2 THE "NATURE" OF ISRAELI CITIZENSHIP

GENE TALK

Yashka is an inexpensive shawarma joint perched on the corner of Dizengoff and Frishman, the urban heart of Tel Aviv. Since I didn't have a proper kitchen in my small one-bedroom apartment, I would often stroll down to Yashka to enjoy a lunch of falafel, shawarma, or shakshuka. I liked sitting there, observing people, and noticing the rotating staff of new Russian *olim* (Jewish immigrants to Israel) clearing tables. One winter afternoon I wandered in, bought a heavy shawarma wrap, and after filling a small bowl with the complimentary pickles and tahini, I sat down in one of the green plastic chairs opposite a man about my age. After a few minutes of eating silently in each other's company, he asked, in Hebrew, if I had seen the football match. When I said no, I hadn't, he asked where I was from, and we began making small talk. He was surprised that I knew Hebrew and asked what I was doing in Israel. I said "research," and after a moment of silence, I elaborated: "I'm studying the way in which genetics relates to Jewish identity . . . for example, how the government might use genetic tests to determine who can immigrate to Israel." He raised a finger and said that he knew about this topic. He has been following the philanthropic efforts of a "big Israeli businessman" who wants to fund research in genetics to show that the Arabs in Israel were Jews who converted to Islam in the past and that, consequently, this would prove that "the occupation is bullshit," meaning that there is no occupation. He proceeded to proudly tell me that he is a "right-winger" and that he was pleased with the recent news scandal: a sting operation in which a right-wing activist (from the Ad Kan organization) infiltrated a left-wing human rights NGO that was attempting to expose human rights abuses in the West Bank. In his opinion, the land belongs to the Jews, and the use of genetics to support those claims ought to align with his political views.

I was intrigued by the way in which he seemingly saw no need to separate politics from epistemology. For him, it was a clear question of orientation, support, and brute force. Scientific truth did not stand outside politics but followed conviction. The absence of the epistemic and professional ideal of objectivity didn't even seem an issue for him. Rather, genetics ought to be used as a rhetorical device to undermine the rights of the Arabs in the region and justify Israel's right to the West Bank. In this formulation, the modern separation of fact and value is irrelevant: politics is driven by commitments and the desire to act, not by putatively disinterested science.

This man's stance on the use of genetics in political action, extreme as it is, speaks to the way in which genetics has infiltrated the Israeli popular imagination as a powerful tool in establishing, policing, imagining, and defending boundaries, identities, and territory. But "gene talk" is not limited to the nationalistic consumers of street food in Tel Aviv. In July 2013, Israel's Prime Minister's Office stated that in the future Russians wishing to make *aliya* (immigrate) to Israel might need to take a DNA test to prove their Jewishness (Zeiger 2013). This statement indicated that the state might use genetic tests to verify a legitimate "biological connection" with a Jewish parent or grandparent.

In 2018, Israeli rabbinical courts began recognizing the results of mitochondrial DNA tests as proof of Jewish heritage (Rabinowitz 2019). Mitochondrial DNA tests offer information about genetic background exclusively from an individual's maternal side, which is in accordance with the matrilineal transmission of Jewish identity. The tests the rabbinical courts began using are based on a comparison of mutations in mitochondrial DNA to databases of other nationalities and ethnic groups (Rabinowitz 2019).

This practice of using genetic tests to determine Jewishness, however, was soon challenged by a petition in Israel's High Court of Justice, "filed by Avigdor Lieberman, Yisrael Beitenu and several private petitioners" against the chief rabbinate and the rabbinical courts. In January 2020, Israel's High Court of Justice ruled in a majority decision against the petition and "found that DNA testing to prove one's Judaism should be allowed" (Rabinowitz 2020). The court also ruled that the "petitioners did not prove that the rabbinate acted in a discriminatory manner." However, the court made a distinction between "reexamination by the rabbinical court of the Judaism of someone who was already recognized and registered as a Jew, and conducting genetic tests to prove one's Judaism." The court also said "the rabbinate must formulate written rules on the issue within a year."

If such DNA tests become rolled out by the state, Israel would be enshrining Jewishness at the level of DNA, rendering "Jewish genes" legally legible and making DNA signatures a determinant of basic rights and citizenship for the first time in its history.

Before getting further into the details of "Jewish genetics" as a discursive field wherein imaginations of citizenship and belonging flourish, it will be helpful to provide some context about the Israeli state. The State of Israel is explicit in defining itself as the homeland of the Jewish people and is thus both ethnoreligious and national in its self-image. The commitment to the Jewish character of the state, however, raises perennial domestic concerns, and frequent moral panics, over who is a Jew, how this can be determined, by what credible authority, and about the exact "nature" or fundamental modality of citizenship in Israel. A genetic test for Jewishness is thus evaluated in this context and would supposedly function as an objective metric of legitimate inclusion in the state, constructing a virtual biological border and providing an unequivocal substrate for calculating ethnic belonging.

Although it is unlikely that genetic tests for Jewishness will become the main criterion for securing Israeli citizenship, the rise of "Jewish genetics," and its circulatory semiotics, exemplified most loudly by the state's announcement (Zeiger 2013), demands an examination of the curious relationships among biology, Jewish identity, and citizenship in Israel. This novel and particular form of governmentality, the management of citizens and populations through "ethnic genetics," needs to be situated within this contingent historical moment as it relates to the political philosophy of Zionism, particularly regarding conceptions of Jewish ethnicity.

As a whole, my approach to the molecularization of identity in the Middle East is more comparative and ethnographic than it is historical, but some historical context is important. This short history of the roots of "Jewish genetics" should clarify why the Israeli state is attempting to understand itself in the present through technoscience. My line of thought in this chapter is a historical anthropology of a concept, "Jewish genetics," with a reading that imposes an immanent critique on the phenomenon of the molecularization of ethnicity in the context of the Jewish ethnonation.

What exists depends on how and why we know it. Rather than regarding ethnic genes as being pure essences "in themselves," a "negative dialectical" critique emphasizes the necessary historical particularities of the mediations of their ontological claims (Adorno 1980 [1966]) and strives for the "negation of reification" (Horkheimer and Adorno 2002 [1947], vii). This approach will also help in thinking comparatively about how and why other states, like Qatar, might similarly draw on genetic technologies in determining rights to citizenship and in imagining the borders of ethnic belonging.

JEWISH ETHNICITY

Judaism is a particularly blurry ethnos. And while clear-cut racial divisions (e.g., Black African, White European, East Asian) are perhaps the ideological construction par excellence, the borders of Jewish ethnicity are being complexified and reformulated with the latest next-generation genomic sequencing technologies.[1] "Nature" becomes more political, more geographically and historically specific, and more culturally particular, as people situated in different national spaces find uses for genomic technologies. In the Israeli context, "ethnic genes" have already entered public discourse, especially because geneticists have been describing the genetic structure and historical migrations of Jewish populations (see Atzmon et al. 2010; Behar et al. 2004, 2006, 2010; Bray et al. 2010; Ostrer 2001; Ostrer and Skorecki 2013). It has been said that such genetic research is contributing to a "'biologization' of Jewish culture and historical narrative" (Egorova 2014, 354), as lay commentators now often turn to DNA evidence as a "rhetorical means for inscribing identities," especially to support "favoured accounts of the origin and historical development of the tested communities" (Egorova 2014, 360).

It makes sense that people appropriate these scientific findings. Jewish population-genetics studies often treat diverse diaspora groups of Jews as related cohorts and often trace genetic data to support the narrative of a line of descent from the ancient tribes of Israel mentioned in the Hebrew Bible. In this regard, "Jewish genetics" reiterates and lends credibility to the Israeli state's founding narrative of return to the Holy Land. So-called Jewish DNA may be read through genomic analysis even when "Jewish genes" are located in areas of "noncoding DNA," that is, from genetic material that probably does not in itself determine a specific physical trait. These so-called Jewish genes may not make a difference at all (phenotypically, at least), and yet they would become vital if they become the legible traces that decide rights to citizenship in Israel. Regardless of the validity or biological importance of such genes to Judaism, at issue is the question of *why* genes are becoming a site for the Israeli state to imagine control of the population.

To understand this potential development, it helps to consider the trajectory of the Israeli state, its commitments to religious law, and how this emergent phenomenon relates to a long history of Jewish political thought and imaginations of Jewish ethnicity. Here, the ethnic composition of Israel is crucial. Despite the ambiguity in the legal, biological, and social "nature" of "Jewish genes" and their intermittent role in the reproduction of Jewish identity, Israel is a country of extraordinary ethnic diversity. Many Jewish immigrants have arrived from Eastern Europe, North Africa, France, India, Latin America, Yemen, Iraq, Ethiopia, the United States, Zimbabwe, South Africa, and the former Soviet Union (FSU), and then there is Israel's Arab minority of close to two million people. And while Jewishness has often been imagined as a biological race—most notably, and to horrific ends, by the Nazis, but also later by Zionists and early Israelis for state-building purposes—the initial origins of the Ashkenazi Jews who began the Zionist movement in turn-of-the-century Europe remain highly debated.

Population analysis by geneticists has led to an unresolved debate over Jewish origins (Abu El-Haj 2012; Elhaik 2012; Kohler 2014). Geneticists have begun to describe the genetic basis for common ancestry of the whole of the Jewish population (Behar et al. 2010), even though the historical claims that are entangled with these scientific studies are still contested. One of the most contentious claims made is that European Jews are descended from converts to Judaism from the Khazar Empire, which covered much of Eastern Europe during the second half of the first century CE (Koestler 1976; Sand 2009; Wheelwright 2013). Some rabbis and several population geneticists instead claim that there is a direct line of descent connecting most European Jews to the biblical land of Israel (Sand 2009).[2] But Israeli historian Shlomo Sand argues, "The Jews have always comprised significant religious communities that appeared and settled in various parts of the world, rather than an *ethnos* that shared a single origin and wandered in a permanent exile" (2009, 22).

Regardless, according to biblical narratives, Jews resided in the Levant for several centuries before the destruction of the Second Temple,[3] and historians broadly agree that European Jews resulted from dispersals of Jews to the north into Europe and the Mediterranean in the early Middle Ages. Following expulsion from Western Europe, in around the thirteenth and fifteenth centuries, Jewish communities expanded eastward to Poland, Lithuania, and Russia. As European Jews have arguably experienced much more persecution and suffered more displacements than Jews living in the Arab world, it is unsurprising that political Zionism emerged in the late nineteenth century almost exclusively as a European Jewish political movement, with the large-scale immigration of Jews from the Arab world not beginning until the foundation of the Israeli state in 1948.

Interest in the topic of Jewish origins is hardly universal among the world's Jews or the communities in which they live. But in Israel, the stakes of the debate over Jewish origins are high, because the founding narrative of the Israeli state is based on exilic "return." If European Jews have descended from converts, the Zionist project can be pejoratively categorized as "settler colonialism" pursued under false assumptions, playing into the hands of Israel's critics and fueling the indignation of the displaced and stateless Palestinian people. The politics of "Jewish genetics" is consequently fierce. But irrespective of philosophical questions of the indexical power or validity of genetic tests for authenticating Jewishness, and indeed the historical basis of a Jewish population "returning" to the Levant, the realpolitik of Jewishness as a measurable biological category could also impinge on access to basic rights and citizenship within Israel. Looking at the issue in the context of Israel's national politics and modes of governmentality, a geneticization of citizenship would mark a new moment in the Zionist political philosophies that motivated the state's emergence, a philosophical set that already varied considerably since many of the European Zionists who founded the Israeli state differed widely on the basic principles on which Jewish nation-building should be pursued.

In connecting genetic identity to nation-building, I follow Weingrod in thinking of nation-building as "processes through which citizens in a society reach broad agreement regarding common values and goals, develop effective institutions that are able to mediate differences, agree to seek the 'common good,' and also share mutually agreed upon symbols and language" (2015, 317).

However, the basis for connecting the diaspora Jews of the world in a single state followed several different imaginations of citizenship, varying across diverse varieties of modern Jewish political thought associated with political movements, often categorized as political, labor, cultural, and religious Zionism. Some emphasized a unity among Jews that consisted of a spiritual tie. Others emphasized a togetherness consequent to shared persecution or a shared history as an exiled ancient diaspora nation. Some asserted a "natural" ethnoracial cohort. The materiality or immateriality of Jewish ethnicity remains contentious, particularly regarding the role of biological inheritance in guaranteeing Jewish identity. After these varying ideas as to what constitutes the Jewish nation, biological measures of Jewishness are becoming an increasingly important part of the Israeli national discourse. In contemporary Israel, Jewish ethnicity is often imagined as something rooted in the body, transmitted by genes, and shared by the world Jewry. A genetic understanding of Jewishness, however, represents a new way of imagining ethnicity in the young Middle Eastern ethnonation, with the roots of this biologization of Jewish identity lying in Europe.

ZIONISM AND JEWISH IDENTITY

The Zionist movement emerged in Europe at the turn of the twentieth century as a nationalistic solution to the so-called Jewish question on modern political terms. Different groups of Zionists espoused conflicting ideas about their explicit political goals and their religious sensibilities. So-called labor Zionists, influenced by Marxist-inspired reform in Russia, advocated a secular state and emphasized vigorous physical labor and the rejuvenating effects of working the land. Religious Zionism, on the other hand, emphasized a more diffuse spiritual unity as the essential condition that would make possible an ideal Jewish state. Different scholars have offered different explanations for what unites Jews, wherein the very “nature”—that is to say the core fundamental definition—of Jewish ethnicity and citizenship is “co-produced” (Jasanoff 2004) with the political telos of community-building pursued. In other words, the various dominant images of Jewish ethnicity and their performances must be considered in relation to their particular social, cultural, political, and historical contexts.

In the political philosophies of early Zionist thinkers, you can see the beginnings of concepts of Jewish citizenship and ethnicity that would eventually frame the establishment of the State of Israel. These Zionist thinkers conceived of diaspora Judaism—and by extension, the Israeli citizen or the “New Hebrew”—as a work of self-fashioning that would be possible when Jews were physically and/or spiritually relocated proximal to the epicenter of Jerusalem.

Austrian journalist Theodor Herzl was one of the key founders of political Zionism. His ideas had their roots in the ambivalent neo-Romanticism of fin-de-siècle Europe, that is, “between the fears and despairs of the post-Enlightenment *Kultur* and the respect and awe of post-industrialist scientific rationality, or *Zivilisation*” (Falk 1998, 590; emphasis in original). Herzl (1896) believed that attempts to assimilate Jews into European society were in vain since it was always the majority of each country who could decide who was a native and who an alien. He resented the idea of “belonging” as a criterion of privilege determined by national elites. He thought anti-Semitism to be a problem that would need to be solved by both global

Jewry and non-Jews acting in concert, thus transforming the "Jewish question" into a distinctly international political problem to be negotiated and resolved between nation-states on the world stage. In this regard, political Zionism's birth and strategic vision represents a reaction to the rise of anti-Semitism, European nationalism, and modern mythologies of ethnic purity, but importantly, Zionism is not an internal movement inherent to, intrinsic to, or a "natural" aspect of the Jewish diaspora in any unequivocal sense.

One of the trends in Zionist thought that sought to move against this kind of reflexive responsiveness to external political pressure and persecution was to root the Zionist movement on the organic plane of bodily labor, to take charge of the historical process by which the diaspora Jew would become the new Hebrew. Labor Zionism sought to reconcile Jewish history through a powerful ideology of Jewish nationalism and a strong desire to work hard and cultivate a robust Hebrew body. This ideology would demand an overhaul of Jewish political life and a transformation in diasporic traditions to inculcate the practice of Jewish nationalism at the level of the body, particularly through arduous labor practices.

The early labor Zionist and Ukrainian journalist Micha Josef Berdichevski underscores this imperative for historical rupture with diaspora Judaism, echoing Nietzsche's philosophical treatise on the "will to power":

> It is not reforms but transvaluations that we need—fundamental transvaluations in the whole course of our life, in our thoughts, in our very souls. Jewish scholarship and religion are not the basic values—every man may be as much or as little devoted to them as he wills. But the people of Israel come before them—"Israel precedes the Torah." (Berdichevski 1997, 294)

Accordingly, the Russian Zionist thinker Aaron David Gordon took up this thread to provide a theory of Jewish labor that he claimed would propel the Zionist movement forward to practical success. In the belief that Jews could become whole again by living the life of nature, Gordon likewise identified arduous bodily labor as the essential habit that Jews lacked:

> Labor is not only the force which binds man to the soil and by which possession of the soil is acquired; it is also the basic energy for the creation of a national culture. This is what we do not have—but we are not aware of missing it. We

> are a people without a country, without a living national language, without a living culture. (Gordon 1997a, 373)

In Gordon's prognostications, a culture of labor would serve as the very glue or the "basic energy" that could tie Jews to each other, to the land, and, through that dialectical process, fill a deep lack and create a national culture to be enjoyed and sustained collectively. Further, for Gordon, "culture" was the dynamic and self-reinventing language of identity, and the new Hebrew Zionist movement would spread and be reproduced through joint labor, a manifest practice of nation-building. He painted a vivid picture of the "nature" of the labor Zionists' mutual solidarity with an acoustic metaphor:

> The ethnic self . . . is like choral singing, in which each individual voice has its own value, but in which the total effect depends on the combination of the relative merit of each individual singer, and in which each individual singer is enhanced by his ability to sing with the rest of the choir. (Gordon 1997b, 380)

While labor and political Zionists generally saw the move toward self-determination as a process of manifest vindication, the culturally inflected school of Zionist thought was apprehensive about this headfirst dive into a new Jewish culture. In fact, cultural Zionist Ahad Ha'Am rejected the Nietzschean will to power that Gordon backed so confidently, believing that hasty state-building and cultural refashioning would be a naïve mistake. He feared that Jews would no longer value the "moral good" and would instead elevate themselves above the general level of mankind. He doubted whether the moral development in the cultivation of a "Superman" ideal would serve the Jewish tradition well. He warned about potential regression: "Seeing that the goal is the mere existence of the Superman, and not his effect on the world, we have no criterion by which to distinguish those human qualities of which the development marks the progress of the type, from those which are signs of backwardness and retrogression" (1898, 225).

For Ahad Ha'Am, the Hebrew Superman is bereft of any moral compass to offer guidance toward an ethical future, with no agenda except the acquisition of power and instrumental domination of the immediate political environment. According to Ahad Ha'Am, Israel was already chosen by God for "moral development" (1898, 229); Israel has a moral purpose that is divinely inspired, and, as such, a transvaluation of its existing values would be an affront to God's will, disrespecting history and its "universal historical laws" (241). As to how to realize the ideal endpoint, Ahad Ha'Am urged Jews to reconcile the dualism of flesh and spirit—material and immaterial aspects of the Jewish individual—in a manner compatible with Jewish history and religious traditions, asserting that "the two elements in man, the physical and the spiritual, can and must live in perfect accord" (Ahad Ha'Am 1904, 150). In this regard, the historical dialectic is closed, and the Jewish spirit can be realized in concrete terms only through the establishment of the ethical Jewish state, and the state can be enlivened only with the healthy spirit of the committed and ethical citizen.

This formulation of the Zionist telos breaks with the labor Zionists' viewpoint in that it refuses to abandon Jewish religious tradition. More importantly, it sees the state as the materialization of spirit, which is to say that the dualism of spirit and flesh is folded into an ethic of state-building. In terms of realizing the birth of the state of Israel in practical terms, Ahad Ha'Am warns against looking forward with eager aspirations to modern novelty. Instead, Jews should look to the past for inspiration. Rather than tearing the fabric of Jewish traditions asunder, his conservative Zionist vision demands that the national ego emerge organically from history and law or, precisely, from the "foundations of the past" (Ahad Ha'Am 1904, 89).

Not all thinkers shared this conservative view regarding tradition. In profound opposition to Ahad Ha'Am's thoughts on preserving the foundations of Jewish history as though they were the inherited treasures of time, the Boyarin brothers (Boyarin and Boyarin 1993) praise diaspora Judaism's bricolage culture as a testament to the resilience and adaptability of Jews in the face of uncertain conditions. They pin Jewishness as precisely the ability to adapt, go unnoticed, and succeed as a "cultural trickster." They embrace the emergent cultural form of a dynamic diaspora Judaism. They reject the idea of Judaism as a fixed and essential cultural form: "Diasporic cultural identity teaches us that cultures are not preserved by being protected from 'mixing' but probably can only continue to exist as a product of such mixing. Cultures, as well as identities, are constantly being remade" (Boyarin and Boyarin 1993, 721). Though this kind of flux may be true of all cultures, they assert that diasporic Jewish culture makes it impossible to see "Jewish culture as a self-enclosed, bounded phenomenon" (721). This diasporic relational ontology of Jewish ethnicity, as defined by cosmopolitan experience, is fundamentally incompatible with a Zionist project of Jewish nationalism that sees the spatial sequestration of Jewish citizens in an exclusively Jewish ethnic homeland.

In distinction to such a fluid, contingent, and contextual conception of Jewish identity, religious Zionists typically emphasized the immaterial spiritual component of Jewish identity and the importance of gathering Jews in the land of Israel. Abraham Isaac Kook, the first Ashkenazi rabbi of British Mandate Palestine and an enigmatic and mystical philosopher of Judaism, exemplifies religious Zionism. Kook thought of Israel as "not something apart from the soul of the Jewish people" but "part of the very essence of our nationhood . . . bound to its very life and inner being" (Kook 1997, 419). This relation between soul and land that he professes cannot simply be explained away in political rhetoric or philosophy. Rather, he says, "human reason, even in its most sublime, cannot begin to understand the unique holiness dormant within our people" (419).

Writing outside of a rationalist "modern" discourse, or a dialectical tradition attempting to reconcile contradictions, Kook's mysticism transcends the realm of concrete politics and moves into the diffuse realm of the experiential Holy. "Deep in the heart of every Jew," he writes, "in its purest and holiest recesses, there blazes the fire of Israel" (1997, 421). Seeing Israel as an extension of the redemptive process that commenced with the exodus from Egypt, the "light" of Israel can be understood in his thoughts as being on the plane of a cosmic totality, being the final Jewish redemption with which history has been forever pregnant. Such messianic religious Zionism is far removed from the pragmatic action advocated by political and labor Zionists, but like cultural Zionism, it foregrounds the immaterial dimension of diaspora Judaism and the spiritual component of Jewish ethnicity. Religious Zionism does not, however, regard Jews as a race in a biological register.

In the late 1800s and early 1900s, however, before the establishment of the State of Israel, and in the post-Enlightenment milieu of secularization, Jews became understood as a racial category. Berman writes, "Jews themselves had helped construct racial typologies that classified Jewishness as a biological variant. Indeed, race language was a useful way to talk about Jewishness: it demanded little in the way of specific practice from Jews, and it seemed to guarantee Jewish survival as long as Jews continued to reproduce themselves" (2009, 16). However, racial constructions of identity also served hierarchical notions of racial superiority. According to Berman, "Race assumptions marked human difference in powerful ways, but they were also often employed to naturalize hierarchies among social groups" (16). Racial ideas also set Jews apart as fundamentally and unchangeably different from their Christian neighbors (Kaye/Kantrowitz 2007, 13) and often encouraged anti-Semitism.

After World War II, Jews turned away from biological understandings of Jewish ethnicity. Scholar of Judaism Jonathan Sarna attributes this evolution of thinking, "in response to Hitler, and in line with the teachings of anthropologists, they may have looked to culture rather than biology to explain the origin of ethnic differences" (2011, 108). On shifting away from a racial understanding of Judaism, thinker Mordecai Kaplan argued, "Jews should be understood as a 'distinct societal entity.' . . . What made a Jew a Jew was not what he or she believed, but how he or she lived. Religion, in other words, was a social phenomenon, and Jewishness, larger than religion alone, was a composite of social phenomen[a]" (qtd. in Berman 2009, 4).

The establishment of the State of Israel problematizes a single precise definition of Jewishness, since the state was founded on secular socialist principles, relies on *halakha* (religious Jewish law), and was built by waves of culturally diverse Jewish immigrants from Europe, North Africa, and the Middle East, all with varying levels of Jewish religious practice (Nesis 1970, 59). Maintaining a steady stream of Jewish immigrants has been a crucial facet of Israeli state-building, facilitating the integration of world Jewry, and fulfilling the state's mission as homeland and refuge for all Jews.[4]

The "authenticity" of Jewish immigrants who wish to participate in Israeli state-building "has been judged (often simultaneously) in both religious and bioethnic terms" (Burton 2015, 82). For example, the Population Registry Law 5725 of 1965 requires residents to enter both their *le'oum* (nationality or ethnic group)[5] and religion when registering for an identity number.[6] A 2013 Israeli Supreme Court case affirmed an earlier precedent and distinguished *le'oum* or nationality from secular citizenship; the court rejected the petitioners' request to list "Israeli" under the nationality rubric on their identity documents, which would reflect their citizenship and belonging to an imagined Israeli nation, rather than "Jewish," which reflects an ethnoreligious affiliation.[7]

So, it is clear that the various strands of Zionism that emerged in early twentieth-century Europe—labor, religious, cultural, and political movements that contributed to the establishment of the state of Israel—promoted distinct notions of Jewish citizenship. Political Zionism hinged on a relational ontology of Jewishness, with Herzl pointing to anti-Semitism as the intersubjective constitutive factor binding diaspora Jews with a common political goal. Labor Zionism emphasized "solidarity" and a shared culture of bodily practice, cultural Zionism emphasized the creative use of Hebrew and valued historical continuity, while religious Zionism has emphasized both a spiritual and material connection between Jews and the land of Israel. This disparate set of roots that yielded the Israeli state has grown from a heterogeneous entanglement of diverse political thought to yield a centralized state apparatus, with varying attitudes toward the social "nature" of Jewish citizenship as it is condensed into law and practice. In order to determine how these various layers of Zionist thought have led to the present case, in which Judaism can be attended to at the molecular level, as with "Jewish genes," we need to consider contemporary secular Israeli culture.

ISRAELI SOCIETY

In the early years of the Zionist movement, mainstream secular Zionist national identity became a hegemonic force. It can help to consider what Kimmerling (2005) calls "Israeliness." His analysis of Israeli society posits seven distinct "cultures" that constitute the pluralism of the country: the secular Ashkenazi upper class; the national religious; the traditionalist Mizrahim (Arab Jews, who have presumably always resided in the Near East, and North African Jews); the Orthodox religious; the Arabs; the Russian immigrants (especially since the fall of the Soviet Union); and the Ethiopians (who mainly immigrated to Israel in the 1980s and 1990s) (2005, 2). As of 2020, these groups form Israel's population of 9.1 million, of which approximately 6.7 million are Jews (Central Bureau of Statistics 2019). The Israeli state remains an immigrant settler polity that lacks a consensual social identity that unites these diverse groups, raising questions over its boundaries and positioning in the geopolitical environment of the Middle East. But despite the diversity and pluralism of the state's demography, a sense of a collective Israeli community has emerged (Kimmerling 2005). Kimmerling identifies the state, the education system, and the military as the three key institutions that help stabilize a sense of shared "Israeliness." But the Israeli state does not treat all of its citizens equally. Although secular Jews and a secular cultural life exist in Israel, it is not automatically clear whether "Israeliness" is a class of citizenship that necessarily requires Judaism at some fundamental level, necessarily excluding non-Jews from complete civic inclusion.

Israeli scholars Shafir and Peled (2002, 1) claim that Israel's principal moral political dilemma is thus the need to choose between the cardinal principles of the universalist commitment to being a Western-style democracy versus the particularist commitment to being an exclusively Jewish state. They argue that it is not possible to separate Israeli democracy and Israeli citizenship from its settler-colonial beginnings. Nor is it possible to separate these settler-colonial origins from the state's continued journey (1), since Israeli ethnonationalism denies the possibility of cultural assimilation to non-Jews as the discourse on citizenship incorporates nonpolitical cultural elements as critical determinants of assimilation. For example, in July 2018 the Knesset (the Israeli parliament) passed a law that defines Israel as the nation-state of the Jewish people.[8] Those who oppose the law see it as a challenge to democratic values that undermines the rights of non-Jews. In this context we need to look at how citizens are legally made, through the law that governs Jewish immigration (*aliya*).

JEWISH *ALIYAH* (IMMIGRATION)

Immigration of Jews in Israel is governed by Israel's Law of Return 5710-1950, which states, "Every Jew has the right to come to this country as an *oleh* [Jewish immigrant]."[9] The law is implemented by the minister of the interior.[10] "In conjunction with the Citizenship Law, which allows every *oleh* . . . to receive citizenship, it enables every Jew to become a citizen of the state, almost automatically" (Sapir 2006, 1239). *Oleh* is the noun for a Jewish immigrant to Israel and derives from the Hebrew verb "to rise, or ascend." The related gerund, *aliya*, meaning Jewish immigration, connotes the spiritual ascension imagined to take place with immigration to Israel. For the first twenty years that the law was in place, it did not define who was a Jew or provide guidance regarding who had the right to immigrate (Burton 2015, 79). In 1970, the law was amended to include a definition of Jew that reads, "For the purposes of this Law, 'Jew' means a person who was born of a Jewish mother or has become converted to Judaism and who is not a member of another religion."[11] The 1970 amendment also extended citizenship rights to family members of eligible Jews:

> The rights of a Jew under this Law . . . as well as the rights of an *oleh* under any other enactment, are also vested in a child and a grandchild of a Jew, the spouse of a Jew, the spouse of a child of a Jew and the spouse of a grandchild of a Jew, except for a person who has been a Jew and has voluntarily changed his religion.[12]

The amendment represented a compromise position between religious and secular perspectives (Altschul 2002, 1356). The amendment adopted the religious, *halakhic,* definition of a Jew—someone with a Jewish mother or someone who has converted to Judaism.[13] However, the amendment also extended citizenship rights to those who are referred to as "seed of Israel"—"a halakhic term that applies to anyone either born to a non-Jewish mother and a Jewish father, or having at least one Jewish grandparent" (Maltz 2015).[14] Thus, the law grants citizenship rights to those who are religiously Jewish but would not have Jewish biological links, such as Jews who have converted, as well as to those who do not have religious or biological connections to Jewishness, such as the spouses of Jews.

The 1970 amendment was a response to a controversial Israeli Supreme Court case that permitted the children of a Jewish father and non-Jewish mother to register as part of the Jewish *le'oum* or ethnic group in the Population Registry.[15] Additionally, "the amendment was intended to accommodate a small number of mixed nuclear families as the result of [this Supreme Court] ruling."[16] According to the Jewish Agency for Israel, "this addition not only ensured that families would not be broken apart, but also promised a safe haven in Israel for non-Jews subject to persecution because of their Jewish roots."[17] The amendment, therefore, expanded who was granted entry and citizenship but restricted who was classified as part of the Jewish *le'oum*, or nation.[18] So, if you are an Irish non-Jew, for example, and you marry an Irish Jew and you both move to Israel, you are entitled to Israeli citizenship but you would not be considered Jewish by religious authorities.

Since the law was amended, and especially since the fall of the Soviet Union in the 1990s, the population of immigrants in Israel has shifted significantly. Made possible by the changes in the Law of Return, as well as looser restrictions in the FSU that permitted residents to leave, Jews from the FSU have arrived in Israel en masse. According to some estimates, nearly a million people have come to Israel from the FSU under the Law of Return; at least a third of these are not Jewish according to religious law and by their own admission.[19] Many of these individuals had assimilated and secularized in the FSU, often abandoning Jewish religious practices and marrying non-Jewish Russians. Some statistics suggest that Russian immigrants have different feelings of Jewishness and belonging than their Israeli-born counterparts (Altschul 2002, 1360). Further, some non-Jewish Russians, who sought better economic opportunities, took advantage of the law and pursued entry through false documentation.[20] Although many Russian immigrants are Jewish by descent and are entitled to citizenship, their Jewishness is questioned by the Ministry of Interior, and they are often required to show additional proof. This proof has often been difficult to produce. Russian Jews, when marrying, have not signed Ketubot (wedding contracts) that for many immigrants can serve as evidence of family religious history.[21] These individuals face even more skepticism from rabbinic authorities, as many are not considered Jews under Orthodox Jewish law. According to Rabbi Hammer, "the position of the Jerusalem Bet Din of the Chief Rabbinate on these matters has been that regardless of the position of the [earlier religious teachings], they do not believe anyone coming from Russia without specific proof. Rather they must see a birth certificate and that of the person's mother."[22] Proof of a Jewish mother would be sufficient for religious authorities, and consequently the state, to recognize Jewishness and grant citizenship on that basis.

SECULAR AND RELIGIOUS JEWISHNESS IN ISRAEL

This context of suspicion, coupled with the discrepancies between eligibility for Israeli citizenship and religious classification as part of the Jewish nation, create many challenges for Israeli citizens who are not considered religiously Jewish. This is particularly difficult for those wanting to be in an interfaith marriage. Israel is governed by a dual legal system in which civil and religious courts have jurisdiction over various areas of the law. Based on the millet system adopted from the Ottomans, the laws governing personal statuses including marriage and divorce are under the exclusive jurisdiction of the religious courts.[23] Under this system, only Jews who are halakhically Jewish are eligible to marry in the religious courts, to belong to synagogues, or to be buried in Jewish cemeteries. There is no civil marriage in Israel (Burton 2015, 82). One of the main functions of the rabbinic courts is therefore to provide judicial rulings on whether a person is Jewish. For the many immigrants from the FSU, the rabbis follow a standard procedure that involves examining Soviet-era documents, such as birth certificates, that contain a citizen's nationality. There are good reasons to search for authentication of Jewish identity.

A large number of immigrants who are eligible to immigrate under the Law of Return are not religiously Jewish. One study, by demographer Sergio Della Pergola, suggested that, using the religious definition, there are roughly 14 million Jews around the world (people born to a Jewish mother), but more than 23 million people who are eligible for citizenship under the Israeli Law of Return (Nachshoni 2014). The Ashkenazi Chief Rabbi of Israel, Rabbi David Lau, knows of one family in which, "because of one Jewish grandfather who is buried in Moscow, over [seventy-three] people (his children and grandchildren) moved to Israel through the Law of Return" (Nachshoni 2014). This leaves a large segment of the population eligible for immigration and citizenship but ineligible to legally marry and have children as fully recognized members of the Jewish population.

According to a foreign ministry spokesman, the reported policy "to require DNA testing for Russian Jews is based on the recommendation of *Nativ*, an educational program under the auspices of the Prime Minister's Office to help Jews from the FSU immigrate to Israel" (Zeiger 2013). The Prime Minister's Office attempted to distinguish the purpose of the test as a secular immigration regulation rather than a marker of religious identity, and reported, "We're not talking about a test to determine Jewishness. We're talking about a test to determine a family bond that entitles [the child to] *aliyah*" (Silverstein 2013). By emphasizing the distinction, the Prime Minister's Office maintains the line between secular citizenship and religious belonging in the Jewish nation and thus reinforces a secular understanding of a biological kinship-based conception of Jewishness as opposed to a religious or practice-based view. Since biological imaginations of Jewish identity are becoming more common, we will now examine the case that spurred the state's announcement about using genetic tests for potential immigrants.

GENETIC BIRTHRIGHT

Nineteen-year-old Masha Yakerson, like many of her Jewish college-age peers, attempted to sign up for a Birthright Israel trip in the summer of 2013 (Zeiger 2013). A Birthright employee told Yakerson, whose family is from Saint Petersburg, Russia, that in order to prove that she was Jewish, and thus eligible for the trip, she would need to first take a DNA test. According to Birthright Israel's website,

> Taglit-Birthright Israel is a unique, historical partnership between the people of Israel through their government, local Jewish communities (North American Jewish Federations; Keren Hayesod; and The Jewish Agency for Israel), and leading Jewish philanthropists. Taglit-Birthright Israel provides a gift of peer group, educational trips to Israel for Jewish young adults ages 18 to 26. (Birthright Israel 2015)

The Birthright administrator claimed that the test was required by the Israeli consulate in Saint Petersburg and that a DNA test would be required if Yakerson wanted to make *aliyah* (immigrate to Israel). Yakerson's father called the policy "blatant racism toward Russian Jews" (Zeiger 2013).

In general, the requirements for teenagers from other countries to participate in Birthright are much less stringent than they are for Russians, and many participants do not meet strict definitions of Jewishness. For example, a similar post-college program, Masa, only requires that participants sign a document that declares they are Jewish, without any evidence to substantiate their claim (Maltz 2014). In fact, "since Taglit-Birthright doesn't accept candidates who have visited Israel before, its participants often come from non-affiliated homes, many of them the products of mixed marriages" (Maltz 2014). Historically, "trust was the default position" to determine whether someone was Jewish (Maltz 2014). If an individual claimed to be Jewish, he or she was believed. It is only more recently, in "an era of intermarriage, denominational disputes and secularization" that "Jews have ceased agreeing on who belongs" and doubt and skepticism have become the norm (Maltz 2014).

After the news of this student's experience made headlines, the Israeli Prime Minister's Office confirmed that many Jews from the FSU are asked to provide DNA confirmation of their Jewish heritage in order to immigrate as Jews and become citizens under Israel's Law of Return (Zeiger 2013). According to one source, the consul's procedure, which was "approved by the legal department of the Interior Ministry[,] states that a Russian-speaking child born out-of-wedlock is eligible to receive an Israeli immigration visa if the birth was registered before the child turned [three]. Otherwise a DNA test to prove Jewish parentage is necessary" (Zeiger 2013). This issue arose in Yakerson's case because her family was in the United States when she was young and her parents did not register her birth until she was three years old.

The State of Israel defines itself as the homeland of the Jewish people, making it ethnonational in its own self-image, with a particular theological commitment.[24] But this characterization does not sufficiently define the "legal nature" of citizenship in Israel.[25] It is not yet clear how a novel biological definition of Jewishness would impinge on Israeli law and basic rights to citizenship (See Abu El-Haj 2012; Goldstein 2009; Kahn 2005, 2010; Ostrer 2001). Moreover, as Israel has no written constitution, it is particularly important to consider the policy implications of novel biological determinations of Jewishness.

According to STS scholar Sheila Jasanoff, "periods of significant change in the life sciences and technologies should be seen as constitutional, or more precisely, *bio*-constitutional in their consequences" (2011, 3; emphasis in original). She elaborates that "revolutions in our understanding of what life is burrow so deep into the foundation of our social and political structures that they necessitate, in effect, a rethinking of law at a constitutional level" (2011, 3). However, the State of Israel has no formally written constitution:

> From its inception, Israel has never had a formal constitution, but only the Basic Laws. In its first years of existence, the government felt that it would be premature to set down in a definitive and binding way the nature and goals of the states and the Law of Return does not fall under the seven Basic Laws of Israel. Nevertheless, most believe that the Law would be given a distinguished place in a future constitution because the Law captures the ideology upon which the state of Israel was founded.[26]

Consequently, the recent discussions of genetic tests for Jewishness necessitate a rethinking of the specific Israeli law regarding the state's definition of Jewishness and, concomitantly, rights to citizenship. Following the controversial Yakerson case, Amnon Rubinstein, an author and professor at the Interdisciplinary Center Herzliya and former education minister and an Israel Prize laureate in law, wrote:

> In Israel, there are no DNA tests without court approval. These tests are only conducted when no other evidence of lineage can be found. In my opinion, when it comes to immigration to Israel, a mother's declaration regarding the identity of the Jewish father is sufficient—and there is no need for further proof. . . . There is no genetic test that proves conclusively whether someone is Jewish or not. There are certain tests for the genetic continuity of Kohanim (the Jewish priestly bloodline) and of various Jewish communities, and these prove the exceptional similarity between Jews and Palestinian Arabs. (Rubinstein 2016)

At this juncture, a closer look at the specific applications of Jewish genetics will prove instructive.

"JEWISH GENETICS"

Jews have been objects of racial classification and discrimination, but they have also applied racial concepts to themselves in various ways and for specific purposes (Bloom 2007; Efron 1994; Falk 1998; Goldstein 2006; Hart 1999, 2000, 2011; Morris-Reich 2006). In the last decades of the nineteenth century, European Jews were subjected to radical "biologization," particularly in Germany. There, Jews were presented as an Oriental race with distinct physical and mental qualities (Hess 2002). German anthropologists regarded Jews as a pure race formed by their practice of endogamy (Efron 1994, 20).

In some contexts, "race" was used to establish Jewish unity from within the Jewish community itself and was used to establish diversity and hierarchy among Jews. This was the case with Zionist literature that circulated in Mandate-era Palestine. Consequently, Hirsch argues that an Israeli formation of ethnic Jewishness owes its history to "the encounter of European Zionists with Eastern Jews, and from the tension between the projects of nation-building and of Westernization in the context of Zionist settlement in the East" (2009, 593). Hirsch observes that notions of "degeneration" and racial-eugenic "improvement" that migrated between the discursive fields of Europe and British Palestine helped to blur the distinctions among the biological, political, and social dimensions of Jewishness, making it difficult to separate the metaphor of eugenics from an emancipatory project of improvement via nation-building (2009, 596). In brief, Israeli Jews' imagination of a unified Jewish race has its roots in European diaspora host nations, twentieth-century biology, and essentialist nationalist imaginaries.[27]

Addressing the ways in which Jewish race science has transformed, and reemerged, in the twenty-first century, anthropologist of medicine Susan Kahn has identified three key ways in which Jewishness has now entered the molecular realm, with genes being defined as Jewish in three major ways: population genetics, genetic testing for both disease and Jewish identity, and human ova and sperm donation in the domain of assisted conception (2010, 21). In these different conceptual arenas, "Jewish genes" and Jewish inheritance are determined in markedly different ways.

In relation to population genetics, or “tracing Jewish history through DNA,” Kahn claims genetic studies must be situated within the larger sociopolitical context, wherein the meaning of claiming Jewish identity can make a direct impact in terms of access to rights and resources (2005, 181). As reviewed above, Israel’s Law of Return, the state’s commitment to helping Jews come to live in Israel, makes it important to have verifiable evidence of “authentic Jewishness.” But marginalized Jewish communities already in Israel may benefit from proof of “authentic Jewishness.” The marginal groups of the Beta Israel of Ethiopia, the Kuki-Chin-Mizo from Northeast India,[28] the Bene Ephraim from India (Egorova and Perwez 2010, 2012), or the Lemba people of southern Africa, for example, could perhaps benefit from genetic evidence to support their claims to rights and equality. The Lemba people not only claim descent from a tribe of Israel with descent passed from father to son, and maintain some Jewish traditions such as a kosher diet, but Lemba men also possess a “Jewish genetic marker,” the Cohan Modal Haplotype (CMH)—a genetic signature that has been identified among Sephardic priests in the Jewish population—with a frequency similar to that in the general Jewish population (in just under one out of every ten men).[29] This adds support to their demands to be regarded as equals to the traditional elites. But as Kahn reports, Jewishness, as determined by genomic analysis, is embodied as “statistical probabilities that DNA haplotypes will be more prevalent” within groups, and cannot say with certainty whether an individual is Jewish or not (2010, 21).

The CMH, the “Jewish DNA haplotype” that has received the most attention, was first publicized in the scientific journal *Nature* (Skorecki et al. 1997), in a study that identified six differences in the DNA sequence of male Jews that self-identified as Cohens. A haplotype is simply a group of alleles that are inherited together and consequently can be used to measure relatedness among individuals. It was thought that the “Cohanim” signature represents the inheritance of more than 100 generations from the founder of the patrilineal genetic line, with the signature traced to a date more than 3,000 years ago, in accordance with the oral tradition that the Cohens (Jewish priests) maintain a line of patrilineal descent from Aaron, the first Jewish priest (Kahn 2010, 14). In line with the cultural tradition of patrilineality, the CMH is found only on the male Y chromosome. However, since the Y chromosome contains mostly noncoding DNA, sequences that are not thought to translate into a physically expressed trait, it is unclear whether identification of the Cohanim signature holds any valid indexicality as to the nature of the bearer's body in terms of a physiological or biometric characteristic, even though it might be read as a valid inscription of ethnic history.

This sort of ambiguous phenotypic implication is not the case with inheritable diseases, however, for which DNA mutations carry a higher likelihood of developing a real disease. Indeed, European Jews are generally susceptible to a range of inherited diseases that are associated with identifiable genes. Common inheritable diseases among European Jews are Tay-Sachs disease, Canavan disease, Gaucher disease, familial dysautonomia, Niemann-Pick diseases, and Huntington's disease, making it important that bearers of the causative gene do not pass the disease to their children (Dor Yeshorim 2015). Consequently, there have been moves to test individuals for genetic markers of disease, either before they form partnerships or before they choose to have children together. The Brooklyn-based organization Dor Yeshorim, for example, established a database of DNA comprising samples from young Ultraorthodox Jews in high school (Kahn 2005, 181). The samples are cross-checked so that genetically incompatible matches between prospective marriage partners can be recognized in an effort to reduce the occurrence of genetic diseases in the community.

The Orthodox community has generally embraced the available genetic tests, but a concern remains in the community about "dangerous eugenic overtones" (Kahn 2010, 17). That said, it remains unclear whether the use of genetic tests for diseases common among Jews is contributing to a reductionist rationality that a Jewish disease is evidence of a Jewish body, or indeed the existence of a Jewish biological race. In relation to ongoing research on diseases in the Ashkenazi Jewish population, however, Mozersky and Joseph argue that ethnic genetic medicine "reiterates a shared history and addresses culturally salient issues" (2010, 425), which in turn both "encourages active participation" and "contributes to a particular version of population" (434). This finding accords with the ethnographic study of medical genetics by Fujimura and Rajagopalan that "analyzed how scientists produce simultaneously different kinds of populations and population differences, sometimes by appealing to popular categories of race, ethnicity, or nationality, and sometimes to 'genetic ancestry'" (2011, 22). They conclude "that the invention of new genetic concepts of ancestry relies on old discourses, but also incorporates new knowledges, technologies, infrastructures, and political and scientific commitments" (22). Genetic evidence is thus lent meaning in the historical context of its interpretation, with all of the beliefs and commitments that shape the identities at play.

In the context of Jewish assisted conception, it should be noted that there is a strong association between fruitful reproduction and Jewish tradition. The Orthodox community has consequently been receptive to the use of technologies to assist with fertility, and many rabbis permit the use of genetic donor material to circumvent a range of adulterous, or incestuous, unions (Kahn 2005, 184). Moreover, since Jewishness is traditionally passed from mother to child, non-Jewish sperm can also father a Jewish child if the mother is Jewish. However, the inheritance of Jewishness may be problematized if a surrogate mother carries a baby.

The question is whether a baby who has genetically Jewish parents, who donate the egg and sperm, but who is carried to gestation by a non-Jewish surrogate, will be Jewish. A case of this resulted in a rabbi from New York opining that the baby technically had three parents, and because the surrogate was not Jewish, the child was not Jewish (Chesler 2013). Believing the problem more complex than deterministic genetics or notions of modern biology, he reasoned that if motherhood involves both giving a child DNA and giving birth, and if science can now bifurcate these roles, then we have the condition of having two mothers. For a child to be Jewish, both mothers must then be Jews.

THE RELATIONSHIP BETWEEN SCIENCE AND SOCIETY

Despite the ambiguity of Jewish genes, genetics is becoming a way of imagining the limits of the Jewish population. Although genetic legitimation might be meaningful only if rabbis or others in power recognize it as a verifiable source of knowledge, there is a potential for Jewish genetics to be used to manage populations through "biopolitics," the governance of life itself (Foucault 1977, 2010; Rose 2007). Barbara Prainsack (2006) has argued that Israel's permissive laws regarding the use of artificial reproductive technologies can be traced to their utility in tackling Israel's "demographic problem," that is, in maintaining a Jewish majority. Moreover, she finds that Israel's pro-natalist culture rests on a notion of "risk" to the population that serves to bolster the state's mandate to reproduce the nation at the level of individuals. Prainsack writes, "The 'demographic threat' that the Jewish majority population in Israel will be outnumbered by non-Jews in the not too distant future provides a context of risk to the discourse on 'Israeli cells'" (2006, 173). In this context, genetics offers a way to imagine instrumental control over the demography of the state.

In the admittedly unlikely eventuality that genetic tests are routinely mobilized with efficiency to determine rights to citizenship in Israel, the foregrounding of Jewish genes as the basis of adjudicating cases of Israeli citizenship would nonetheless be a novel form of governmentality. We would be seeing the management of a population by a state through ethnic genetics. In facing the potentiality of genotyping citizenship, it is necessary to read this potential future development as the state using secular technoscience in an attempt to achieve a stable future.

Such a development, however, would be contested, particularly by religious Jews. When it comes to genetics as a means of testing Jewishness, many rabbis remain skeptical. One rabbi said he believed genetics could be a "consultant" to *halakha*, Jewish law (Wheelwright 2013). However, he worried about the newness of the technology, as well as the "binary yes or no of DNA analysis," which is inconsistent with the "cloudiness and argumentation [that] is built into the theocratic polity of Israel" (Wheelwright 2013). In this view, ambiguities should be resolved by debate rather than by genetic tests. For other rabbis, concerns remain about the "dangerous eugenic overtones" (Kahn 2010, 17).

Nonetheless, genetic tests offer the possibility of legitimizing those whose Jewishness is often questioned. In one case, an Eastern European woman had lived in Israel for twelve years and sought rabbinic permission to marry. She “had documents affirming that her paternal grandfather was Jewish, but no proof of Jewishness on her mother’s side save her own testimony. To bolster her claim for a marriage license, the woman went to a commercial gene-testing service and had her DNA analyzed, specifically her mitochondrial DNA” (Wheelwright 2013). The DNA test “tipped the balance in her favor” and the “rabbi granted her a marriage license as a bona fide Jew.” A genetic definition of Jewishness, however, breaks with the traditional *halakhic* law and reconfigures the terms of authentic belonging recognized by the Jewish state.

But genetics is by no means important for all Jews to authenticate their sense of belonging. In an article in the *Jerusalem Post* titled “Should Jewishness Be Determined by a Genetic Test?” the author interviewed recent *olim*:

> In 2011, Boris (pseudonym) found out he was Jewish after his grandmother on his mother’s side told him on her deathbed that she was a Jew. She had grown up in a small village in Ukraine and as a teenager was sent to Auschwitz after the Nazis invaded. “Her entire family was murdered—parents and siblings—and after surviving the war she moved back to Ukraine and made a promise to herself that she would forget her past and Jewish roots. She married my grandfather, a native Ukrainian, a few years later. She never told my mother that she was Jewish. I get the feeling my grandfather knew, but they brought her up as an agnostic. My parents brought me up as agnostic as well, but I always felt there was something more.” Boris, an only child, says he was surprised but not shocked by the revelation. “A year later, I went on a Birthright trip to Israel and after the visit I knew I wanted to live here. I finished my university studies in Ukraine and came here. I know that I’m Jewish even though I have no documents to prove it. I can feel it and no genetic test will tell me otherwise. If the time comes when I have to take a test, I won’t because I know I’m Jewish.” (Chernick 2017)

For those like Boris, Jewishness is grounded in personal and familial biographical experience and does not need to be authenticated by an objective science. For him, the truth of a dying grandmother could not be overturned by a genetic test.

In Masha Yakerson’s case, however, genetic testing was used as a barrier to prevent access for someone who meets the expansive definition laid out in the Law of Return, but still was not "Jewish enough." For the Yakerson family, the turn to genetics has had strange results. Although Masha was ultimately denied access to the ten-day Birthright trip to Israel, her older sister, Dina, reportedly immigrated to Israel as an *olah* in 1990 (Zeiger 2013). For a test intended to measure family bonds and verifiable Jewish heritage, in this case, the turn to genetics actually failed to provide a consistent or accurate measure of familial connections. Rather, it would seem that reliance on genetics might achieve little more than flexing of the muscles of state power, a performance of bureaucratic rationality.

Depending on how the state uses this technology, the Israeli government's potential use of genetic testing to determine eligibility for citizenship or other rights can be interpreted in several possible ways. It could be a sign of a more restrictive immigration policy that seeks to guard access to the rights and resources of the state. In this interpretation, and in light of the economic challenges faced by many immigrants, it could be an attempt to alleviate unemployment and reserve economic prospects for those already in the country. Similarly restrictive policies have been advanced that require Jewish verification from those seeking temporary student or work visas as well (Maltz 2014). These temporary visas do not even involve the full benefits associated with permanent immigration and citizenship and suggest that more is at stake than merely guarding resources. One rabbi, who has dedicated his life's work to helping potential immigrants navigate the rabbinic bureaucracy, explained: "What we are witnessing is the creation of a culture of xenophobia in the corridors of power in Israel. . . . It manifests itself in the way we treat people born Jewish who don't fit the description of what a Jew should look like" (Maltz 2014).

The tests may also become a means to expand the pool of potential new Jewish immigrants who have verifiable ancestral ties (Maltz 2015). For the Bnei Menashe community of northeast India, Jewish genetic tests could become a way to recognize different and broader articulations of Jewish identity and thereby expand the limits of who has legitimate connections to the Jewish community. The potential move to acknowledge, legally, genetic tests for Jewishness could equally shift some of the authority away from the rabbis, who currently hold much power over entrance to the

Jewish community, and toward scientists, who may be more open to recognizing objective and secular manifestations of Jewish identity.

The varying secular/religious rationalities at play in "Jewish genetics" point to the ambiguity or outright contradictions between the field of genetics and rabbinic law in determinations of Jewish ethnicity. On the one hand, geneticists make claims that ancestry can be determined on the basis of DNA sequences passed from father to son, even though non-Jewish sperm may be used to father Jewish babies. A baby without any Jewish DNA could, however, be a complete Jew. Indeed, the majority of contemporary Orthodox rabbis agree that a child conceived with an egg donated by a non-Jewish woman is considered Jewish as long as the fetus is gestated in a Jewish womb (Kahn 2005, 184).

In Orthodox discourse, Jewishness is not a genetic issue. In the rabbinic imagination, the identity of the birth mother determines Jewishness. A child conceived with a non-Jewish egg and a non-Jewish sperm would be considered fully Jewish once it is born of a Jewish womb. An interesting contradiction thus appears. Although Jewishness can be traced genealogically by reading DNA up the paternal line,[30] as is the case with the Cohan Modal Haplotype, Jewishness can be reproduced only in the present, that is "passed on" through the maternal line through the process of gestation in a Jewish womb.

The flexibility and the gendered dimensions of Jewish identity are highlighted by the ambiguity of "Jewish genes" in the transmission of Jewish identities through birth. It might therefore be more sensible to think about Jewish genetics as a discourse that mediates collective visions of peoplehood depending on what it achieves rather than on where it fails. The epistemic qualities of "Jewish genetics"—their validity and consistency—can be viewed as secondary to the event that is achieved in the political present. "Jewish genetics" is a technical iteration of identity politics and a genre of discourse that mythically reinforces the imagination of the singular nation. It cannot be meaningfully discussed without recourse to the specific moment within which the epistemic value of claims to genetic identity affords utility. In other words, we need to consider "Jewish genetics" within the context of relations of power between citizens and their government, as well as between those who are excluded from both citizenship and recognized Jewishness.

In public discourse "ethnic genetics" reifies the Jewish nation as a unified entity. Indeed, the epistemic value of "ethnic genetics" and the political milieu appear to be "co-produced"—they beget and stabilize each other (Jasanoff 2004). Simply put, without a Jewish state in the Levant, questions over "Jewish genes" would probably hold a very different kind of importance and interest. Crucially then, ethnic genes may serve to make states into more stable political realities, while states simultaneously create the conditions for the meaningful misrecognition of genetic material as bearing an essential identity. The potential for "Jewish genes" to serve as a measure of inclusion in Israel makes this patent, but regardless of what happens in Israel in the coming years, the imagination of "Jewish genes" has entered both Israeli public discourse and the state's political imaginary.

In facing the potentiality of genotyping citizenship and cataloging the "genomic citizen," it is necessary to recognize an attempt to imagine a future for the Israeli state through the visions mediated by a secular technoscience. This in itself is not novel, since secular visions of the Israeli state have previously been described in relation to science and technology, for example with David Ben-Gurion's "scientific utopianism" and his "million plan" to bring a million Jews to Palestine (Barell and Ohana 2014), or with the Israeli geneticists who in the 1950s applied their science to establish a national identity and confirm the Zionist narrative (Kirsh 2003). Kirsh finds that Israeli geneticists unconsciously internalized the Zionist narrative, and Zionist ideology is evident in their genetics research, which evidences their beliefs about the origins and history of the Jewish people. But the latest possibility of genetic tests being used to decide citizenship could transform the very definition of the Jewish political subject. At issue is the possibility of a novel form of governmentality in the distribution of citizenship. Regardless of the validity of genetic tests for Jewishness, this possibility itself entails a unique iteration of Jewish political thought, a geneticized articulation of a secular Zionism that foregrounds the subject's genetic code in the imagination of civic inclusion.

One of the key institutions that have made this discourse of Jewish genetics possible is the National Laboratory for the Genetics of Israeli Populations. As described in the next chapter, I went there as an ethnographer, hoping to learn how this science of identity is produced. How, I wanted to know, does Jewishness become a category of analysis in genetics research, and how does this research foster an imagination and discourse of a genetic collectivity?

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