

ON THE POLITICS OF GENETIC RESEARCH PERTAINING TO THE JEWS

Raphael Falk

Scientists have always been very sensitive to assertions that they smuggle politics into their ostensibly objective research. Those of us who study the genetic relationships between Jews and non-Jews are no exception to this rule. When I first submitted my manuscript on “Zionism and the Biology of the Jews” to a university press in Israel, my human genetics colleagues sharply criticized me for suggesting that one of the motives underlying their scholarship in the 1960s had been the desire to participate in the collective effort to turn Israel into a “melting pot.”

Despite the ongoing dispute over the nature of Jewish identity, it has always been assumed that there exists a common biological denominator to Jewishness, however it might be defined sociologically, culturally, or religiously. The Jews are supposed to be the linear progeny of the Israelite tribes—named after the sons of the biblical patriarchs Abraham, Isaac, and Jacob—which solidified three thousand years ago into a nation that adhered to a unique cultural inheritance and was augmented by a constant influx of “non-Jews” through assimilation and conversion. Formally, a Jew is the offspring of a Jewish mother, or someone who has been (properly) converted to Judaism.

In the nineteenth century, the concept of race obtained a more “scientific” socio-political as well as biological foundation. Thinkers like Herder and Hegel conceived of the *Volk* as an entity bound up with *Blut und Erde* (blood and soil), thus conferring primary biological significance on the politics of nationality. Herbert Spencer’s

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interpretation of Darwin’s theory of evolution as a “struggle for existence” that also embraces social relations further strengthened claims for the inherent biological basis of socio-political entities. Toward the end of the nineteenth century, Jew-hatred increasingly had recourse to biological arguments, propounding “anti-Semitic,” i.e., bioracial rationales for traditional social and cultural allegations. Zionism, as a contemporary political movement, explicitly accepted the claims that Jews were a distinct race-nation, or *Volk*, and based its demands for a national homeland precisely on the Jews’ blood ties.

Even as the “blood and soil” conception led to the establishment of independent states throughout Europe, it certainly did not embrace out-of-Europe colonialism, and soon it collapsed in Europe as well with the catastrophe of National

Socialism. The establishment of the State of Israel in 1948, however, was a late (or belated?) fruit of the European national movement of *Blut und Erde*. To a large extent this is also its predicament: Instead of gradually adapting to the context of a Western open national society, Israel in its struggle for its very existence fostered an ethnocentric policy entrenched in claims of racial blood connections. How else could one understand a Knesset member wondering at a ceremony in 2004, “What is wrong with the Palestinians? Is theirs a cultural deprivation or a genetic defect?”

Matings among human beings are not randomly distributed. Physical (geographical and topographical) as well as cultural, social, and ethnic factors circumscribe more or less closed breeding populations, i.e.,

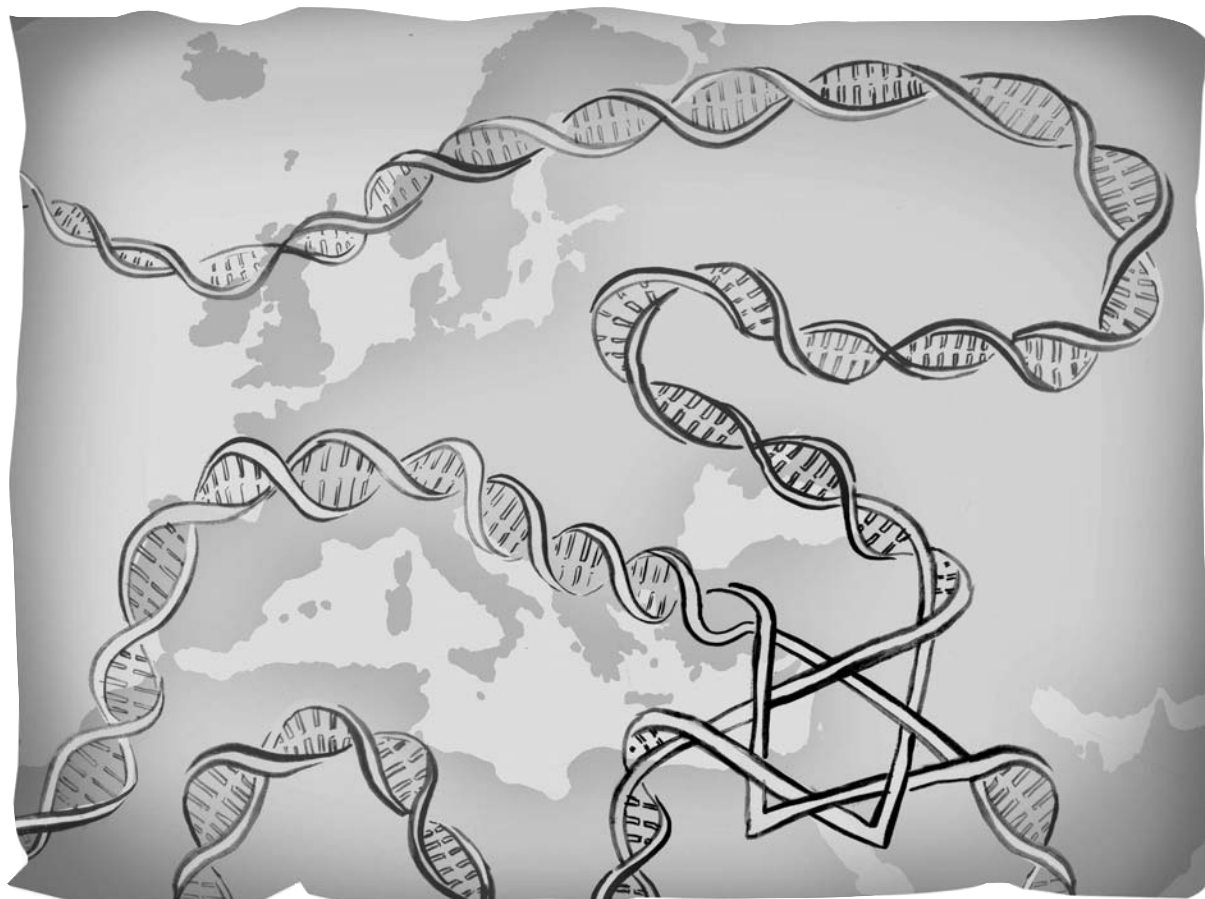
communities in which matings are preferentially within the community rather than with members of other groups. Such communities consequently acquire specific distinct gene frequencies. Jewish communities that were segregated for ages by sociocultural circumstances in Europe, in the East, and elsewhere, comprise semi-isolated breeding populations. In the past, anthropologists as well as geneticists actually used differences between Jewish and adjacent non-Jewish communities to establish the hereditary nature of characteristics, often ignoring the significant level of intermarriage between the neighboring communities and the patent differences in living conditions of the populations.

It was only after the experience of National Socialism’s ravaging racism that the scientific community concluded and the UN ruled that

human races were not biological entities. Yet an interest in genetic composition of human communities has not disappeared. Quite to the contrary, the more sophisticated scientific methods for genetic characterizations become, and the more the achievements of genetic research become known to the general public, the more interest in this subject increases. Biological racism has not disappeared but has merely assumed a different guise.

unequivocally distinct from their Middle East neighbors. The physician Chaim Sheba went so far as to establish a new research discipline, which he called “anthropological medicine,” using the distribution of genetic disease in various communities to trace historical relationships between Jewish communities and establish the characteristics of what he called the biblical *Homo israelensis*. He not only dated the origin of Jewish

genetics at the level of DNA. On the other hand, new methods to follow detailed sequences of the DNA molecules did uncover great hereditary variability at the most basic level of DNA sequences, which allowed unprecedented genotypic characterization of breeding populations. Since much of the variability in the DNA was due to rare mutation events, the presence of the same mutant-variant in different populations provided



strong indication of blood relationships between them. Sophisticated computer programs were designed to construct phylogenies for these populations, on the assumption that they comprise branches of a tree that diverged from a common root. The frequencies of the shared mutants further allowed estimated dating of successive branching events. These programs,

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Israel as a country of migrant and isolate populations was recognized already in the 1960s, primarily through the work of Elisabeth Goldschmidt, as a center for research into the dynamics of population genetics. Concurrently, there have been unceasing efforts to establish common origins for all Jewish communities, including geographically and culturally remote ones, and to trace their roots to the Mediterranean basin, while identifying Jews as a group

communities in Iran, Libya, Yemen, and France but also claimed to have discovered undercover Jewish communities, like the people of Sardinia, who carried a hereditary blood disease, thalassemia, common in Eastern Jewish (and non-Jewish) communities.

Modern molecular research has shown that such “superficial” similarities of diseases, or even of the presence of specific proteins, do not necessarily imply identical

however, primarily designed for constructing vertical phylogenies of different (non-interbreeding) species, ignored possibilities of secondary genetic relatedness, such as those based on horizontal sociocultural relations.

Advances in the characterization of various diseases, like thalassemia, cystic fibrosis, Gaucher’s and Tay-Sachs’s diseases, familial Mediterranean fever, and BRCA, at the molecular DNA level have

indeed indicated that many Jewish communities could be characterized

phylogenies, confined to primary common roots. The relationships

roots of Oriental, Sephardi, and Ashkenazi Jews in the biblical Middle East, Palestinians emphasize the differences, suggesting that Oriental Jews and Palestinians share common ancestors, while deeming the Ashkenazim to be related to the Turks and Slavic people, i.e., to be of Khazar origins.

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by specific genetic variants that are conspicuously more or less frequent among them than in the relevant non-Jewish populations. This, by the way, has substantially increased the efficiency of genetic counseling in persons of Jewish descent since it narrowed the number of variants that should be checked when testing individuals as carrier of hereditary “Jewish” diseases. Significantly, findings of the same “specific Jewish variant” in distant Jewish communities, such as those of Iraq and Poland, indicated blood relatedness between them. Such shared genetic variants provided the basis for the construction of phylogenies of branches from a common root, including the date of the communities’ last common ancestor. Researchers declared, for example, that they could date common ancestors of Ashkenazi and Iraqi Jewish communities 2,500 years ago, thus refuting allegations of Khazar origins of Ashkenazi Jews. They never considered the alternative of genetic relatedness being secondary to cultural relations.

Once I raised this possibility, my students immediately provided me with evidence of scholars and other persons who emigrated from their communities and settled in distant foreign Jewish communities. One can hardly ignore the fact that genetics of human populations comprise trellis-like patterns of relatedness due to secondary sociocultural interplays, rather than straight forward branching tree-like

between Jewish communities are no exception.

The discovery of the relative conservation of long sequences of DNA (haplotypes) of the human Y-chromosome, a chromosome strictly transmitted from father to sons, was quite sensational. A lineal paternal relationship of Kohanim of both Ashkenazi and Sephardi origins was indicated. Further intensive research allowed the graphic presentations of “Multidimensional scaling plots” that placed different Jewish communities in a compact cluster that largely overlapped with a cluster of the non-Jewish Mediterranean populations. These clusters were conspicuously distinct from the clusters of Europeans, North Africans, or Sub-Saharan. Instead of helping to defuse political and ideological controversies, however, the popularization of these and similar findings of the integrated genetic panorama only further encouraged simplistic and antagonistic political interpretations.

Whereas the Jewish communities are conceived by the Israelis as ancient isolates that maintained their identity for thousands of years, the purported commons roots with the other peoples of the Middle East are pushed back to biblical pre-nation epochs. Yet, the people of Yemen consider the same kind of evidence to be proof that the Jews of Yemen are integral participants in the Yemeni nation. Whereas Israeli researchers identify the common

No doubt Jewish populations have been most conducive to genetic research of the dynamics of human populations. But the scientists involved appear not to have been alert enough to the sociopolitical implications of their work. Ignoring the dependence of their hypotheses on context, and not examining alternative hypotheses, scientists have in the past provided weapons to politicians who made unfortunate use of them. It is not difficult to imagine this happening again.

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