
Jewish Genius

Charles Murray

SINCE ITS first issue in 1945, COMMENTARY has published hundreds of articles about Jews and Judaism. As one would expect, they cover just about every important aspect of the topic. But there is a lacuna, and not one involving some obscure bit of Judaica. COMMENTARY has never published a systematic discussion of one of the most obvious topics of all: the extravagant overrepresentation of Jews, relative to their numbers, in the top ranks of the arts, sciences, law, medicine, finance, entrepreneurship, and the media.

I have personal experience with the reluctance of Jews to talk about Jewish accomplishment—my co-author, the late Richard Herrnstein, gently resisted the paragraphs on Jewish IQ that I insisted on putting in *The Bell Curve* (1994). Both history and the contemporary revival of anti-Semitism in Europe make it easy to understand the reasons for that reluctance. But Jewish accomplishment constitutes a fascinating and important story. Recent scholarship is expanding our understanding of its origins.

And so this Scots-Irish Gentile from Iowa hereby undertakes to tell the story. I cover three topics: the timing and nature of Jewish accomplishment, focusing on the arts and sciences; elevated Jewish

IQ as an explanation for that accomplishment; and current theories about how the Jews acquired their elevated IQ.

FROM 800 B.C.E. through the first millennium of the Common Era, we have just two examples of great Jewish accomplishment, and neither falls strictly within the realms of the arts or sciences. But what a pair they are. The first is the fully realized conceptualization of monotheism, expressed through one of the literary treasures of the world, the Hebrew Bible. It not only laid the foundation for three great religions but, as Thomas Cahill describes in *The Gifts of the Jews* (1998), introduced a way of looking at the meaning of human life and the nature of history that defines core elements of the modern sensibility. The second achievement is not often treated as a Jewish one but clearly is: Christian theology expressed through the New Testament, an accomplishment that has spilled into every aspect of Western civilization.

But religious literature is the exception. The Jews do not appear in the annals of philosophy, drama, visual art, mathematics, or the natural sciences during the eighteen centuries from the time of Homer through the first millennium C.E., when so much was happening in Greece, China, and South Asia. It is unclear to what extent this reflects a lack of activity or the lack of a readily available record. For example, only a handful of the scien-

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tists of the Middle Ages are mentioned in most histories of science, and none was a Jew. But when George Sarton put a high-powered lens to the Middle Ages in his monumental *Introduction to the History of Science* (1927-48), he found that 95 of the 626 known scientists working everywhere in the world from 1150 to 1300 were Jews—15 percent of the total, far out of proportion to the Jewish population.

As it happens, that same period overlaps with the life of the most famous Jewish philosopher of medieval times, Maimonides (1135–1204), and of others less well known, not to mention the Jewish poets, grammarians, religious thinkers, scholars, physicians, and courtiers of Spain in the “Golden Age,” or the brilliant exegetes and rabbinical legislators of northern France and Germany. But this only exemplifies the difficulty of assessing Jewish intellectual activity in that period. Aside from Maimonides and a few others, these thinkers and artists did not perceptibly influence history or culture outside the confines of the Jewish world.

Generally speaking, this remained the case well into the Renaissance and beyond. When writing a book called *Human Accomplishment* (2003), I compiled inventories of “significant figures” in the arts and sciences, defined as people who are mentioned in at least half of the major histories of their respective fields. From 1200 to 1800, only seven Jews are among those significant figures, and only two were important enough to have names that are still widely recognized: Spinoza and Montaigne (whose mother was Jewish).

THE SPARSE representation of Jews during the flowering of the European arts and sciences is not hard to explain. They were systematically excluded, both by legal restrictions on the occupations they could enter and by savage social discrimination. Then came legal emancipation, beginning in the late 1700’s in a few countries and completed in Western Europe by the 1870’s, and with it one of the most extraordinary stories of any ethnic group at any point in human history.

As soon as Jewish children born under legal emancipation had time to grow to adulthood, they started appearing in the first ranks of the arts and sciences. During the four decades from 1830 to 1870, when the first Jews to live under emancipation reached their forties, 16 significant Jewish figures appear. In the next four decades, from 1870 to 1910, the number jumps to 40. During the next four decades, 1910–1950, despite the

contemporaneous devastation of European Jewry, the number of significant figures almost triples, to 114.

To get a sense of the density of accomplishment these numbers represent, I will focus on 1870 onward, after legal emancipation had been achieved throughout Central and Western Europe. How does the actual number of significant figures compare to what would be expected given the Jewish proportion of the European and North American population? From 1870 to 1950, Jewish representation in literature was four times the number one would expect. In music, five times. In the visual arts, five times. In biology, eight times. In chemistry, six times. In physics, nine times. In mathematics, twelve times. In philosophy, fourteen times.

Disproportionate Jewish accomplishment in the arts and sciences continues to this day. My inventories end with 1950, but many other measures are available, of which the best known is the Nobel Prize. In the first half of the 20th century, despite pervasive and continuing social discrimination against Jews throughout the Western world, despite the retraction of legal rights, and despite the Holocaust, Jews won 14 percent of Nobel Prizes in literature, chemistry, physics, and medicine/physiology. In the second half of the 20th century, when Nobel Prizes began to be awarded to people from all over the world, that figure rose to 29 percent. So far, in the 21st century, it has been 32 percent. Jews constitute about two-tenths of one percent of the world’s population. You do the math.

WHAT ACCOUNTS for this remarkable record? A full answer must call on many characteristics of Jewish culture, but intelligence has to be at the center of the answer. Jews have been found to have an unusually high mean intelligence as measured by IQ tests since the first Jewish samples were tested. (The widely repeated story that Jewish immigrants to this country in the early 20th century tested low on IQ is a canard.) Exactly how high has been difficult to pin down, because Jewish sub-samples in the available surveys are seldom perfectly representative. But it is currently accepted that the mean is somewhere in the range of 107 to 115, with 110 being a plausible compromise.

The IQ mean for the American population is “normed” to be 100, with a standard deviation of 15. If the Jewish mean is 110, then the mathematics of the normal distribution says that the average Jew is at the 75th percentile. Underlying that

mean in overall IQ is a consistent pattern on IQ subtests: Jews are only about average on the subtests measuring visuo-spatial skills, but extremely high on subtests that measure verbal and reasoning skills.

A group's mean intelligence is important in explaining outcomes such as mean educational attainment or mean income. The key indicator for predicting *exceptional* accomplishment (like winning a Nobel Prize) is the incidence of exceptional intelligence. Consider an IQ score of 140 or higher, denoting the level of intelligence that can permit people to excel in fields like theoretical physics and pure mathematics. If the mean Jewish IQ is 110 and the standard deviation is 15, then the proportion of Jews with IQ's of 140 or higher is somewhere around six times the proportion of everyone else.

The imbalance continues to increase for still higher IQ's. New York City's public-school system used to administer a pencil-and-paper IQ test to its entire school population. In 1954, a psychologist used those test results to identify all 28 children in the New York public-school system with measured IQ's of 170 or higher. Of those 28, 24 were Jews.

Exceptional intelligence is not enough to explain exceptional accomplishment. Qualities such as imagination, ambition, perseverance, and curiosity are decisive in separating the merely smart from the highly productive. The role of intelligence is nicely expressed in an analogy suggested to me years ago by the sociologist Steven Goldberg: intelligence plays the same role in an intellectually demanding task that weight plays in the performance of NFL offensive tackles. The heaviest offensive tackle is not necessarily the best. Indeed, the correlation between weight and performance among NFL offensive tackles is probably quite low. But they all weigh more than 300 pounds.

So with intelligence. The other things count, but you must be very smart to have even a chance of achieving great work. A randomly selected Jew has a higher probability of possessing that level of intelligence than a randomly selected member of any other ethnic or national group, by far.

NOTHING THAT I have presented up to this point is scientifically controversial. The profile of disproportionately high Jewish accomplishment in the arts and sciences since the 18th century, the reality of elevated Jewish IQ, and the connection between the two are not to be denied by

means of data. And so we come to the great question: how and when did this elevated Jewish IQ come about? Here, the discussion must become speculative. Geneticists and historians are still assembling the pieces of the explanation, and there is much room for disagreement.

I begin with the assumption that elevated Jewish intelligence is grounded in genetics. It is no longer seriously disputed that intelligence in *Homo sapiens* is substantially heritable. In the last two decades, it has also been established that obvious environmental factors such as high income, books in the house, and parental reading to children are not as potent as one might expect. A "good enough" environment is important for the nurture of intellectual potential, but the requirements for "good enough" are not high. Even the very best home environments add only a few points, if that, to a merely okay environment. It is also known that children adopted at birth do not achieve the IQ's predicted by their parents' IQ.

To put it another way, we have good reason to think that Gentile children raised in Jewish families do not acquire Jewish intelligence. Hence my view that something in the genes explains elevated Jewish IQ. That conclusion is not logically necessary but, given what we know about heritability and environmental effects on intelligence in humans as a species, it is extremely plausible.

Two potential explanations for a Jewish gene pool favoring high intelligence are so obvious that many people assume they must be true: winnowing by persecution (only the smartest Jews either survived or remained Jews) and marrying for brains (scholars and children of scholars were socially desirable spouses). I too think that both of these must have played some role, but how much of a role is open to question.

In the case of winnowing through persecution, the logic cuts both ways. Yes, those who remained faithful during the many persecutions of the Jews were self-selected for commitment to Judaism, and the role of scholarship in that commitment probably means that intelligence was one of the factors in self-selection. The foresight that goes with intelligence might also have had some survival value (as in anticipating pogroms), though it is not obvious that its effect would be large enough to explain much.

But once the Cossacks are sweeping through town, the kind of intelligence that leads to business success or rabbinical acumen is no help at all. On the contrary, the most successful people could easily have become the most likely to be killed, by

virtue of being more visible and the targets of greater envy. Furthermore, other groups, such as the Gypsies, have been persecuted for centuries without developing elevated intelligence. Considered closely, the winnowing-by-persecution logic is not as compelling as it may first appear.

What of the marrying-for-brains theory? “A man should sell all he possesses in order to marry the daughter of a scholar, as well as to marry his daughter to a scholar,” advises the Talmud (Pesaḥim 49a), and scholarship did in fact have social cachet within many Jewish communities before (and after) emancipation. The combination could have been potent: by marrying the children of scholars to the children of successful merchants, Jews were in effect joining those selected for abstract reasoning ability with those selected for practical intelligence.

Once again, however, it is difficult to be more specific about how much effect this might have had. Arguments have been advanced that rich merchants were in fact often reluctant to entrust their daughters to penniless and unworldly scholars. Nor is it clear that the fertility rate of scholars, or their numbers, were high enough to account for a major effect on intelligence. The attractiveness of brains in prospective marriage partners surely played some role but, once again, the data for assessing how much have not been assembled.

A GAINST THIS backdrop of uncertainty, a data-driven theory for explaining elevated Jewish IQ appeared in 2006 in the *Journal of Biosocial Science*. In an article entitled “Natural History of Ashkenazi Intelligence,” Gregory Cochran (a physicist) and Jason Hardy and Henry Harpending (anthropologists) contend that elevated Jewish IQ is confined to the Ashkenazi Jews of northern and central Europe, and developed from the Middle Ages onward, primarily from 800 to 1600 c.e.

In the analysis of these authors, the key factor explaining elevated Jewish intelligence is occupational selection. From the time Jews became established north of the Pyrenees-Balkans line, around 800 c.e., they were in most places and at most times restricted to occupations involving sales, finance, and trade. Economic success in all of these occupations is far more highly selected for intelligence than success in the chief occupation of non-Jews: namely, farming. Economic success is in turn related to reproductive success, because higher income means lower infant mortality, better nutrition, and, more generally, reproductive “fitness.” Over time, increased fitness among the suc-

cessful leads to strong selection for the cognitive and psychological traits that produce that fitness, intensified when there is a low inward gene flow from other populations—as was the case with Ashkenazim.

Sephardi and Oriental Jews—i.e., those from the Iberian peninsula, the Mediterranean littoral, and the Islamic East—were also engaged in urban occupations during the same centuries. But the authors cite evidence that, as a rule, they were less concentrated in occupations that selected for IQ and instead more commonly worked in craft trades. Thus, elevated intelligence did not develop among Sephardi and Oriental Jews—as manifested by contemporary test results in Israel that show the IQ’s of non-European Jews to be roughly similar to the IQ’s of Gentiles.

The three authors conclude this part of their argument with an elegant corollary that matches the known test profiles of today’s Ashkenazim with the historical experience of their ancestors:

The suggested selective process explains the pattern of mental abilities in Ashkenazi Jews: high verbal and mathematical ability but relatively low spatio-visual ability. Verbal and mathematical talent helped medieval businessmen succeed, while spatio-visual abilities were irrelevant.

The rest of their presentation is a lengthy and technical discussion of the genetics of selection for IQ, indirect evidence linking elevated Jewish IQ with a variety of genetically based diseases found among Ashkenazim, and evidence that most of these selection effects have occurred within the last 1,200 years.

NO ONE has yet presented an alternative to the Cochran-Hardy-Harpending theory that can match it for documentation. But, as someone who suspects that elevated Jewish intelligence was (a) not confined to Ashkenazim and (b) antedates the Middle Ages, I will outline the strands of an alternative explanation that should be explored.

It begins with evidence that Jews who remained in the Islamic world exhibited unusually high levels of accomplishment as of the beginning of the second millennium. The hardest evidence is Sarton’s enumeration of scientists mentioned earlier, of whom 15 percent were Jews. These were not Ashkenazim in northern Europe, where Jews were still largely excluded from the world of scientific scholarship, but Sephardim in the Iberian peninsula, in Baghdad, and in other Islamic centers of

learning. I have also mentioned the more diffuse cultural evidence from Spain, where, under both Muslim and Christian rule, Jews attained eminent positions in the professions, commerce, and government as well as in elite literary and intellectual circles.

After being expelled from Spain at the end of the 15th century, Sephardi Jews rose to distinction in many of the countries where they settled. Some economic historians have traced the decline of Spain after 1500, and the subsequent rise of the Netherlands, in part to the Sephardi commercial talent that was transferred from the one to the other. Centuries later, in England, one could point to such Sephardi eminences as Benjamin Disraeli and the economist David Ricardo.

In sum, I propose that a strong case could be assembled that Jews everywhere had unusually high intellectual resources that manifested themselves outside of Ashkenaz and well before the period when non-rabbinic Ashkenazi accomplishment manifested itself.

How is this case to be sustained in the face of contemporary test data indicating that non-Ashkenazi Jews do not have the elevated mean of today's Ashkenazim? The logical inconsistency disappears if one posits that Jews circa 1000 C.E. had elevated intelligence everywhere, but that it subsequently was augmented still further among Ashkenazim and declined for Jews living in the Islamic world—perhaps because of the dynamics described by Cochran, Hardy, and Harpending (that is, Oriental Jews were concentrated in trades for which high intelligence did not yield wealth).

Recent advances in the use of genetic markers to characterize populations enable us to pursue such possibilities systematically. I offer this testable hypothesis as just one of many possibilities: if genetic markers are used to discriminate among non-Ashkenazi Jews, it will be found that those who are closest genetically to the Sephardim of Golden Age Spain have an elevated mean IQ, though perhaps not so high as the contemporary Ashkenazi IQ.

THE NEXT strand of an alternative to the Cochran-Hardy-Harpending theory involves reasons for thinking that some of the elevation of Jewish intelligence occurred even before Jews moved into occupations selected for intelligence, because of the shift in ancient Judaism from a rite-based to a learning-based religion.

All scholars who have examined the topic agree that about 80–90 percent of all Jews were farmers at the beginning of the Common Era, and that

only about 10–20 percent of Jews were farmers by the end of the first millennium. No other ethnic group underwent this same kind of occupational shift. For the story of why this happened, I turn to a discussion by Maristella Botticini and Zvi Eckstein entitled “Jewish Occupational Selection: Education, Restrictions, or Minorities?” which appeared in the *Journal of Economic History* in 2005.

Rejecting the explanation that Jews became merchants because they were restricted from farming, Botticini and Eckstein point to cases in which Jews who were free to own land and engage in agriculture made the same shift to urban, skilled occupations that Jews exhibited where restrictions were in force. Instead, they focus on an event that occurred in 64 C.E., when the Palestinian sage Joshua ben Gamla issued an ordinance mandating universal schooling for all males starting at about age six. The ordinance was not only issued; it was implemented. Within about a century, the Jews, uniquely among the peoples of the world, had effectively established universal male literacy and numeracy.

The authors' explanation for the subsequent shift from farming to urban occupations reduces to this: if you were educated, you possessed an asset that had economic value in occupations that required literacy and numeracy, such as those involving sales and transactions. If you remained a farmer, your education had little or no value. Over the centuries, this basic economic reality led Jews to leave farming and engage in urban occupations.

So far, Botticini and Eckstein have provided an explanatory backdrop to the shift in occupations that in turn produced the selection pressures for intelligence described by Cochran, Hardy, and Harpending. But selection pressure in this classic form was probably not the only force at work. Between the 1st and 6th centuries C.E., the number of Jews in the world plummeted from about 4.5 million to 1.5 million or fewer. About 1 million Jews were killed in the revolts against the Romans in Judea and Egypt. There were scattered forced conversions from Judaism to another religion. Some of the reduction may be associated with a general drop in population that accompanied the decline and fall of the Roman Empire. But that still leaves a huge number of Jews who just disappeared.

What happened to them? Botticini and Eckstein argue that an economic force was at work: for Jews who remained farmers, universal education involved a cost that had little economic benefit. As

time went on, they drifted away from Judaism. I am sure this explanation has some merit. But a more direct explanation could involve the increased intellectual demands of Judaism.

Joshua ben Gamla's ordinance mandating literacy occurred at about the same time as the destruction of the Second Temple—64 C.E. and 70 C.E., respectively. Both mark the moment when Judaism began actively to transform itself from a religion centered on rites and sacrifices at the Temple in Jerusalem to a religion centered on prayer and the study of the Torah at decentralized synagogues and study houses. Rabbis and scholars took on a much larger role as leaders of local communities. Since worship of God involved not only prayer but study, all Jewish males had to read if they were to practice their faith—and not only read in private but be able to read aloud in the presence of others.

In this context, consider the intellectual requirements of literacy. People with modest intelligence can become functionally literate, but they are able to read only simple texts. The Torah and the Hebrew prayer book are not simple texts; even to be able to read them mechanically requires fairly advanced literacy. To study the Talmud and its commentaries with any understanding requires considerable intellectual capacity. In short, during the centuries after Rome's destruction of the Temple, Judaism evolved in such a way that to be a good Jew meant that a man had to be smart.

What happened to the millions of Jews who disappeared? It is not necessary to maintain that Jews of low intelligence were run out of town because they could not read the Torah and commentaries fluently. Rather, few people enjoy being in a position where their inadequacies are constantly highlighted. It is human nature to withdraw from such situations. I suggest that the Jews who fell away from Judaism from the 1st to 6th centuries C.E. were heavily concentrated among those who could not learn to read well enough to be good Jews—meaning those from the lower half of the intelligence distribution. Even before the selection pressures arising from urban occupations began to have an effect, I am arguing, the remaining self-identified Jews circa 800 C.E. already had elevated intelligence.

A LOOSE END remains. Is it the case that, before the 1st century C.E., Jews were intellectually ordinary? Are we to believe that the Bible, a work compiled over centuries and incorporating everything from brilliant poetry to profound ethics, with

stories that speak so eloquently to the human condition that they have inspired great art, music, and literature for millennia, was produced by an intellectually run-of-the-mill Levantine tribe?

In *The Evolution of Man and Society* (1969), the geneticist Cyril Darlington presented the thesis that Jews and Judaism were decisively shaped much earlier than the 1st century C.E., namely, by the Babylonian captivity that began with the fall of Jerusalem to the forces of Nebuchadnezzar in 586 B.C.E.

Darlington's analysis touches on many issues, but I will focus on just the intelligence question. The biblical account clearly states that only a select group of Jews were taken to Babylon. We read that Nebuchadnezzar "carried into exile all Jerusalem: all the officers and fighting men, and all the craftsmen and artisans. . . . Only the poorest people of the land were left" (2 Kings 24:10).

In effect, the Babylonians took away the Jewish elites, selected in part for high intelligence, and left behind the poor and unskilled, selected in part for low intelligence. By the time the exiles returned, more than a century later, many of those remaining behind in Judah had been absorbed into other religions. Following Ezra's command to "separate yourselves from the peoples around you and from your foreign wives" (Ezra 10:9), only those who renounced their foreign wives and children were permitted to stay within the group. The returned exiles, who formed the bulk of the reconstituted Jewish community, comprised mainly the descendants of the Jewish elites—plausibly a far more able population, on average, than the pre-captivity population.

I offer the Babylonian captivity as a concrete mechanism whereby Jewish intelligence may have been elevated very early, but I am not wedded to it. Even without that mechanism, there is reason to think that selection for intelligence antedates the 1st century C.E.

From its very outset, apparently going back to the time of Moses, Judaism was intertwined with intellectual complexity. Jews were commanded by God to heed the law, which meant they had to learn the law. The law was so extensive and complicated that this process of learning and reviewing was never complete. Moreover, Jewish males were not free to pretend that they had learned the law, for fathers were commanded to teach the law to their children. It became obvious to all when fathers failed in their duty. No other religion made so many intellectual demands upon the whole body of its believers. Long before Joshua ben Gamla and the destruction of the Second Temple, the require-

ments for being a good Jew had provided incentives for the less intelligent to fall away.

Assessing the events of the 1st century C.E. thus poses a chicken-and-egg problem. By way of an analogy, consider written Chinese with its thousands of unique characters. On cognitive tests, today's Chinese do especially well on visuo-spatial skills. It is possible, I suppose, that their high visuo-spatial skills have been fostered by having to learn written Chinese; but I find it much more plausible that only people who already possessed high visuo-spatial skills would ever devise such a ferociously difficult written language. Similarly, I suppose it is possible that the Jews' high verbal skills were fostered, through secondary and tertiary effects, by the requirement that they be able to read and understand complicated texts after the 1st century

C.E.; but I find it much more plausible that only people who already possessed high verbal skills would dream of installing such a demanding requirement.

This reasoning pushes me even farther into the realm of speculation. Insofar as I am suggesting that the Jews may have had some degree of unusual verbal skills going back to the time of Moses, I am naked before the evolutionary psychologists' ultimate challenge. Why should one particular tribe at the time of Moses, living in the same environment as other nomadic and agricultural peoples of the Middle East, have already evolved elevated intelligence when the others did not?

At this point, I take sanctuary in my remaining hypothesis, uniquely parsimonious and happily irrefutable. The Jews are God's chosen people.