Recent Biblical Archaeology.

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Windows, Doors, Locks.—In Palestine, and indeed throughout the whole of the East, windows as now understood were not in existence. Those of glass, in fact, were not in common use till Roman and Byzantine times. In the early Israelite period ordinary houses, particularly those of the poor, were either lighted and ventilated from the doors (a method not uncommon still), or were simply provided with small openings, not more than about two feet in diameter, high up in the wall, usually about six feet or more from the ground. This scantiness of 'window' provision, resulting in a somewhat darkened interior, was considered desirable in order to preserve the inmates from the scorching heat of the sun and the entrance of dust. It was also encouraged, no doubt, by the Israelite builders, who had no knowledge as yet of the construction of arches. They probably found lintels made of solid stone to be too costly and heavy, while wooden ones, even though strong enough to bear the weight of the masonry above, had the serious disadvantage of being combustible. As a general rule, therefore, a 'window' (Heb. *ḥallōn*) was no more than a narrow opening, framed with two long bricks or stones set end to end in such a way as not to weaken the wall. The smoke from the family hearth (cf. Is 30^{14}) escaped as best it could through these openings or through the doorway, as there was no chimney in our sense of the term (in Hos 13^{3}, the only text where 'chimney' is mentioned, the translation should be 'window' or 'casement'). Very few ancient buildings in the Near East have been found standing to the level of these apertures, but sufficient evidence is afforded in Egyptian and Assyrian sculptures and other representations of the period. Some rectangular slabs of hard stone or basalt which have been discovered, and which are bevelled and pierced with holes, have been regarded by some scholars as window structures, but the probability is that they are mill-hoppers belonging to hand-mills (cf. Galling, *Biblisches Reallexicon*, col. 163).

In the dwellings of the rich and in the royal palaces there were sometimes large and well-constructed windows, probably lower down in the wall. The Biblical writers refer to these with some degree of curiosity and even admiration, as in 1 K 6^{4}, where Solomon's temple is said to have had 'windows of narrowing frames' (according to the Hebrew text), *i.e.* probably broad within and narrow without (cf. R.V.m.). Jeremiah, on the other hand, manifests indignation at the ostentatious luxury of Jehoiakim, King of Judah, who boasted of his 'wide house and spacious chambers,' with corresponding ornamental windows (Jer 22^{14}, probably bay-windows of some kind). These larger dwellings appear to have had lattices—sometimes decorated, no doubt—on the windows, after the Egyptian manner (cf. Jg 5^{28}, Pr 7^{6} R.V.). In some cases, such as harems, these were probably fixtures, so that no one could open them. At the same time, many windows in the larger buildings seem to have been entirely open, like those in the poorer houses referred to above, or at least had lattices that could open when necessary (cf. 2 K 13^{17}), reminding us of the square windows, framed in stonework, represented frequently on the ivories from Nimrud, Arslan-Tash, and Samaria, and showing a woman's face looking out. This was the case with the palace window at Jezreel (2 K $9^{30ff.}$), for the chamberlains were able to throw Jezebel out on to the street.

Doors were generally made of wood, as at the present day, but in special cases were plated with bronze or strengthened in some way with metal. It is in this sense that we must understand the 'doors of brass (bronze)' mentioned by Isaiah (45^{2} R.V.) and Babylon's 'gates of bronze' referred to by Herodotus (i. 179). Examples of such may be seen in the bronze gate-bands from Balâwât, preserved in the British Museum, containing figured representations made by Shalmaneser III. to record his conquests. It is evident that the metallurgists or smiths of the time could not have cast doors or gates in a single piece, but they could brace the wood with bronze or other metal. There were no 'hinges' such as we understand them: doors usually swung on large pegs or pivots (Heb. *ṣîrîm*, translated 'hinges' in Pr 26^{14}), projecting from them above and below, and turning in hard stone or metal sockets firmly fixed in the masonry—the upper one in the stone which served as a lintel and the lower one in the threshold. In the case of heavy doors, the pivots were probably cased with bronze, while those in Solomon's temple were sheathed in gold (1 K 7^{50}). In practically all houses, whether small or great, every effort was

made to secure a single stone for the threshold, but if the dimensions were too great for this (as in the case of wide city gates), two or more solid stones were placed evenly together. An excellent illustration of this method of swinging the doors may be found in those consisting of a single slab of stone which have been discovered in the ancient Hauran, with their stone pivots still *in situ*, and many similar ones have been found in tombs of the Roman and Byzantine epoch.

There were satisfactory means in existence for preventing unlawful entrance into cities and houses. The gates of a city were closed from within by strong bars of wood or metal (Heb. *berîḥîm*, cf. Jg 16^3, 2 Ch 14^7, Jer 51^{30}, La 2^9, Nah 3^{13}, etc.), the extremities of which rested in an opening made in the masonry of the uprights. In the case of house-doors a bolt was used, called in the Hebrew *man'ûl* or *min'âl* (cf. Ca 5^5 R.V., Neh 3^3 R.V., as well as Dt 33^{25} where the A.V. incorrectly has 'shoes' and the R.V. 'bars'). Certain house-doors, especially later on, were provided with real locks which could only be opened by means of the key (*maphtêaḥ*), which was kept by the householder or responsible guardian (sometimes a woman, cf. 2 S 4^6, R.V.m.). This ancient type of lock consists of a short piece of wood fastened upright on the inside of the door adjoining the doorpost. A square wooden bolt slides through it at right angles into a socket in the post. The bolt is hollow, and has three to six holes at one part of its upper surface. When it is shot into the socket metal pins drop from the upright into the holes (which correspond to them in position), and the bolt cannot now be withdrawn without the proper key. This latter consists of a flat piece of wood, furnished in its upper surface with a number of pins in exactly the same position as the others. The person wishing to enter the house puts in his hand by a hole in the door (cf. Ca 5^4), and introduces the key into the hollow bolt. By pressing up the key he is then able to raise the pins in the holes of the bolt, which is thus easily withdrawn (cf. Jg $3^{23ff.}$, 1 Ch 9^{27}, etc.). It is evident that, unless the key-pins correspond exactly with the holes, the bolt cannot be released.

Beth-Shemesh (1 S^6).

In our previous article a résumé was given of the successive stages through which this 'City of the Sun' (represented now by the mound of *Rumeileh*, at *'Ain Shems*) passed in olden times. Professors Elihu Grant and G. Ernest Wright have furnished additional information in their latest report on the excavations (published by Haverford College), from which the following facts may be gleaned:

Industries.—*First*, one of the most prominent of these was Agriculture (or 'Husbandry,' as the Bible terms it). Several excellent granaries in the shape of square bins (cf. the 'barns' of Mt 6^{26}) have been discovered, dating from about 1600 B.C. onward. Later on, round silos were introduced, and some chaff found at the bottom of these has been examined under a microscope and pronounced to be from wheat. One large silo, about seventeen feet deep and resting upon bedrock, appears to have been constructed in the tenth century, during the reign of David or Solomon. It is of tremendous width, twenty-four feet across from north to south and twenty-one from east to west, and is the largest which has yet been described from excavations in Palestine, with the exception of some at Gerar which belong to the Persian period. Probably it had some connexion with Solomon's fiscal system, for which Beth-Shemesh was one of the official centres (1 K 4^9). *Second*, from the tenth century onward olive-oil and wine industries (the methods of which resembled each other, cf. Jl 2^{24}) were common, as evidenced by the large number of presses discovered, and they flourished much better here in the Shephelah than in higher regions. The crushing was done on a stone slab, which had just enough slant on it to cause the juice to flow into a catch-basin (hollowed out of stone) by its side. The Israelites frequently exported large quantities of olive oil to the West by way of Tyre (Ezk 27^{17}) and to Egypt (Hos 12^1). *Third*, another form of productive effort, before the introduction of iron, was the making of implements of copper or bronze (called 'brass' everywhere in our E.V., except in R.V.m.). What is believed to be the earliest copper furnace found in Palestine has been uncovered (dating some time between 1400 and 1200 B.C.), with the ashes still within it, and the green copper stain on the walls, showing that at this early time the smiths at Beth-Shemesh were doing their smelting on the spot (the ore coming probably from Moab and Edom). Even in Solomon's time, and much later, bronze seems to have been used, rather than iron, for small objects, such as arrow-heads, needles, punches, and small plough-points.

Jewellery.—The inhabitants of Beth-Shemesh seem to have had a fondness for personal adornment, like others in Palestine and the ancient Near East (cf. Gn 24^{53}, Ex 3^{22}, Ezk 28^{13}, etc.). The interesting discovery has been made of a potful of jewellery objects (*c.* 1500–1200 B.C.), several hundred in number, all crushed and corroded together;

earrings, beads, scaraboids, scarabs, seals, rings, and neck ornaments. Most of these are carnelian, but many are of gold, and some of serpentine, diorite, rock crystal, bronze, and paste. The whole collection had been hastily and carelessly thrust into the pot, and may have been the loot of some thief, or hurriedly gathered and hidden in some time of danger. Most of the excavations in Palestine have revealed an unexpected profusion of jewellery (cf. Is $3^{18ff.}$).

Megiddo.

Since our last reference (March 1939) to the important excavations which Mr. Gordon Loud has been conducting at Megiddo, the main strategic post on the high road between Egypt and Asia, he has discovered fresh evidence of its culture and worship in pre-Israelite times:

Palatial Houses.—In an area dating from about 1950–1850 B.C., he has found three large buildings, close to each other but separate, and all identical in size and form, which resemble the 'megaron' type (a house or palace of many rooms) often referred to in Homer (especially in the *Odyssey*). Mr. Loud describes them as 'an astonishing group of buildings,' as they certainly are at that early age (about five hundred years at least before Joshua), when architects were supposed to be non-existent.

Ablution.—Of more interest perhaps to Biblical students is the discovery, in the corner of a large court, of two huge stone vessels (from a stratum of the fifteenth century B.C.), apparently designed for ablution purposes. In the bottom of each is a bowl-like cavity to facilitate clearing out the contents, while there is a useful drain-hole nearby. It was here evidently that the dwellers around made their morning ablutions, and we are reminded of similar contemporaneous stone water-receptacles at Nineveh, Tiryns, and elsewhere. The Canaanite religion, like the Babylonian, demanded cleanliness of person, and no one would dare to enter the sanctuary or supplicate God in any other state. The Israelites were equally scrupulous in such a matter, especially where ceremonial defilement or contact with holy things was concerned. There is no reference, certainly, either in the Old Testament or the Apocrypha, to large basins or baths in the modern and non-religious sense of the term, and any mention of bathing in such a sense refers only to rivers or pools, etc. (cf. Ex 2^{5}, 1 K 22^{38}, 2 K 5^{14}, etc.). In all other cases where the word 'bathing' occurs in the E.V., it means washing particular parts of the body with water, not the immersion of the whole of it. Unfortunately, the Hebrew of the Old Testament does not distinguish between the two processes, for both of which the word *raḥaṣ* is employed. At Megiddo the stone vessels must have been used for ablutions only—they are not large enough for bathing—and similar receptacles for family or communal use must have been in existence among the Israelites, for ablutions were carried out by them not only on the ground of ordinary cleanliness (cf. 2 S 11^{2}), and when about to visit superiors (cf. Ru 3^{3}), but particularly before appearing in God's presence for worship (cf. Gn 35^{2}).

Altar.—Adjoining the 'megara' referred to above, a sacrificial altar of unique form has been unearthed, dating in its inception from about 2000 B.C. It is a huge circular structure of rough stones, stated by the excavator to be 'about nine metres' (=29·53 feet) in diameter at its base, and 'about 2 metres' (=6·56 feet) high in its present form (which must be lower than the original height). The diameter decreases as the height increases, and there is a flight of steps to the top at the east side (here many animal bones were found). One remarkable circumstance, not noted so far by any one, is that the altar in the forecourt of Solomon's temple was precisely this diameter, for it was twenty cubits across at the base (2 Ch 4^{1}), and if the common measurement of a cubit be taken (17·72 in.),[1] this gives exactly 29·53 feet; and according to Ezk 43^{17} (if Ezekiel's temple be a recollection of Solomon's, which is likely), the steps were also on the east. This identical measurement may simply be a strange coincidence, but on the other hand it is not impossible that Solomon, who must have been well acquainted with Megiddo seeing that he restored its fortifications (1 K 9^{15}), took the large altar there as the basis of his own at Jerusalem, as King Ahaz did with the one at Damascus (2 K 16^{11}). If so, it is clear that much of the cultus which played an important part in Israelite worship was not peculiar to Israel but was based on Canaanite forms.

Cush and Cushan-Rishathaim.

Cush.—It is well known that 'Cush' (Hebrew *Kûsh*) in the Old Testament generally designates Ethiopia (=Egyptian *Kash* or *Kesh*), as in 2 K 19^{9}, Am 9^{7}, Is $18^{1ff.}$, etc. But according to Gn $10^{8ff.}$ and probably 2^{13}, there is good reason to believe that there was a Cush or Kash to the east or north-east of Palestine, and this is corroborated by the Amarna Letters where some of the references to 'Kashi' can only be interpreted in this sense (cf. No. 76, 12 ff.; 104, 17 ff.; 116, 67 ff., etc.). In a

[1] Hastings' one-volume *Dictionary of the Bible*, p. 968a.

communication to the 'Académie des Inscriptions et Belles Lettres' (7th July 1939), Professor Hrozný of Prague University has thrown much light on this question, and recent researches by others have added to it. The result goes to show that the district of the Caucasus, a great metal producing region, and of the Caspian Sea, was the principal centre from which successive waves of people named Kushites or Kashites (known in classical times as Cosseans or Kisseans, Greek Κοσσαῖοι, Κισσίοι) invaded a large part of the Fertile Crescent to the south. Crossing the Zagros Mountains, north of Elam, they descended upon Babylonia in the eighteenth century B.C., and took possession of it, forming the Third or Kassite Dynasty there, which lasted for nearly 600 years (from 1749 to 1171 B.C.), and were without doubt the authors of the celebrated 'Luriston' Bronzes. Some sections of them (for they were a conglomerate people, connected with the Hittites and other Indo-Europeans) also flowed into the Mitanni region (the Aram-Naharaim of the Bible, lying between the Tigris and Euphrates), and became the ruling caste there. Evidence of this penetration south, west, and east, appears in the widespread occurrence of the name 'Kush' or 'Kash.' It not only forms the second element of the word Caucasus (where the *Cau-* seems to signify 'forging,' cf. the Slavonic *Kovati*, 'forger'), but appears in Hindukush 'The Kush of the Hindus'; in Cassiterides or Tin Islands (the name given by the Phœnicians to the Scilly Islands, from *Kassiteros*, 'the Kassite metal'); in the place-name Kussar (probably modern *Aladja Euyuk* in Cappadocia), the first capital of the Hittites, a word which simply signifies 'the Kushites,' the termination *-ar* being a collective suffix; in the name *Kaskâya* (Kaskites), borne by a semi-nomad people in the Upper Euphrates region; and perhaps in the name 'Cossack' in southern Russia. The African Kush is probably explained by the fact that the inhabitants or rulers there came originally from the Caucasus region (a view that is well founded on other grounds). All this elucidates Gn 2^{13} R.V., where Cush is placed in the Caucasus (at the source of the Euphrates and Tigris), and where the river Gihon may be the Araxes. This region, at least, was the homeland of the Kushites or Kassites, and the text thus appears to contain an accurate and very ancient tradition. In Gn $10^{8ff.}$ the term Cush (in contrast to Cush, son of Ham, in v.[6]) is applied, not without reason, to Babylonia, over which the Kassites exercised hegemony, and the same is true of the term 'Kashi' in the Amarna texts.

Cushan-Rishathaim.—The question of the identity of this ruler (כּוּשַׁן רִשְׁעָתַיִם) in Jg 3^{8}, the first recorded oppressor of the Israelites not long after their entry into Canaan, naturally arises here. He is stated to have been king of Aram-Naharaim ('Aram of the two rivers'), *i.e.* Mitanni. The term 'Cushan' bears this out, for the kings of Mitanni were Cushites, and the termination *-an* is probably no more than the 'energetic' or emphatic suffix, which appears not only in Hebrew but in Arabic and early Aramaic texts. 'Rishathaim' seems to be simply the Hebrew perverted form of the name Artatama (king of Mitanni), for the scribe has replaced Arta, 'righteous order' (=Sanskrit *rita*) with the Hebrew word *resha'* (רֶשַׁע), 'wickedness,' in order to cast contempt on this ruler for his persecution. This is in accord with other instances of the same type of perversion in the Hebrew records (*e.g.* Bosheth, 'shamefulness,' for Baal), and is confirmed by the fact that the peculiar guttural ע, being Semitic, could not have occurred in the Mitanian king's name. The Septuagint, moreover, has Χουσαρσαθαιμ (*i.e.* Χοῦς Ἀρσαθαίμ), where Χοῦς is undoubtedly Kûsh (for Greek *sigma* [or *san* in Doric, etc.] represented the Hebrew *shin*, cf. Franz, *Elem. Epigr. Gr.*, p. 16), and Ἀρσα is merely a dialectic form of Ἀρθα or Ἀρτα, for in certain Greek dialects (such as Doric, Laconic, Ionic, and others, as well as Attic sometimes) the letter θ or τ was frequently changed into σ, which was preferred by numerous Greeks as being softer.[1] It seems to the writer, therefore, that in Cushan-Rishathaim we have Artatama II., who in his violent barbarism put his brother Tushratta to death, and began to reign in his stead about 1370 B.C. This identification strengthens the earlier date of the Exodus, making the Hebrew invasion identical with that of the Sa-gaz Habiru in the Amarna Letters.[2]

The reason for the attack on the Israelites, and the oppression of them, is thus explainable. Tushratta had waged war against the Hittites (cf. Amarna Letters, 17, 30 ff.), but his brother adopted the opposite policy, siding with them, and consequently endeavouring to prevent the Israelite penetration. He is believed to have reigned for eight or ten years.

[1] Thus, in Doric, we find σάλασσα for θάλασσα, σεῖος for θεῖος, παρσένος for παρθένος, etc.; in Ionic there is βυσσός for βυθός, etc.; and even in Attic, we have βασμός for βαθμός, etc. (cf. Ahrens, *De Dialecto Dorica*, § 7, 3; *D. Aeol.*, § 36, 2, 52, 3). Cf. also σήμερον for τήμερον, ναυσία for ναυτία, μέσαυλος for μέταυλος, etc.

[2] The writer prefers this solution to the earlier one suggested by him in THE EXPOSITORY TIMES, June 1924.