All have been interested in the statement that God made of the Seed of Abraham a Chosen People, but I wonder whether it is realized how modern and scientific were the methods which He used in this task. If the modern stock-breeder wishes to establish a pedigree strain, he uses just these same methods. He mates the two healthiest animals he can secure, which have the desired qualities, whether these be mental or physical. He then practises the closest in-breeding for several generations, to “fix” the desired quality, but he is careful to avoid very close in-breeding for more than some three generations, because it is found that this tends to weaken the stock.

Theoretically, deterioration would not occur if the original stock were perfectly sound. Practically, all stocks have some weak point; it may be poor resistance to some disease, and this, like the desirable qualities, is accentuated by in-breeding. These modern methods are based upon experience from the earliest times with both animals and men.

In ancient Egypt, it was the custom for the Pharaohs to inter-marry very closely and, as a result of the feeling that none but the “bluest” blood was good enough for Pharaoh, it often happened that he married his sister. There was religious sanction for this custom, as the goddess Isis was not only the wife but also the sister of the divine Osiris.

Since the dynasty depended for its security on the production of a line of capable warriors and administrators, we may be sure that the Egyptians, who were one of the most intellectual races of antiquity, regarded such in-breeding as a means to this end. In this connection, it is worth noting that Cleopatra, one of the most beautiful women in history and intellectually well above

---

1 N.B. Eugenics does not advocate the methods of the stock-yard.
The average, was the product of a long line of the closest inter-marriages.

The perfection and the intricacy of the natural laws, discovered by science, makes it reasonable to suppose that they are, indeed, divine in origin; and it makes the Bible narrative more easily credible if it can be shown that the Creator Himself works in accordance with these laws.

II

When God proposed to found a Chosen People, He set about the task on the same lines which would be followed by the modern man of science. From Genesis, it would appear that Adam was the first man on this earth, and it seems that he was the first of the Adamic Race, who were later called the Sons of God (vi. 2).

As this was the highest type of man it is in accordance with what we should expect when we learn that Terah, the father of Abram, was a direct descendant of Adam. Terah was evidently a man of substance among the Chaldeans and was in a position to emigrate with his family to Canaan. It may fairly be assumed that he was of sound constitution, as it is recorded that he died at the age of 205 years.

Inter-marriage was common among this stock, as Abram’s brother married his niece (xi. 29), while Abram was Sarai’s half-brother (xx. 12). Their child, Isaac, married his cousin, Rebekah, and their son, Jacob, continued the course of in-breeding when he married his cousins, Leah and Rachel. Their progeny were enjoined not to marry Canaanites and so contracted more cousin-marriages.

There was, however, one exception, Joseph, who married the Egyptian Asenath, daughter of Potipherah, priest of On, the modern Heliopolis, from which came Cleopatra’s Needle. It is the fact that Joseph’s wife was Egyptian to which attention is drawn. This racial mixture must have affected the appearance of his children, Manasseh and Ephraim, and made them differ from the other grandsons of Jacob. Of these, the sons of Benjamin were most closely akin to Manasseh and Ephraim, as they had the same grandmother, Rachel; while the other tribes derived from Jacob by his first wife, Leah, and his concubines. Thus, there is scientific reason for believing that, from
the earliest times, there was some difference in the appearance of the tribes, which would be most marked between the people of Ephraim and Manasseh on the one hand, and the remaining tribes on the other. As frequent tribal quarrels are recorded, the amount of inter-marriage was probably not great and so these different characteristics would tend to become "fixed". These differences would be marked between the tribes of the Northern Kingdom of Israel and the smaller group which formed the Southern Kingdom of Judah.

III

Let us now consider some other descendants of Abraham. Several races were beginning to be formed at this important period in the history of the world—about the year 2,000 B.C. Abraham had other sons: one, by the Egyptian bond-maid, Hagar, was Ishmael, considered to be the founder of the Arabs. Six, by another wife, Keturah, went eastwards (Gen. xxv. 6). Then there is Esau, and he, perhaps, deserves more than passing notice. Esau is said to be Edom and Mount Seir (xxxvi. 8) and is regarded by some as a progenitor of the Turks. It may well be that a part of Edom was absorbed into the future Turk, while part fused with other races, but it is unwise to be dogmatic.

Esau first married two Hittites. This was a great grief to his parents (xxvi. 34, 35) who were anxious that their sons should not contaminate their blood by mixed marriages. Now Esau was of an affectionate disposition (xxxiii. 4) and fond of his father, who loved him (xxv. 28); so, when he saw "that the daughters of Canaan pleased not Isaac his father", he did his best and married the daughter of Ishmael, who was half-Egyptian and had married an Egyptian wife, so that his children must have differed considerably from the true Terah stock.

It would seem that Esau, when he sold his birthright and cast his lot with the heathen by marrying with them, had forfeited his position in the Hebrew community, so that he was unacceptable as a suitor for the daughters of his father's blood and had to turn to the half-caste progeny of a slave.

There is, thus, nothing incredible, to the biologist, in the theory that a part of the Turkish nation is derived from Esau. Certainly the objection based upon the physical differences
between the Turks and the modern Jew is worthless, as all that is required by this theory is a single link, nearly four thousand years ago.

IV

So much for heredity; let us now consider environment! The stock-breeder is not content to breed from sound stock but endeavours to place it in the environment suited to its highest development. In the case under consideration Abraham and Isaac were placed in a “land flowing with milk and honey”. Later, Jacob and his descendants went down into Egypt, where they found a friend at court, and were provided with a home in the Land of Goshen. Their total number was then seventy, and it is clear that they prospered and multiplied rapidly.

Now, in the ordinary course, a savage pastoral people increases rather slowly. Both their birth-rate and their death-rate tend to be in the neighbourhood of 40-50 per 1,000 and, if the birth-rate rises above this, for example as a result of marked polygamy, the death-rate usually keeps pace with it.

Thus, the fact that the Israelites multiplied rapidly is evidence that their system of hygiene was superior to that of savages, which is not remarkable when we remember the high civilization of Chaldæa, whence Abraham came.

Here we may consider another factor which must have affected the Israelites just as it affects mankind to-day, the Differential Birth-Rate. From the narrative of Genesis it is clear that the Patriarchs practised polygamy and had large families, but even among a nomadic pastoral people the power to support several wives and their families presupposes energy, perseverance and ability. Just at first, in the Land of Goshen, there was every encouragement for the largest possible families; every child would be useful, for labour was at a premium.

After some generations, however, the struggle for existence would become more acute. The more energetic and ambitious would be able to support an extra wife or two; the lazier ones would tend to become employees and to marry later. The more successful would provide more liberally for their children, not only in food and raiment, but in dowries or in helping them to make a start in life. Thus, from the earliest times the most
energetic and successful would have the largest families. Therefore the developing race would be strengthened by its greatest increase coming from the most efficient parents while the less efficient left fewer descendants.

V

This is a simple example of the Differential Birth-Rate, a phenomenon which provides one of the most difficult population problems to-day. For more than half a century the birth-rate has been falling in most civilized countries, but only recently has it been realized that the fall was taking place most rapidly among the most prosperous sections of the community. This whole problem was first considered in England by Dr. David Heron, working upon the data of the census of 1901. Even in those days some of the professional classes were not producing enough children to replace the number of their parents in the next generation. Since then, the war has eliminated many of the small families of that class, which has aggravated the position. On a recent estimate, the classes with an income of £300 per annum and upwards are not now having enough children to replace their parents.

That will show how important this question of the Differential Birth-Rate has become, but we may be certain that it has always acted as a population-factor and that, under the conditions prevailing in the Land of Goshen, it would work in such a way that the pick of the Israelites would leave the greatest number of descendants.

It is not, however, the number of children which are born which matters most: what really matters is the number which survives, and this is described by the Survival-Rate. On reflection, we shall see that a high Birth-Rate and a low Survival-Rate can only be brought about by a high Death-Rate, which is usually disadvantageous in the following way. If a healthy child is born which does not reach maturity there is a great economic loss. The child during all its developing years is a consumer, so there must be a loss unless it survives until it has produced as much wealth as it has consumed. If it lives longer, it becomes an asset which should increase the wealth of the nation. But in human life there is more than economics. Each child makes demands upon its mother's health, energy and emotions which,
if it is to die young, would be better expended upon the other members of her family or in some other useful direction. It was emphasized that this depended upon the child being healthy, for, if the child is to be very unhealthy or relatively valueless when it reaches maturity, from the racial point of view it would be better dead, and if it is to die, the earlier the better; better still, both for the parent and for the race, that such an unhealthy child should not be born at all. There are also considerations of parental feeling and emotion which are obvious. Thus, the historical fact that the Israelites were able to maintain a higher Survival-Rate than the Egyptians must have been an all-round advantage to their race.

In fact, the Chosen People were placed in a healthy environment exactly suited to their tastes and capabilities which is just what a scientific stock-breeder would strive to secure. In time the increase in numbers and prosperity of the Israelites attracted the attention of the Egyptians. There was probably a change of dynasty, as “there arose up a new king over Egypt, which knew not Joseph,” and he had his place in the scheme of Israel’s evolution.

VI

There are two factors of importance in the life of every individual: heredity and environment. In the case of the Israelites, both heredity and environment had, so far, worked together to produce a hardy, energetic race of freemen. Then the environment changed. The exact reason for this is not clear. It provided great opportunities for rapid increase of population and a life of discipline, to which they had been strangers, but the fact remains that the Israelites became a race of slaves. We may imagine how they hated it, if we think of them as a people, something like the Arabs of the desert. In the end, they degenerated and grew to have a real slave mentality. Even after the enthusiasm of Moses, and the wonders which he did, had persuaded them to take the plunge and to flee from their oppressors, they murmured and would fain have sold their new-found freedom for the flesh-pots of Egypt. Such men were of no use for the task in store for them; so, again, their environment changed.
EUGENICS AND THE CHOSEN PEOPLE

During the wanderings of the Exodus, Israel became a nation, and all the slaves who had left Egypt died. A new race was born, so hardy that there was not one weakling in the host. They lived a life of discipline under the Law, until their descendants emerged from Sinai, a nation fit to be "God's battle-axe and weapons of war".

We have seen that the history of the Chosen People, from the Call of Abram till their arrival at the Promised Land, is the story of a race developed for its task by means upon which the men of the twentieth century have not improved. Many of the methods now used in the production of the finest animal stocks, where religious and political considerations have no influence, are but imitations, albeit unconscious imitations, of the methods which were applied to the Patriarchs nearly four thousand years ago. The Laws of Natural Selection and of the Survival of the Fittest operated to their advantage. Now, after thousands of years of additional knowledge, all the most progressive nations of to-day are finding that the civilization which they have built up is in danger from their interference with these very laws. Their experts do not agree as to the best methods of meeting this menace and many, even now, regard it as unmanageable. When we compare these human efforts with the seemingly inevitable development of the Israelites: when we think of their environment, altered time and again, yet always in such a way as to promote their good, we find that there is no room in such a history for the workings of blind chance.

The only explanation is that we have evidence of a Superhuman Intelligence, using natural laws with the unerring touch which only comes of complete comprehension, foreseeing the end from the beginning, acting according to Its own predetermined plan, and moulding Its Chosen People as the Potter moulds his clay.

K. B. Aikman.

Harley Street, London.