

Elise K. Burton. *Genetic Crossroads: The Middle East and the Science of Human Heredity*. Stanford, California: Stanford University Press, 2021. 400 pages. ISBN: 9781503611917.

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Recent trends in historiography have attempted to connect intellectual, scientific, and technical studies into political narratives. The current literature on the Middle East, however, has so far drawn little benefit from the recently developed studies on the history of science. In this regard, Elise Burton's *Genetic Crossroad: The Middle East and the Science of Human Heredity* offers an engaging survey of the complex relationships among genetics, politics, and social relations in the Middle East in the 20th century. The author relies on archival sources available in different countries, undertakes a careful investigation of various studies in genetics, and tries to contextualize them from various perspectives.

The book starts with a discussion on a volume of anthropometric research from the first half of the 20th century; Chapter 1 is titled "Drastic Measurements," and the first part of Ch. 1 addresses how Samaritans and Phoenicians became a matter of contention when defining the modern Jewish and Arab identities (40–43). The second part mainly deals with researchers in modern Turkey and Pahlavi Iran and how anthropometry was used to foster state-led nation-state building. The author specifically looks at the works of Şevket Aziz Kansu (d. 1983), one of the early anthropologists in Turkey, who wrote his PhD in Paris and was a close friend to Eugène Pittard (d. 1962), a prominent French anthropologist.¹ Burton then discusses the writings of Afet Inan (d. 1985), Pittard's student and adopted

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1 The obituary written by Şevket Aziz Kansu for the memory of Eugène Pittard reflects their close relationship. See, Şevket Aziz Kansu, "Eugene Pittard 1867-1962," *Bellefen* 27, no. 105 (January 1963): 105-8.

daughter of Mustafa Kemal Atatürk (d. 1938), with regard to the Turkish race, the Kurds, and the Alewites (49–51). The author argues that Inan's arguments served to underpin the political sovereignty of the new Turkish state as Inan had attempted to transform these groups into Turks using anthropometry (55). She contends that anthropometry in Iran was frequently applied not by the urban intelligentsia, but by the "community representatives of research subjects" who worked with Western scientists such as Harald Krischner, Henry Field, Wilhelm Haas, William Shanklin, and Corenlius Kappers (57–61). In Chapter 2, titled "Truth Serum," Burton discusses the use of sero-anthropology in the study of races. It starts with Ludwik and Hanna Hirszfeld's serological research during World War I in the Balkans, in which they used A-B-O blood group frequencies as anthropometric data. Hirszfeld had prepared a biochemical index based on a calculation of the frequency of group A to group B, which remained a credible index for genetic studies in the Middle East (72). Burton then discusses the claims of Ernest Altounyan, who studied the roots of Armenians and their relation to Arabs and Turks, and examines the findings of William Shanklin, Leland Parr, and Rina Younovitch, who conducted similar sero-anthropological research regarding the racial purity and mixture of Jews, Bedouin Arabs, and Armenians (77–81). Burton goes on to summarize the studies of several Turkish scientists who'd collected blood samples from *yörüks* [nomads] in Turkey (87), and then elaborates on William and Lyle Boyd's studies that argued serological data to be superior to anthropometric data.

Chapter 3 is titled "The Traffic in Blood" and focuses on regional blood chains and the circulation of scientific knowledge among regional and Western experts. The author pays attention to the works of Arthur E. Mourant, who'd set up the International Blood Group Reference Laboratory, and the discovery of the RH (+/-) and A-B-O systems in the development of modern genetic research. Burton discusses the collaboration between Mourant and Joseph Gurevitch in their study regarding the Jewish population (114). A similar section is devoted to collaborations regarding blood collection chains based on old British colonial connections and other processes in which scientists such as George Maranjian and Federico Vidal, who'd worked for the Saudi Arabian Energy Company (ARAMCO), were involved. While Chapter 4, titled "Sickling Sociologies," turns to sickle cell disease research and political power relations with a particular focus on the works of Hermann Leckmann in Yemen and Muzaffer Aksoy in Turkey, Chapter 5, titled "Genes Against Beans," deals with research on favism, especially among Jews (157). Burton cites the works of Chaim Sheba, who worked in Tel Hashomer Hospital in Israel and had found the Jews of Kurdistan to have the highest occurrence of

favism (165). Afterwards, the author discusses the studies conducted by James Bowman among the Armenian and Zoroastrian communities in Iran, and finishes with the impact the independent mutations of the G6PD gene had on favism (177).

Chapter 6 is titled “Collection Agents” and examines Israeli and British research in different communities (mainly Bedouin and Samaritan) in the region, focusing mainly on the work of Arthur Mourant and how the 1967 Israeli occupation had changed the power relationships in Israeli and British research. Burton goes deeper into investigating the relationship between Mourant and the Israeli geneticist Batsheva Bonne-Tamir to demonstrate the impact political developments and technical changes had on their academic partnership (204). Chapter 7, titled “Domesticating Diversity” and the last chapter, mostly deals with genetic research and political developments in Iran and Turkey post-1960. Burton investigates the studies of Iranian scientists such as Mansur Bayatzadeh and Dariush Farhud and discusses the rise of Aryanism, especially after 1967. Burton contends that, even in the studies Farhud conducted in the 1990s, he had aimed to reconcile the Iranian state’s ethnic diversity with its territorial unity (231). As for the Turkish case, she examines Armağan Saatçioğlu’s arguments regarding A-B-O frequencies and genetic diversity in the Turkish population.

Genetic Crossroads presents overwhelming data on the history of genetic science as well as a comprehensive account of genetic science in the Middle East during the 20th century. Burton attempts to connect different researchers in different countries within the same volume by digging into Western and Eastern scientific circles and power relations and demonstrating how scientific endeavour is a product of ideological contentions. To be able to grasp the narrative, though, the reader needs to have a background in the history of science and politics of each country. At times, the book gives too much background information, some of which is not validated, and distracts the reader. All in all, *Genetic Crossroads* stands as a reference study and opens a new dimension of research with regard to various fields.