiable data sources, including radiocarbon dating, ancient DNA (aDNA), epigraphic records, and census data. This methodology seeks to mitigate polarized narratives that designate one group as indigenous and another as intrusive. Archaeological and genetic evidence indicates considerable continuity among Levantine populations, with Jews and Palestinians sharing significant ancestry traceable to ancient Canaanites and Israelites (Agranat-Tamir et al., 2020; Haber et al., 2017). However, historical contingencies—such as conquests, exiles, and imperial partitions—have contributed to the formation of distinct identities. Scholarly interpretations vary, with some emphasizing cultural assimilation and others highlighting disruptions (e.g., Finkelstein & Silberman, 2001; Khalidi, 2006).

Prehistoric and Bronze Age Foundations: The Canaanite Substrate (ca. 10,000–1200 BCE)

Human habitation in the region commenced with Natufian hunter-gatherers circa 12,000 BCE, transitioning to Neolithic agrarian settlements at locations such as Jericho (ca. 9000 BCE). By the Early Bronze Age (ca. 3000 BCE), urban Canaanite city-states developed under Egyptian influence, encompassing sites like Hazor, Megiddo, and Lachish. These Semitic-speaking societies exhibited a material culture integrating local and Mesopotamian elements.

Recent aDNA analyses suggest that modern Levantines—encompassing Jews, Palestinians, Druze, and Lebanese—may derive approximately 50–80% of their ancestry from Bronze Age southern Levantine populations, supplemented by contributions from Chalcolithic Zagros (Iran-related) groups (Agranat-Tamir et al., 2020). A 2020 study of 93 individuals from sites in Israel, Jordan, and Lebanon modeled Canaanites as descendants of local Neolithic farmers and Zagros-related migrants, with limited evidence of extensive external

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replacement (Agranat-Tamir et al., 2020). However, these estimates are subject to interpretive variability due to sampling constraints.

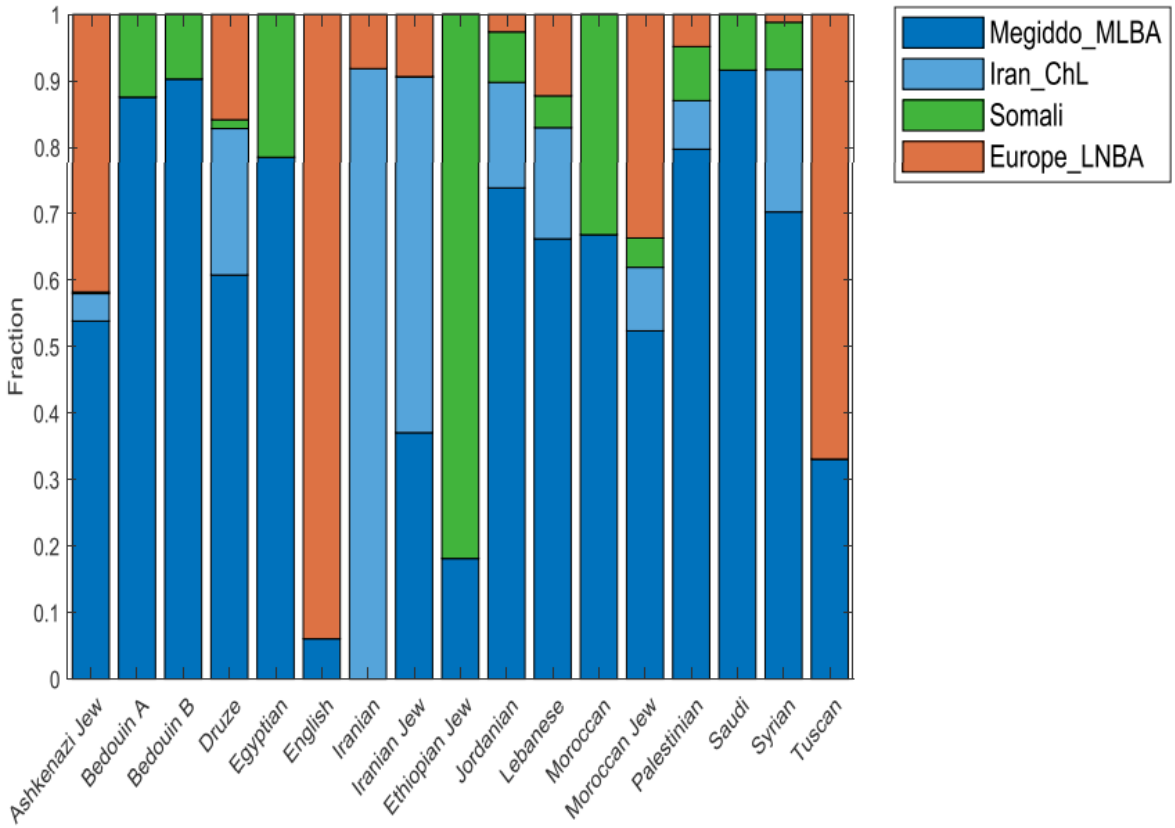


Figure 1. Genetic ancestry proportions in Levantine and related populations, showing high Bronze Age Levantine continuity in modern groups. (Adapted from Agranat-Tamir et al., 2020). More than kin, less than kind: Jews and Palestinians as Canaanite cousins. (adapted from Agranat-Tamir et al., 2020).

The earliest extrabiblical reference to "Israel" is found on the Merneptah Stele (ca. 1208 BCE), an Egyptian victory inscription declaring: "Israel is wasted, its seed is not" (Hasel, 1998). This portrays Israel as a population group within Canaan, coexisting with other city-states. Interpretations differ, with some scholars viewing it as evidence of an emergent Israelite entity (Finkelstein & Silberman, 2001), while others caution against overinterpreting sparse epigraphic data.



Figure 2. The Merneptah Stele, representing the earliest known extrabiblical reference to Israel (Image enhanced by generative AI). Israelite Origins: The Merneptah Stele - Biblical Historical Context biblicalhistoricalcontext.com

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Iron Age Kingdoms: Israel and Judah (ca. 1200–586 BCE)

Highland settlements featuring distinctive architecture—such as four-room houses and collared-rim jars—appeared in the central hills, signaling the ethnogenesis of ancient Israel (Finkelstein & Silberman, 2001). Biblical accounts depict a United Monarchy under Saul, David, and Solomon, succeeded by the divided kingdoms of Israel (north) and Judah (south).

Epigraphic corroboration includes the Tel Dan Stele (mid-9th century BCE), an Aramaic inscription referencing the "House of David," supporting the existence of a Judahite dynasty (Biran & Naveh, 1993). Assyrian annals (e.g., the Black Obelisk) and the Moabite Mesha Stele (ca. 840 BCE) attest to Israelite monarchs such as Omri and Ahab. The northern kingdom succumbed to Assyria in 722 BCE, and Judah to Babylon in 586 BCE, resulting in elite deportations. Archaeological strata indicate cultural persistence in the Persian province of Yehud (539–332 BCE), though debates persist regarding the scale of population displacement (Finkelstein & Silberman, 2001).



Figure 3. Fragment of the Tel Dan Stele, referencing the "House of David." (Adopted from Armstrong Institute)

Hellenistic, Roman, and Byzantine Eras: Diaspora and Resilience (332 BCE–636 CE) Alexander the Great's conquest (332 BCE) introduced Hellenization. The Maccabean Revolt (167–160 BCE) temporarily reinstated Jewish autonomy under the Hasmoneans. Roman integration (63 BCE) precipitated revolts: the First Jewish Revolt (66–73 CE) and Bar Kokhba Revolt (132–135 CE), leading to Jerusalem's destruction and the renaming to Aelia Capitolina.

Jewish communities endured in Galilee and the diaspora, as evidenced by the Dead Sea Scrolls and Byzantine synagogues (e.g., Capernaum). By the 4th century CE, Christianity predominated, yet Jews, Samaritans, and others persisted. Pre-Islamic Arabs, including Nabataeans and Ghassanids, maintained a southern presence (Hoyland, 2014).

The Arab Conquest and Early Islamic Period: Assimilation, Not Replacement (634–1099 CE)

Byzantine fatigue from Sasanian wars enabled the Rashidun Caliphate's advances. Significant engagements included Ajnadayn (634 CE) and Yarmouk (636 CE). Jerusalem capitulated peacefully to Caliph Umar in 638 CE, who extended protections to Christians and Jews (Donner, 1981).

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Non-Muslim contemporaneous accounts, such as Sebeos's chronicle, depict treaties rather than widespread displacement. Muslim chroniclers (e.g., al-Baladhuri) stress pacts maintaining local administration. Islamization proceeded gradually over centuries, influenced by socioeconomic incentives.

Arabic language and identity disseminated via assimilation, not comprehensive population substitution (Hoyland, 2014).

Genetic evidence suggests Palestinians exhibit approximately 81–87% Bronze Age Levantine ancestry, comparable to other Levantines, with minor East African and European admixtures (Agranat-Tamir et al., 2020; Haber et al., 2017). However, these figures are estimates derived from limited samples and models, subject to revision.

Medieval to Ottoman Rule: A Provincial Backwater (1099–1917 CE)

Crusader polities (1099–1187 CE) were ephemeral; Saladin's Ayyubids recaptured Jerusalem. Mamluk (1250–1517 CE) and Ottoman (1517–1917 CE) periods ensued. The region was sparsely populated and economically peripheral.

Ottoman censuses and records provide detailed insights into demographics, showing gradual population growth throughout the 19th century. Early estimates indicate a population of approximately 350,000 in the early 1800s, rising to 411,000 by 1860 and around 600,000 by 1900, with Arabs comprising about 94% (McCarthy, 1990). More specific data from the 1870s–1880s reveal a total of 350,000–450,000 inhabitants, predominantly Muslim Arabs (85%), followed by Christians (10–11%) and Jews (4–5%) (McCarthy, 1990).

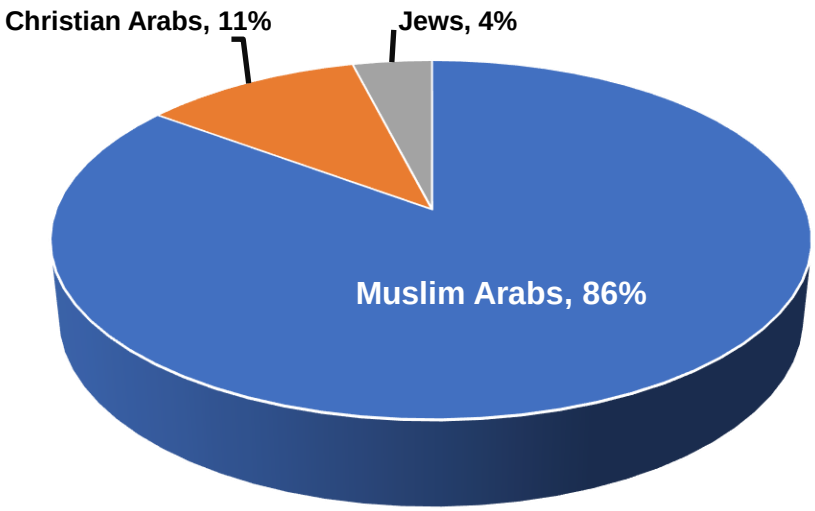
The 1878 census for the Jerusalem, Nablus, and Acre districts reported Muslims at 403,795 (85.5%), Christians at 43,659 (9.2%), and Jews at 15,001 (3.2%), with an estimated 10,000 foreign-born Jews (2.1%) (McCarthy, 1990, Table 1, Figure 4a). By 1882, Muslims numbered 408,318, Jews 15,300, and Christians 44,471; this grew to Muslims 518,126, Jews 26,096, and Christians 66,928 by 1903 (McCarthy, 1990). In 1914, the population approached 600,000–750,000, remaining predominantly Arab, with Jews at around 60,000 (including 39,000 Ottoman citizens) (McCarthy, 1990).

These figures reflect waves of immigration, including Muslims from lost Ottoman territories and increasing Jewish arrivals, alongside natural growth (McCarthy, 1990,).

Table 1. Population of various ethnic groups in late Ottoman Palestine (data from McCarthy, 1990).

Year	Muslims (overwhelmingly Arab)	Christians (overwhelmingly Arab)	Jews	Total
1850	300,000	27,000	13,000	340,000
1878	403,795	43,659	15,001 (+ est. 10,000 foreign-born)	~472,455
1882	408,318	44,471	15,300	468,089
1903	518,126	66,928	26,096	611,150
1914	602,377	81,012	38,754	722,143

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Pie Chart Figure 4a

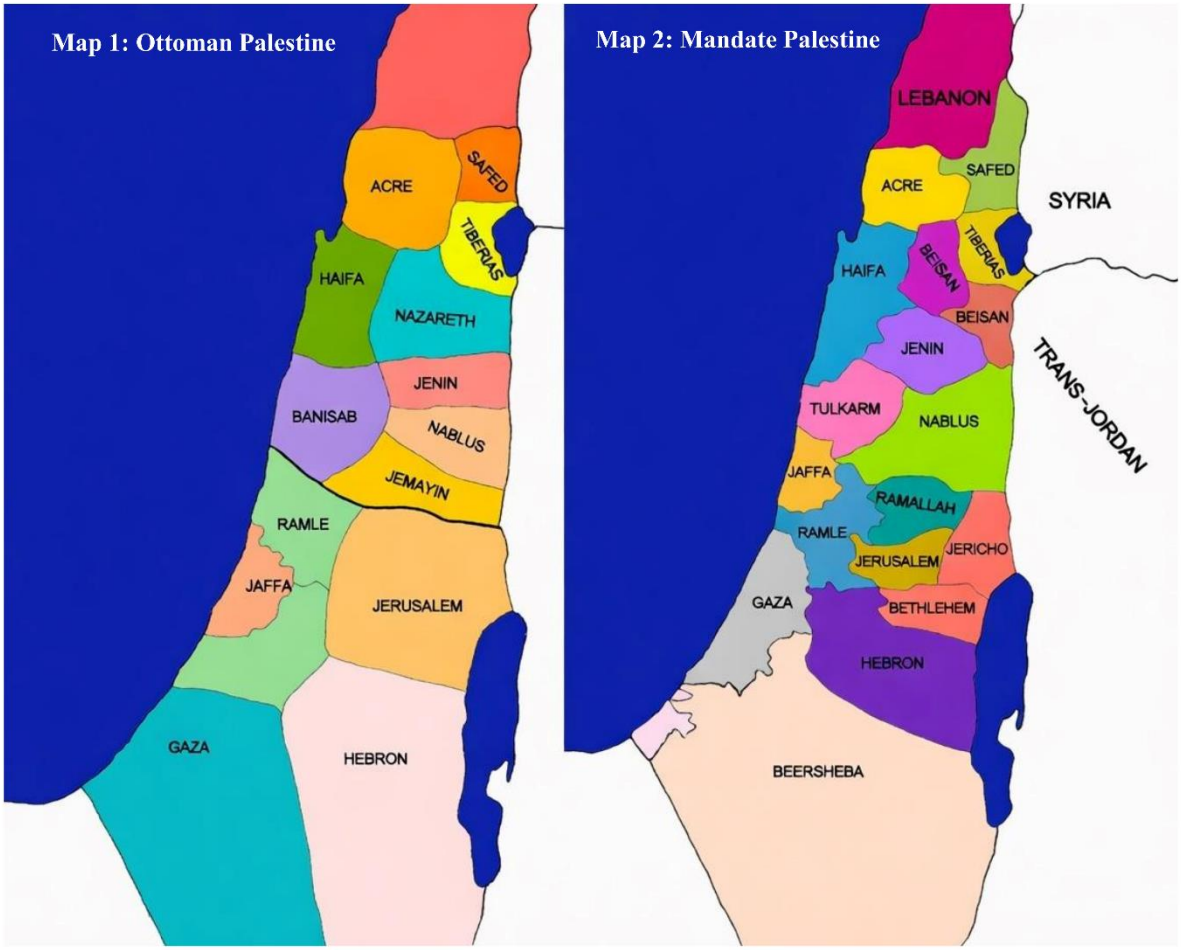


Figure 4b. Approximate ethnic composition of Ottoman Palestine in the late 19th century, based on census data pie chart (4a). (Data from McCarthy, 1990). The population of Palestine: Population history and statistics of the late Ottoman period and the Mandate (Map 1 and Map 2, Tables 1.4A–1.4D, pp. 7–10, and related appendices.). Columbia University Press. (Image enhanced by generative AI)

Modern Nationalism and the Mandate Era (1880s–1947 CE)

The rise of modern nationalism in the southern Levant during the late Ottoman and British Mandate periods was shaped by European anti-Semitism, the emergence of Zionism, and growing Arab opposition to Jewish

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immigration and land acquisition. The First Aliyah (1882–1903), often regarded as the beginning of organized Zionist immigration, brought approximately 25,000–35,000 Jews primarily from Eastern Europe, fleeing pogroms in Russia and inspired by movements like Bilu and Hibbat Zion (Agranat-Tamir et al., 2020; Finkelstein & Silberman, 2001). These idealistic settlers established agricultural colonies such as Petah Tikvah and Rishon LeZion, facing harsh conditions including disease, Ottoman taxation, and local Arab opposition. While motivated by religious and national aspirations, this wave laid the groundwork for Zionist infrastructure, though many immigrants departed due to difficulties.

Subsequent Aliyot accelerated Jewish influx: the Second Aliyah (1904–1914) added 35,000–40,000 immigrants, emphasizing socialist ideals and kibbutz formation, while the Third (1919–1923), Fourth (1924–1928), and Fifth (1929–1939) waves brought over 300,000 Jews, driven by economic crises, anti-Semitism, and Nazi persecution in Europe. By the 1930s, Jewish land purchases and settlements heightened tensions, culminating in the 1936–1939 Arab Revolt, which protested British policies favoring Zionism and demanded independence.

A pivotal moment was the Balfour Declaration of November 2, 1917, a letter from British Foreign Secretary Arthur Balfour to Lord Rothschild, endorsing "the establishment in Palestine of a national home for the Jewish people" while pledging not to prejudice "the civil and religious rights of existing non-Jewish communities." Issued during World War I, it reflected British strategic interests: securing Jewish support globally, protecting routes to India via the Suez Canal, and countering Ottoman-German alliances. The declaration was influenced by Zionist lobbying, notably from Chaim Weizmann, and Christian Zionist sentiments among British leaders like Prime Minister David Lloyd George. However, it ignored Arab aspirations for independence promised in the Hussein-McMahon Correspondence (1915–1916), exacerbating distrust.

The League of Nations formalized British control with the Mandate for Palestine on July 24, 1922, incorporating the Balfour Declaration in its preamble. Article 2 tasked Britain with establishing the Jewish national home while developing self-governing institutions and safeguarding rights of all inhabitants. Article 4 recognized a Jewish Agency (initially the Zionist Organization) to advise on matters affecting the home, while Article 6 facilitated Jewish immigration without prejudicing non-Jewish rights. Article 25 allowed Britain to exclude Transjordan (east of the Jordan River) from Jewish home provisions, leading to its separation in 1922. The Mandate thus balanced Zionist goals with Arab protections but was criticized for favoring Jewish development amid demographic imbalances.

Palestinian national identity coalesced in the early 20th century, rooted in Ottoman-era Arab nationalism but sharpened by opposition to Zionism and Mandate policies. Newspapers like *Al-Karmil* (1908) and *Filastin* (1911) critiqued Jewish immigration, land sales, and perceived British favoritism, framing "Palestine" as an Arab entity. Christian-Muslim associations and the 1919 Haifa Congress asserted Arab self-determination, rejecting Balfour. This identity was not solely reactive but drew from broader Arab awakening, though Zionism accelerated its politicization (Khalidi, 2006).

By 1947, amid rising violence, Palestine's population reached approximately 1.97 million: Jews ~630,000 (32%), Arabs (Muslims and Christians) ~1.34 million (68%) (Tessler, 2009). Jewish growth stemmed largely from immigration (over 300,000 in the 1930s alone), while Arabs maintained a majority through natural increase, setting the stage for partition debates.

Partition, War, and the Nakba (1947–1949 CE)

UN General Assembly Resolution 181 (November 29, 1947) recommended partitioning Palestine into Jewish (56% of land) and Arab (44%) states, with Jerusalem internationalized (United Nations General Assembly, 1947). Jewish acceptance contrasted with Arab rejection, citing breaches of self-determination principles amid demographic imbalances (Khalidi, 2006).

Civil strife intensified. Israel's independence declaration on May 14, 1948, precipitated the Arab-Israeli War. Israel controlled 77% of the territory; Jordan annexed the West Bank and East Jerusalem; Egypt administered Gaza. Scholarly perspectives diverge: Israeli "new historians" like Benny Morris and Avi Shlaim emphasize

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Zionist military strategies and Palestinian displacements, while traditionalists like Efraim Karsh argue Arab disunity and rejectionism were pivotal (Morris, 2001; Shlaim, 2001; Karsh, 2002). Palestinian narratives frame the Nakba ("catastrophe") as systematic dispossession, with approximately 700,000 Palestinians becoming refugees; Israeli accounts highlight defensive necessities and Arab evacuations (Khalidi, 1992; Morris, 2001). Concurrently, ~850,000 Jews departed or were expelled from Arab states, complicating refugee discourses (Morris, 2001).

Oral histories provide nuanced insights into social and cultural dimensions, complementing archival records. Palestinian testimonies, collected in archives like the Nakba Archive and Zochrot, recount village destructions, forced marches, family separations, and loss of communal life (Abdo & Masalha, 2018; Allan, 2021). For instance, survivors describe fleeing under gunfire or military orders, with themes of trauma and resilience recurring (Sayigh, 2018). Israeli oral accounts, such as those from Haganah veterans, often emphasize existential threats and defensive actions, though some acknowledge expulsions (Sela, 1999). These narratives highlight generational transmission of memory, influencing contemporary identities, but face challenges like recall bias and selective emphasis (Ricks, 2023).

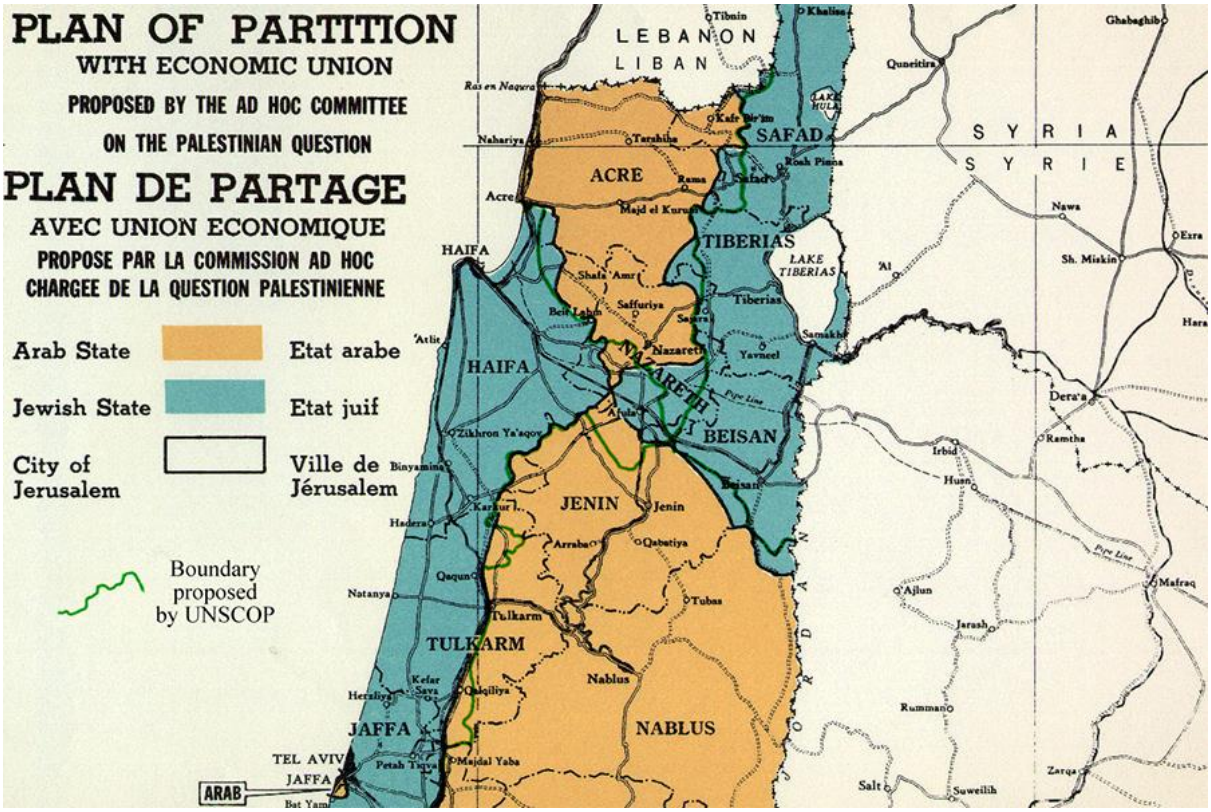


Figure 5. Map of the 1947 UN Partition Plan (The Washington Institute)

Post-1948 Conflicts: Cycles of Violence and Stalled Diplomacy (1949–Present)

Post-1948 developments encompassed multiple wars and diplomatic initiatives. The 1956 Suez Crisis involved Israel, Britain, and France invading Egypt amid canal nationalization, yielding Israeli withdrawal under international pressure (Tessler, 2009). The 1967 Six-Day War saw Israel preemptively strike Egypt, Jordan, and Syria, occupying the West Bank, Gaza, Sinai, and Golan Heights. This precipitated a second Palestinian exodus and reshaped regional dynamics (Morris, 2001; Khalidi, 2006).

The 1973 Yom Kippur War featured Egyptian-Syrian offensives, leading to UN Resolution 338 and eventual disengagement (Tessler, 2009). The 1978 Camp David Accords facilitated Egyptian-Israeli peace, with Sinai's return (Morris, 2001). Israel's 1982 Lebanon invasion targeted PLO bases, resulting in the Sabra and Shatila massacres and partial withdrawal by 2000 (Shlaim, 2001; Khalidi, 2006).

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The First Intifada (1987–1993) involved Palestinian uprisings, prompting the Oslo Accords (1993–1995), establishing the Palestinian Authority and interim self-rule in parts of the West Bank and Gaza (Tessler, 2009). However, implementation faltered amid settlements, security concerns, and violence. The Second Intifada (2000–2005) escalated following failed Camp David talks, yielding thousands of casualties (Morris, 2001; Khalidi, 2006).

Israel's 2005 Gaza disengagement preceded Hamas's 2006 electoral victory and 2007 Gaza takeover, leading to blockades and conflicts in 2008–2009, 2012, 2014, and 2021 (Tessler, 2009). The October 7, 2023, Hamas attack and subsequent Gaza war underscored persistent impasses, with significant casualties and humanitarian crises (Human Rights Watch, 2024). Diverse scholarly views include Israeli revisionists critiquing occupation policies (Pappé, 2006) and Palestinian analyses emphasizing structural inequalities (Khalidi, 2020). Cultural dimensions, such as oral histories and literature, illuminate lived experiences, with works like those of Edward Said highlighting identity fragmentation (Said, 1979).

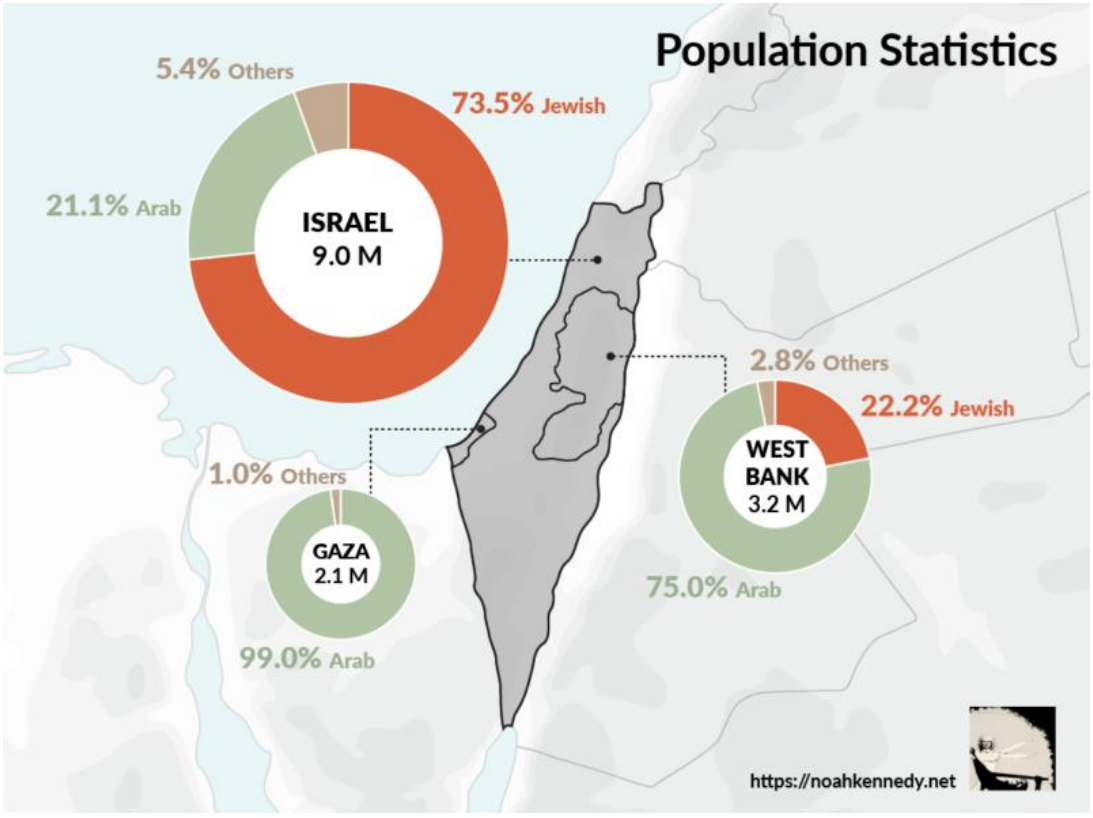


Figure 6. Present-day population demographics, illustrating shifts potentially attributable to historical displacements.

Genetic and Archaeological Forensics: Shared Ancestry in the Levant

Ancient DNA (aDNA) research has advanced understandings of Levantine population dynamics, yet faces limitations. Studies like Haber et al. (2017) on Bronze Age Sidon and modern Lebanese genomes, and Agranat-Tamir et al. (2020) on a broad survey of 93 individuals from nine Southern Levantine sites, indicate substantial genetic continuity from Bronze Age Canaanites to contemporary groups. These suggest Levantine (e.g., ~48–57%) and Zagros-related (~43–52%) ancestries, with modern estimates varying (Agranat-Tamir et al., 2020).

Lebanese populations have been a focus of genetic continuity studies. Haber et al. (2017) analyzed five 3,700-year-old Canaanite genomes from Sidon alongside 99 modern Lebanese samples, The ancient Sidon samples derive from admixture between local Neolithic Levantine farmers (Levant_N, ~48%) and eastern migrants related to Chalcolithic Zagros/Iranian populations (Iran_ChL, ~52%). This “Canaanite-related” ancestry was widespread, appearing in both coastal urban centers and inland groups (e.g., Early Bronze Age Jordan, Figure 7).

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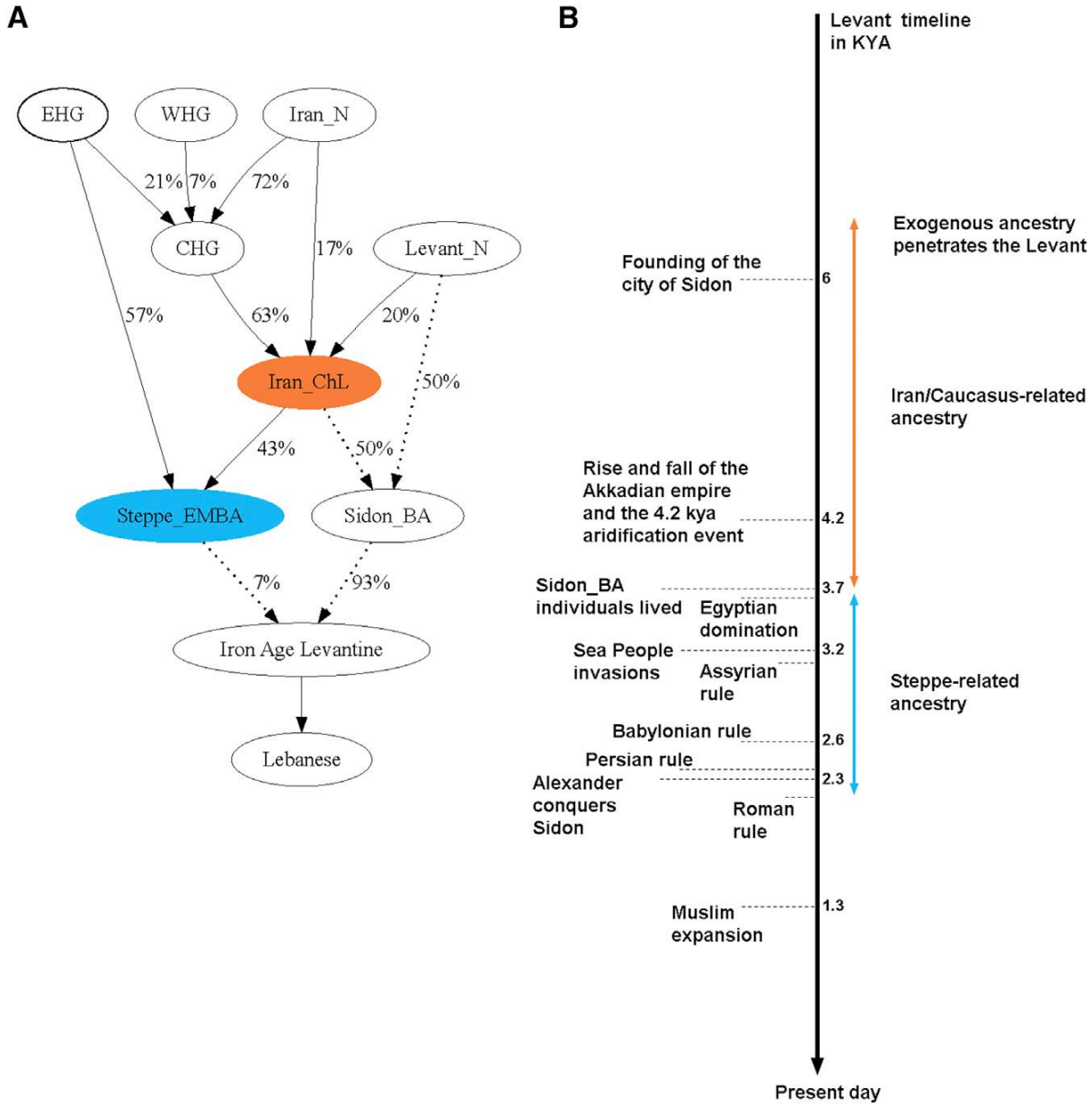


Figure 7. Timeline of Levantine genetic history showing the primary Bronze Age admixture (Levant_N + Iran_ChL) and the later Eurasian influx. The Sidon_BA individuals form the core ancestral population for modern Lebanese (adapted from Haber et al., 2017).

Critically finding that present-day Lebanese derive approximately 93% (±1.6%) of their ancestry from Canaanite-related sources, with a minor Eurasian component (~7% ±1.6%) entering later. This implies significant continuity in Lebanon since the Bronze Age, despite historical conquests (Haber et al., 2017). Earlier work by Haber et al.

(2013) on over 500,000 SNPs from 1,341 Levantine samples, including Lebanese, revealed cultural structuring, with Lebanese clustering by religion: A smaller additional component (~7% ± 1.6%) related to Eurasian Steppe populations entered the Levant later, around 2,950 ± 790 years ago, coinciding with periods of imperial upheaval and Mediterranean trade. Christians showing more European affinities and Muslims aligning closer to other Middle Easterners. Lebanese derive 42–68% ancestry from Levantine sources, with coastal-inland contrasts (El-Sibai et al., 2009; Haber et al., 2013).

Syrians, as part of the broader Levantine continuum, exhibit similar patterns, clustering with Palestinians and Jordanians (Haber et al., 2013). Functional genomic evidence reinforces this continuity. Allele frequencies at loci associated with pigmentation (e.g., *SLC24A5*, *SLC45A2*, *HERC2*) and certain disease risks in Sidon_BA closely match those in modern Lebanese, with correlations far higher than with Europeans, Africans, or Asians

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($r = 0.74$, $p < 10^{-15}$). Y-chromosome haplogroups J1-P58 and J2, which became prominent in the Bronze Age alongside the Iran_ChL-related ancestry, remain common in the modern Near East, further linking paternal lineages across millennia.

Agranat-Tamir et al. (2020) significantly expanded the dataset with 73 newly reported genomes (plus 20 previously published) from sites spanning present-day Israel, Jordan, and Lebanon: Megiddo (northern Israel), Baq'ah (central Jordan), Yehud (central Israel), Hazor, and Abel Beth Maacah. These individuals, all associated with Canaanite material culture across ~1,500 years (Intermediate Bronze Age to early Iron Age), exhibit strong genetic homogeneity.

Most groups are consistent with forming pairwise clades relative to outgroups, clustering tightly in principal component analysis (PCA) and ADMIXTURE, and can be modeled as mixtures of ~48–57% local Neolithic Levant (Levant_N) and ~43–52% Zagros/Caucasus-related ancestry (Figure 8).

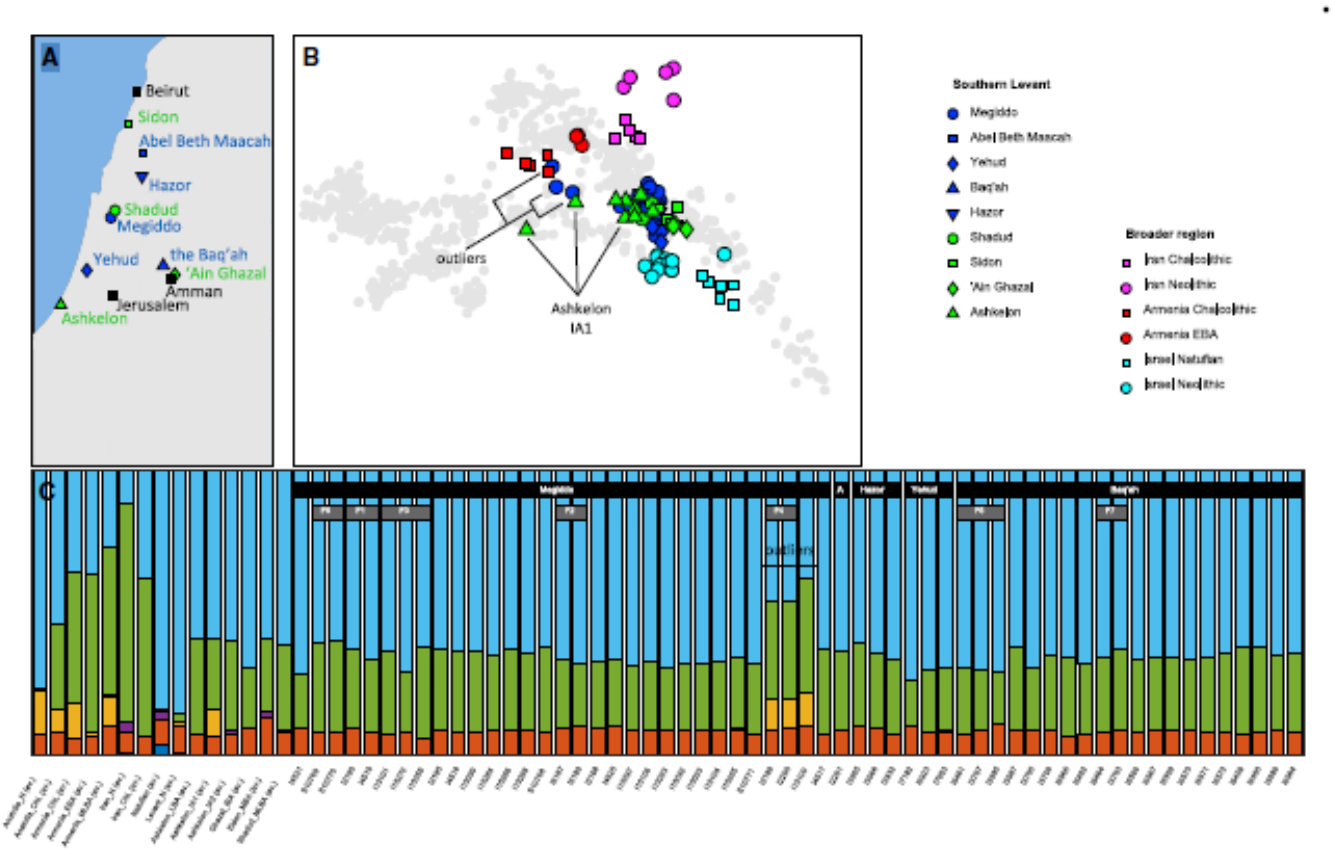


Figure 8. Map of sampled sites and PCA showing Bronze and Iron Age Southern Levantine individuals (blue/green) forming a tight cluster distinct from other ancient West Eurasians. Outliers and coastal groups (e.g., some Sidon and Ashkelon samples) show subtle differentiation (adapted from Agranat-Tamir et al., 2020).

The eastern (Zagros/Caucasus) component was already present by the Intermediate Bronze Age (~2400 BCE) and increased over time, rising by roughly 14% per millennium (linear regression $\beta = 1.4 \times 10^{-4}$, Jackknife SE).

This gene flow is best proxied by either Chalcolithic Zagros (Iran_ChL) or Early Bronze Age Caucasus (Armenia_EBA) populations, consistent with archaeological evidence of Kura-Araxes cultural influences and later Hurrian linguistic elements in the region.

Three Megiddo "outliers" (including a sibling pair) stand out with exceptionally high eastern ancestry (Neolithic Levant component as low as 9–27%), likely representing recent migrants or their immediate descendants from the Caucasus region during the Middle Bronze Age (Figure 9).

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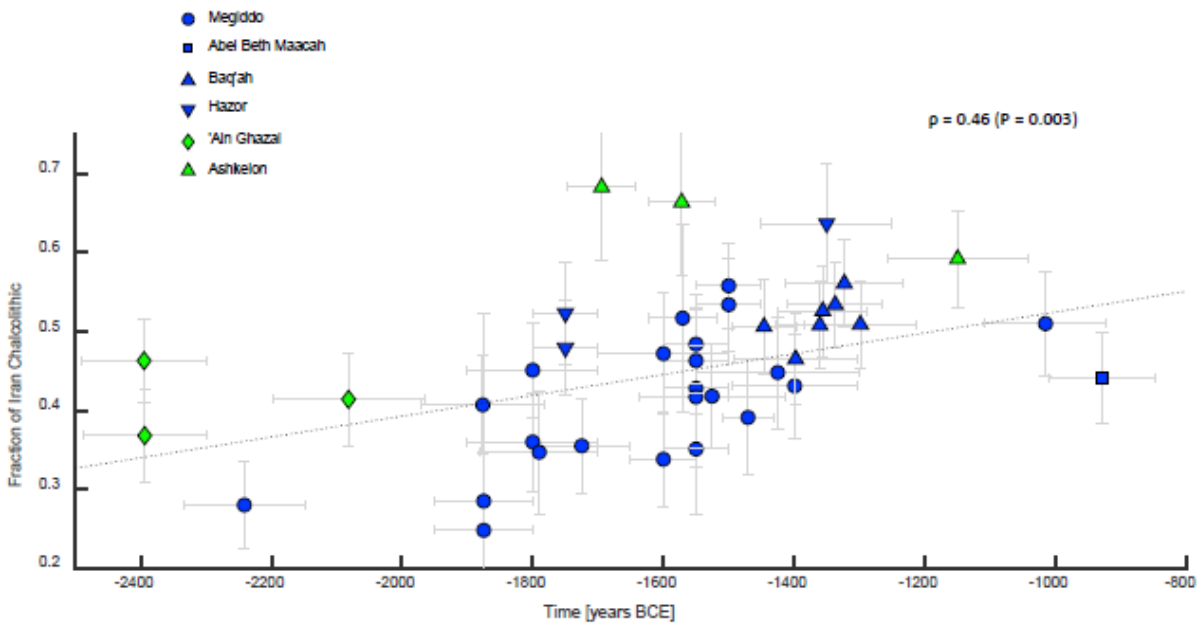


Figure 9: Temporal trend in the proportion of Chalcolithic Iran-related ancestry across dated individuals, showing a statistically significant increase from the Intermediate Bronze Age through the Late Bronze Age (adopted from Agranat-Tamir et al., 2020).

Modern Levantine populations—Jewish groups (Ashkenazi, Sephardi, Mizrahi, etc.) and Arabic-speaking Levantine communities (Palestinians, Lebanese, Druze, Bedouin)—consistently carry substantial ancestry traceable to these Bronze Age Southern Levantine and Chalcolithic Zagros sources. Using constrained least-squares modeling on ADMIXTURE output (LINADMIX) and a haplotype-based adaptation of ChromoPainter (PHCP), Agranat-Tamir et al. (2020) estimate that combined Levant_BA + Iran_ChL-related ancestry often exceeds 50% in these groups, with additional post-Bronze Age layers: an East African-related component (highest in Arabic-speaking populations and Ethiopian Jews) and a European-related component (prominent in Ashkenazi and Moroccan Jews, Figure 10).

Figure 10: Ancestry proportions in 17 present-day populations modelled with four sources (Megiddo_MLBA as Levant_BA proxy, Iran_ChL, Somali as East African proxy, and Europe_LNBA). Jewish and Levantine Arab groups show major contributions from ancient Levantine + Zagros sources, plus later admixtures (from Agranat-Tamir et al., 2020).

These genetic patterns affirm that both Jewish and Palestinian/Arab Levantine identities have deep biological roots in the ancient Levant. Jews maintained cultural and partial genetic continuity through diaspora, while Levantine Arabs reflect the demographic majority shaped by the 7th-century CE Arab expansions and gradual assimilation of local populations. Coastal heterogeneity (e.g., Sidon, Ashkelon) and inland variability (e.g., Baq'ah) highlight that "Canaanite" was a cultural rather than strictly genetic category, yet overall affinity across sites underscores shared Levantine ancestry.

Limitations Remain

While ancient DNA (aDNA) and archaeological evidence have significantly advanced our understanding of Levantine population dynamics, several critical limitations persist that warrant careful consideration in interpretations. Sampling remains sparse for certain periods and sub-regions, particularly in the southern Levant and Arabian Peninsula, where environmental conditions—such as high temperatures and humidity—severely impair DNA preservation (Haber et al., 2017; Dalal et al., 2023). Post-mortem degradation in warm climates leads to fragmented and low-yield DNA, reducing the quantity and quality of recoverable genetic material and introducing potential biases in sequencing (Booth, 2019). For instance, post-Bronze Age migrations during the Hellenistic, Roman, Islamic, and Crusader eras likely introduced additional genetic components (e.g., from Europe, Africa, and Central Asia) that are not fully captured by current ancient references, as most aDNA datasets

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are derived from earlier periods or better-preserved northern sites (Agranat-Tamir et al., 2020; Haber et al., 2017).

Methodological challenges further complicate analyses. Ancestry percentages and admixture models are inherently model-dependent, relying on reference populations, statistical assumptions, and computational frameworks that may not account for all demographic complexities, such as continuous gene flow or population bottlenecks (Pope, 2018). These figures should thus be viewed as estimates rather than absolute facts, subject to revision with expanded datasets. Interpretive biases arise from uneven global research efforts; aDNA studies are disproportionately focused on Europe, leading to a "Global North-South divide" in resources, expertise, and representation, which underrepresents Middle Eastern contexts (Dalal et al., 2023). Contamination risks during excavation and laboratory processing also pose threats to data integrity, necessitating rigorous authentication protocols (Haber et al., 2017).

Ethical and sociopolitical concerns add another layer of complexity. Genetic data do not determine cultural or national identities, which are socially constructed and influenced by historical, linguistic, and environmental factors (Pope, 2018). Political misappropriations of aDNA findings—such as using them to support territorial claims or nationalist narratives in sensitive regions like the Levant—underscore the need for responsible dissemination and interdisciplinary collaboration (Booth, 2019). Nevertheless, despite these constraints, the forensic genomic record provides compelling evidence that the Levant's peoples share deep biological affinities, akin to "cousins" rather than strangers, with ancestry threads extending continuously from Bronze Age Canaanites to the present. This shared heritage, when contextualized alongside distinct historical trajectories, offers a biological foundation for narratives promoting mutual recognition, though future research must address these limitations through broader sampling, advanced technologies, and ethical frameworks to refine our reconstructions.

CONCLUSION

Forensic evidence depicts the southern Levant as a region of indigenous continuity. Canaanite foundations inform both Jewish and Arab Levantine identities, with Jews preserving a millennia-long connection amid exiles and Arabs emerging as the demographic majority through conquest and assimilation. The contemporary conflict arises from nationalism, imperial legacies, and unresolved compromises, not primordial enmities.

Sustainable resolution necessitates recognizing dual narratives: Jewish self-determination post-persecution and Palestinian entitlements to dignity and autonomy. Forensics affirm shared heritage, advocating mutual acknowledgment of shared heritage offers the only path forward.

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