
Ian MCGONIGLE, *Genomic Citizenship. The Molecularization of Identity in the Contemporary Middle East* (Cambridge, Mass., MIT Press, 2021, 220 p.)

Elise BURTON, *Genetic Crossroads: The Middle East and the Science of Human Heredity* (Redwood City, Cal., Stanford University Press, 2021, 400 p.)

The Middle East, the old joke goes, is a place where, when two men argue and each one brags, “mine is longer than yours,” they are talking about history. Today one can propose a variant in which the two men discuss their DNA lineage and their unbroken links with ancestral genetic material. With a caveat, however. Debates on genetics in the Middle East, are indeed inseparably entangled with discussions about national identity, but as the rich and nuanced studies of Ian McGonigle and Elise Burton show, the relationships between studies of heredity/genetics and nationality/ethnicity are far from simple. One of the main conclusions of McGonigle’s and Burton’s different yet complementary books is that things are often not what they seem to be.¹

A good starting point for investigating the links between genetics and nationality in the Middle East is the Israeli debate around “who is a Jew.” Both McGonigle and Burton analyze this debate. Israel was defined by its founders as a country of the Jewish people. Jews who immigrate to Israel in the framework of the Israeli “return law” benefit from numerous privileges, which are denied to non-Jews. The question is, however, how an individual can be defined as a Jew. Judaism has the particularity of being at the same time a religious and an ethnic identity, and the boundaries between the two are usually blurred. Moreover, the fuzziness of the definition of Judaism is often deliberate, although the protagonists in debates on this subject rarely acknowledge this fact. In principle, there are only two ways to be a Jew – to be born to a Jewish mother (Judaism is transmitted through maternal lineage) or to convert to Judaism. In Israel,

¹ Ian McGonigle and Elise Burton, who were at Harvard University at the same time (Burton as doctoral student, and McGonigle as a postdoctoral fellow), are personally acquainted. Their scholarly interests partly

overlap, as do their mentors; for example, they interacted during the symposium “The Molecularization of Identity: Science and Subjectivity in the 21st Century”, held at Harvard in 2016.

only a conversion authorized by an orthodox rabbinic court is recognized as legitimate; the state does not recognize conversions performed by conservative or reform rabbis. Both partners of a couple who wish to marry in Israel have to belong to the same religious community, because the Israeli state only recognizes religious marriages. When the two partners are classified as belonging to different religious groups (in Israel, one's religion is recorded on one's national identity card), or when one or both see themselves as Jews but are not recognized as such by the orthodox Rabbinate, they cannot marry in Israel. A "mixed" (inter-religious) couple can legally marry only if one of the partners converts to the religion of the other. Because conversion to orthodox Judaism is a long and arduous process, it is usually easier for the Jewish partner to convert to Islam or Christianity. A simpler solution, especially for non-religious couples, is to marry abroad in a civil ceremony, since the Israeli state recognizes marriages contracted in other countries. Up to 10% of the couples who marry in Israel opt for this solution, and travel agencies propose package deals for "Cyprus weddings" that include travel, wedding formalities, and a short holiday.² A Cyprus wedding can be also an acceptable solution for couples in which one of the partners cannot prove that there are a Jew, or rather that they corresponds to the Rabbinate definition of a Jew. The latter cases became much more frequent following significant immigration to Israel from former Soviet Union (FSU) countries, where many individuals who saw themselves as Jews had seldom had contact with Jewish communities and had not traced their ancestry, and then found out that in many cases they or their children were not allowed to marry in Israel. Hence the temptation to use genetic tests to prove a Jewish maternal ancestor.

Burton starts her study of genetics and marriage in Israel with a description of a "mixed" marriage between an Israeli-Jewish woman who converted to Islam and her Israeli-Muslim partner.³ The couple chose to make their wedding public, and the woman was attacked by right-wing activists for her willingness to "assimilate"; a strange notion for a Jew who converts to Islam in a Jewish state with a Jewish majority. This notion was, however, closely linked with a view, propagated by orthodox Jews but also by secular Zionists, that Judaism has biological

² "Cyprus weddings" are chosen not only by couples unable to marry in Israel, but also by those who wish to have a civil rather than a religious ceremony.

³ Elise BURTON, 2015, "An assimilating majority? Israeli marriage, law and identity

in the Jewish State", *Journal of Jewish Identities*, 8 (1): 73–94. The rules that govern marriage in Israel are only briefly mentioned in Burton's book.

and not only spiritual foundations, and that a person who elects to convert to a different religion subverts the belief—however mythical—that Judaism has survived as a distinct ethnic and religious entity above all thanks to its followers' strict respect of endogamy. The essence of Judaism, this argument goes, is an inseparable alliance of biological heredity, faith, and culture. While the state of Israel is also expected to maintain this unity of heredity and culture, in practice it distinguishes between the eligibility for Israeli citizenship in the framework of the "return law," decided by the ministry of interior, and personal status rules, decided by the Rabbinat. The situation was confusing for more than 30 years, but finally, Israeli law adopted, with a few exceptions, the religious definition of a Jew as an individual born to a Jewish mother. Nevertheless, it allowed for the possibility of granting Israeli citizenship to the non-Jewish spouse of a Jew, or to that spouse's children' and grandchildren'.

McGonigle examined the use of genetics to determine the status of Jews from the FSU.⁴ In the mid-2010s, some (but not all) rabbinic institutions proposed the use of mitochondrial DNA testing that examines maternal lineage in "doubtful" cases of migrants from the FSU, in order to assess whether a given individual had been born to a Jewish mother. However, this genetic test is far from being able to provide a certain answer to this question. Even its most enthusiastic supporters recognize that it provides a positive answer in approximately 60% of cases. Thus, while a positive result reinforces the claim that a given individual is a Jew according to the Rabbinat definition, a negative result does not invalidate this claim. Moreover, the Rabbinat spokesman stressed that the use of a genetic test to determine whether a candidate for marriage is a Jew should be an exceptional procedure. Still, the question of the introduction of ancestry testing divided the religious establishment in Israel and became an important topic in the 2019 electoral campaign. It also reached the Israeli Supreme Court, which was asked by representatives of Jews from the FSU to ban genetic testing as proof of Jewish descent. In January 2020, the court asked the Rabbinat to provide further clarifications on its use of genetic tests. In 2021 this issue was still open.

The Rabbinat probably does not wish to extend the uses of genetic tests to assess Jewish origins, not least because an avalanche of denials of the

⁴ Ian MCGONIGLE, 2015, "Jewish genetics' and the 'nature' of Israeli citizenship", *Transversal: Journal for Jewish Studies*, 13 (2): 90–102; Ian MCGONIGLE and Lauren HERMAN, 2015, "Genetic citizenship: DNA testing and the Israeli Law of Return", *Journal of Law and the Biosciences*, 2 (2): 469–478;

pages 38–60 in Ian MCGONIGLE, 2021, cf. *infra*. See also Nurit KIRSH and Yael HASHILONI DOLEV, 2021, "mtDNA tests as a vehicle for Jewish recognition of Former Soviet Union Israeli citizens: religious and political debate", *Biosocieties* [<https://doi.org/10.1057/s41292-021-00228-6>].

status of Jew to FSU migrants and their descendants may lead to a rebellion against the rabbinic rules. Moreover, there is no clear-cut rabbinic position on the role of genes in the transmission of Judaism. The religious rule that a “Jew by birth” is a person who has a Jewish mother is interpreted as meaning that this is a person born to a Jewish woman: The decisive element is the womb, not the genes. If a Jewish woman has a child through in vitro fertilization using an egg from a non-Jewish donor, the child is recognized as a Jew.⁵ The proposal to employ genetic tests to find out whether a person is a Jew and the resistance to this proposal illustrate the general principle that guides the studies of McGonigle and Burton: Scientific knowledge and practices are flexible and situated resources that can be used in multiple ways. One of the key strengths of their respective books is to show exactly how this happens in different places and times.

McGonigle’s book deals with very recent events: the developments of biobanks in Israel and Qatar. McGonigle was trained as a biochemist, then shifted to science and technology studies (STS). He received a postdoctoral fellowship from the Israeli Institute to study ethnic genetics in Israel. During his stay in Israel, he decided to extend his research to Qatar, another small Middle Eastern country with advanced biomedical research facilities. McGonigle’s study compares the use of biobanks in Israel and Qatar as tools for forging national identities. The comparison is not entirely symmetrical. McGonigle learned modern Hebrew and spent a year in Israel observing the working of the National Laboratory for the Genetics of Israeli Populations. His research period in Qatar was much shorter. He made three trips to Qatar, totaling six weeks of research. During these research trips, he studied the Qatar Biobank, the Qatar Genome Program, and Sidra Medicine. McGonigle defines his study as an anthropology of scientific objects and explains that when studying laboratory practices his aim was to uncover how metaphysical entities, such as “the nation” or “ethnicity,” are present in the epistemic products and material practices of biomedicine.

At the start of his research, McGonigle was striving to understand the role of genetic research in Israel in fostering the concept of Jewish peoplehood. He concluded that this role was less straightforward than he had assumed initially. In Israel and Qatar, biobanks are integrated into a “nation-building project,” while their activity also forms part of the worldwide endeavor to harness genomic technologies for specific

⁵ Susan Martha KAHN, 2005, “The multiple meanings of Jewish genes”, *Culture, Medicine and Psychiatry*, 29 (2): 179–192.

economic and social goals. The biobanks observed by McGonigle were at the same time “banks” that manipulated a “bio” currency in globalized scientific-technological markets, and institutions that aspired to inscribe national goals into their functioning.⁶ The two biobanks differ, however, in terms of their primary allegiance. The principal allegiance of the Israeli biobank was not to ideas about the nature of the Jewish people, but to worldwide developments in biobanking dominated by big data projects. The Israeli biobank is strongly influenced by the rise of personalized medicine, a trend that strives to exploit genetic data to generate economic value, while the Qatari biobank is more committed to national goals.

The difference between the Israeli and Qatari biobanks stems, McGonigle proposes, from the distinct positions of the two countries in the global biotechnology arena. While Israel is well integrated into the field of global biotechnology, Qatar is striving to achieve such integration. Another important difference between the two biobanks is their funding. The Qatari biobank is financed directly by the Qatar Foundation, endowed by the Emir. It has elected to exclusively study the Qatari population and neglect the genetics of migrant workers, who make up the majority of Qatar’s inhabitants. The Israeli biobank studies the genomes of all the groups represented among Israeli citizens. The bank does not receive direct funding from the state and survives on a series of grants from different sources. Its strong dependence on globalized market mechanisms is the main reason it privileges the integration in international commercial circuits over ideological goals, although the latter continue to play an important role in the bank’s functioning. When McGonigle wrote his book, the future of the Israeli biobank was uncertain. This is not the case with the Qatari biobank. The Qatari state is at the same time both ultra-rich and directly interested in the promotion of nationalistic goals, including via the development of genetics and genomic research. Despite these differences, McGonigle concludes, the two biobanks share background assumptions about putative genomic citizenship, are strongly affected by Middle Eastern ethnonationalism, and shed light on the unresolved tensions between science as a globalized endeavor and science as a possible tool for the consolidation of national and ethnic identities.

Elise Burton’s book ends where McGonigle’s research starts, with the rise of genomic technologies in the Middle East.⁷ She applies STS and anthropology of science approaches in her study, but presents herself

⁶ I put this sentence in the past tense because it cannot be ruled out that the globalization trends of the first 20 years of the 21st century will be modified—although, one may

assume, not entirely reversed—as a result of recent geopolitical developments.

⁷ Burton comments on genome projects in the Middle East in her article: Elise BURTON,

above all as a historian of the life sciences. As the title of Burton's book—*Genetic Crossroads*—attests, her primary foci are not the material cultures of science, but the circulation and intermingling of scientific knowledge and practices. The Middle East, often described as a crossroads of cultures, is also, Burton explains, a crossroads of distinct approaches to the study of heredity. She employs the partly anachronistic term “genetic” to describe studies of links between heredity, environment, and ethnic origins. In the first half of the 20th century, such studies were conducted mainly by physical anthropologists. Later, the focus shifted to the study of specific hereditary traits, often in isolated populations. Burton studies the Middle East as a single geopolitical and historical entity, with a special focus on Israel, Egypt, Turkey, and Iran. Her research was funded by the American Institute for Iranian Studies and the Harvard Center for Middle Eastern Studies, and to conduct it she learned Hebrew, Arabic, Turkish, and Persian.

Burton's study covers a large part of the 20th century. It pays close attention to the complexities of Middle Eastern politics and the numerous ways in which political considerations affected developments within science during that period. Her book, like McGonigle's, is articulated around the tension between science as a universal endeavor and as a situated enterprise, but in Burton's study, this tension is mainly played out between scientists from “advanced” countries' attempts to control the resources and the labor of their colleagues from the “periphery,” and the latter's resistance to what they see as the appropriation of their research and deliberate overlooking of their contributions. In an earlier article, Burton argued that the Middle East had undergone a shift from formal political and economic imperialism to a neocolonialist Western hegemony of science and “technical reason.” She adds nuance to this statement by explaining that postcolonial critiques of anthropology and race science have tended to be mainly Eurocentric, since they frame the discipline's history exclusively in terms of the consequences, positive or negative, of Western colonial power and disregarded the rise of the “internal colonialism” produced by research in the service of local nationalist regimes.⁸

Burton's book develops this argument further. For example, she shows that the history of population genetics in Israel fits the broader pattern of

2018a, “Narrating ethnicity and diversity in Middle Eastern national genome projects”, *Social Studies of Science*, 48 (5): 762–786.

⁸ Page 123, in Elise BURTON, 2018b, “Essential Collaborators”: Locating Middle

Eastern Geneticists in the Global Scientific Infrastructure, 1950s–1970s”, *Comparative Studies in Society and History*, 60 (1): 119–149.

the development of genetics in the Middle East. In the 20th century, Israeli geneticists were often presented as “Western transplants” whose studies were focused on Jewish populations and who developed a nationalist point of view. This view is not entirely false; however, Burton argues, it is only a part of the story. Israeli scientists were also interested in non-Jewish populations in the Middle East and forged regional networks to study these populations. At the same time, they often had a subordinate position in Western-dominated scientific disciplines, as did scientists from other Middle Eastern countries such as Egypt, Turkey, and Iran. Asymmetric circulation of scientific knowledge and practices in the Middle East, Burton proposes, allowed these countries’ scientists to function both as colonized and colonizers.⁹ Some of the scientists she studied collected blood from their communities for the use of leading foreign geneticists, who saw those scientists mainly as suppliers of “interesting” research materials, not as true collaborators.¹⁰ In parallel, Middle Eastern scientists also negotiated asymmetrical geopolitical power relations, asserted new professional and national identities, and represented the dominant forces of homogenizing national cultures within their societies. Since they were constructing such identities, Burton argues that they cannot be defined as “go-betweens,” that is, intermediaries that link fully formed knowledge traditions, but rather as individuals that actively participated in the development of those traditions.

Another important topic in Burton’s book is the role of classifications. Individuals and groups, she explains, can be classified in multiple ways. Such classifications are far from neutral. The way scientists have defined and selected groups has affected the measured frequencies of studied hereditary traits, while the choice of studied categories has shaped the generated results and their interpretation. This was especially crucial for studies of the (presumed) links between heredity and “national traits.” Geneticists were fascinated by “reproductive isolates”—groups that adhered to a strictly endogenous system of reproduction and were therefore perceived as especially useful for the study of heredity. On the other hand, the majority of larger Middle Eastern populations were heavily mixed, which was an obstacle to the development of a “genetic nationalism.”

⁹ BURTON 2018: 148. Her point of view is inspired by Warwick ANDERSON and Hans POLS, 2012, “Scientific Patriotism: Medical Science and National Self-Fashioning in Southeast Asia”, *Comparative Studies in Society and History*, 54, 1: 93–113.

¹⁰ On the continued devalorization of researchers from “developing countries” by

Western scientists, in spite of an official discourse about “partnership”, see e.g. Wenzel GIESSLER, 2013, “Public secrets in public health: Knowing not to know while making scientific knowledge”, *American Ethnologist*, 40 (1): 13–34.

Scientists attempted to overcome this difficulty through selective and shifting definitions of the populations included in the “national group,” an issue that was especially important in Iran and Turkey.

Burton’s study decentralizes Europe and North America and reconstructs the point of view of the scientists from the countries she studied. It also displays the violence embedded in genetic research, especially in physical anthropology and medical genetics. Geneticists opportunistically targeted as research subjects prisoners of war, refugees, vulnerable migrants, and civilians under military occupation, while their work was often entangled with violent conflicts in the region. The last chapter of Burton’s book links earlier developments with present-day genetic studies. It shows that even today, genetic narratives of the past continue to be amalgamated with those of national politics. Official discourse about the empowerment of minorities through genetic studies notwithstanding, genetic research continues to be shaped by an imbalance of power. Because nationalism and human population genetics continue to be intermingled, Burton concludes that neither a better technology nor better intentions will be sufficient to rectify social injustices or even to produce politically neutral data about “ancestry,” regardless of whether this ancestry is configured as ethnic, racial, or geographic.

McGonigle’s and Burton’s books eloquently illustrate the intersections between genetics/genomics as a global, and increasingly commercialized enterprise, and the use of genetics to advance the interests of national “imagined communities” and the construction of their—mostly mythical—origin stories. As the historian Susan Lindee has shown, modern genomics has become big business, focused on risk and prediction, entities that can be readily marketed; at the same time, genomics has become a tool of historical reconstruction, and therefore, one can add, also of the construction of national myths.¹¹ Since these two uses of the word “genomic” coexist, not infrequently more focus on the “global” produce at the same time more attention to the “local.” Perhaps especially in the Middle East.

I L A N A L Ö W Y

¹¹ Page 45, in Susan LINDEE, “Human genetics after the bomb: Archives, clinics, proving grounds and board rooms”, *Studies in History and Philosophy of Biological and Biomedical Sciences*, 2016, 55: 45–53.