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ISRAEL IN CAMP: A STUDY.¹

'THE old theory of the composition of States was based upon the tendency of families to multiply round a central family, whose

¹ The late R. A. Proctor, the astronomer, in the *Contemporary Review*, June 1879, gave the world what must now appear a remarkable instance of insight and prediction. Having remarked that the Hebrew race derived from their Chaldean ancestors a nature-worship relating more directly to the heavenly bodies than that of nations living under less constant skies; he declared that their myths must of course be more essentially astronomical than those of other nations; and predicted that 'more light will be thrown on the ancient systems of astronomy and astrology by the careful study of some of the Jewish Scriptures, and clearer light will be thrown on the meaning of these books by the consideration of astronomical and astrological relations associated with them, than has heretofore been supposed'.

During the last few years several German writers have found their way into this field of enquiry, and several English theologians are beginning to give it recognition. Dr Cheyne frequently quotes Winckler and others, and one need only refer to his volume on Bible Problems. Dr A. Jeremias, reviewing Dr Cheyne's book in the *Hubbert Journal* (October 1905, p. 217), tells us of the light that has come to himself concerning 'the great world-year' and 'calendar myth' of the ancients, which pervaded the atmosphere in which the Bible writers lived. In the *Expositor* for January 1906, Mr Stanley A. Cook explains how B. Jacob, of Leipzig, finds a certain artificial construction in the Pentateuch—extending to the narratives which deal with the tabernacle and the ritual—and is led to an approximation to 'the cosmological theory which has lately attained some prominence among certain continental writers'. Mr Cook remarks that this tendency in present O.T. study deserves serious consideration. In America, too, Prof. W. Max Müller, in the *American Antiquarian* for March, in reviewing Prof. E. König's pamphlet on the Babylonian Captivity, refers to Dr Stücken as the real founder of 'the new astro-mythological system of historiography'.

Lastly, let me quote from Dr Cheyne's article in the *Contemporary Review*, March 1905:—'But it may be well for me to say here as a fact, and not as a mere opinion, that the theory which is now advocated by a number of leading German Assyriologists, that astral myths are the outer garment of the Biblical stories of primitive times (I quote from Hommel), is not the result of mere "philological jugglery", but a fine specimen of concentrated intellectual work, and an attempt, by no means wholly unsuccessful, to penetrate to the centre of the Babylonian, Canaanitish, and probably to some extent early Israelitish view of the world.'

I desire that the following article may be regarded as a tentative essay on these lines. I have for many years engaged in such studies; and I hold in hand a full interpretation of the Bible narrative from the Creation to the Flood. The Book of Genesis, if read in the light of Geology, reads like false science or childish imaginings. In the light of astro-theology it is seen to be a true history of celestial change, calendar reform, ritual reconstruction, and religious conflict: and every stage of it can be dated.

head represented the original progenitor of them all. The family, under the government of a father, was assumed to be the primary group—the elementary social unit ; in it were found at once the germs of the State and of sovereign authority. Many circumstances recommended this theory, and none more than its apparent simplicity. It was easy to find abundant analogies for the prolongation of the family into the State. A family tends to multiply families around it, till it becomes the centre of a tribe, just as the banyan tends to surround itself with a forest of its own offshoots. And it is obvious to follow up this figure by remarking that the feelings of kindred which hold families together in tribes, tend to bind together in nations, tribes which, like the Greek races, trace back their descent to kinsmen.' I take this from J. F. McLennan's *Primitive Marriage* chap. ix.

Mr McLennan holds that, nevertheless, the theory cannot be supported. In the first place it is not borne out by history. The tribes are numerous whose members claim to be descended from a common progenitor. Enquiry, however, everywhere discloses the fact, that the common progenitor is a fiction—a hero or god called into being to explain the tribe. This opinion is not uncommon among anthropologists ; we find it, for example, in C. O. Müller's *Doric Race*, translator's Preface ; in Dr E. B. Tylor's *Primitive Culture* i 362 ; and Prof. Kittel of Leipzig, who says (*Babylonian Excavations and Early Bible History* pp. 18 and 28)—' It has come more and more to be regarded as proved that the earliest traditions concerning the Patriarchs and Tribes of Israel are merely presentations of myths—projections of later history into the prehistoric past.'

Mr McLennan finds it to be a very widespread practice for men to take wives from other tribes ; and this exogamy is even religiously enjoined. The women are captured and forcibly borne away ; or where this is no longer the case the pretence of it is kept up as a marriage ceremony. Long custom has created a law, and it is now regarded as incest to marry within one's own community ; but the original reason, he believes, was the scarcity of women, which had arisen from the practice of infanticide. Children belonged to their mother, they received the mother's family name, and thus they were exotics or foreigners, like the woman herself. The mother's tribe-name, clan-name,

totem or crest-name, might be Buffalo, Badger, Emeu, Bear, Turtle, &c. : there seemed to be a general preference for animal names. Marriage by capture brought many totems into the tribe ; but by their names they were known, and it was not allowed to take a wife of the same totem-name whether within the tribe or without. The animal form may be tattooed on the body, or inscribed on the shield ; and those who use such a crest—as Bear or Badger—call themselves Bears or Badgers, and regard the animal as their ancestor. From reverence or from some other motive they shrink from killing and eating it, while they have no objection to killing the sacred animal of their neighbours. Totemism is almost universal among the natives of Australia, among the Red men of America, and is widely prevalent in Asia and Africa ; while its former existence among the early Arabs, and the ancient Greeks and Egyptians can also be shewn. It seems to arise naturally at a certain stage of human progress ; and it would be of much interest to learn the true cause. But what chiefly concerns us in the present enquiry is to ascertain, if we can, the origin of the tribal division among nations, and especially in Israel. Such investigations as those of Mr McLennan seem to demand the existence of different tribes to start with : tribes so distinct as to have diverse names and to be often hostile to one another. How do they get their names, and why do they happen to be, in so many nations, exactly four or twelve ?

A Parable.—Long ago, in a pastoral region of Asia, a small community, descendants of the Sabeans, erected a tabernacle for their religious rites, and pitched their tents round about it. The door of the tabernacle faced the east ; and the people were grouped east, west, north and south, according to their families. There were some priestly duties, of course ; and as the holy house had to be protected, the attendants were armed men. In actual practice the whole community might have to be protected at the same time, and for this reason the guards must be fairly numerous. In the earlier days the duties were undertaken in turn by the men of each quarter of the camp or settlement, the four filling out the year. But when the population had multiplied, twelve companies of guards in rotation did monthly service.

These guards, isolated in the midst of a vast circle, and watchful while others slept, became familiar with many conspicuous stars, and most of all with the group or constellation which culminated at midnight in the middle of their term of service. As the nights followed one another they watched it slowly pass; and measured their own remaining time of public duty. Meanwhile they saw, ascending close behind it, the constellation which would bring them relief—because, simultaneously would arrive the next batch of men. Naturally each company was becoming associated with a particular month of the year, and identified with the zodiacal constellation of that month, though there had not been any plan to bring about such a result. If the constellation had a name—as the Ram, the Snake, the Antelope—the men might begin to be called Antelopes, Snakes, &c.

Sacrifices were offered, and were a charge assessed on all. The guards, too, must be fed, and it was the duty of all families to contribute. Each of the eleven Sections carried to them a share of food from its own farm or communal field. One brought sheep and lambs, another wheat or barley: the contributions comprised lentils, apples and grapes, poultry, eggs, and goats' milk, every production, according to the special cultivation. Families engaged in hunting and trapping offered rabbits, hares, and game. There was generous provision, and no ground of complaint. Yet one thing was always wanting, and every company of guards felt it in turn: they looked in vain for the article of food which it was their own special occupation to produce. It is not certain that it was not this industry which gave them their totem-names, afterwards bestowed also upon their star-groups. In their absence on camp service there was less of this commodity produced, and the little was wanted by their women-folk. In this way their month of service involved an enforced abstinence from their own accustomed food or dainty, their speciality, the flesh of the animal which gave them their crest. Because of the religious obligation they submitted willingly to the self-denial; and even after they returned to their homes were inclined to persevere in it.

It is interesting to watch social developments and observe the emergence of unexpected results. The people we are speaking of, when they made twelve companies to guard their tabernacle,

each for one month, did not foresee that they would be led in consequence to new customs of marriage. Yet so it was. A man's absence from home was practically a temporary divorce *a mensa et toro*. He had to trust his wife's virtue. When children were born in his house the neighbours would say: We know who the mother is! Descent would be more conveniently reckoned through the mother; though perhaps this had been so, even before. The men had daughters as well as wives; the younger men had sisters at home. If they marry during the service month of their clan, they must necessarily accept the men of other clans. Young men of other clans made raids on the clan denuded of its fighting men, and carried off the young women willy nilly. Some of the maidens, however, were not averse, and arranged dances, although they knew that they might be 'surprised' and captured. To this practice also the fathers and brothers had to reconcile themselves, as being incidental to their tabernacle service. In their turn they would make raids on others: and by and by it would seem to be the only right thing.

In course of time the twelve monthly companies became distinct tribes. A later development was to leave all tabernacle duties—priestly and soldierly—to one tribe in perpetuity; and then of course this tribe received the gifts in support continually.

The words of our parable are ended. We confess it to be an imaginary story, for which we cannot quote contemporary historical authorities. Yet as it would appear to account for tribal divisions and totem standards, we may usefully bring together some of the scattered facts which seem to support it. It is not pretended that nothing has hitherto been done; but it may safely be said that very little has been finally settled. Tribal constitution is discussed, but there is no answer to the question why the divisions should so often be four or twelve. Max Müller held that a totem was a clan mark: but how come the clans? Mr Andrew Lang conjectures that the early inhabitants of the earth lived in small groups, and they fixed animal names on one another in derision. Messrs Spencer and Gillen, living among the Blacks of Australia, have discovered some totem practices inconsistent with the previous ideas of anthropologists. It remains the case, as confessed by Mr Howitt

in 1888, that to explain the rise of totemism is as yet one of the unperformed tasks of investigators. The present paper will only have to do with totems incidentally: its principal aim is to find some clue to the tribal arrangement in Israel.

Divisions of 12 and 4.—When we observe that many of our towns are built with main streets making a cross east and west, north and south, and having a cathedral or an ancient cross in the middle, we are reminded of the Hebrew camp in the wilderness, or an American Indian arrangement. It is remarkable that tribes of men whom we deem barbarous are often more regardful of the cardinal points than we are ourselves. After the fashion of barbarians they are also very religious. Dr Louis H. Morgan, in his work on *Ancient Society*¹, tells us that the American Indian tribes in general held religious festivals at particular seasons of the year, which were observed with forms of worship, dances, and games. Among the Iroquois each *gens* furnished a number of Keepers of the Faith, both male and female, who together were charged with the celebration of these festivals. These Indians have their phratries or brotherhoods; and these are subdivided into two or more gentes, comprising persons of the same family relationship and ancestry; or perhaps gentes were first and were combined into phratries.

‘The pueblo of Mexico was divided geographically into four quarters, each of which was occupied by a lineage, a body of people more nearly related by consanguinity among themselves than they were to the inhabitants of the other quarters. Presumptively each lineage was a phratry . . .’ In the brief account of these quarters at the foundation of Mexico, Herrera proceeds as follows: ‘When this was done, the idol ordered a priest to bid the chief men divide themselves, with their kindred and followers, into four wards or quarters, leaving the house that had been built for him to rest in the middle, and each party to build as they liked best. These are the four quarters of Mexico now called St John, St Mary the Round, St Paul and St Sebastian. That division being accordingly made, their idol again directed them to distribute among themselves the gods he should name’ (Morgan p. 198). ‘Among the Village Indians of Mexico and Central America the phratry must have existed, reasoning upon general

¹ Macmillans, 1877.

principles, and have been a more fully developed and influential organization than among the Iroquois. The four "lineages" of the Tlascalans who occupied the four quarters of the pueblo of Tlascala, were, in all probability, so many phratries. Each had a distinct military organization, a peculiar costume and banner, and its head war-chief, who was its general military commander. They went forth to battle by phratries. . . . The Aztecs in like manner, of the four quarters of Mexico, were distinguished from each other by costumes and standards, and went out to war as separate divisions.' Regarding the government of the Aztecs Brasseur de Bourbourg remarks generally that 'nearly all the towns or tribes are divided into four clans or quarters whose chiefs constitute the Great Council' (pp. 98, 203). Dr J. G. Frazer (*Totemism* 81) tells us that when a North American tribe is on the march, the members of each totem-clan camp together, and the clans are arranged in a fixed order in camp, the whole tribe being arranged in a great circle or in several concentric circles. When the tribe lives in settled villages or towns, each clan has its separate ward.

Among the ancient Greeks—so far removed from these Indians in time and place—tradition said that in the days of Cecrops there had been twelve clans or divisions of the people ; and that, first, Amphictyon brought their representatives to meet at a round table, and then Erechtheus invited them all to a Pan-athenaic festival. It was part of the business of Erechtheus, however, to drive a chariot with four horses abreast ; and 'these things are an allegory'. There were four chief tribes of the Hellenes, whose progenitors were said to be sons of Hellen. The legend used to be regarded as historical, but Dr E. B. Tylor classes it with the eponymic myths of other nations (*Prim. Cult.* i 364). Taking a single city of Greece, the four tribes of the Athenians were each organized in three phratries, each phratry composed of thirty gentes. Suidas, who gives this information, adds that these numbers were derived from the four seasons, the twelve months, and the three hundred and sixty days of the year (G. Cornwall Lewis *Astron. of the Ancients* p. 17 Note).

In the Book of Genesis the sons of Ishmael are not merely individuals, for their names are given to us 'by their villages, and by their encampments ; twelve princes according to their

nations' (Gen. xxv 16). In Assurbanipal's account of his eighth expedition, we have mention of the 'twelve districts which were in Elam' and 'fourteen cities, royal seats' (George Smith *Hist. of Assurb.* p. 222).

How comes the prevalence of the number 12? We have in Israel the historical record of monthly service of military companies, and service in turn by 'courses' of priests. In the early years of the monarchy we find the military organization begun by Saul and then greatly developed by David. 'The Host' was the whole available military force of Israel, consisting of all males capable of bearing arms, and was summoned only for war. There were twelve divisions who were held to be on duty month by month; and over each of them presided an officer, selected for this purpose, from the other military bodies formed by David (Stanley *Jewish Church* Lect. xxiii). The only standing army had for its nucleus David's 600 heroes or mighty men; and when it became divided into three, and these again by ten, each band of twenty had its officer—'the thirty'—and each 200 its superior officer 'the three'. There were also courses of priests appointed in David's reign (1 Chron. xxiv 1-19; 2 Chron. xxiii 8; Luke i 5); and although their term of service was but one week, and not a month, the number twelve seems to emerge. The twenty-four courses were made up from two great priestly houses, rivals in a measure, each of which was apparently entitled to twelve. Both the priestly and the military arrangements of the days of the monarchy appear to look back to earlier time, and derive something from tradition. In Greece 'the sacrifices at Elis were conducted by a priest, who held office for one month, and by the seers, the libation officers, the Interpreter of Antiquities, the flute-player and the woodcutter' (Paus. v, xv). Among the Hebrews, had not the priests in the olden time served the tabernacle month by month?

That chapel of the Mexicans, with the idol in it, would demand some priestly service and require some soldierly guardianship. The tabernacle of Israel in the wilderness was served by priests, and both served and guarded by Levites. The Levites, as we know, were essentially a military caste—'a band of determined soldiers, each with his sword by his side, ready to defend and avenge the Divine Presence at the risk of their lives, against traitors

within or enemies without the camp' (Stanley, Lect. xxxvi). And they needed to be that ; for they would be called upon sometimes to carry the ark into the battlefield (1 Sam. iv 3, 5, v 2, xiv 18 ; 2 Sam. xi 11). Such duties and risks, we may fairly suppose, were at one time undertaken by all the able-bodied men of the nation in turn. In the wilderness, although the priests and Levites render public service all the year round, the Israelites are already divided into twelve tribes, and it is revealed to us that formerly each tribe took its turn.

We have a description of that orderly encampment which called forth the passionate burst of Balaam's admiration : 'How goodly are thy tents, O Jacob, and thy tabernacles, O Israel!' The Holy Tent is in the middle, and there are three tribes on the east side, three on the west, three north and three south. The ground plan would be just like that of an Indian zodiac, which is made square instead of circular, with the Sun in the centre. When on the march the groups are headed severally by the tribes of Reuben, Judah, Dan and Ephraim, each carrying a standard. What these ensigns were we are informed by Aben Ezra and Jonathan Ben Uzziel : the Targum of Jonathan tells us that Reuben carried a bull, Judah a lion, Dan an eagle or a basilisk, and Ephraim a man. Taking the basilisk as equivalent to a scorpion, these four signs also headed the four quarters of the zodiac, and introduced the seasons some thousands of years ago. The tribe of Levi is not in either of these four divisions, but carries and guards the tabernacle in the midst of them, and performs these duties at all seasons of the year. But this had not always been so ; and the Books of Moses contain many references to the former participation of all the tribes. At first, and as long as primitive customs prevailed among the Hebrews, the head of each family performed the sacerdotal functions ; and it is related in the narrative of the exodus that the chief of every house performed all the rites connected with the paschal sacrifice. The 'young men of the children of Israel', who assisted Moses in the ceremonies of the covenant, were any that were deemed most fit for the task (Exod. xxiv). Kalisch conceives that the Levites gradually devoted themselves entirely to priestly pursuits, which at once secured subsistence to themselves and relieved the chiefs of families from duties often burdensome and inconveniently

interfering with their general occupations. They assumed, in the course of time, the rights of spiritual primogeniture, and boldly represented themselves, in religious matters, as substitutes for the Israelites. Yet this was, not unjustly, regarded as pretentious arrogance by the Reubenites, the oldest of the Hebrew tribes, which naturally claimed its religious privileges. A struggle ensued from which the Levites came forth victorious (Num. xvi 1 sqq.).¹

Dr M. Flinders Petrie, speaking of the tribes in the desert, says: 'Their fixation may well be due to a monthly corvée of forced labour in Egypt' (*Expositor* Aug. 1905). It seems hardly to have occurred to expositors that the secret of tribal division may lie hidden in the Hebrew word *mazzaroth* (or *mazzaloth*), a word of astronomical significance. 'Canst thou bind the sweet influences of Pleiades, or loose the bands of Orion? Canst thou bring forth Mazzaroth in his season? or canst thou guide Arcturus with his sons?' (Job xxxviii 31, 32). The precise meaning of the word has troubled translators. Is it a term for the twelve zodiacal signs, or for the seven planets? Does it relate to annual phenomena, or to diurnal? Mr Fox Talbot finds the Assyrian word Mazarta, meaning a watch, and infers a derivation from *natsar* or *nasar* 'to watch', as in Psalm xli 3 'Watch the door of my lips' (נצרה, &c.). The usual term for 'watchmen' is נצרים, which also means 'watch-towers' on the hills and 'watch-houses' in the fields. The same verb is very common in Assyrian, and is often applied to astronomical *observation*. Mr Fox Talbot's conclusion is that the Mazzaroth of Job were probably the Constellations which, by coming successively to the meridian, marked the watches of the night, the hours at which the sentinels had to be changed.² Prof. Schiaparelli, the Italian astronomer, sees some difficulty in the way of this: the problem is not so simple as some might think, besides which some means would be wanted which were also applicable when the sky was clouded over.³ How much more likely that the watchers who were to change guard were the monthly contingent! The annual succession of the Twelve Signs, magnificently conducting the seasons, possesses a grandeur worthy of the poetry of Job, and of the companion phrases of

¹ Kalisch on *Leviticus* i 395.

² *Trans. Soc. Bibl. Archaeol.* i 339.

³ G. Schiaparelli *Astronomy in the Old Testament* Eng. transl. p. 81.

the passage :—Canst thou bind the cluster of the Pleiades [herald stars of spring], or loose the bands of Ophiuchus¹ [where the autumn equinox is made fast]? Canst thou lead forth the Constellations of the Zodiac in their season [bringing up hidden stars from the South]? Or canst thou guide the Bear with her train [in the North]?

The Association of the Tribes of Israel with the Signs and Seasons, thus suggested to us by more than one circumstance, may be strengthened by shewing that the Twelve of the zodiac were assigned a personality like the eponyms. If they were regarded with religious reverence they would be the Fathers of their worshippers, by the same way of thought as made the worshippers of Chemosh to be called his sons and daughters (Num. xxi 29). It would be perilous to attempt any proof from etymology that the names of the tribes of Israel were originally coincident with the names of the months. It is less hazardous to maintain that a special personality was attributed to each of the twelve constellations. In Persia and elsewhere the stars and their time-periods were ruled by great angels; and it was natural to identify the angel with the star. In Greece many of the months were plainly named from gods—'Απολλώνιας in Elis, 'Αρειος in Bithynia, 'Αρτεμίσιας in many states, &c. (see Lewis *Astron. of the Ancients* p. 23). In Assyria we read in the Creation Legend, 'He arranged the year according to the bounds that he defined. For each of the twelve months three constellations he fixed'. Diodorus Siculus says that each sign had its deity. It follows that the animal forms under which the signs are represented are symbols of the divinities. In the Persian zodiac, as in our own, they were the Lamb (or the Ram), the Bull, the Twins, the Crab, the Lion, &c. It might easily come about that a military company associated with the Lion month would blazon the lion on their shields and become known as the Lion tribe. Plutarch suggested that the worship of animals may have arisen from the custom of representing them on standards. Diodorus explains the worship of animals by the myth that the gods, being at one time hard pressed by the giants, concealed themselves for awhile under the form of animals, which in con-

¹ Probably Prometheus Bound. See the argument in G. St Clair *Myths of Greece*.

sequence became sacred.¹ Under varying views the fact is recognized that the constellations are furnished with animal names; and behind the animal form, there was believed to be a divinity. That divinity was the progenitor of his worshippers. Dr Sayce finds that a common phrase in Assyrian texts is this: 'The man the son of his god'; and of these deities, one is represented as a Fish, another as an Antelope, &c. In the Hebrew Scriptures even Malachi calls a heathen woman the daughter of a strange god (Mal. ii 11).

Mr R. A. Proctor, the astronomer, in an essay explaining the shield of Hercules, the shield of Achilles, &c., reminds us that the temple domes of ancient days were made to represent the heavens. He reasonably conjectures that on these shields we have many of the starry figures reproduced, besides the pursuits of hunting, pasturing, sowing, ploughing, and harvesting.

Jacob's Blessing.—Taken by itself, there is nothing incredible in the statement that the patriarch Jacob had twelve sons, and lived to see one of them famous. At first we may be inclined to match the fact by the instance of Ishmael, who was the father of twelve sons, all princes. Further thought may shew us that the second case does not add to the credibility of the first, but rather the contrary. It strengthens the argument for allegory. In what sense were the twelve brothers the sons of Jacob?

In any case we are led to associate Jacob's sons with the zodiacal signs. Joseph's dream likens his family to the sun and moon and the twelve stars; and the twelve stars were understood by Philo to be the month representatives (*On Dreams sent from God*: see Robert Brown *Eridanus* p. 57). Hecataeus of Abdera also, speaking of Moses, says,—'He divided the people into twelve tribes, because he regarded twelve as the most perfect number, agreeing as it does with the number of months that complete the year.' Our chief justification, however, is found in the terms of Jacob's prophetic blessing (Gen. xlix), which borrows all its phrases from zodiacal suggestions. The great era to which astronomic legend looks back is that of the vernal equinox in Taurus. The year began in spring, and the first of the signs was the Bull, as we now feign the spring to begin with the Ram. Accordingly, Jacob appears inclined to liken his eldest

¹ Discussed in Lubbock *Origin of Civilization* chap. vi.

son Reuben to the Bull, for he ascribes to him that excellency of power which in the Blessing of Moses belongs to the wild ox (Gen. xxxiii 17). The second quarter begins of course with the fourth sign: the fourth sign is Leo, the fourth son is Judah, and 'Judah is a lion's whelp'. Dan, who is described as 'an adder in the path', suits very well the Scorpion, the seventh sign, and he is the seventh in the order of blessing, although the fifth in the order of birth. The seventh month begins the second half of the year; it became in fact the first month of the civil year of the Jews; and some commentators have noticed that a sort of secondary leadership is ascribed to Dan. Thus we have a good start: but before we get all round, difficulties crowd upon us, and we falter. Why is the fifth son taken seventh in the order of blessing? If Reuben is identified with Taurus how comes he to have a characteristic of Aquarius, 'unstable as water'? What is meant by Simeon and Levi being 'brethren' when they belong to a group of four and are not twins; and how came they to 'slay a man' and 'hough an ox'? For some of the twelve brothers it is difficult to find any place in the circle, to fit their characters; or even to know what place was intended for them, since the order of the names varies. They are the sons of four mothers, and something seems to depend on that: but if we think to group them under the four seasons we are baulked again. They are not in groups of three. Reuben with Taurus might open the spring; and Judah in Leo would go well with summer; but both are of the same mother. Leah's first family of children are four; Rachel's children are only two; and between them are some who seem to be of lesser dignity, as the sons of two handmaids. With four sons of Leah, two of Bilhah, and two of Zilpah; then two more of Leah's own, and two of Rachel's, we cannot claim any obvious correlation with the four seasons. We are perplexed by what seems to be a tangle; and no one has been able to solve the problem satisfactorily.

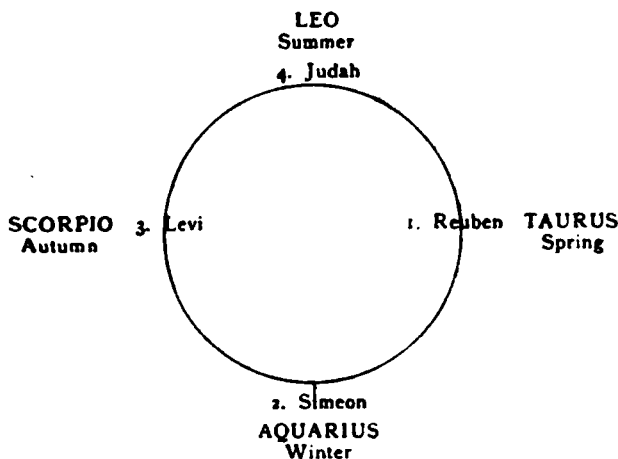
We have to seek our clue in astronomy; and nothing can be done until we learn something of the early history of the science, and the features of the early calendars. The year was divided into four quarters some time before the subdivision into twelve months, and that is why the first group of the sons

of Jacob are four in number. The defective calendar of the 'Vague Year', allowing the zodiac to revolve factitiously, brought one quarter into the place of another; and that mixes the signs together and makes Reuben to be Bull and Waterman at the same time. Let us call to our aid a few facts and dates.

Records and legends concur in their indication that the ancient astronomy dated from the time when the equinox of spring passed out of Gemini into Taurus. The summer sign was Leo, the autumn was Scorpio, and winter Aquarius. This era, as I have elsewhere shewn, may be reasonably fixed at 4437 B.C. Then, since the sun occupies 2,156 years in traversing one sign, the equinox would enter Aries in 2281 B.C., and be passing out of 'the first point of Aries' into the thirtieth point or degree of Pisces in 125 B.C. It was in 125 B.C. that Hipparchus, the astronomer, observed the equinox to be in the first point of Aries. Whatever the merits of the calendar founded in 4437 B.C., it had only gone on for 195 years when a new era was adopted, namely that of the 'Vague Year' of the Egyptians. Their New Year's Day was at midsummer, when the rising of the Nile waters was heralded by the rising of the star Sothis (or Sirius) a little before the sun. The year was reckoned at 365 days, and as there was no bissextile or other intercalary, the festival was held one day too soon in the fourth year, and two days too soon in the eighth year, getting more and more out of accord with the star. It went the whole round of the seasons in 1,460 years (four times 365) and returned to the starting-place, when it was once more in accord with Sothis. This period was the Sothic Cycle, or Great Year. Its institution appears to have been in 4242 B.C., an era to which the Samaritans looked back as the date of creation. Time or reckoning began then; and if we follow the moving festival round and round, the first cycle brings us to 2782 B.C.; the completion of the second, in 1322 B.C., is known as the Era of Menephtes; and when we come round the third time, in 137 A.D., Censorinus tells us that a Phoenix Period is ended. The fabled phoenix bird, accustomed to revive from its ashes, was an astronomical cycle; and although any recurring period might claim the name, Tacitus and others give the period of the phoenix as 1,460 years (*Tacit. Ann. i 6*).

The Blessing of Jacob has to be read in relation to the Great

Year, and it contemplates the state of things which existed when one cycle had been completed, and a second was three-quarters round. We have to assume the course of things to have been as follows:—The fortunes of Leah are bound up with the Vague Year, and those of Rachel with the Tropical. Starting with the Sothic era 4242 the first four sons of Leah are named as the four quarters, not the first four months ; and Judah correlates with the lion, not because Leo is the fourth month from Taurus, but because Leo is the fourth quarter, moving the reverse way.



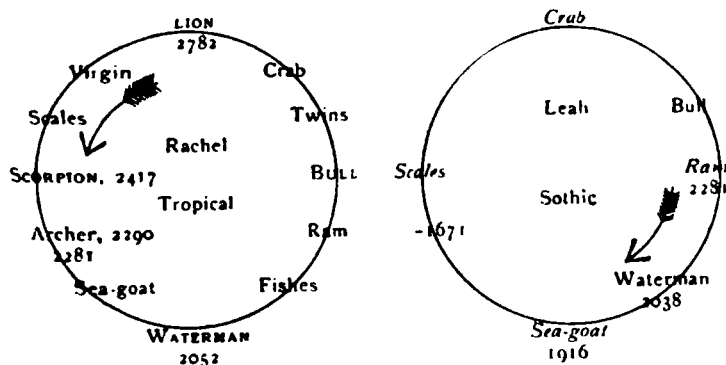
When the year is too short the movement of the festival is of course retrograde, and the order of the quarters is—Spring, Winter, Autumn, Summer. Reuben goes with spring, and Judah with summer ; but between them we have Simeon and Levi. The completion of the cycle gives rise to great searchings of heart. The Great Year has seen the New Year Festival carried backward through all the seasons, and now that it has come home again, it is found that a whole year has been lost in the reckoning : it requires 1461 Sothic years to equal 1460 Tropical. In Egypt, although the common people follow the Sothic reckoning, the priests keep time by the Tropical. The difference is that, beginning with a summer festival—let us say, on the 1st of July—the ‘Sothic’ people keep to the calendar *date*, which goes wandering backward through the seasons, and pretend that it carries the season and the sign with it ; while the Tropical people adhere to

the solstice and allow the calendar to bring a succession of dates for the festival. By the second method the festival advances through the *months* of the *calendar*, in the natural order, though keeping to its season ; and may be said to revolve, in the opposite direction from the first. This adherence to the solstice is the right way ; it is the way of the wise priests of Egypt. There is a party in favour of reform. It is now the year 2782 B.C., and the first Sothic Cycle is ended. Which way shall things move for the future ?

The decision is indicated in the brief statement that Leah 'left bearing' (for a time). The new time is not to be like the old. Leah has given four sons to the Vague-year cycle. Rachel espouses the Tropical Year, and will send the festival through the months in the natural order. Unable herself (we shall presently see why), she gives to Jacob her handmaid Bilhah, and Bilhah's sons are the fifth and sixth born to Jacob. They correspond to the fifth and sixth *quarters* ; starting from the summer (where Judah is) and taking their positions at the *autumn* and *winter* points (the right way round). In this way Dan displaces Levi, and Naphtali supersedes Simeon. Half the second cycle is completed, and we have arrived at the year 2052 B.C.

Before this time, however, the vernal equinox had entered Aries—in 2281—and the world was everywhere perturbed. No event of ancient times had a more revolutionary effect on the rituals of the current worship. It was as though Zeus was dead. Taurus is no longer the proper image of the Deity, but Aries rather ; Jupiter-Ammon must have ram's horns, and what not. When things are at length adjusted, the Ram equinox, 2281 B.C., becomes a new era, in true succession to the Bull beginning, of 4437. It is realized that Nature herself has struck the note of true time, and discredited the Vague Year as artificial. The existing calendar is wrong at all points, and the Tropical ritual is affected as well as the Sothic. As the Ram occupies the place where Reuben was, so the Goat and not the Waterman is now at the winter solstice, the birth-place of Bilhah's son Naphtali. The two sons of Bilhah, although counted to Rachel, are not Rachel's own, for Rachel is the Ewe, the Lamb (למ) —the same astronomically as the Ram—and all the quarters and signs are shifted round.

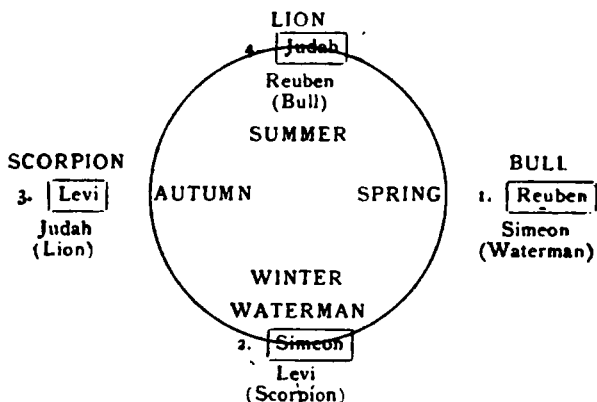
The adherents of the Vague Year, seeing their opportunity, adopted the new era, and set out again with their year of 365 days, having its festival tied to the calendar first day. Drifting backwards through the seasons it favoured the fortunes of Leah, and in due time two more sons were born—viz. Gad at the spring point, and Asher at that of winter. Yet these are offspring of the handmaid Zilpah, and not Leah's own, because they are counted in the Cancer-Aries succession, and not from Leo-Taurus in the old way. The birth of Asher brings us down to B.C. 1916. Meantime, since the calendar is running in the old Sothic way, Leah must have two more children given to her on her own account. These are Issachar and Zebulun, to be correlated with the Bull and the Waterman. This only



brings us to the year 2038, and not to 1916, the true winter point established by the recent reform. Leah seems to reach that point with the birth of a daughter—Dinah—and then she 'left bearing' again. There would not have been a seventh son until 1671. Rachel, the Ewe, and Jacob's favourite, is to have two sons on her own account, and that will complete the list. Looking at our diagram, starting from 2281, and remembering that Rachel moves the right way of the seasons, we judge that Joseph will be born close by the Crab in 1916, and Benjamin near the Scales in 1550. We need not, indeed, use these terms of mere approximation; for since the Taurus era (4437 B.C.) preceded the Sothic era by 195 years, all the signs are about three degrees in advance of the places marked. In the Ebers papyrus the year 1550 is referred to as a noted era, an era in

which some astronomical coincidence occurred. Measuring by the Sothic Cycle, and in the way followed by Leah and her maid, 1550 B.C. brings us to the autumn equinox, and shews the second cycle three-quarters gone. But going with Rachel we find Benjamin to be born (in 1550) in a place near Libra; and Rachel dies. We are not to expect any more members of the Ewe or Lamb line, in the present story. Or the meaning may be that Rachel dies because she has yielded to child-bearing of this sort. The equinox in Aries should have for its successor the equinox in Pisces, after long time. There ought not to be any Sothic family. In Grecian story we should come next to the Siege of Troy (1550-365 = 1185).

Jacob's blessing contemplates the state of things in B.C. 1550;



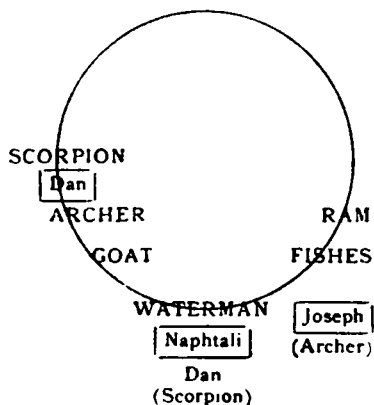
and views the calendar confusion in its religious aspect. Ritual and fasts and feasts had to be in accordance with the seasons and the stars; and the Vague Year was always wrong, from start to finish. When it was half-way through it declared summer in midwinter, and spring in autumn. Being three-quarters elapsed, it now brings Reuben and the Bull into the place of Judah and the Lion, and works similar confusion all round. Jacob addresses Reuben as his first-born, the first-fruits of his union with Leah, and as possessing the dignity and power belonging to the eldest son. At the same time Reuben is unstable as water, for he has yielded his own proper place to Simeon and the Waterman. In the spring of the year, although the sun is in Taurus, the calendar is telling the people that it is winter and

they are under the Waterman. Melville, in his *Veritas*, taking his plate from the Atlas of Alexander Jamieson (1820), represents Reuben as Aquarius. Flammarion also, in his *History of the Heavens*, makes the same identification. At the beginning of this second cycle, when Jacob was associated with Bilhah, and the New Year festival began to move the other way, the lapse of one quarter saw Reuben's sin—he 'went up to his father's couch'; for the solstice was the resting-place and secret chamber of the sun. He has forfeited this primogeniture; though he found advocates (Deut. xxxiii 6). Coming to Simeon, the second son, we see that, in his own place, he now has Levi with him: 'Simeon and Levi are brethren'; yet Levi in usurping a place at the winter solstice has slain the Man of the sign, and Simeon in annexing the spring equinox has disabled the Bull. They cannot escape punishment, however. Dan and Naphtali, of the second Cycle, have superseded them; and in the land of Canaan they will be scattered, without tribal territory. Judah alone, out of the first group of four, is approved without qualification. The solstice Ruler gave law to the Egyptians; and Judah is the solstice. He is no mere month nor sign; and he has not moved. The year begins with him, and he is lord of the year; the mere quarter divisions are subordinate. The Lion in the heavens behind him represents him well. He reigns as lord of the year, and shall rule as long as ever the solstice is in Leo. When it comes to the Cancer border a new Era will begin, for the equinox simultaneously arrives at Aries; and the leadership will be given to Ephraim, whose Holy Place shall be Shiloh. Meantime, although the calendar pretends that Judah has changed characters like his brothers, and the vineyards of autumn are his through the factitious revolution of the signs, he is not made drunken like Noah, but has washed his garments in wine.

That the first four sons should lose prominence seems thus to be explained by two causes: they were associated with the remoter time; and their successors were introduced by the inevitable movement of the stellar signs.

Of these successors we need not attempt to shew the stellar connexions in detail: but we may take one or two. Dan, although the fifth son, is taken seventh in Jacob's blessing; and his place in Scorpio belongs to the seventh month. The

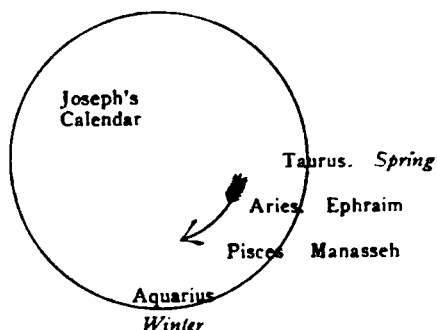
promise that 'Dan shall judge his people' assigns him a leadership second only to that of Judah; and this is appropriate to his factitious place in the Waterman sign, for the adherents of the Sothic calendar claimed that to be the original starting-point. Levi has been there already, and taught the Law (Deut. xxxiii 10). In the Waterman sign, however, Dan will do mischief: his scorpion, or the coluber snake close by (see Drummond's *Oedipus Judaicus* pp. 20, 208), will bite the heels of those horses which have their place just above Aquarius, on the celestial globe. Take one other name. Joseph has been made strong by the Mighty One (comp. xlix 24 with xviii 3)—by El Shaddai, the Deity as revealed to Abram and associated with the winter solstice. The sign of Sagittarius is wrongfully



placed in Pisces, and Joseph is sorely grieved with the archers (i. e. through the opposition in the calendar, and therefore in the monthly ritual).

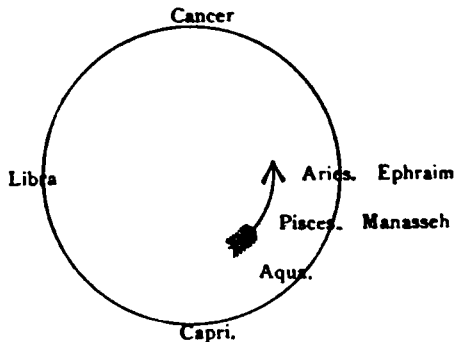
The Blessing on Joseph's sons.—The prophecy in Gen. xlviii appears to be independent of that in xlix, and proper to be taken later. Of course the grandsons of Jacob come after the sons. In chap. xlix the patriarch blesses Joseph, whereas in chap. xlviii Joseph gives place to his sons. We have two instead of one, and the younger brother placed before the elder, while their uncle Benjamin seems to be pushed out of the circle to make room for them. We have seen that Jacob's sons were not allocated to the twelve months, but to the quarters; and although the precession of the equinoxes brought another set of four into

prominence, all the eight were leaders of the quarters. Joseph was not one of them, and his sons were not mentioned. We seem now to have intermediate months brought in—a system of twelve months instead of four quarters—and the reform or addition is borrowed from Egypt, whereas all that went before was from Mesopotamia. We have seen that in chap. xlix the vision of the Patriarch contemplates the Vague Year, as it was in 1687 B.C., with the Sothic Cycle calendar twisting the seasons three-quarters round (in the backward direction); and the conventional fallacy that the equinox remains in Taurus. In blessing the sons of Joseph the seer realizes that the equinox has long since passed into Aries. It did so in 2281; and half a cycle had passed when Benjamin was born in 1550. This important era (mentioned as such in the Ebers papyrus) is probably the date here contemplated, to which Jacob desires to see calendar and



ritual properly adjusted. In the calendar of Joseph the two sons stand between Aquarius and Taurus, and are going from spring to winter, a direction which causes Manasseh to precede Ephraim. In the calendar now enjoined upon him by Jacob the natural order of the seasons is re-established; Jacob crosses his hands, Ephraim is to precede Manasseh. Not only so, but he goes with Aries to the equinox, and thus from being last becomes first—leader of the year. It is part of the reform that the year shall begin with the spring instead of the summer. Thus it was with the Egyptians themselves, for the *equinox* in Aries became a new era. Aratus having made a mistake in this matter, and made Cancer the first of the signs, was reproved by Theon: 'Wherefore has he taken the commencement from Cancer, when the

Egyptians date the beginning from Aries?' So the sceptre departed from Judah. In the false calendar, three-quarters wrong, we have seen Reuben and Simeon at the vernal equinox : so Jacob says, 'Ephraim and Manasseh, even as Reuben and Simeon, shall be mine' (xlviii 5). Ephraim in this place ought to shew his association with the Ram; but after the Bull had held the position for two thousand years, it was hard to establish new customs. The associations of the vernal equinox continued to be with Taurus. In the blessing of Moses Ephraim is given the horns of the wild ox (Deut. xxxiii 17). 'And centuries after, when its great disaster had fallen on the kingdom of Israel, the same images occur to the prophets . . . Ephraim is still the "bullock", now "unaccustomed to the yoke" but waiting a restoration to the "pleasant places" of his former pasture (Jer. xxxi 18; Hos. ix 13; iv 16)' (Smith *Dict. of Bible* art. 'Ephraim').



We have seen why Jacob crossed his hands, and declared prophetically that Ephraim must become greater than his brother. Still there was something consolatory in the blessing of Manasseh. It is true that the sign of Pisces is the twelfth and last in the circle, but the last is not always the least. If the Sothic cycle error is to be avoided, the year of 365 days must have an occasional intercalary, and this shall be given to Manasseh. To take in the annual six hours we may add one day in the fourth year, or one month in the 120th year (as the Persians did), and there are other ways. 'The ancients by combining the course of the sun with that of the moon, assumed the tropical year, at a rough and approximate calculation, to consist of twelve lunations or 360 days' (Lewis *Astron. of the*

Ancients p. 17); and then it was necessary to add a thirteenth month in every sixth year. With the Babylonians the twelfth month was Adar, and the occasional thirteenth was called Ve-Adar, or 'Adar again'. In Israel the twelfth and thirteenth are both to belong to Manasseh, whose multitudinous family will prove equal to that of two tribes. It seems likely that the doubling of the last month was the reason for placing two fishes in the zodiacal sign; an enigma to the astronomical expositor. It is a pity, from this point of view, that our Bible Revisers did not render Gen. xlviii 16 more literally, for Jacob promises Joseph that his sons shall 'like fish become a multitude' (root נִשְׁרָף).

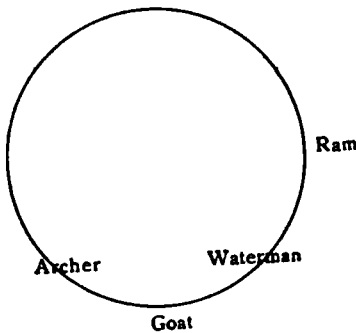
The Date of the Exodus.—The coincidence of events with eras, observable so far in these records, suggests to us that the departure from Egypt may synchronize with some quarter of the Great Year, i. e. the Sothic Cycle. We have, however, the confusing circumstance that from the time of the Ram equinox, in 2281 B. C., the cycle has been dated from two eras, 136 years apart, or 229 years, according as we measure upwards or downwards.¹ Some tribes and peoples followed it as from 2281, while others adhered to the older era, 4242. The quarter days of the cycle, 365 years apart, were themselves eras of considerable importance; and we found that 1550 is noted in the Ebers Papyrus. With this date—which is in the Ram equinox succession—we have been led to correlate the birth of Benjamin: and we are ready to say that of course the Exodus should be later. Legendary story, however, sometimes goes back upon itself. The next quarter after Benjamin, in the Ram line, would be 1184, the date of the Trojan War, and too late for probability. By the old system (Bull succession) the next quarter would be 1322—the Era of Menepthah; and this is Bunsen's date for the Exodus. But there is antecedent improbability against reverting to that line at all. It was said to Abram,—'In Isaac shall thy seed be called,' and he was instructed to sacrifice the ram. Jacob loved Rachel more than Leah, and Rachel is identified with the Lamb, which is otherwise the Ram. Truth must recognize that the spring sun is no longer in Taurus but in Aries. Moreover, the Bible writers associate the right ritual with the tropical year and an accurate calendar. The Sothic Cycle is a wrong method, though good men may compromise with it.

¹ See the table in St Clair's *Myths of Greece* ii 727.

Where did Abram come in? When the equinox was adjusted in charts and reckonings, in 2281 B.C., the Ram having come to the spring quarter, the Sea-goat acceded to the winter solstice. The legends afford grounds enough for associating Abram with Capricorn and the winter festival. In Babylonia Dr. Sayce (*Hibbert Lecture* p. 280) finds Terah the father of Abram, to be connected with Ea the sea-deity, called 'the antelope of the deep'; and we know from Sir William Jones that in the Indian Zodiac the Sea-goat has the face of an antelope. We have seen that Naphtali was given the winter solstice in the second great Cycle; and in Jacob's Blessing Naphtali is a hind let loose. The goat supplies the symbol for El Shaddai, the Strong One, Abram's name for the Deity, just as does the Bull or the Ram. In *Myths of Greece* it is shown that the winter solstice was assigned to Kronos 'the nether Zeus', as Zeus of Olympus reigned at the *summer* solstice. Mr E. Richmond Hodges—the learned editor of *Cory's Ancient Fragments*—remarks upon some 'quite unmistakable' points of resemblance between Kronos (or Saturn) and Abraham (p. 17). Saturn's-day again, the seventh day, is the sabbath of rest for Abraham's people. On the supposition that Abraham at first followed the old ritual of the Sothic Cycle, a great quadrant festival would have been celebrated (though as in honour of *Aquarius*) in the year 2052, and have passed onward 136 years towards the autumn equinox, when the Goat acceded to the winter solstice in 1916. We may picture to ourselves how the great error and the general confusion of ritual would stir a soul like that of Abram, to smash all the idols of his father's house, and rise up and leave his country. Not only has the changing declination of the stars been ignored, but the Sothic Cycle has been allowed to carry round the festival days factitiously. While he drifts with the Cycle, backward through the seasons, he is allied to the wrong partner. When he recognizes his error and harks back to the solstice, for the Ram sacrifice, as the call from heaven directs, he discards Hagar the bondwoman and consorts with Sarai. As Hagar wanders in the wilderness (and the cyclic drifting is commonly represented as a wandering) her son by and by becomes an Archer: the festival passes out of Capricornus into Sagittarius. Abram's heart goes after Hagar and Ishmael; but in the end he preserves Isaac alive, and sacrifices the ram. His seed is to be called in Isaac, not in Ishmael. He becomes

solicitous to see his son Isaac rightly married ; and the union is effected.

Yet it would seem that things did not go altogether as intended. The rivalry between Esau and Jacob indicates that affairs had become doubtful again by that time. Esau, the hairy man, has his name from the goat, and he will dwell in Mount Seir, the Goat country ; Jacob is associated with the Ram or Lamb. When the Ram equinox was established as an era, the Sothic Cycle should have been abolished. Custom prevented that, and made the rectified equinox the starting-point of a fresh cycle. By this drifting the Ram has been sent wandering, and in the year 1916 it has come to the winter solstice to jostle the Goat. A leadership belongs to the winter solstice, and they are both there to claim it : Esau and Jacob being the respective champions. Esau



loses his birthright ; falling into the cycle the Goat is carried up the side of the heavens to the place of the autumn equinox, and the Ram is left in possession. It is thus that the false calendar represents things. We see then that the Sothic Cycle is being followed even by the Jacob ritual. The difference is that it dates from the Ram equinox as an era (2281) and shifts the stellar signs one month forward all round the circle. But it is still wrong : the cyclic movement in any form is wrong. The Tropical Year alone would be right. However, moving thus in the false calendar, the Ram is found by and by (1550) at the next quarter point—the spring festival at the autumn season ! This is a very anomalous state of things ; and it finds mention, as we have seen, in the Ebers Papyrus. It sets men considering : it is not a mere calendar coincidence, it is a matter of practical concern and

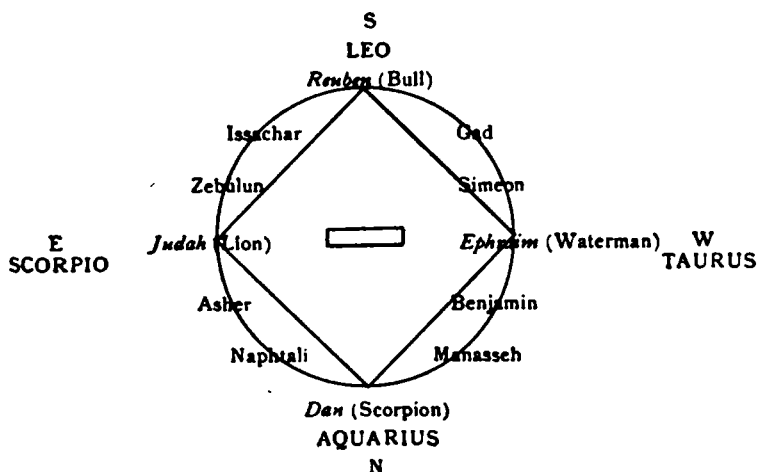
religious importance. The ritual is so outrageously wrong that the wrath of heaven is to be feared.

Then Moses was raised up, and given a commandment for his people. The Ram must be restored to its place, for autumn should not see the ritual sacrifices of spring, and the month *Tishri* should not begin the year. He reverted to *Nisan* (our April), and said, 'This month shall be unto you the beginning of months; it shall be the first month of the year to you' (Exod. xii 2), and he taught them to offer the Passover lamb, and rejoice that the son of the household was saved from death. This reform comes so fittingly when the rectification of season and ritual is called for, in 1550 B.C., that we may accept that date for Moses and the Exodus.

The Wilderness Camp Arrangement.—We have not yet seen all the twelve tribes correlated with all the twelve signs. Reuben, Judah, Levi and Simeon took the quarter signs, in the first instance; two of them were displaced by Dan and Naphtali in the next cycle; the Ram equinox brought in a second set of four; and to these were added the two sons of Joseph. That is all. The Blessing of Jacob enumerates the twelve, but leaves the location of some of them uncertain. In the wilderness camp, the tabernacle and its Levitical guards form the centre, around which the twelve tribes are grouped in four divisions, of three each, north, south, east and west (Num. ii). It is not stated whether they formed a square, or a circle; or whether the order was virtually altered when they all faced one way to march. Expositors understand the description in different ways, and give us diverse diagrams. My own conception of the arrangement must here be offered. We place the South uppermost in the diagram because we face the south to watch the course of sun and stars. Mr Collingwood¹ remarks that this was commonly done in the astrologic square. If we are right in our representation—and we certainly are so as to the quarter points—the camp arrangement is fundamentally that of Jacob's Blessing. (1) It takes the zodiac when it is artificially twisted three-quarters backward (which is practically the same as one quarter forward) and fixes it there, so that the calendar spring overlies the real summer, &c. The leading tribes are correlated as of old to the stellar con-

¹ *Astrology in the Apocalypse.*

figurations if we take the false calendar, not if we take the actual constellations. Judah, which had once been associated with the south and the summer, but has factitiously been brought to the season of autumn by the Sothic cycle, is now officially wedded to the autumn. And the same with the rest. No correction is attempted on the score of precession: it seems not to be recognized that the vernal equinox has entered Aries, which it did as long previously as 2281 B.C. The plan is in theoretical contradiction with the reform which reverted from Tisri to Nisan for the beginning of the year. That was a change which recognized that the Ram was at the equinox, whereas the camp arrangement assumes that the Bull is still a quarter sign. There is, however,



one feature which seems to take cognizance of the later phase of things: Ephraim and Manasseh are here, instead of the Joseph of Gen. xlix, and Ephraim is given the leading (quarter sign) position which he did not attain to until the Ram equinox was recognized. Another anomaly is that since Reuben is allowed to 'live and not die', Naphtali is deposed from a leading place, to which by birth he was as much entitled as Dan. In the rectification called for when the Sothic movement had brought the Ram (and the spring) to the place of autumn, the remedy was to move back in calendar reckoning, by half a year. The like remedy called for by Jacob's Blessing (and the Camp arrangement), would involve a recession of three quarters. The two events do not belong to

the same time and circumstances. The Exodus we have seen reason to date in 1550; the Blessing implies the Sothic calendar of 1687 B.C.

We seem then to find no support for the idea that Israel owed its tribal divisions to an experience of monthly service in companies in the wilderness. We cannot fairly couple the tribes seriatim with the special starry signs which we may fancy to have been their totems. Judah, for example, is neither placed with the lion nor in a position to see the lion culminate at midnight; nor do the others appear to be more suitably placed. This, however, may only indicate that the tribal division took place earlier.

In Dr Hastings' *Dictionary of the Bible* Dr Kennedy holds the tabernacle in the wilderness to be non-historical. With Reuss and others he finds a convincing argument against its actual existence in the complete silence of the pre-exilic historical writers regarding it. W. Robertson Smith (*Kinship and Marriage* p. 219, published in 1885) regards it as already recognized by most of the recent enquirers, that the division of Israel into twelve tribes did not assume its present shape till after the conquest of Canaan.

Whatever the date of the narrative, the writer appears to have had calendars and zodiacal charts before him. There is the fact also of the existence of the twelve tribes in Canaan, with traditions of an early zodiacal connexion. The story of the wilderness wanderings bears evidence itself that the twelve had been preceded by four. There had always been a lion of the tribe of Judah; and three brothers of Judah's, with other animal crests. The devices were carried on their standards. Numbers ii speaks of the standards of Reuben, Judah, Ephraim and Dan; and Aben Ezra says distinctly that the four emblems were the same with the four faces of the cherubim. The cherubim represent the full zodiac, because they combine in one sphinx-like figure, the Bull, the Lion, the Eagle and the Man (Ezek. i). The man is Aquarius, the eagle in some zodiacs is substituted for Scorpio. The circular zodiac of Denderah shews these creatures at the four quarters, with (pillar) angels sustaining the vault of heaven. The standards would have some connexion with the ritual. Plutarch long ago suggested that the worship of animals may have arisen from the custom of representing them on standards.

He may have been wrong; but his testimony holds good for the existence of animal standards. Military standards or banners are referred to in Ps. xx 5; Cant. vi 4; Is. xiii 2. Altogether the inference seems fair that the standards of Reuben, Judah, Dan and Ephraim had a zodiacal reference; and the same would surely be the case with the remaining tribes when the nation was further divided. And what more likely to lead to the division than the adoption of diverse stellar emblems?

The High Priest's Breastplate.—One other source of light in this enquiry is too important to be neglected: certain precious stones are associated with the zodiacal signs on the one hand and the tribes of Israel on the other. The twelve stones of the High Priest's breastplate, having the names of the children of Israel engraved upon them, were also emblems of the months (Exod. xxviii 17, 29; xxxix 8-14). The minute description of these gems in the 28th chapter of Exodus, indicates the symbolical reverence attached to them by the Israelites. Everything about the tabernacle and the garments and adornments of the High Priest was believed to be emblematical (Josephus *Ant.* iii 7. 7). A certain significance of the twelve stones is at once apparent. The beautiful idea is expressed that when Aaron went into the Holy Place he should bear the names of the children of Israel upon his heart for a memorial before the Lord continually. In their numbers and their importance they might differ. In marching through the desert they could not all be in the front: but not one of them was forgotten before God. Among other peoples the corresponding thing was witnessed. In Babylon the king, in his character of Pontifex Maximus, wore a breastplate adorned with twelve precious stones. Ezekiel says that the king of Tyre was so covered, with every precious stone; and he enumerates nine of them. Apparently the other three have been deleted from the Hebrew text: but they are given in the LXX. What was the full significance of these emblems?

Josephus (*Ant.* iii 6. 4; vii 5. 7) says that if any one should wish to refer the twelve stones to the twelve months, or to the same number of stars (of the constellations) in the circle which the Greeks call the Zodiac, he will not wander far from the true meaning. The arrangement in four rows of three, comes near to a square and not a circle; but that is the form of an Indian

zodiac as given in Moor's *Hindu Pantheon* (and in the *Philosophical Transactions* for 1772). Philo remarks that the distribution in threes clearly indicates the four seasons, which 'under each of the three months correspond to three signs'. Clemens Alexandrinus also is quoted to the same effect.

Josephus gives the order of the gems as follows:—

Sardonyx	Topaz	Emerald
Carbuncle	Jasper	Sapphire
Ligure	Amethyst	Agate
Chrysolite	Onyx	Beryl.

He does not give the names of the tribes (and patriarchs) in their association with the gems, but he states the order to be that of birth (*Ant.* iii 7. 5). In another place, however (*Wars* v 5. 7) the third row is given in reverse order, and the fourth as 'onyx, beryl, chrysolite'.

Calmet has a plate (CXIII) representing the High Priest's Pectoral, in which he couples the stones with the tribes as follows:—

JUDAH (Sardonyx)	<i>Issachar</i> (topaz)	<i>Zebulun</i> (emerald)
REUBEN (Carbuncle)	<i>Simeon</i> (sapphire)	<i>Gad</i> (jasper)
EPHRAIM (Ligure)	<i>Manasseh</i> (agate)	<i>Benjamin</i> (amethyst)
DAN (Chrysolite)	<i>Asher</i> (onyx)	<i>Naphtali</i> (beryl).

Boothroyd (*Critica Hebraica*) is different again.

A good deal of doubt exists as to the identification of the stones, and their proper arrangement; but we do not need to discuss every point. Our Bible Revisers have given the names as here—

Sardius	Topaz	Carbuncle
Emerald	Sapphire	Diamond
Jacinth	Agate	Amethyst
Beryl	Onyx	Jasper.

The twelve names were also engraved on two large 'shield-like' stones—onyx or beryl—attached to the ephod on the high priest's shoulders, six names on each, 'according to their birth'. Even this plain statement may leave us in doubt whether to class together the six sons first born to Leah, or the six that were

really her own. Following Josephus and most of the rabbinical writers, the order is taken as follows:—

Right shoulder.

Reuben
Simeon
Levi
Judah
Dan
Naphtali

Left shoulder.

Gad
Asher
Issachar
Zebulun
Joseph
Benjamin

Why is there this double enumeration of the tribes in the garment of the high priest? It surely has some significance beyond mere emphasis. On looking again we perceive that the representation is not strictly duplicated: we have the current order, and an older order which is superseded. On the shield stone of the shoulder, Reuben heads the list; on the breastplate we have the camp arrangement, in which Judah sets forth first (Num. ii 9). Joseph, on the shoulder, gives place to Ephraim and Manasseh on the breastplate, room being found for the two by omitting Levi as well as Joseph. Here, in the camp, Levi has left the circular series and accepted permanent duties at the centre; but the shoulder stone preserves the memory of his old place. The old order changes, but it refuses to be extinguished. The stones borne on the priest's heart—each engraved with a tribal name—are emblems of a new and improved arrangement, but the old ones retain their hold on sentiment and affection, and must be preserved as relics. Here then we have another instance, in which the condition of things described in the story of the desert bears evidence of something anterior. It is not a new institution, but a developement, and carries about with it the structural survivals which witness to its ancestry.

If those two shield-like stones on the shoulders were the Urim and Thummim, they may have been derived from Egypt. Each of the two stones, bearing six names, is an object both singular and plural; a parallel in that respect to the cherubim. Etymologically the urim and thummim seem to be 'lights' and 'perfections'; or according to the LXX, thummim is 'truth'. Wilkinson tells us that in Egypt, when a case was brought for trial, the judge put on a golden chain, to which was suspended

a small figure of Truth, ornamented with precious stones of various colours: Truth was a goddess with the Egyptians, and her name was Thmei. Colours themselves were emblems of the months and the zodiacal signs. Remembering, too, that Egyptian symbolism deals constantly with the two hemispheres, upper and under, we may surmise that the shield-like stones of Aaron's shoulders had some distant reference of the same kind. The passage in Isaiah xlix 16—'I have graven thee upon the palms of my hands'—is rendered by some 'upon the two concaves'.

The 'breastplate of judgement' was attached to the shoulder-pieces by chains of gold, and we may suppose that its twelve stones inherit the oracular powers hitherto residing in the two sixes. Exodus xxviii 29-30 reads as though the Urim and Thummim might be the twelve stones of the breastplate taken 6 and 6—'Aaron shall bear the names of the children of Israel in the breastplate of judgement upon his heart . . . thou shalt put in the breastplate of judgement the Urim and the Thummim. That the Urim and Thummim here are nothing extra to the twelve stones was the opinion of Augustine at least. The twelve stones may be said to lie over one another in two sixes, to conform as far as possible to the arrangement of names on the shoulders. The disposition of tribe emblems into sixes appears also in *Ant.* iii 6. 6, where the twelve loaves are laid 'six upon each heap, one above another', on 'a table like those at Delphi'. The loaves, Josephus tells us, were emblems of the months of the year; the precious stones, says the Targum of Jonathan, were typical of the twelve celestial signs. Josephus makes the twelve stones to be the oracle, whence such answers came as are elsewhere ascribed to Urim and Thummim (*Ant.* iii 8. 9). The sardonyx on the right shoulder shone with splendour when God was present at the sacrifice; the stones of the breastplate by shining gave promise of victory to Israel's army. According to the Targum of Jonathan the twelve stones were lucid like lamps. It is remarkable that the lustre which betokened the Divine approval came from all the twelve stones of the breastplate, but from only one of the two shoulder-pieces. That one—on the right shoulder—bore the names of the six elder sons, all belonging to Leah and the quarter-points of the most ancient

circle. Astronomically it was long out of date,—superseded indeed when the equinox entered Aries in 2281 B.C.—but in calendar practice and religious ritual it had maintained its hold for ages. It must go at last, but its Urim is affectionately regarded, and the transition is facilitated by allowing to the shoulder-piece its place, and to the Sardonyx its splendour.

Our problem has proved to be complicated and difficult; but our enquiry is not without some result. We find twelve precious stones, twelve signs of the zodiac, twelve months of the year, and twelve tribes of Israel, intimately bound up together: and the ritual order of the nation based ultimately on the order of the heavens. Precessional change, affecting the declination of the stars, dictated some alteration, which was not effected without offending prejudices. A defective calendar twisted the months out of accord with the seasons of nature and dislocated the festivals, producing grotesque anomalies. Worst of all, the people loved to have it so; and some of their earliest traditions continued to have some sway. The children of Israel had come to be twelve tribes; but in olden times they had been but four, and originally a homogeneous community. The story of their wilderness camp is one of their very early traditions; but the encampment in four groups, the delegated service of the priests and Levites, the details of the tabernacle and the high priest's robes are all reminiscent of an earlier state of things. The system throughout is correlated with the facts of astronomy and the calendar. We can hardly doubt that there were twelve tribes because there were twelve months, and twelve constellations of the months, the associative bond being probably monthly service in rotation, and attraction to the divinity of the month.

Traditions of this sort, so many and so widespread; so ancient that we find them in our earliest books; so persistent that no new Scripture is free from them, no change of faith can eradicate them—must have had an origin in some necessary phase of human development. The cause must have been in operation in different countries independently, and must of course have been adequate to produce the results. A cause is here suggested; and if it be not the true one, it may at least be found helpful in the consideration of the problem.

GEO. ST CLAIR.