THE CRETAN LABYRINTH: A RETROSPECT OF ÆGEAN RESEARCH.

The Huxley Memorial Lecture for 1933.

By J. L. Myres, O.B.E., F.B.A.

[*Note.*—The numerals refer to the date of publication in the list of publications on p. 308; the century numerals being omitted, *e.g.* 78 stands for 1878.]

It is just forty years since I gave to the Oxford Philological Society a summary of a reconnaissance of prehistoric sites in Greek lands, and of the problems of prehistoric Greece, as they appeared to me then. Since that time, it has been my duty, in almost every year, to lecture on these problems, in the light of current enquiries; and my peculiar interest, to watch not only the positive additions to knowledge, but the circumstances in which they accrued, the obstacles to what was obviously the next thing to be done, the fallacies of argument that seemed at the time so hopeful and helpful, the theories and catchwords that led us astray. So, in offering this retrospect of the whole of a great adventure in prehistoric anthropology, ethnology, and archæology, I am concerned as much with the way in which we have achieved our present knowledge, as with what we now think that we know.

I have tried to confine myself to archæological evidence. If occasionally historical or literary considerations are brought in, it is because they have directly provoked archæological research. The effects of archæological discoveries on historical or literary problems would require at least another lecture such as this.

In a recent book based on lectures in the University of California, I asked (rather than answered) the question *Who were the Greeks?* reviewing the principal kinds of evidence, from regional environment, from physical breed, from language, from religious beliefs, from prehistoric remains, and from ancient folk-memory about each and all of these. While this was in the making, it became clearer to me, than ever before, how one discovery or enquiry was related to another, suggesting or discouraging another man's work, sometimes in a quite different field; and what a chapter of accidents the growth of knowledge in such a subject is. All the more necessary, however, is it, for that very reason, to keep in mind the conditions of each predecessor's work: what was (or might have been) part of his equipment and material, and what could not. The drybones of such presentation of scientific research are its bibliography. But names and dates are the shorthand, the symbolic diagrams, of history; and it is history, not bibliography, the lives and doings of men, that concerns us here. What I venture then to submit, in commemoration of a great prophet of evolution, is an evolutionary commentary on the study of prehistoric man in those parts and aspects of the Near East where my own work has been.

The growth of a subject—a new field of research—is not quite a matter of chance. As Aristotle said of drama, it has "a beginning, a middle, and an end," though the end may not be yet. The point where we stand now and survey the problem, backwards and forwards, is settled for us by our predecessors; and among their contributions the greater achievements are those which most directly lead on from each, not necessarily to the next in time, but to a later advance suggested and made possible by this one. What I hope, in very brief outline, to describe is, (1) how Schliemann's initiative formulated the questions which he left unsolved, as well as those he answered; then (2) how the ten years from his death to the discovery of the Palace of Knossos were occupied partly in consolidating the positions he had won, partly in reconnaissances which greatly simplified the treatment of the Cretan occasion when it came; then (3) how, alongside the work in Crete, three distinct lines of enquiry on the mainland of Greece converged on an answer to the question, how Mycenæ and Tiryns came to be; then (4), how in the light of that answer, the fuller knowledge now available about the Minoan civilization, with which these, its offshoots, came into conflict, became the starting-point of more pioneer-work, on the sources, and on the inner nature of Ægean civilization.

There is a special reason for treating this subject so; for it originated as a problem of literary criticism, and has never wholly or permanently dissociated itself from that origin. What Heinrich Schliemann set out to do (68)—the year before I was born, so the whole story is not a long one—was to dig up Homer's Troy and Agamemnon's Mycenæ. Sir Arthur Evans (1900) acclaimed the whole Cretan Bronze Age as "Minoan"; Furtwängler (03) followed suit, less happily, with "Minyan" Orchomenos; and though Ridgway (01) protested that Minos was the destroyer not the creator, of "Minoan" civilization, and Waldstein (92) at the Argive Heræum, made the practice ridiculous, there are still serious people whom the name "Achæan" fascinates. Such catchwords and nicknames are dangerous, not so much because they create associations between people and things which may turn out to be mistaken, but because they divert attention to personal, episodic, incalculable factors in a problem which should be ethnological, and obscure its essential dependence on regional and technological distributions. For this reason, names referring to typical localities, such as Hallstatt or Lausitz, or to characteristic elements of culture, such as "microlith" or "painted ware" have advantages over those derived from heroic personages.

A conspicuous instance is the use of the phrases "Homeric Archæology" and "the Homeric Age" to designate a period or periods of prehistoric culture in Greek lands. As Minos may be described as the destroyer of the Minoan civilization, so Homer sang, at best the dirge of the Homeric Age, if that means what is described in the poems as we have them. He commemorates an "age" which if not "golden" had the glamour and clarity which art gives rather than research—the epic, not the spade.

I.—SCHLIEMANN'S DISCOVERIES: 1870–1890.

Heinrich Schliemann was born in 1822, but it was not till 1868 that he was able to gratify his boyhood's ambition to find Homer's Troy. His excavations on the traditional site, Hissarlik, overlooking the Dardanelles, fell into four campaigns:—in 1871–73, followed by the

discovery of the Shaft grave at Mycenæ, the home of Agamemnon, in 1874–76; in 1879, followed by a disappointing visit to Orchomenos in 1880, the legendary centre of wealth in Central Greece; in 1882–83, with scientific advisers, but only confirmatory results, followed by the excavation of a palace at Tiryns in 1884–85; and in 1889–94, briefly interrupted by Schliemann's own death in December, 1890; and leading, in 1893–94, to Dörpfeld's identification of the city really contemporary with the great days of Mycenæ, Tiryns and Orchomenos, however different from them in culture and from anything that Schliemann had intended to find. It was more than ten years after his death before the whole Trojan adventure could be summarized by more expert hands in *Troja und Ilion* (01): for the general reader, Schuchhardt's *Schliemann's Excavations* (92) must now be supplemented by Walter Leaf's *Troy* (12).

Schliemann was fortunate in his occasion. It was about ten years before his birth that Thomsen (1810) had re-formulated the notion of successive "ages," of stone, bronze, and iron implements, through typological classification of casual finds. Thomsen's pupil, Worsaae (49), had confirmed the typological argument by proving the superposition of burials in Danish peat bogs, and linking them with the succession of vegetations and climates. But it was not till the dry season of 1853–54 enabled Keller (66) to remove, layer by layer, the bottom-silt of Lake Zurich, that stratigraphical excavations begun. Gastaldi and Stroebel (61) applied the same method to the *terra mare* mounds of Piedmont and Lombardy; but Schliemann's attack on Troy was actually the first large-scale dissection of a dry-land settlement, unguided by the remains of great monuments such as simplified the task in Babylon or Nineveh.

In Homeric criticism, there was a pause between the last of the pioneer dissections of the poems by Kirchhoff (59) and Koechly (60) into the work of various poets, and the new period opened by Christ (84) and Wilamowitz-Moellendorff (84). In England, Gladstone's *Juventus Mundi* (69) was a vigorous defence of single authorship and historical content; and Schliemann's own reception in England owed much to Gladstone's commendation.

More immediately helpful was the diplomatic prestige of the new German "Reich," to obtain for Schliemann a permit to "dig at Troy"; the precursor of the great excavation of Olympia under treaty with the Greek Government in 1873, and a long series of expeditions in Asia Minor, Palestine, and what is now Iraq. German scholars were less helpful than the diplomatists. To go and look for a place which had been critically abolished was an indiscretion; to find it, and therein proofs of an actual "Siege of Troy," was heresy. When Schliemann's collection at last came to Berlin, it was not in the Antiquarium that room could be found for it, but in Virchow's new Museum für Völkerkunde, along with war-clubs from Polynesia and flint implements from Denmark.

There had indeed been a few isolated discoveries, before 1871, of prehistoric antiquity in Greece. About 1810 the Marquess of Sligo carried off fragments of the façade of the "Treasury of Atreus" to his country house in Ireland, whence the British Museum received them in 1905. Sixteen years later Fiedler, a German geologist (1826), published the contents of early graves in the Cyclades; noting marble statuettes, and weapons of copper, not bronze. Rather later again, Ross (41), one of King Otho's savants, exploring the islands, recorded many seal-stones crudely barbaric, but passing over, both into a style which recalled the earliest Greek coin-dies,

and into a vigorous but quite un-Hellenic naturalism. A Greek antiquary, Pappadopoulos (62), opened more tombs in Syros, but thought they contained Roman convicts. Salzmann and Biliotti (66) opening tombs in Rhodes appreciated the contrast of style between the Hellenic pottery of Camirus, and the Mycenæan of Ialysus; but the British Museum registered both as "Græco-Phœnician." Fouqué (62) investigating a volcanic eruption of Thera, found walls with fresco, and painted pottery, beneath 26 ft. of pumice, which was being quarried extensively for the Suez Canal: this settlement was naturally attributed to Cadmus. And when Schliemann was already in Greece, the historian George Finlay published in Greek an essay on "Prehistoric Archæology in Switzerland and Greece," describing the recent discovery of lake-dwellings, and arguing, on the evidence of his own small collection of stone implements, mostly from Melos, that there should be lake-dwellings also in the marshes of Boeotia and Thessaly, as Herodotus (V. 16) describes them in Lake Prasias further north. But Finlay himself did not excavate.

Schliemann, then, opened a new period of archæological research, but less by his methods than his objective—to test literary tradition by archæological fact. Thus he discovered a new period of prehistory, and a new region for archæological research. But in estimating his work it is important to distinguish between his earlier and his later excavations, spread as they were over twenty years. For archæological technique was being revolutionized elsewhere, especially by large-scale excavation at Olympia and on the Acropolis of Athens. It was probably fortunate that his first operations at Tiryns failed; still more fortunate that his proposals at Knossos were rejected by the Turk.

He was lucky too in his collaborators. At Troy in 1871–73 he was alone with his young, skilful and devoted wife; at Mycenæ his Greek colleagues suspected him and were frankly a nuisance; from Virchow and Burnouf in 1878 there was much for him to learn, but it was not till 1882 that he had the expert help of Dörpfeld. Burnouf was a scholar, a classical archæologist; Dörpfeld, the practical architect, used his experience at Olympia to revolutionize the technique of excavation, which on a site encumbered by superposed walls grew from "digging" to dissection, such as shocked the Greeks afterwards at Mycenæ, and was not attempted at Tiryns; and it was Dörpfeld who planned the exposure of the "Sixth City" which Schliemann did not live to see. But it was to Virchow that Schliemann owed most, the founder, already, of the German Society for Anthropology, Ethnology and Prehistory, and organizer of the first nation-wide study of national antiquities as well as of the first national survey of physical characters, and of the first great "Museum für Völkerkunde," in the full meaning of that word. So there was meaning, as well as convenience, when the Schliemann Collection was installed in it.

Schliemann founded no school; he left no personal or academic followers. Indeed, in his last campaign, he was himself, as it were, a constitutional sovereign among expert ministers.[1] It was the end, not the means, that interested him. Yet do we not all owe to him more than we sometimes think? Among the first books that I remember reading, of deliberate intent, was Schliemann's *Troy and its Remains*, and when the news of his death came, just before a first visit to Greece, it seemed indeed that "the spring had gone out of the year."

[1] Ludwig, *Schliemann of Troy* (E. T. 1931) p. 318, calls him a "captive king," but that is overmuch.

Let us take stock of Schliemann's discoveries, as they appeared at his death in 1890, remembering that already other hands were filling in the outlines of his work. The traditional site of Troy he had shown to have been a prehistoric settlement of great antiquity, heavily fortified, and at least twice taken by assault. From its beginning at the close of the Stone Age, to the destruction of the Seventh City by Greek settlers, in the Early Iron Age, it was quite un-Hellenic, and wholly barbarous. Only in the Sixth City, not exposed till after Schliemann's death, was there intercourse with, and perhaps a settlement from, the Bronze Age culture of the south Ægean: all else originated in Asia Minor, and seemed to connect Asia Minor remotely with early European cultures. But the gold, and silver, the ivory, amber, and jade, proved wide communications, and raised questions as to sources, and modes of transmission. The fortress walls, and still more the traces of violent capture, revealed military and political forces which needed historical explanation. The few human remains included diverse types, the distributions, and redistributions, of which are even now imperfectly known. But the acceptance of the site in Greek folk-memory, the general conformity of it with Homeric allusions, and the synchronism of the traditional Trojan War with the folk-movements commemorated in victory-monuments of Merenptah and Rameses III. were impressively reinforced by the early fortunes of Hissarlik.

The civilization discovered at Mycenæ (76), though quite un-Hellenic, was yet very far from barbarous. It was also greatly in advance of all but the very latest layers at Hissarlik, and incomparably richer and more elaborate than the "Burnt City." It exhibited indeed so clearly, despite all its unfamiliarity and splendour, that decadent conventionalism which follows every period of material advancement, and marks its decline, that archæologists of distinction regarded the spiral-ornamented relics from the "Shaft graves" as the handiwork, or the spoils, of Gothic adventurers in the Byzantine Age. But the art and civilization of Mycenæ were recognized, widely and at once, not merely as identical with those of Ialysus (66), already mentioned, and closely akin to those of Thera (62), but as explaining many scattered finds from Marseilles and Sicily, in the west, and from Egypt and particularly Cyprus, eastward. It was also realized, though more slowly, that occasional painted potsherds from the "Sixth City" at Hissarlik were in the same general style as the later and commoner pottery of Mycenæ; and gave at once a rough perspective of relative date. A considerable lapse of time had to be presumed between the destruction of Schliemann's "City of Priam" and the closing of his "Tomb of Agamemnon." It was, however, nearly ten years after the discovery of the "Shaft graves" that the deliberate attempt was made, by workers less enthusiastic and better equipped, to discover how this interval was filled.

In some respects, it is more important to note what Schliemann missed at Hissarlik than what he found. His excusable desire to "get to the bottom" gave him from the first season onwards a conspectus of the whole series of settlements, but his great trench across the site mutilated the central building in the Second City, and did other damage, besides risking confusion of finds. Not realizing at first the depth of deposit, he attacked the mound too high in the side, missed the great fortress wall of the Sixth City, and consequently underestimated the significance of what remains of its centre. His Homeric enthusiasm and the accident that in

the Burnt Layer he found the great "Treasure of Priam," neglected the "First City," and concentrated attention on the "Second," overlooking the long interval between these settlements, which remained unfilled till Miss Lamb's work in Lesbos (28). When the "palace" in the Second City was cleared in 1882 its significance was not fully seen, for Tiryns was not excavated till 1885. And the summary methods which had been employed for the stratified site, were inadequate to the more delicate dissection of the burial mounds in the plain. Nor was any cemetery found, belonging to any of the seven cities, in spite of the challenges of the eccentric Captain Boetticher (83), whose thesis that Hissarlik was itself a "fire-necropolis" was not then so absurd as perhaps it appears to-day.

In the same way, at Mycenæ, more deliberate clearing of the Circle, both inside and out, should have revealed its true relation to the "Shaft graves," beneath rather than within it. The utter spoliation of the "Treasury of Atreus" diverted attention from the more ruinous but less devastated cupola-tombs, which with one exception were neglected till 1921; and the vast wealth itself of the "Shaft graves" made it prudent to clear them very rapidly, and with quite inadequate record of the arrangement of their contents.

At Tiryns, as at Troy, Homeric associations made the uppermost buildings a place of pilgrimage, for their resemblance to the "House of Odysseus," and literally stopped further work for nearly thirty years; though Schliemann himself had probed through the Mycenæan floors to bedrock, and polychrome ware of Cretan type had been detected among the débris from his shafts in 1893, and the grey ware and smear ware of Orchomenos in 1903.

At Orchomenos (81) in the same way, the splendidly carved tomb-ceiling, with its spirals, lotus-flowers, and rosettes, came to light too isolated and too soon to be accepted as the decisive datemark that we now know it to be. And though Schliemann recognized as belonging to his "Lydian" class of Trojan pottery many sherds from his trial-trench on the acropolis, he does not seem to have asked himself what "Lydian" or any other Trojan pots were doing at Orchomenos; and again more than twenty years passed before this question was even formulated.

On classical scholars, Schliemann's discoveries produced the various impressions which might have been anticipated from their respective antecedents. In England, Sir Charles Newton's great experience, and Gladstone's enthusiasm, secured a welcome from the first. Penrose, it is true, had been puzzled, in a flying visit to Tiryns, by the walls of a Byzantine church, and Jebb (87) took occasion to announce that Tiryns was Byzantine and did not matter. But Penrose revisited the site, and Jebb's paragraphs were obliterated without disturbing the page-numbers. Articles on the "Homeric House," by Percy Gardner (82), just before the discovery of Tiryns, and by Jebb (86) and Middleton (86) after it, are instructive; and Leaf's appendix to the English translation of Schuchhardt (92) on the Homeric problem had great influence.

In Germany landmarks are Helbig's *Homerisches Epos aus den Denkmäler erläutert* (84), and Milchhoefer's *Anfänge der Kunst in Griechenland* (83). Helbig with admirable clarity and judgment compared the evidence bearing on principal points of Homeric culture from the new Mycenæan finds and from Italian sources for the earliest Hellenic period; Ionian art

in Ionia itself being inaccessible then as now. But even Helbig's second edition (86) was just too soon for Tiryns, though not for Wilamowitz-Moellendorff's *Homerische Untersuchungen* (84), in which the "Ionian" Homer was advocated in terms which as Helbig drily wrote (86) "made some parts of my book too short, and others too long." Milchhoefer's chief contribution was his inference from the geographical distribution of the "island-stone" class of early seal-stones, that a principal centre of "Mycenæan" craftsmanship lay in Crete. But to bring Troy into the picture, he interpreted overboldly the traditional connexions between Crete and Phrygia; and his attempt to reconstruct primitive Aryan dress from Mycenæan skirts misinterpreted by women's costumes from modern India discredited a stimulating piece of pioneer work. Helbig (86) refers to Milchhoefer's theories as already refuted.

Helbig had held a balance between "Ionian" and "Mycenæan" evidence. But the Ionian theory prevailed. Most German scholars, convinced that the Mycenæan age was "pre-Homeric," took little interest in this field of study, till Reichel (94) revived controversy by his essay on Homeric armour. Joseph's book on the Homeric house (93) did little but arrive independently at the conclusions of Middleton (86).

The Missing Link between Troy and Mycenæ.—It was obvious from the first that if Schliemann's identifications were accepted, there was a great gulf, chronological no less than regional, between the cultures of "Agamemnon's Mycenæ" and of "Priam's Troy." If these cultures were contemporary, how was this contrast to be explained? Were the princes of the "Shaft graves" at war with the king of the "Treasure"? Or, if the Second City at Hissarlik was of much older date than the "Shaft graves" and "Bee-hive" Tombs of Mycenæ, how was the lacuna between them to be filled? Moreover, it was evident, that both "Shaft graves," citadel, and lower town graves alike represented not the climax, but stages in a long decadence. Whence had this culture spread to Mycenæ, and where had it come into being? Was it native to some other part of the Ægean, or had it been intruded from the more ancient East into a barbarism like that of Hissarlik?

The first outline of an answer came from a source which geographically also lay almost on the way between the Troad and Argolis. The casual finds of Fiedler (1826), Ross (41) Pappadopoulos (62) and Fouqué (62) were correctly appreciated by Dumont (84) who classed the *Type de Thera* between the types of Hissarlik and Ialysus, and by Furtwängler and Loeschcke (79) as belonging to the adolescence of the culture which was felt to be already decadent at Mycenæ. Meanwhile, Theodore Bent (84) opened tombs in Antiparos, obviously related to the later phases at Hissarlik; he also detected an obsidian-worker's factory, and brought back a Cycladic skull. Dümmler (86), close on his track, examined several cemeteries in Amorgos, and realized their significance as intermediates between Hissarlik and Mycenæ; for they contained painted pottery as well as polished red-ware. A little later Bent (88) found similar tombs on the Carian coast of Asia Minor; Mackenzie (95), Edgar (94) and Myres (93) filled in the picture and distinguished three principal fabrics and periods from other islands. At last there was systematic excavation of tombs by Tsountas (98–99).

Far more important results, however, came from the excavation by the British School of Archæology (95) of a deeply stratified settlement at Phylakopi, in Melos. The site had been

recognized by Ross, but underestimated by Dümmler. Originally an open village, engaged already in exploiting the local obsidian for implements, it had prospered and been fortified in its second period, when copper and bronze were in use, obsidian and local marble were traded to Crete and the Greek mainland, and pot fabrics resembled those of Hissarlik on the one hand, and on the other those of the earliest "Shaft graves." Eventually this Cycladic community was replaced by one of mainland type, with a little palace, and the latest phases of Mycenæan craftsmanship. This was the first stratified site to be explored in the Ægean since Hissarlik; it offered a standard sequence of periods and ceramic styles; and it brought into perspective the evidence from "Cycladic" tombs in other islands. But delay in publication, too common in British archæology, obscured its great significance; so that when the full report appeared (04) it is Knossos that is being invoked to "illustrate" Phylakopi.

Cyprus.—From the Cyclades, Dümmler went on to Cyprus, and was there able to correlate a large series of earlier finds with what was now being established in the Ægean. From about 1865, there had been sporadic excavation of tombs of all periods, and of sanctuaries, crowded with votive figures in clay and stone, of all Hellenic periods. Sandwith had distinguished the principal fabrics and styles of pottery (77), and Lang the styles of sculpture (78). But the vast collections of Gen. Louis Palma di Cesnola were acquired in 1873 by the Metropolitan Museum of Art in New York, and passed out of reach and into a series of controversies over their authenticity. Alexander di Cesnola's less important collection was dispersed in London (81) almost without trace. But when the island came into British occupation in 1879, a young Austrian artist, Max Ohnefalsch-Richter, turning perforce from journalism to ancient history, made a precarious living by excavating for anyone who would employ him. Soon his finds and theories were summarized by Salomon Reinach (85), and it was his intimate knowledge of sites, tombs, and collectors that made Dümmler's reconnaissance significant; while Dümmler's recognition of his abilities led to systematic excavation at Tamassos and Idalium (87). British excavators at Salamis, Paphos and Marion 1887–90 touched only Hellenic sites, but in 1894 the small balance in hand was enough to enable me to settle some crucial points of tomb-chronology; and with Ohnefalsch-Richter, I rearranged and catalogued the Cyprus Museum. Meanwhile the British Museum began a series of excavations under the Turner bequest, of which the most important, at Enkomi (95), revealed a sequence of tombs only less rich in gold-work than those of Mycenæ and more fully furnished with scarabs, ivories, glass and glazed-wares of Egyptian and Syrian fashions, which enabled Sir Arthur Evans—though not the excavators, who had a chronology of their own—to establish its later margin at the close of the thirteenth century. Ohnefalsch-Richter, too, was confirming and supplementing conclusions already secure as to the extent and range in time of this Ægean exploitation of Cyprus. Unfortunately, his work is still only represented by a provisional summary (99); his finds are in Berlin. From our *Cyprus Museum Catalogue*, (99) to my *Handbook of the Cesnola Collection* (15) Cyprus contributed little to archæology, and much to antiquity-mongers. My own excavations for the Cyprus Museum (13) were designed, like those of 1894, to determine special points at small cost. The work of the Swedish Expedition (26–33) belongs to a far later phase, and moreover

is still unpublished; but Gjerstad's *Studies on Prehistoric Cyprus* 1826 has already superseded earlier work on the Bronze Age pottery.

These disconnected adventures in Cyprus illustrate the capricious way in which Ægean archæology has acquired much of its material. It is only when more than two generation's doings are reviewed as a whole, that their bearing on the main problems can be seen. Cyprus has been usually a backwater of culture into which fresh influences have only come in periods of crisis elsewhere; consequently it has received from many and given to none, except raw materials, its copper, iron, and timber. But what it received it has preserved, in its strange storehouse of what is obsolete elsewhere; and consequently no account of the greater movements of cultures and peoples hereabouts dare overlook the testimony of Cyprus. Immediately, for Dümmler (86), the novelties were three: (1) a culture of the Early Bronze Age comparable with that of the "Second City" at Hissarlik, but passing into a quite different sequel; (2) a colonial equivalent of that of Mycenæ, intruded into a late Bronze Age phase, the relation of which with the earlier were fairly clear; and (3) the total absence, from all these phases, of those Phœnician elements which compete with Hellenic in the tombs and sanctuaries of the Early Iron Age. Here then was positive evidence, for those who could appreciate it, that the Mycenæan "age" preceded the Hellenic—as indeed it appeared to do at Athens and elsewhere in Greece—and that, as in Cyprus it appeared mature and even degenerate within sight of the Phœnician coast, it was unlikely that Phœnicia was its cradleland.

Minor Discoveries in Greece.—Meanwhile, in Greece itself, the last five years of Schliemann's life are crowded with minor discoveries; on the Acropolis of Athens (85–89) and several sites in Attica, at Dimini in South Thessaly (86), in Cephallenia (86), at Orchomenos (87), in Laconia (89) and Messenia (91); and Fabricius (85) reported older finds from Crete. At Mycenæ, Tsountas (87), who had himself worked with Schliemann, cleared a palace resembling that at Tiryns, and many tombs mostly of late and decadent phases, but a few dated by Egyptian imports to the same Egyptian period of the XVIIIth Dynasty—as those of Ialysus, and the tomb-ceiling at Orchomenos. On the acropolis there were traces of a "palace" like those of Tiryns and Mycenæ. Clearly the great sites in the plain of Argos were centres of a widespread régime. But, except in the islands, and fragmentarily, at Athens, only its long decadence was known as yet, for even in the "Shaft graves" style and workmanship alike were past their prime; and there was as yet no good clue to their origins.

Interpretations.—It was only slowly that interpretation of the new finds took shape. For the pottery, which attracted general attention by its bold spiral ornament and use of marine subjects, Dumont, 1884 was still content to treat separately the "types" of Hissarlik, Thera, Ialysus, Mycenæ and Spata, (a small late Attic site, further excavated in 1889,) with a note on the *Vases de Knossos* found at Kephala in (78); and the same classification is adopted by Rayet and Collignon (88). In the vases from Mycenæ, Dumont's trained eye recognized the *résultat d'une longue pratique* and the *époque de décadence* of a *population ancienne, commerçante, et industrielle*: at Spata *une influence asiatique va devenir prépondérante*. Everything at Mycenæ was earlier than anything at Nineveh; Ialysus, on the other hand, was not earlier than Amenhotep III. As a matter of method *les principes de décoration ont, en archéologie, la même valeur que les*

racines primitives dans l'étude comparée des langues; an interesting glimpse of the scientific outlook of the time. Furtwängler and Loeschcke in *Mykenische Thongefässe* (79) and *M. Vasen* (86) provided a working classification, admirably illustrated. Schuchhardt (92), immediately after Schliemann's death, produced the first general review of the new finds; Perrot and Chipiez' sixth volume *La Grèce Primitive* (95) collected much scattered evidence, and attempted a systematic reconstruction of prehistoric Greece; and Leaf's essay in the English translation of Schuchhardt (92) and Percy Gardner's *New Chapters in Greek History* (93), dealt with the relations between the Mycenæan age and the Homeric and classical cultures of Greece. Abroad, Reisch (94) did a similar service to Teutonic learning.

II.—QUESTIONS OF DATE, ORIGIN, LANGUAGE AND RACE: 1890–1900.

During the ten years, therefore, which intervene between the death of Schliemann in December, 1890, and the excavation of Knossos in the autumn of 1899, research and controversy dealt mainly with four outstanding questions:—(1) the date of the Mycenæan civilization; (2) its sources and place of origin, whether introduced from elsewhere or of spontaneous Ægean growth; (3) its relation to the Hellenic culture of historic Greece, and more especially to that which is portrayed in the Homeric poems, which had hitherto passed for an early phase of the Hellenic; and (4) its originators' means of communication, in language and script, obviously crucial tests of such relationship either to Greek-speaking folk, or to Homer's "Achæans," who were commonly supposed to have been ignorant of writing, except as a device of legendary magic.

The Question of Date.—To determine both relative and absolute date was comparatively simple. The problem had in fact been solved, long before its solution was generally admitted. In a tomb at Ialysus (66) a scarab of Amenhotep III was found with Mycenæan pottery. This tomb then could not have been furnished before the scarab was made, about 1400 B.C.; the scarab, however, might have been an old one when it was brought—for whatever reason—to Ialysus, and still older when it was buried. Similarly, in the great cupola tomb at Orchomenos (86), Schliemann had found a stone roof-slab, carved with spirals, lotus-flowers and rosettes such as decorate Egyptian tomb ceilings of the reign of Amenhotep III. This tomb, likewise, could not be earlier than that phase of XVIIIth Dynasty, though its decoration might by then have been thought old fashioned in Egypt. In the year of Schliemann's death, Flinders Petrie (90) recognized other examples of Egyptian influence and of actual imports in tombs at Mycenæ, all of about the same XVIIIth Dynasty period, when Egyptian foreign intercourse had been exceptionally wide, and foreign folk brought among other tribute to Egypt vessels resembling some from the "Shaft graves" and the Vaphio tomb.

But now Flinders Petrie (90) published Mycenæan pottery from XVIIIth Dynasty tombs in Egypt, and applied the same reasoning conversely. No Egyptian tomb could have been furnished with Mycenæan wares before the date of their manufacture and importatation; they, however, might have been heirlooms of its occupant. The proof was now complete; for if neither of two kinds of object can be later than the other kind, they are and must be contemporary. The conditions of this simple and conclusive "logic of datemarks" having been

already fulfilled in 1891, subsequent arguments about "heirlooms" (which indeed are occasionally found) were nugatory; but it was another ten years before this was generally understood by "classical" archæologists unprepared for a pre-Hellenic culture on Greek soil.

A more serious difficulty was that there was still sufficient uncertainty as to the chronology of the XVIIth Dynasty and still more of earlier Egyptian periods to encourage advocacy of "latest possible" reckonings by Cecil Torr (92) and others. On the other hand, "highest possible" reckonings for Egyptian periods earlier than the Hyksos interregnum continued to breed confusion, till the Knossian stratification made them inapplicable.

Synchronisms between the tombs at Ialysus or Mycenæ and the XVIIIth Dynasty obviously proved nothing about earlier periods. But by a pair of lucky chances the synchronism of a "pre-Mycenæan" phase of culture with the XIIth Dynasty of Egypt was established early and with the same logical certainty. Flinders Petrie (90) found, at Kahun, in a temporary camp of workmen engaged on a XIIth Dynasty building, foreign polychrome pottery which he published as "Ægean"; and indeed, though nothing of the sort was then known in that region, it looked so like Ægean clay and workmanship that eminent persons long insisted that it was Naucratite ware of the sixth century. The counterpart, however, came in 1893 when I recognized in the Candia Museum identical pottery from the Kamárais cave on Mount Ida in Crete, and in a tomb of the same early Cretan culture there was an amethyst scarab of XIIth Dynasty workmanship, with other seal-stones of XIIth Dynasty design. The latter were in due course published by Sir Arthur Evans (95); but it was two years before I could find a journal to publish the Kamárais pottery; which was also noted quite independently by Mariani (95). When Knossos was excavated one of the first foreign objects found was an inscribed Egyptian statuette of the same period. Thus the period of Ægean industry represented by the pottery from Kahun was shown to be neither earlier nor later than the XIIth Dynasty in Egypt; and the "horizon" to which the Kamárais deposit belonged in Ægean development was fixed, because fragments of the same kind were already known from one of Schliemann's deep shafts at Tiryns, and others were found in 1895 in the second Cycladic settlement at Phylakopi.

For Cyprus, the next year, I found similar datemarks, beads of XIIth Dynasty fabric in tombs of the Middle Bronze Age, together with a foreign fabric already known in XIIth Dynasty Egypt (96). That this fabric was not itself Cypriote but a contemporary import did not affect its chronological value; and the Syrian culture to which it is now known to belong is independently dated both in Egypt and Palestine (1833).

For even earlier Ægean periods a datemark was the discovery of a IVth–VIth Dynasty type of stud-shaped bead in an early Cycladic tomb (98); but the closest Egyptian counterpart is the intrusion of Ægean designs on Egyptian seal-stones of the Old Empire; no actual Ægean imports of this period have been found in Egypt yet.

It is almost incredible now, that the suggestion of high antiquity for the precursors of Greek culture should have been opposed so fanatically as it was (92). But the logic of "datemarks" was not popularly formulated till Flinders Petrie's *Methods and Aims in Archæology* (04) though he had collected the facts as regards Ægean synchronisms with Egypt as early as 1898.

On the lower margin of the "Mycenæan Age," tombs excavated by Tsountas at Mycenæ, Nauplia, Salamis and elsewhere, made it possible to follow the degeneration of style almost to its collapse, and at the same time to determine the stage at which first appear safety pins and other objects characteristic of the earliest Hellenic culture, at Athens, Olympia, and the Argive Heræum. The fine goldwork from cupola tombs in Ægina (93) showed even the better craftsmen losing full command of their later Oriental models, and indulging in blundered imitations, some of which in their turn became the models for Italian designs more barbaric still, for the goldwork combined vigorous spiral decoration with ill-assimilated motives from Egypt and Syria, and starveling figures which recalled the latest Bronze Age of North Italy, and with other details common to the Hallstatt culture. In Cyprus (99), where the Mycenæan culture was an intruder, and there were Syrian and Cilician competitors, the parallel evidence for this period of transition was fortunately copious and instructive.

While Cycladic and Cretan discoveries were revealing a long perspective of origin and development earlier than the Shaft graves at Mycenæ, this other aspect of "Mycenæan" civilization as a stimulus to Western and Central European craftsmen, was the subject of Sir Arthur Evans' Rhind Lectures (95), of which only a syllabus and press summaries were printed. The chronological problems here involved were attacked boldly by Montelius (1900) on assumptions, however, as to the rate of style-development which better stratigraphy and more numerous datemarks show to date earlier phases too high. But Montelius, was among the first to correlate the copious Italian series with those of Central Europe and the Baltic lands; and to attach to these the still scantier data from the Ægean. His *Civilisation primitive en Italie* (95) had already begun to put the Italian material together in masterly survey, and his later *Vor klassische Chronologie Italiens* (12) revises his conclusions.

The Question of Origin.—More difficult than the question of date was the question of origin. It is obvious to us now that there were two main pairs of alternatives. Either the newly discovered civilization was indigenous and "Ægean," or it was exotic and had been introduced into Greek lands more or less ready-made, from one or other of the main centres of the Ancient East—Egypt, Babylonia, Syria or Asia Minor; that it could have originated in the west or the north seemed improbable in view of what was already known about primitive Europe. But if Mycenæan civilization was essentially home-grown, however greatly it had profited by intercourse with other cultures—and it was obvious that it had assimilated much—there was the further question, "was it to be attributed to the ancestors of the Greeks of classical time, or to some other people of the Ægean." If it was essentially Greek, how much had the first, or any, of the Greek-speaking tribes "brought with them from the north" and implanted among Mediterranean aboriginals, in the way suggested by Thucydides? If it was pre-Hellenic, who were its creators, and how were they related to eventual Greek-speaking folk? The latter in classical times had traditions about a "Golden Age" with which "golden" Mycenæ was vaguely connected, and with which the "Shaft graves" and "Palaces" must be connected somehow if they had historical significance at all; but Hellenic arts and industries, like Hellenic societies and cults, were very different from the Mycenæan.

But in 1890 so logical a view of the problem was hardly possible; even Pottier's cautious analysis of current belief hardly goes so far (96). Naturally, there was no lack of attempts to make new facts fit old theories; and the oldest and most orthodox theory was that Greece owed almost all its material culture, and much of its religion to the Ancient East, and especially to the Phœnicians, as described in the standard works of Movers (42), Renan (64) and Rawlinson (89). The British Museum had registered its Rhodian antiquities—from Ialysus and Camirus alike - as "Græco-Phœnician." Eduard Meyer (84) and Busolt (85) therefore naturally thought Mycenæ "Phœnician." But there were obvious difficulties. The carved ceiling at Orchomenos (87) was not imported, for the stone was local; Furtwängler (79) and Dumont (88) showed that the pottery too was home-made at Thera as well as in Argolis; and, moreover, the northern antiquaries could quote spiral ornaments in Bronze Age Denmark and Sweden, as fine as in the "Shaft graves." Busolt's second edition (93) substituted a hypothetical cradleland in North Syria, the reputed home of the Keftiu who bring splendid tribute on Egyptian monuments, but the intermediaries were still Phœnician. Meyer, too (93), retracted (II, 174) his Phœnician theory (I, 204), graded the new material into "Trojan" and "Mycenæan" and derived the latter locally out of the former under the stimulus of oriental contacts; criticizing Koehler (78) and Milchhoefer (83) alike for unnecessary and unhistorical confusion of archæology with ethnography. The Achæan name in particular had been so misapplied in antiquity, that its original meaning was lost. Meyer accepted the synchronism with the XVIIIth Dynasty, and Mahler's reckoning of that Dynasty's date; later he recalculated it himself (04). Beloch (93) followed the later views of Meyer and Busolt, but regarded the Cyclades as real intermediates between primitive Troy and mature Mycenæ, and insisted on the Mycenæan inheritance of nascent Hellas. This indeed was necessary to support his rejection of the "Dorian Conquest" as a myth explanatory of geographical anomalies in Homer. If Phœnicians had "ruled the waves," why were there no Phœnician sailing-terms in Greek?

Hardly less orthodox among those classical scholars who attended to Schliemann's work at all, was the belief that the "Shaft graves" at all events resurrected the "golden Mycenæ" of Homer: the Achæans, therefore, for Furtwängler (79), Schuchhardt (91), Leaf (92), Collignon (92) and Girard (92), were the representatives, if not the inventors, of its actual culture. Now the Achæans were an early variety of Greek, and Greek-speaking peoples were accepted as "Aryan" invaders "from the north," a notion which usually meant most to those who lived furthest north themselves, and also least knew what "the north" had to bestow on emigrants. Most of those who held to an "Achæan" origin, moreover, were thinking in terms, not of material remains, but of etymology, not easy to compare with "Shaft graves" or "palaces." Others accepted whatever in Homeric poetry they still accepted as "Homer," as sufficient to identify "Achæan" culture, on the lines suggested by Helbig (83). Leaf's *Companion to the Iliad* (92) is typical.

There was the further complication that the poems sometimes speak of "Achæans" sometimes of "Argives" or "Danaans," and it was not clear whether statements about the one people might be accepted as applying to another. Tsountas (93), for example, identified Danaans with the people of the Cycladic cists and the "Shaft graves," and Achæans with the

builders of the "treasuries," which he derived from the chambered tumuli of "the north," and the tumuli of Phrygia and the Troad.

That Greek traditional genealogies had collective historical significance had been appreciated long ago by Otfried Müller (20–24), but he had died without deciding what their historical background was, and Grote (46) more cautious, relegated them to mythology. They meant, he felt, something, but Heaven knows what! Now legend brought the Pelopid founders of "golden Mycenæ" from somewhere overseas between Thrace and Lycia. The tale of their foreign treasure may have been a myth to explain what robbers found in the "treasuries," in an age when the goldfields were in Thrace and at Sardis; and the kings of Lydia put a lion on their coins, as the Cyclopes of Pelops had given Mycenæ its Lion Gate. So it was natural for explorers of Phrygia—Sir William Ramsay, and Hogarth—to compare the "Lion Gate" with the lion-façades of Phrygian tombs (though these lie far inland, and more closely resemble archaic Greek work); the "treasuries" of Mycenæ with chamber tumuli from Gordion to Caria, and the gold of Pelops with that of Phrygian Midas. To others, the geographical distribution of scattered "Thraco-Phrygian" tribes, in Macedonia and even further west, suggested that instead of connecting Pelopid Mycenæ directly with Asiatic Phrygia, both might be regarded as divergent goals of a common Thraco-Phrygian migration out of Central Europe, like that of the Galatian Gauls. That the Phrygian tombs seemed to Ramsay to be of the ninth century, did not trouble Alexander Murray (87–90), who regarded Mycenæan art as an even later mixture of Ionian and Phœnician, or the defenders of the "Ionian" Homer.

The "Carian Theory" of Koehler (78) was a challenge to "Achæan," "Phœnician" and "Northern" theories alike. The contrast of style and spirit between Mycenæan works of art and Hellenic should convince a conscientious Hellenist that whatever Mycenæan civilization might be, it was in no sense "Aryan." Milchhoefer's suggestion (83) that it might be both Aryan and primitive Greek, because the women on the "island stones" wore divided skirts, roused a chorus of scornful protest. Rossbach (84) knew more about gems, and Studniczka (84) about Greek dress. But if such craftsmanship did not (like all good things) "come from the north," whence had it come? Dümmler's discovery that earlier phases were to be found in the Cyclades than in Argolis, and Milchhoefer's luckier—and truer—observation that "island stones" were commonest in Crete, suggested an explanation. There was ancient tradition that Minos, sea-king of Crete, had "expelled the Carians from the islands," and forced "Carian" sea-rovers to man his ships; and Thucydides remembered how tombs recognized as "Carian" had been ceremonially exhumed in Delos. "Carian" tombs were presumably pre-Hellenic, and as Dümmler's tombs from the Cyclades were pre-Hellenic also, it was argued, not quite logically, that Dümmler's tombs were Carian, and that, in general, Mycenæan culture *was* that "Carian" régime which Minos had destroyed. But in Homer "golden" Mycenæ and Cyclopean "Tiryns" alike are ruled by Achæans under the Pelopid Dynasty with its Phrygian (and therefore Aryan) antecedents. Here was a solution of the problem. The Carians had created the culture of Mycenæ in the islands or beyond them. The Perseid Dynasty of Greek tradition had founded first Tiryns, then Mycenæ, on the Argive mainland. Then "Aryan" Pelopid immigrants and other Achæans had occupied the "Carian" palaces,

and imposed Greek speech, religion, and the like, on their "Carian" subjects. Minos in due course had carried his crusade into enemy and aboriginal country.

In Germany, the "Carian theory" has never quite been outgrown. What was valuable in it, the recognition of the first Ægean civilization as pre-Hellenic, was restated on its linguistic side by Kretschmer (95), comparing Ægean place-names, and numerous non-Aryan words in Greek, with the large group of Asianic languages in south-western Asia Minor; of which Carian probably was one, and others are preserved in the Hittite archives of Boghazkeui. But would it not be well to go and look in Caria? When Paton and I did so (93) we not only found no "Carian" palaces, but were able to show that Mycenæan culture itself only reached even the coast islands in its most decadent phases. As at Hissarlik further north, oversea settlers at Chios, Samos, Miletus, were but a feeble folk, pioneers faced with something—wild nature or hostile natives—that penned them to the shore.

Nevertheless, as soon as discoveries at Knossos reopened this question of origin, it was the old Carian theory by which Dörpfeld (05) and other German critics judged them: with the corollary of an Achæan (and therefore "Aryan") conquest, of which Dörpfeld, during a flying visit to Knossos, saw evidence in reconstructions of the "Palace." The controversy between him and Mackenzie (04–6)—who had been in Knossos throughout—is amusing enough now. Meanwhile, the general theory *ex oriente lux* died hard in the Ægean. The first really effective attack was *Le Mirage Oriental* (93) Salomon Reinach's brilliant survey of linguistic and archæological evidence, followed by another paper *Les Déesses nues* (95) on one of its cornerstones. For Reinach the contributions of the Ancient East, Semitic and Aryan alike, to primary cultures in Europe had been overrated and overdated. Whatever its origin, Mycenæan civilization was demonstrably and positively aggressive all round its Ægean focus, to the west as far as Sicily (93), Sardinia and Spain, as well as in "Cyclopean" Italy, eastward beyond Crete and Rhodes to Cyprus and Egypt. "Pelasgian" or "Carian" origins did not explain the facts; the source of inspiration was from the north, not from the east.

This was good news for "Aryan" philologists; but Kretschmer (95) was able to produce many traces of the pre-Hellenic and non-Hellenic speech in Greek lands, and to connect with a widespread linguistic region in south-western Asia Minor, and to raise the fundamental question, what necessary connexion is there between race and language and material culture and how is it possible to argue from one to the other?

Perrot (95), following Reinach's lead, thought Mycenæan craftsmanship essentially Greek, and therefore "Aryan" (as then understood), superseding by "Aryan" initiative the slow evolutionary processes of Oriental art and the great Empires. But the materials in the new structure are exotic not autochthonous, assimilated by "unconscious recognition of the labours of Asiatic and Egyptian contemporaries." The focus was at Mycenæ, Agamemnon's capital, for the Achæans were "Aryan" *pur sang*. The Cyclades were provincial, and Cesnola's Cyprus an outland. Though justice is done to the artistry of the "island stones," the discovery of the script came just too late for Perrot.

Close upon Reinach's *Le Mirage Oriental* came Sir Arthur Evans' *Eastern Question in Anthropology* (96). Palæolithic evidence supported Sergi's arguments (95) for the wide and continuous

spread of a "Mediterranean Race" from a focus in Hamitic Africa. Philologists allowed time for the differentiation of languages. Ægean civilization, in its two main phases, "Amorgine" and "Mycenæan," was a local exuberance within a great "Anatolo-Danubian" province, with kindred pot-fabrics from the Mondsee to Cyprus, and widespread observance of nude female figures, which both Sir Arthur Evans (95) and Reinach (95) had discussed already. Within this province also, spiral ornaments originated in "Amorgine" carved stonework—not in coiled wire, as Milchhoefer (83) and northern archæologists had suggested—and were copied into clay at Butmir, in paint at Lengyel, and in metal in Hungary, whence they spread as far as Scandinavia and even Ireland. Hither spirals came, however, also through West Mediterranean culture. Independent origin seemed out of the question, for there were spirals already in Palæolithic art. Egyptian spirals in stone appear as early as the IVth Dynasty, and become the prototypes of "Amorgine" in the XIIth, when Crete borrowed similarly; and in the "Shaft graves" stone spirals had been copied into metal relief. This skilful assimilation of foreign technique and design is characteristic of Ægean culture, embraces Babylonian motives as well as Egyptian, and passes these on into the nascent arts of Central Europe. But "indebtedness must not be allowed to obscure the fact that what was borrowed is also assimilated," in complete contrast with the dull Phœnician collocation of alien and heterogeneous motives. Eventually Ægean culture repaid its debt to Egypt by its influence on the arts of the XVIIIth Dynasty.

There was also European return-influence on the Ægean, in the spiral-painted pottery, and the fibulæ later; a symptom of the coming of the Greeks into Greek lands. Reichel's identification (94) of the Homeric shield with the Mycenæan illustrates the adoption of Ægean culture by Greek-speaking folk. But the north-western intruders were multiple and included an element akin to the historic Phrygians; on the other hand, "true Cretan" folk survived here and there in the Ægean, with elements of older culture, non-Greek words and names, the cult of an axe-symbol, and a linear script based on older symbols. "Mycenæan" influences may be traced in Caucasian fibulæ, trans-Danubian painted ware, Italian and Adriatic sword-types, in the Early Iron Age culture of Glasinatz and the Venetic province, contributing eventually to the repertory and technique of La Tène. Thus to recognize adequately the eastern background of European origins is no *Mirage Oriental*. The "independent European element" is not extinguished by its own capacity for assimilation. In Crete more than elsewhere, continual developments, and also primeval intercourse with the Nile valley, are recognizable.

My own *Prehistoric Man in the Eastern Mediterranean* (96) developed Sergi's thesis of a homogeneous population of North African origin, for the South European peninsulas; called attention to the distribution of chambered tombs as an index of co-extensive cultural ideas; and noted that in any estimate of "Aryan" elements in Greece, Thrace and Phrygia, like Italy, could not be left out of account. The Danubian province may well have had some "reflex influence" in Reinach's sense, on the Ægean, but "northern invaders" entered Mediterranean regions not as missionaries of culture, but as raiders attracted by southern amenities.

But the *Mirage Oriental* had its votaries still. Pottier (94) characterized Mycenæan decorative art as "géométrique curviligne," contrasted it with the rectilinear style which preceded and followed, and accepted the derivation of spiral ornament from Central Europe, as proposed by Montelius 1878 and Naue (91). But rejecting the argument from geographical distribution, he regarded the new culture as essentially oriental: "it is always the older and richer culture that influences the other"; native chiefs were served by foreign craftsmen, or imported ready-made goods, as Greek tradition described.

Helbig (96) went further, regarding the entire Mycenæan culture as the long-lost heritage of Homer's "Sidonians." But if so—as I noted then (96)—why had Cyprus, so close to Sidon, only received this culture in a far later phase than Mycenæ; and where were Sidon's customers in Western Asia?

Ridgeway (96) attributing Mycenæan culture to "Pelasgian" aborigines thought nevertheless that this population had always spoken Greek, and that the "Achæans" were recent Celtic invaders. His *Early Age of Greece* (01) also discussed the replacement of Mycenæan culture by that of the Early Iron Age, when iron, fibulæ and cremation were introduced by his northern Achæans. Ridgeway's *jeu d'esprit* was salutary, for there had been too general acquiescence in theories of the "Carian-Achæan" type, with a crisis between the "Shaft graves" and the "Treasuries" attributed to "northern invaders" with slashing-swords, battleaxes, and chamber-tombs, whose fortified palaces proved them strangers to their neighbours. It was another challenge to accepted views when Montelius (05) noted that the Argive fortresses were disposed as if to entrench invaders from the Ægean, not from the North.

The Question of Language, and the Pictographic Script.—Schliemann found no inscriptions on any of his sites; though ingenious persons tried to read scratches and misshapen patterns on spindlewhorls and other objects from Troy. Tsountas (89), however, recognized two short linear inscriptions on vases from the "palace" at Mycenæ. They were in no known script, though some characters resembled Cypriote; and it must be remembered that the syllabic script of Cyprus had been known since 1852, and deciphered into Greek by George Smith (72). Some Cypriote inscriptions indeed were not so easily read, but it was not till Meister (11) and Vendryes (13) noted that they had a grammar of their own, that their significance was realized, as documents of a language at once pre-Hellenic and pre-Phœnician.

In 1894, Sir Arthur Evans announced his discovery of a pictorial system of writing on seal-stones from Crete and elsewhere, and supplemented this by derivative linear scripts (97), to one of which the inscriptions from Mycenæ belonged. This set excavators looking for tablets, and especially for grafliti, and at Phylakopi a few groups of signs were found. In Cyprus (99) the British Museum obtained from a tomb rich in Mycenæan objects three small clay balls engirdled with incised signs, some of which were common to the Cypriote and to the Cretan system. Tsountas, however, still insisted (97) that the mainland culture at all events was illiterate. Then, in the first season's excavation at Knossos, deposits of clay tablets were opened, incised in linear scripts clearly derived from the pictographs. Similar finds occurred as the work in the palace went on, in earlier and later deposits; and likewise at Phæstos and Agia-Triada. The pictographic disc from Phæstos (08) impressed from relief blocks (like

our printers' type), has its words divided like the Knossian linear script, and includes signs which resemble Lycian buildings; but it has not been read.

Contemporary finds bearing on the same problem of language were three inscriptions from Præsos, in archaic Greek alphabet (of the centuries from sixth to fourth), but not in Greek. Conway (02) claimed them as Indo-European and akin to Venetic—and Præsos had ancient fame as a survival from the régime of Minos (Hdt. vii, 170–1).

Some of the linear signs more or less closely resemble letters of the Greek, Lycian, or Phœnician alphabets, or Cypriote characters, or even Iberian letters from later Spain, or Libyan from Carthaginian Africa; and similar signs occur separately as owner's marks on potsherds from Egyptian sites of several periods. But the mutual relations of all these systems are still not clear, though Petrie (12) and others have given much attention to this. Resemblances to Egyptian, Hittite, or cuneiform characters do not exceed what might be expected, when gesture-signs, cattle, implements and other objects of common use, are discounted. As most Cretan texts are very short, it is difficult to establish the grammar, though the linear scripts usually separate their words.

Nothing could have been imagined more likely to draw general attention to Ægean civilization, than this discovery of a system of writing. "Hieroglyphics" of any kind, and especially writings that no one can read, have a curious attraction for the public. Literary scholars anticipated from it fresh light on early Greek, or at least on some language or languages which Greek displaced; and it was being shown by Kretschmer (95) and soon after by Fick (05) that not only were many place-names and some personal names not Hellenic, but a number of non-Hellenic words were to be found in classical, and others in Homeric, Greek and local dialects.

As soon as the vast work of uncovering the Palace of Knossos permitted, a first volume of *Scripta Minoa* (09) was published—containing the hieroglyphic or pictorial texts and the direct linear simplifications of their symbols. But no decipherment was attempted by their discoverer, and no further instalment has appeared. The decipherment of hieroglyphic and of cuneiform writings had already passed from the sensational into the merely professional stage when the Cretan scripts were discovered. This, however, has not prevented others from offering translations, of which the best that can be said is that they demonstrate their authors' inability to write the language into which they are translating; usually this is Greek.

There was the special interest in a discovery of early writing in Greek lands, that it might be expected to throw some light on the origin and transmission of Greek epic. About a century before Schliemann began to travel in Greece, Robert Wood (1769) had argued that if Homer lived at his traditional date, about 850 B.C., he was probably unacquainted with the alphabetic writing of classical Greece, of which no then known example was so early. And exactly a hundred years before Sir Arthur Evans announced his discovery of Ægean script, Wolf (1794) had made the further and equally unfounded guess, that if Homer did not write, he could not have composed or even recited poems so long as the *Iliad* and *Odyssey*. Wolf's assumption had really been refuted by Lönnroth's (35) discovery of the *Kalevala*, a much longer body of verse orally transmitted among illiterate Finns. Moreover, while Wolf was writing, Winchester scholars were learning and repeating the whole *Iliad* and *Odyssey*, and the whole of the *Æneid* and *Georgics* as well.

Now, it was demonstrated that centuries before any possible date for Greek epic, there had been current not only "symbols" like the *sémata lugra* in the folded tablet given to Bellerophon in the *Iliad*, but linear script (*grámmata*) such as Wood had imagined but sought without success. But Wolf's assumption remained (and remains) popular, and upon it rests a portentous superstructure of literary criticism, now falling into decay, as the connexion between the artistic form and historical content of the poems is better understood. If, however, as seems likely from the grammatical indications, the language of Ægean scripts is not Greek, the late dates to which the derivative scripts remained in use, and the relatively early dates of objects—such as the so-called "Nestor cup," the Mycenæan body-shield, the inlaid work of the "lion dagger"—which seem most clearly before the poet's mind, make the suggestion of Sir Arthur Evans (11) noteworthy, that old Ægean speech, too, had its literature, as it had its music and games, and that a time came when old Ægean poems were being translated by a bilingual balladmonger for the entertainment of Greek-speaking audiences.

Retrospect of the Advances from 1890 *to* 1900.—Thus, in the ten years following Schliemann's death, his cardinal discoveries had come to be cornerstones in a wide structure of new knowledge, even if his sites had at times been studied as if they exhibited their respective cultures in full. The Sixth Town at Hissarlik had been correlated with the latest phases of Mycenæan decadence in other parts of the South Ægean, but Hissarlik's essential barbarism was emphasized by the rarity of Mycenæan imports and by the similarities of its earlier phases with those of Cyprus, and with the first metal-using cultures of Europe. Phylakopi inherited from the "red ware" culture but from Hissarlik, rather than from Cyprus; it was ancestral to early "Matt"-painting around the Saronic and South-Eubœan gulfs; and its obsidian industry and Cretan intercourse, made it an important intermediary between the southern and the western coastlands. Yet Cycladic influence in Argolis was marginal, indirect, and less than round the Saronic gulf; it could hardly have been from Melos that Mycenæ sprang; and in later time Mycenæan culture superseded Cycladic in its birthplace.

Similar Mycenæan aggressions had been demonstrated widely elsewhere; as far north as the Pagasian Gulf, as far south as Crete (78), Laconia (89) and Messenia (91); as far west as Cephallenia (86) and eastern Sicily (93); as far east as Carpathos, Rhodes (66), Cyprus and Egypt. On the continental foreshores of Asia Minor and Europa Minor, in Thrace and in Macedon, on the other hand, there was still a great void, unexplained, and difficult to reconcile with the later ubiquity of Hellenic settlements on these shores. Whereas Rhodes and Cyprus seemed to have been occupied late, and the Syrian coast hardly touched, Crete had evidently been an early, populous, and vigorous home of this culture, with early and repeated contacts with Egypt. The cradleland therefore seemed to be in the South Ægean, not in the Levant; the distribution of pictorial symbols, frequent in Crete, at all stages, very rare and late on the mainland, and the lack of any mainland predecessors of the great fortified sites suggested that Crete had been the source, and continental Greece the secondary recipient. But the widespread vogue of nude female figures from the Levant and Asia Minor to the Danubian lands and sporadically beyond them, pointed to a primitive continuity of crude nature-worship, out of which the higher manifestations of tree and pillar cult and the worship of a mother-goddess in

the Ægean Bronze Age evidently sprang. Evans' *Mycenæan Tree and Pillar Cult* (96–01) elaborated Reinach's protest against accepting western religious ideas as necessarily oriental, or female figures in early art as necessarily derived from *Ishtar*-worship.

III.—MINOAN AND MAINLAND CULTURES, 1900–14.

Crete and the Minoan Régime.—As early as 1878 a Greek of Candia, opportunely named Minos Kalokairinos, found on the low hill known as Kephála, at the site of Greek Knossos, pottery resembling, and even surpassing, the finest ware in the "Shaft graves"; it included, in fact, fragments in the best "palace style," and came from one of the "magazines." Inspired by these finds, Stillman, an American journalist, obtained in 1880 a permit to excavate Kephála, but fortunately did not dig. Schliemann (83) applied also for leave. Comparetti (84) published a non-Hellenic inscription from Præsos. Fabricius (85) published the painted pottery, Dümmler (86) visited Kephála, Orsi (91) opened a cupola-tomb in the Messarà plain. Meanwhile, Milchhoefer (83) had called attention to the frequency of "island-stones" in Crete, and in 1887 Schliemann visited Kephála, but was unable to come to terms with the owner. Soon after Joubin (92) published *larnakes* like those of Orsi, and Mariani and Myres (93) independently studied the Kamárais pottery; but the trenches at Kephála were overgrown, and a new period opens with the arrival of Sir Arthur Evans (94), and the announcement of the "script" the same summer.

On March 20th, 1898, Crete proclaimed its independence, the last Turkish soldier left the island on November 14th, and in the autumn of 1899 excavation began at Kephála, and with few intermissions has been continued annually, with unparalleled skill and success. The site had been continuously occupied throughout a long, and at times splendid, Bronze Age, and this "Minoan" culture had been preceded by a neolithic settlement of great antiquity, the latest deposits of which are contemporary with the beginnings of Dynastic Egypt. Already, in 1900, archives of clay tablets were found, inscribed both in pictographic and in linear forms of the Minoan script, the earlier contemporary with the first Egyptian Dynasties, the linear superseding pictographic about 1600 B.C.

To classify even provisionally the remains of a civilization virtually new, and evidently of long duration and progressive development, an *à priori* division into Early, Middle and Late, similarly subdivided, and capable of further tripartition if required, recalled on the one hand the traditional "nine-year" rule of Minos, the culture hero of legendary Crete, and on the other happily accorded with principal turning points and phases of Minoan arts and crafts, and also (as was gradually discovered) with principal synchronisms with the "Old," "Middle" and "New" Empires of Egypt represented by the Vth–VIth, XIth–XIIth, and XVIIIth–XIXth Dynasties respectively. Only at two points has better acquaintance with the course of events at Knossos itself qualified this scheme. Between the Middle Minoan periods II and III, a violent earthquake compelled extensive reconstruction, stimulated invention and skill, and probably also resulted in economic—perhaps even social—stresses and widespread emigration, especially to the maritime lowlands of continental Greece. And again, rather later, the specifically Knossian "Palace Style"—which originates in Late Minoan I *b* and culminates in Late

Minoan II—was cut short in its prime, about 1400 B.C., and replaced by Late Minoan III, *a* while its own mainland offspring, Late Minoan developed into a hybrid style, Late Minoan I *c*, to which the name "Mycenæan" may now be properly applied (1832).

Naturally, the new régime in Crete, and the wonderful discoveries at Knossos attracted other explorers; Italian, at the palace-citadel of Phæstos, the royal villa of Agia Triada and adjacent cemeteries, in the Messarà lowland, both sites supplementing the Knossian series at many important points; British, at Palaikastro and Zakro, at the east end of Crete; and American, at Gournià, Mochlos and Pseira, on the Isthmus of Hierapetra, revealed the modest equipment and local taste of small provincial towns, curiously like modern Cretan villages in their arrangements and habits; Hogarth completed the clearance of the Dictæan Cave sanctuary, probed already by Halbherr and Sir Arthur Evans; Cretan archæologists, Hadzidakis at Tylissos, and Xanthoudides (24) in the Messarà, have continued similar work since the War; and Chapoutier (28) is now clearing a small but notable palace at Mallià on the north coast. By some accident the western half of the island has been almost wholly neglected; a gap in our knowledge urgently require to be filled on account of the disputed relations between Minoan Crete and the Greek mainland.

So vast a mass of fresh material and so many problems not only of excavation but of exceptionally bold and thoroughgoing reconstruction, inevitably delayed the appearance of definitive memoirs, though current reports were admirably prompt and full. Mackenzie's *Cretan Vase Painting* (06) and *Cretan Palaces* (04) were followed by Sir Arthur Evans' own *Essai de Classification* 1906, but *The Palace of Minos at Knossos* only began to appear in 1921, and is still unfinished. The only adequate conspectus is that of Fimmen (21).

It is especially in a vastly longer perspective that these Cretan discoveries, and especially the Palace of Knossos, have enriched our knowledge. Without reckoning the 6–7 metres of pre-Minoan neolithic settlements beneath the first Bronze Age houses, the Early Minoan dawn connects Crete with pre-Dynastic and proto-Dynastic Egypt, when intercourse seems to have been frequent already. Though the earlier part of the series at Knossos itself has been denuded by later reconstructions, the loss is made good from other sites; and this continuous sequence has sufficient datemarks to serve as a standard of duration, securely linked at all important crises with the dynastic chronology of Egypt. The case for Egyptian, or rather Nilotic and Libyan intercourse, is stated fully in Sir Arthur Evans' Huxley Memorial Lecture (25). The course of events towards the Greek mainland and the European continent is more complicated, and was long obscured by the fragmentary and sometimes inopportune way in which knowledge has been won. Indeed, until the War-interval enforced a pause for reflection, brilliant achievements and engrossing discoveries in Crete itself diverted attention from much that was actually going on. It will serve to put all this mainland pioneer work in better perspective and correlate it with Minoan enquiry if the three principal factors in mainland prehistory are presented separately, namely, the painted ware culture of Thessaly and Central Greece, the subsequent almost paintless culture to which the name "Helladic" has been given, and the "Minyan" grey ware culture and its derivatives. For it was into a continental frontage already populous with the heirs of all these three, that Minoan adventurers and settlers eventually came.

Thessaly and its Painted Wares.—Quite a fresh prospect was opened in Thessaly and other parts of North Greece, by Tsountas' excavation of a stratified mound at Sesklo (01) near Volo, characteristic of which was pottery, handmade and elaborately painted, with geometrical patterns usually dark on light ground. That this culture was very ancient was clear from the rarity of metal, and from the intrusion of a Mycenæan "treasury"-tomb when the site was already forgotten.

Tsountas, 1903, went on to excavate a neighbouring mound at Dimini, already deserted also when a Mycenæan tomb (84) was intruded into its flank. Earlier workers at this tomb had noticed odd pottery on the site, but did not discover its source. Tsountas' *Prehistoric Acropolis of Dimini and Sesklo* was not ready till 1908, but meanwhile similar mounds had been examined by Greek colleagues, both in Thessaly and in Phocis and Boeotia; and Wace and Thompson's *Prehistoric Thessaly* (12), based on those excavations and their own, established the main outlines of these prehistoric cultures. It was perhaps unavoidable to adopt Tsountas' premature and cumbrous notation for many scattered excavations, with distinct regional cultures. But it was possible to put the new finds at once into their place in the story, because all this old Thessalian world had been obliterated by the spread of successive new cultures, from the south and from Orchomenos in the centre. These Thessalian cultures differed surprisingly from site to site; but so far as their painted pottery is concerned, they form two main groups. At Sesklo, and (better represented) at Chaeroneia, decoration is rectilinear, and based on textile patterns. At Dimini a kindred repertory is enriched by bold but disorganized spirals which fill panels and occasionally zones. Both types, however, appear as mature styles, wherever they are found, associated with various other techniques, some akin to the incised-ware of the Danubian province and its recently discovered outlier Butmir in Bosnia (95–98), where spiral ornament luxuriates. And both types alike degenerate and disappear before paintless fabrics, the distribution of which shows that they were spreading from the south, where Bulle (02) was finding their like at Orchomenos, and Vollgraff (04) at Argos. Probably similar material had characterized the lowest stratum at the Argive Heræum (02), but its significance was overlooked there because it was unpainted.

The Thessalian discoveries came just too late for consideration in *Troja und Ilion* (03) or in Hubert Schmidt's masterly *Schliemann Sammlung* (02), and they were but little noticed in the earlier literature of Minoan Crete. What gave them significance was the remarkable resemblance of both types of Thessalian painted ware to the fabrics of regions not too remote for comparison (as well as to Peruvian and other textile decorations), namely, in south-eastern Europe from Ukraine to Bohemia and Thrace, and in the highlands of Western Asia, from Susa to Old Persia to Anau, near Astrabad, looking out north over the western steppe of Turkestan. But whatever else might be said about the Thessalian painted wares, one thing at first seemed certain, that they had nothing to do with any other fabric or style in Greek lands. Even the spirals, so oddly bestowed in interspaces of rectilinear designs, were not the recurrent spirals of the Cyclades or Mycenæ, though occasionally such disorganized spirals occur in early Minoan Crete. Outside the Ægean, however, there was already something so far analogous, that it had already been provisionally described as "pre-Mycenæan," namely, the pottery of a widespread essentially neolithic culture in South Russia and Roumania.

Painted Wares in Ukraine and Roumania.—Long before, at Cucuteni near Jassy, a Roumanian archæologist, Butureanu, 1889, found a settlement with painted pottery, apparently neolithic, von Stern (92) another at Petrény in Ukraine, Palliardi (97) in Moravia and Lower Austria, and Chvojka (02), over twenty years, many near Kiev and in other parts of Ukraine. Because the pot-fabrics, though painted with spirals, were found in a stone-age context they had been collectively described as "pre-Mycenæan."

Fresh finds of the same sort at Tordos in Transylvania about the same time as Tsountas' excavations in Thessaly led Hubert Schmidt (03) to give these cultures systematic study, analysing their styles by methods now familiar among northern archæologists, and to propose far-reaching conclusions as to their relation to each other. For a connexion with Thessaly, distant though it was, seemed less unlikely, since "painted wares" were reported from Macedonian mounds like those of Thessaly (05), from Thrace and Bulgaria (06), and from Apulia (09), where they are in fact widespread (32) and in turn point onward to the "Siculan" fabrics of Sicily (91) and Malta, all of Late Neolithic or very Early Bronze Age. This led in turn to excavation over the whole extent of "painted-ware" sites from Bohemia and Galicia to the Dnieper, and as far south as the Dobrudja and Alt valley in Roumania.

A general survey of *Pre-Mycenæan Culture in South Russia*, by von Stern (05), enabled Schmidt to illustrate its influence (which he believed to be great) on the Ægean, and to these years belong also Much's *Heimat der Indo-Germanen* (04), Fick's *Hattiden und Danubier in Griechenland* (08) and Hirts' *Indo-Germanen* (06). We have only to look at the dates to realize the connexion of all this with the political situation. For now "Danubian" was again in competition with "Hittite" for predominance in the lands round the Ægean. But was the modern "Danubian" to advance through Hungary or through Ukraine? Schmidt (09) himself began work at Cucuteni, and returned thither, 1922, after examining a similar site at Monteoru (17). Earlier reports are now superseded by his full memoir *Cucuteni* (32).

Once again, the new material seemed to justify different conclusions; and these varied, as before, with the previous experience of the theorist. The spiral ornament provoked controversy as usual. Wozinski (04), for example, accustomed to comparisons between Danubian incised wares with those of Hissarlik and Cyprus, and intent on tracing the spread of metal-using culture into Europe, found no difficulty in deriving Ukrainian painted wares likewise from Ægean, especially since west and north of the Carpathians painted ware was rarer and more degenerate as it became more remote. Schmidt and von Stern found Roumanian and Ukrainian sites dominated so completely and so early by painted wares that traffic and settlement seemed out of question; while the Thessalian, Macedonian and Thracian sites were so sporadic and specialized that they looked like marginal offshoots of the large coherent regions on the Dnieper, Dniester, and Alt; and this explanation accords best with later finds (*v.* below).

Painted Wares of Anau and Susa.—But the contrasts between the styles of decoration represented at Dimini, and at Sesklo-Chaeroneia, are too emphatic to be attributed to local fashions; and a reason for this is suggested by another great group of painted-ware fabrics, which by a curious chance first became generally known within the same few years as those of Thessaly and the trans-Danubian cultures.

In Western Persia painted ware was collected by De Morgan in surface finds as early as 1891, and in 1897 he began to explore the vast mound of pre-historic Susa. Here two distinct styles apparently represent successive periods. They have been studied by Pottier (12), but deserve analysis by more modern methods. The earlier has bizarre geometric ornaments, and conventionalized animals, birds, and men; the later, zone-decoration and more lively and natural representations. The second style recurred at Moussian (03), Tepe-Alyabad (05), and other West Persian sites, as far south and north as Bushire and Urmya.

Meanwhile, the geographical expedition of Raphael Pumpelly (04) had brought Hubert Schmidt—fresh from his study of painted ware at Tordos—to Anau, near Astrabad, primarily to correlate the archæological contents of two stratified mound sites (*kurgans*) with Pumpelly's own observations on the climate and its history. In the North Kurgan the earlier culture, "Anau I," has painted ware of a type even earlier than Susa I, but closely related in style to that of Chaeroneia; in "Anau II" this becomes contaminated with self-coloured red and grey wares from some other culture, and only then does the phase represented in Susa I appear.

Later still Andersson (28), exploring Mongolia and Northern China, has not only found painted ware cultures which show resemblances with these western styles—very remarkable, considering their distance apart—but has begun to span the long interval with Siberian finds.

Finally, and nearer home, the Cappadocian painted ware published by H. de Genouillac (26), though probably of at least two distinct periods, and none of it necessarily primitive, has points of style which seem to connect it (as I ventured to suggest in 1903 on the specimens published by Chantre, *Mission en Cappadoce*, 1893–1894 (98)) with the Bronze-Age painted ware of Cyprus on the one hand, and with the Thessalian fabrics, then very little known, and the Sicilian on the other. Of the trans-Danubian cultures I made no mention, for I know them first through von Stern (05).

The publication, after long delay, of Hubert Schmidt's *Cucuteni* (32) makes it easier to take stock of our knowledge of the widespread and variable "painted-ware" cultures, so much enlarged since travel has become possible in Iraq and Persia, and since the discovery of similar cultures in Baluchistan (24), Seistan (25), Sind and Punjab (31). Schmidt's comparisons and distinctions between styles of decoration reveal a remarkable inter-distribution of fabrics, represented in the east by "Susa I and II," in the north by "Cucuteni A and B," and in Thessaly respectively by Sesklo and Dimini. At Susa and Cucuteni there is stratified sequence, and the later styles are also structurally derived from the earlier, though by no means in direct descent. What needs to be explained is the occurrence of styles of decoration isolated regionally, but structurally akin.

The clue seems to me to be given by the mode in which the decorative motives are applied, especially in the earlier group of styles. The dependence of the several motives on textile design has been noted by Schmidt, and is obvious. What has been touched, at my suggestion, by Frankfort (24) (I, § 19), but needs more thorough treatment, is the dependence of the decorative scheme as a whole, and sometimes also of the vase forms, on prototypes that are tensile rather than textile, in the sense that leather as well as cloth and felt yields to stresses and "takes a shape," which may be very complicated, as in a well-fitted coat or shoe. Now

though pottery is admittedly of little use to migratory folk, tensile craftsmanship is characteristic; and in nomad pastoralism, identical handicrafts and decorative schemes travel as far as flocks can graze through the year, and return with the seasons. Out on the steppe, where pots are neither used nor made, outworn equipment is cast out and decays. But nomad pastorals are among the most conservative of mankind, and they do not easily change their other habits, even when they become sedentary. Hence the sporadic emergence of pot fabrics like those of Kabylia (02), on or near the margin of a great region of nomadism, with repertory of painted ornament closely concordant with the painted leather-work and woodwork of the steppe-folk. Another remarkable instance is the "white slip ware" of the Late Bronze Age in Cyprus and Syria (15), where vase form and decoration alike are vividly skeuomorphic, though we do not yet know which the ancestral grassland was,—Arabia, or the plateau of Asia Minor. That an originally nomad people, temporarily settled among cultivators or camping between their villages, should contaminate their designs, for example, with Danubian spirals is likely enough; that they should resume their migratory mode of life when circumstances were favourable is also probable: and in that event, a contaminated repertory may travel far, and give rise, for example, to "disorganized spirals" like those of "Cucuteni A."

It is a further question, which I ventured to suggest long ago (03), how the Cappadocian painted ware is related to that either of the Eastern or of the Ukranian region, with its Thessalo-Thracian annexes. Till the dates of what are evidently distinct phases among the Cappadocian examples were ascertained, it is as risky to classify them as it would be to classify Sesklo and Dimini if we had not their Susan and Ukrainian counterparts. But the recent finds, and also the primæval "painted ware" now stratigraphically fixed in Cyprus encourage hope even here.

Orchomenos and the "Grey Ware" Culture.—During the same years as the establishment of the "Painted Ware" cultures, other discoveries in central Greece were introducing another bypath into our labyrinth. Besides clearing the traditional "Treasury of Minyas" at Orchomenos, Schliemann made trial trenches on the settlement site (81) which yielded pottery very like that plain well-wrought grey ware which at Troy he had thought to be "Lydian." Other trials by de Ridder (95), after his exploration of the very late site at Gha in the Copais, attracted little attention. The site was a deep one, and had to wait for its occasion, but once more a literary problem was to lead to archæological discoveries of a quite unexpected sort.

One of the first reactions of Greek scholars to Schliemann's discoveries was in the department where it might least have been expected. The dialect of the Homeric poems, mainly an early phase of Ionic, includes, however, forms which are common to Æolic, the dialect of the Greek settlements north of Ionia as far as the Troad, and of their motherlands in Thessaly and Boeotia. As long as Troy and the Trojan War could be regarded as poetical invention, vivid descriptions of ancient sites and an heroic culture caused no qualms about the dialect of the Homer who sang in the ninth century to people who had only colonized Ionia in the eleventh. But when "golden Mycenæ" emerged from the "Shaft graves," and the walls and gates of a "real Troy" from the mound at Hissarlik, how were the descriptions in the poems to be related to such facts of pre-Ionian history? Moreover, as the political geography of the poems had long been recognized as non-Ionian, and was explained as pre-Ionian tradition, it was natural

to suppose that their archæology had similar origin, whatever part of the Greek world the Ionian-speaking Greeks had inhabited before they settled in Asiatic Ionia. As Achilles came from Phthiotid Achæa, between the two principal districts of Æolic speech in classical times, and as there were traditions of other Achæan heroes living in Æolic-speaking districts, Fick (83) revived Ritschl's theory (34) that the original Homer was a wanderer from European Æolis, and suggested that the poems as we have them were translations or adaptations, for Ionic-speaking audiences, of poems originally Æolic, about traditions of European Æolis; that they had been brought over to Asia Minor and accommodated to sites and scenes in Asiatic Æolis, as well as to Ionic audiences; and that, if so, the palaces and castles of Trojan and Achæan heroes must be sought, not at Troy or Mycenæ, but in Thessaly and Boeotia.

Fick's Æolic theory, though his critics have not left much of it, had two immediate effects which outlasted it. If the poems had originated not in Asia Minor, but in Æolic-speaking Greece, the old distinction drawn by Grote (46), and more recently by Geddes, (78) between a primitive Thessalian *Achilleid* and the enlarged Ionian *Iliad* based on it, was provided with a fresh criterion. And, further, on the plausible hypothesis that "a myth originates where the monument is, and is derivative where it is not," the traditional "tomb of Hector" shown in antiquity at Thebes in Boeotia, should be the "monument" that originated his vogue as a hero of the Trojan War. Conversely, if there was an original Thessalian Achilleid, there should also be a Troy hereabouts to be besieged, an Agamemnon to attack it, and so forth. Now there were legends about great sieges of Thebes, and even a poem about the siege of Œchalia. It was argued that the original "Taking of Troy" was a similar episode, not of Æolic settlement in Asia Minor, but of the Boeotian homeland. This "displacement theory" was popularized by Cauer (95) and by Bethe (01–4): then Kern (05) mapped the most important localities of this pre-Trojan War, and Stählin discovered a Boeotian home for Andromache.

But meanwhile, Schliemann had found in the Trojan plain, exactly where ancient tradition and scholarship had placed it, an ancient city which had certainly been captured and destroyed. If scholars more skilful than he to interpret tradition now located the Trojan War in Boeotia or Thessaly, here was the chance for a new Schliemann to dig up an archæological background for their "Æolic" Hector and Achilles.

It happened also that political consideration for the Turks had held Teutonic diplomacy and excavators alike aloof from the "promised land" of Crete. But though the success of the Cretan insurrection had put insular Minoans at the disposal of British and Italians, there were still the mainland "Minyans" at Orchomenos, which Schliemann had earmarked (81) but only examined superficially (86). Achilles in the *Iliad* (ix, 381) speaks of Orchomenos as the wealthiest trading centre in the Achæan world, and couples it with Egyptian Thebes. So with some flourish of trumpets no less a personage than Adolf Furtwängler, fresh from interpreting Ægean prehistory in his *Antike Gemmen* (1900) set out to excavate Orchomenos.

But it is the easiest thing in the world to find what you are not looking for. Furtwängler found no Knossos at Orchomenos, no palace, no frescoes, no painted pottery even, except a strange primitive painted ware in the bottom layer; instead, a drearily barbaric settlement of great antiquity but slow progress and a broken career in three contrasted phases. Only

quite late had some Mycenæan chief in alien territory built for himself an outpost, that could not be found, and for posterity one gigantic cupola-tomb like the "treasuries" at Mycenæ. This, however, had been looted in early Hellenic times, and already cleared and published by Schliemann (86). The German excavation was rather hurriedly shut down; Bulle (07) published one instalment, an account of the huts and houses, and nothing more appeared till 1931. Others, however, following Karo's lead (08) have made un-Ægean, unattractive Orchomenos a cornerstone of prehistoric culture in Greece, with the characteristically negative function of interposing an impenetrable obstacle to the northward spread of Minoan influence, and the positive one of paralyisng the mainland cultures north and south of the district where it first appears in Greece ready-made.

There were four strata of remains at Orchomenos if we include the scanty traces of the Mycenæan town to which the great cupola-tomb belongs. The earliest was of the later Stone Age, with round huts and much handmade pottery vigorously and elaborately painted in odd linear designs, in Thessalian style, but of a local Boeotian fashion.

The second stratum was different, both in manners and crafts. The houses were oval and there were many refuse-pits, full of ashes, bones, and pottery. The pottery was smeared with a wash of dark brown or black clay, and sometimes painted with simple linear patterns in white. The German nick-name "*Urfirniss*" is misleading, for it is neither primitive at Orchomenos, nor glazed at all. Fimmen's (21) proposed substitute "Agia Marina ware" fails to recognize what he admits is its variable quality over a wide region and a long period. Moreover, neither Agia Marina nor indeed Orchomenos II have as yet been adequately published. So I have suggested (30) that we call this whole class of fabrics simply "smear wares" until a more appropriate name is found. Often a simple linear decoration is attempted in poor white paint. In many local fabrics and with some diversity of shapes—though a few leading forms are persistent—it is characteristic of all Central Greece, where it supersedes the painted wares from Liankhladhi II north of the Spercheios valley and Tsani in South Thessaly. Elsewhere it reached Leukas in the west; Attica, Ægina and the Corinthian country; Mycenæ, Tiryns, Argos and other sites round the Argive Gulf; Amyclae and Olympia; and occasional pieces wandered into Melos and Paros. Fimmen (writing before 1916) connected it with early self-coloured wares in the Cyclades, and in Crete, but another origin is more probable, as we shall see (p. 300).

The third stratum at Orchomenos has again a quite different character, and presents fresh problems. It was natural, but unfortunate, that the excavators should give the famous name "Minyan" to its least barbarous culture; but its echo of the name "Minoan" hardly disguises or excuses its inappropriateness to a period centuries earlier than the Minyan dynasty in Greek folk-memory. The houses were rectangular and probably timber-framed; the pottery was deliberately coloured silver grey, but as this is due to organic matter it may burn off to buff or cream-colour. It is burnished, and occasionally grooved or scored with parallel lines before firing, but never painted. The vase forms are few and uniform, boldly modelled, with high loop-handles, distinct rim, and high foot, suggestive of metal prototypes. This culture also seems to appear earliest in Central Greece, but spreads widely north, west, and south. In

Thessaly it steadily interpenetrates both the smear ware and the earlier painted wares. In the west, it reaches Leukas; southeastwards it occurs at Chalcis in Euboea, on several sites on Attica, in Ægina and occasionally in the Cyclades, on the principal Argive sites, and sporadically throughout Peloponnese. The commonest fabric is so uniform and so well represented at Orchomenos that it may have been made there for distribution. At Corinth and in Argolis there is a black local imitation, and also a variable group in which grey colour becomes obsolete, and eventually on a buff clay there is painted ornament.

The sudden and apparently mature establishment of the "grey ware" culture at Orchomenos, its steady expansion—north, west and south—and its frequent superposition on a "burnt layer," suggests that it represents a new, vigorous and aggressive group of people, and increases the interest and importance of anything that may reveal their origin.

So deeply stratified a site as Orchomenos clearly needed much supplementary work to give it full meaning. Sotiriades (06 ff.), in a series of small excavations in Boeotia and Phocis, established each of its three cultures as a regional type, and confirmed their relations to each other. The "painted-ware" culture was best represented at Chaeroneia, where it closely resembles that of Sesklo, and its pottery is therefore referred to as "Chaeroneia ware"; but fashions vary from site to site. The "smear-ware," or "Agia Marina" culture, is more homogeneous, and of wider distribution, for it is continuous with the culture discovered by Vollgraff (04-6) at Argos, by the German excavators in the lowest layer at Tiryns (12), and by Blegen at Korakou (21), and similar sites near Corinth (28). The later "grey ware" is more homogeneous, but nowhere so well exhibited as in "Orchomenos III," which is accordingly its type-site in Central Greece. South of the Isthmus the "buff Minyan" fabrics, already noted, gradually coalesce with wheel-made Minoan fabrics with painted ornament from oversea.

Recalling Schliemann's recognition of his "Lydian ware" at Orchomenos, Wace and Thompson (12) thought that the Trojan examples might have wandered from Central Greece, but Forsdyke (14) stated a strong case for a Troad origin for the whole "grey-ware" tradition, of which he traced gradual improvement of its peculiar technique from the "Second City" onwards to plastic masterpieces in the "Sixth," which do not occur elsewhere. Childe (15) still argued for an independent local source in Central Greece, and I was inclined to agree with him (30) till Heurtley (30) found rudimentary "grey-ware" types in Macedonia. It seems likely, therefore, now that this Trojan style may have spread landwise round the Ægean, like the old "Anatolian" gourd wares earlier (p. 300) and reached an independent but secondary climax in Central Greece, not perhaps without making fresh contact with the Troad focus, such as the "Helladic" smear ware made with Cycladic red-ware and gourd-ware traditions.

Helladic Cultures, Argos, Tiryns, and the Isthmus Sites.—At Tiryns the close resemblance between the palace discovered by Schliemann, and the Homeric description of the house of Odysseus, gave this uppermost pre-Hellenic stratum a canonical sanctity which paralysed further investigation. Schliemann had, indeed, sunk exploratory shafts in the courtyards of the palace to bedrock, through a mass of débris in which much of the pottery was self-coloured, though some was matt-painted like the Cycladic, and a few pieces were polychrome on a black ground. But even the recognition that this polychrome fabric was related to the Kamárais

ware of Crete, and that similar pottery was an important datemark in the similarly stratified site at Phylakopi, was not sufficient to break the spell. At the Heræum (92) much self-coloured ware was found in the lowest layer, and thrown away; Vollgraff's site (04) on the "Aspis" hill at Argos was at first so little understood that it provoked controversy, and a theory that "peasant ware" (*Bauernkeramik*) of primitive fabric could co-exist with a sequence of more advanced styles and outlast them, and consequently that no chronological inferences should be drawn from such finds. But the stratified cultures at Orchomenos showed that Vollgraff's "peasant ware" was in fact the Argive version of the *Urfirniss* or "Helladic" "smear ware," and illustrated what might be expected if the lower levels at Tiryns were explored. Accordingly in 1909–11, after a quarter of a century had passed, the German Institute undertook systematic dissection not only of the palace area, but of the whole acropolis and its neighbourhood.

In this way the whole history of Tiryns was recovered; first an open village clustered round a great round-house on the natural ridge, with self-coloured pottery like that of Argos (04); then a "palace" of the XVIth century, but under some Cycladic influences, older, however, than anything at Mycenæ, and perhaps culminating in the XIXth–XVIIIth centuries, well fortified on the southern end of the site, overlooking the poorer quarters in the plain; it had frescoes of Cretan style, and its general outlay and contents testify to strong Minoan influence; then, thirdly, the palace exposed by Schliemann, within its huge fortifications which now enclosed the whole hill and enlarged the citadel with "Cyclopean" substructure as a place of refuge for the country folk. This reconstruction belongs, with the neighbouring cupola-tomb, to the XVth–XIIIth centuries, and forms part of the system of Argive fortresses which supported the supremacy of Mycenæ. Some light is thrown on the catastrophe which ended that dominion by the Hellenic temple of Hera founded actually within the Mycenæan *megaron*. Most of the new material from Tiryns was published promptly (12), and its main results in Karo's *Guide through the Ruins* (15). In this new perspective it was now possible to review the whole course of events on the Greek mainland, and also to connect it with that of Minoan civilization in Crete and the Cyclades.

The first step was to publish adequately the contents of the "Shaft graves." Karo's preliminary study, completed in 1915, was delayed by the War (27) but the plates and the first part of the definitive memoir have appeared, 1930, and the third volume of *Tiryns*, 1931. There are supplementary memoirs on the frescoes by Rodenwaldt (21) and Miss Lamb (23).

Korakou.—Between the plain of Argos and the lowlands of Central Greece there was a wide gap until American excavators, who had long been exploring Sicyon and Corinth, turned their attention to prehistoric mounds in the neighbourhood of the Isthmus. Here any movements of culture or of folk over the Isthmus must surely have left traces. At Korakou, close to the Isthmus, Blegen (21) found in the lowest layer (I) a mixture of "painted ware" and "smear wares," and at Gonia, nearby, "painted ware" of the Second Thessalian type was typical. After a conflagration comes immediate settlement of Cycladic culture, with "matt-painted" wares, but much of the old self-coloured fabric persists. Again Korakou was burned, and reoccupied this time by "grey-ware" folk, though the older culture survived as before and gradually absorbed the new element; the grey ware giving place to buff and other self-

coloured fabrics without much change of forms. Then gradually painted ornaments derived from the floral repertory of the Mycenæan mainland (L.M.I.) differentiates an "Ephyræan" fabric of the buff ware, but this pleasing local style soon fades out before gaudier wares from the great Argive centres.

More recently another early site, Zygouries (28), up-country between Corinth and Mycenæ, supplements Korakou, as Gonia had already done. And north of the Isthmus, in the same way, Miss Goldman's work at Eutresis (31) wellnigh completes the series connecting Mycenæ with Orchomenos.

Helladic Nomenclature.—It was only to be expected that the schematic classification, elaborated as it had been for nearly twenty years for Cretan purposes primarily, did not always match even the principal changes of style on the mainland. Even in the Cyclades, the stratigraphy of Phylakopi does not accord at all points with that of Knossos, though the frequency of datemarks on either hand has made correlation easy. On the mainland, Cretan datemarks are rare; even Cycladic correlations only approximate. So long as Thessaly and even Central Greece were a "world apart," there was no practical difficulty; but when the continuity of the "smear-ware" cultures north and south of the Isthmus was realized, and still more when the spread of the "grey ware" of Orchomenos could be followed in detail into Argolis, a distinct but analogous classification became necessary. With the new material from Tiryns and from Korakou especially, such a parallel scheme was provided by Blegen and Wace (18), substituting "Helladic"—in a strictly geographical or regional sense—for "Cycladic" or "Minoan." As interpreted by its authors, its main divisions seem to fall usually about half a period behind the "Minoan." But classification must interpret archæological facts, not disguise the turning points of history,which are as catastrophic as they are, because sometimes human wills momentarily get the better of circumstances. To excuse real unconformity by a general hypothesis of "retardation" hardly does justice to the variability of the material; still less to positive achievements such as the "Ephyræan" school of painted ornament, one of the most individual inventions in the prehistory of Europe.

IV.—REVISIONS AND SUPPLEMENTS, 1911-1933.

The War-interval had this accidental result, that while some of the most promising of the younger workers did not return, those who survived came back with maturer perspective of what had been achieved, clearer understanding of the problems, and a more tactical sense of what needed to be done next. The political conditions in the Near East were, moreover, very different. Arabia, Iraq, Syria and Palestine were free of the Turk; and the Turk, on his part, was adapting himself to the new world around him with originality and courage.

Nevertheless, old categories are not easily discarded; the chapter of accidents brings fresh opportunities, but it is not easy to recognize and seize them, unless they can be linked with work in progress, or results already accepted, or involved in controversy. Consequently, it is at the same time the most instructive, and certainly the easiest, analysis of post-War enterprises, to ask how they have affected the major issues which had remained dominant so long. What then have the last twelve years contributed to revise and extend our knowledge of Troy,

Thessaly and its hinterland, Mycenæ and Tiryns, Crete, and the Levant? Can we answer the fundamental question, What is Ægean civilization, and how does it stand in general history?

Mycenæ.—The German dissection of Tiryns had shown what might still be found on the best-known and most famous sites; and in 1920 the British School at Athens undertook a similar revision of Mycenæ; further excavation around the Circle and in the Palace, and complete clearance of the ruinous "Treasuries" in the Lower Town. In the light of stratigraphical and structural evidence from Tiryns, the principal styles of masonry could now be dated approximately, and careful examination of the "Treasury of Atreus" showed that fragments of goldwork underlay the stone threshold, that the side walls of the passage were of the same period as the Lion Gate, and that a lintel for a similar tomb had been used in constructing them. This and similar evidence led Wace (22) to the conclusion that even the finest of these tombs was considerably later than the Shaft graves, and belonged to a subsequent "Dynasty." This evidence is not accepted by Sir Arthur Evans, 1924, who connects both their structure and what remains of their decoration and contents with the M.M.III art of Knossos. The objection that this would make the "Treasuries" contemporary with the Shaft graves—whose contents had recently been re-examined (and their early date confirmed) by Karo (27)—is met by the suggestion, originally made by P. Gardner (77), that they are in fact contemporary, and that the Shaft graves are a makeshift reburial, in time of trouble, of the original contents of the "Treasuries." Certainly there is no structural bond between the present side walls and the façade of the "Treasury of Atreus," and the misplaced lintel, like the Lion Slab of the Acropolis Gate, may be lost from "Treasuries" already ruinous.

The discovery at last, of an undespoiled "Treasury" at Dendra (31) not far from Mycenæ brings much fresh evidence on this point. But the whole problem of Mycenæan dating is complicated by controversy between Sir Arthur Evans (29) and Wace as to the kind and degree of Cretan influence on mainland culture; and it is here that our ignorance of Western Crete is a serious gap in our knowledge.

Another aspect of the relations between Minoan and Mycenæan is discussed more recently by Sir Arthur Evans (32). While accepting the term "Middle Helladic," he regards "Late Helladic" material as momentarily referable to normal "Minoan" grouping in L.M.I.*b*, but whereas thenceforward while Knossos develops the grandiose "Palace Style" of L.M.II the mainland maintained the old decorative tradition "L.M.I.*c*." Though the Palace régime collapsed about 1400 B.C., the subsequent L.M.III.*a* phase perpetuates its traditions both in Crete, in Boeotia, at Mycenæ itself, and widely elsewhere.

Valuable material for such comparisons has come from Italian excavation, both before and after the War, in the famous cemetery of Ialysus in Rhodes, and especially among later tombs than those opened by Salzmann and Biliotti (66). Persson, at Asine on the Gulf of Argos (22), illustrates the influence of the great centres on the life of a smaller community through long periods. Chapoutier's well-preserved "palace" at Mallia (28) performs the same functions for provincial Crete, especially during those early phases which palatial reconstruction obliterated at Knossos; and illustrates in detail the principal Cretan industries, the ceremonial of a Minoan court, and the development of local script from hieroglyphic forms to linear.

The Northern Borderlands.—Successive wars had hindered exploration of Macedonia and Thrace, the proper sequel to fruitful work in Thessaly; for with the painted wares on almost all Thessalian sites, there were many self-coloured fabrics, red or black, burnished, incised and "encrusted," which remotely resembled either the red ware of Hissarlik or the incised fabrics of the great Danubian province or its outliers, though it was only too easy to exaggerate specifically regional factors where all the decoration alike was inspired by basketry or textiles. To identify their sources in a mixed culture is never easy, and when the borderland is so ill-explored, it is perilous.

There had, however, been sporadic travel before the Thessalian discoveries began, in the wide regions between Ægean and Danube. Seure's (06) systematic exploration of Thrace began about 1900. Vassits began (02) at Jablanička in the Morava valley an important series of small excavations and examined also the deeply stratified site at Vinča on the Danube (08). Træger reported Macedonian mounds in sufficient detail for instructive commentary by Hubert Schmidt (04); Vassits (10) called attention to "Trojan" and "Ægean" resemblances in his Serbian material; Kazarow, 1911, published Bulgarian sites with painted ware, significant links between Thessalian and trans-Danubian; and Schmidt's reconnaissances of Cucuteni (09) and Monteoru (17) had raised more questions than they answered, as to the southward extension of the "painted wares." So when Wace and Thompson published their *Prehistoric Thessaly* (12) it seemed proper that they should next visit Macedonia, 1913, and on their report arrangements were made for excavation there. But the Balkan Wars intervened, and it was not till 1917 that another sort of trenches began to yield prehistoric finds round Salonica, which were carefully brought together into the "G.H.Q. Museum."

Thus when peace came both French and British explorers were on the spot and at work. Casson's *Macedon, Thrace und Illyria* (26) summarizes earlier excavations, in which he took part, but is mainly concerned with topography and surface finds. Heurtley's (25–31) small annual excavations in settlement-mounds like those of Thessaly, have at all events sampled the material, and illustrated its complexity through the generosity of Sir Charles Hyde. It was a "good moment," however, when Heurtley, 1931, recognized typical Danubian potsherds on a West Macedonian site. Throughout these operations there has been constant reference to work of Vassits (10) at Vinča, which has been given fresh importance.

Three main facts have emerged from these small but systematic excavations, in which topographical exploration and actual digging at both ends of an unexplored corridor have been exceptionally close allies. First, the proverbial confusion of Macedonian ethnology is immemorial; the *Macédoine* was in preparation when metals came into use, if not before. Three principal cultures are interspersed and sometimes superimposed. There is painted ware like that of Thessaly and Central Greece on one hand, and Roumania and Transylvania on the other, but more variable. This seems to be primitive, and underlies all else, but it does not occur on all sites. In such difficult country human settlement was pioneer work, and gradual. Then there is a deep-seated culture of Anatolian affinities, related to that of the "First City" of Troy, with self-coloured pottery of simple askoid and gourd-like forms, many of which recur in the "Helladic" smear ware of Central Greece, and raise doubts whether that

culture is entirely of Cycladic or even Ægean origin, and not rather a hybrid of Cycladic and Macedonian derivatives from an immemorial "gourd-and-askoid" culture aboriginal in Asia Minor, as I had ventured to suggest in 1903.

On some Macedonian sites there are also graphite-painted fabrics such as are characteristic of Thrace as far as the lower Danube. Comparatively shapely vessels with emphatic rim and "high-swung" strap-handles, recall (as we have seen already) both the "grey ware" of Orchomenos, and its counterparts in Troy III–VI. Lastly there is Late Minoan infiltration from the gulf-coasts, as in southern Thessaly. This Minoanization of Macedonia began only late in L.M.III, and was abruptly ended by a catastrophe of invasion, in which settlements were burned or deserted, though some of them were re-occupied by a mixture of indigenous and immigrant folk. The intruders, as Childe (28) has shown, brought with them characteristic pottery in that Lausitz tradition which had been spreading violently and rapidly from its Bohemian cradleland—replacing battleaxe and rapier by its superior equipment of socket-celt and slashing-sword. They broke through into Macedonia about 1150 B.C., dated by their extinction of Mycenæan influence. As a Lausitz settlement has been noted in Bulgaria, and the characteristic Lausitz pottery recurs in Hissarlik VII, the obliteration, by this Lausitz raid, of the Macedonian régime which is the counterpart of the Trojan "grey ware" confirms this date and reinforces that of these later strata at Hissarlik.

The same inroad of Lausitz people broke through also into Thessaly, where an old find of tombs at Marmariani has at last been published (30) by Heurtley and Hutchinson. But it was checked here, and its influence faded out as in Macedon, leaving only a heritage of typical decorative elements, of which the "concentric circle" target ornament is the most conspicuous. The occurrence of amber, and northerly metalwork in a hoard, as at Tiryns (15), does not prove more than the range of a single warrior's adventures, certainly not a Lausitz invasion of Peloponnese, such as Penka conjectured 1897.

Though Thrace is still quite ill-known, much has been done to widen our knowledge of the Troad and its neighbourhood. The traditional "Tomb of Protesilaus" on the European shore opposite Hissarlik (26) was not a tumulus but a stratified town-site with two main periods, the first contemporary with Troy I, the second with Yortan, and consequently with the interval between Troy I and II (26). Thereafter the site was deserted, involuntary testimony to the growing importance of Hissarlik, perhaps also to its securer position south of the Strait.

Meanwhile, the gap between the First and Second City at Hissarlik, which turns out to have been a long one, has been filled by Miss Lamb's discovery of a well-stratified site at Thermi in Lesbos (28), where the first two towns are contemporary roughly with Troy I and Protesilaus I, and had intercourse with the Cyclades, as well as with Asia Minor. The third town Thermi III flourished during the period when Troy I was abandoned and Troy II not yet built. It was contemporary with Protesilaus II and with Yortan, and Senirdji on the Anatolian mainland; and had rubbish pits like the *bothroi* of Orchomenos II. Thermi IV and V coincide with IIa, Boz-eyuk, Protesilaus III and the expansion of the Troadic culture over the north-west of the Ægean basin. They appear to have abandoned the site before Troy IIb, which is associated with the appearance of the *megaron* and the potter's wheel. But Thermi I has a house with

antæ like the *megaron* of Troy II; not isolated, however, and its hearth is not central. Light s also thrown on the first appearance of certain types of battleaxe, of stone and terracotta figurines, and of copper tools and ornaments. The uppermost stratum already contains the fully developed grey wares of Troy VI, which probably began earlier than has been supposed, and lasted longer, since its terminal date about 1200–1100 B.C. is known. On the grey ware further light is thrown by material from three other sites in Lesbos and from Hanai-Tepe and Bali-dagh in the Troad. At Antissa in Lesbos, late Minoan III pottery, so rare at Hissarlik, is found stratified with the red and grey wares characteristic of Troy VI.

The Eastern Borderlands.—Characteristic culture-phases from north-west Anatolia are thus seen spreading into the island world, the counterpart of the Troad influence recognized at once in early Cycladic phases in Phylakopi II, and in a settlement at Chalcis which must be a real colony, so typical is its Troadic appearance; it is of special significance as a stepping-stone to the region in Central Greece where the grey ware of Orchomenos III was to appear later. The existence at Thermi of the long, narrow house, with end-room on portico, and of groups of such long-rooms, side by side, as in Troy I, contributes also appreciably to the history of Ægean house-types.

In the interior of Asia Minor, and especially in the north-western districts, cemeteries at Boz-eyuk and Yortan, and casual finds elsewhere, had already established the wide range of the earlier phases represented at Hissarlik; like the occurrence in the Troad, in Phrygia and in Lycia, of female figures in stone and terracotta intermediate between those of Hissarlik and of the Cyclades and pre-Minoan Crete. It was, however, quite a fresh contribution when de Genouillac H. (26) published the Cappadocian pottery of the Louvre. All the fabrics already collected by Chantre (98), or de Morgan (27), or summarized by myself (03) are there represented; but the most numerous and important are the vessels with dark paint on white slip, in a peculiar style, which has much in common with the painted wares of Thessaly and the Trans-Danubian countries, though the vase-forms are often derived from the endemic gourd-ware of Anatolia. This is what might be expected if people with experience of painted ware came among peoples of old gourd-ware culture; and there are rare examples where a panel filled with black design on white is reserved on a red slip-covered surface. In renewed German excavation at Boghaz-keui this fabric has now been found in deposits of the later Hittite period (*circa* 1600–1200 B.C), and it is succeeded in the next period by obvious derivatives in which the concentric-circle, and other motives of the Early Iron Age in Syria and Cyprus are added to the older ornament of bands and panels. In its earlier phases it seems to be a hybrid Anatolian counterpart of the "hemispherical bowls" with white slip and black painted seam-patterns, which have long been known as foreign imports in Cyprus before and during the late Minoan colonization, and have recently been traced stratigraphically intruding from Syria into the Philistine coast land (33), and merging their meagre repertoire with that of other painted wares from further east. When the stratified material from Anatolia is available, it looks as if the whole problem of the painted-ware fabrics of the Near East may pass into a new phase. Meanwhile, Frankfort (24), Matz (28) and others have made suggestive use of what is known already.

The Levant.—In Rhodes, since the Italian occupation, many tombs have been opened at Ialysus, but for the most part in a later cemetery than was explored by Salzmann and Biliotti. Like the smaller cemeteries of Karpathos and Kalymnos, and the more distant tombs of contemporary Cyprus, they show Late Minoan designs degenerating into fantastic but careless provincialism, losing grip over their subjects, and dissecting zones into panels, and panels into compartments, in a fashion which suggests that intercourse with Asia Minor was less difficult than it had been before. Anatolian design is still more marked in the seal-stones of this period in Cyprus and Syria.

In Cyprus, after nearly a generation of neglect, a Swedish mission has excavated widely, on known sites as well as new ones. Gjerstad's *Studies on Prehistoric Cyprus* (26) revises and refines the classification of Bronze Age pottery, and prefixes to that long series a purely neolithic period, unobserved before. More recently, Dikaios (33) announces from Curium a deeply stratified deposit of painted-ware fabrics, beneath a layer of the earliest Bronze Age culture; a confirmation of the first importance in view of the significance now given to early painted wares throughout the Near East.

Though Cyprus had been the most easterly region of the Mediterranean accessible throughout for scientific excavation, something had been done early in Palestine to estimate Ægean influence on the coast districts, especially during the periods when there is literary evidence, from the Tell-el-Amarna archives and Egyptian victory-monuments, of oversea traders and raiders. Petrie's pioneer work at Tell-el-Hesy (91) was supplemented by Bliss and Macalister on other Philistine sites, by Sellin at Taanach, and others; and Vincent's *Canaan* put the whole archæology of the region in order. It illustrates the "water-tight" compartments in which excellent work still went on, that Welch (05) found "painted pre-Jewish" to be still the Palestinian word for Mycenæan, local or imported.

A fresh phase began when Palestine and Syria came under mandatory rule. In the north, Schaeffer, at Minet-el-Beida, found the nearest archæological equivalent of the Keftiu on Egyptian monuments, in a city of Late Minoan culture, with a Syrian fertility cult, and polyglot archives with a new script, cuneiform but alphabetic, and literary as well as diplomatic texts. Colonized from oversea in the XIVth century, Ras Shamra was wrecked by the Sea-raiders about 1200 B.C. and deserted when bronze traffic with Cyprus declined before the new iron industry of the mainland.

In Philistia, Flinders Petrie, Starkie and others (28, 30, 33) have explored settlements of great antiquity, dominated by Asiatic conquerors during the Hyksos occupation of Egypt, and thereafter garrisoned in turn by Egypt, Jerusalem, Assyria and Persia. Other workers, further from the coast, have shown how complex was the industrial and commercial substructure of the political life of this whole region into which Ægean strangers came.

Mesopotamian Sites. Screened behind the partly derivative régimes of Asia Minor and Syria, the old centres of Mesopotamia never exercised so direct an influence on any part of the Mediterranean world as Egypt repeatedly did. But the popular belief seems ineradicable that so ancient and impressive a civilization must have affected the West in many ways. The release of Iraq from long misrule permitted excavation on a large scale, and with archæological

results comparable with what was achieved in Crete under similar conditions. Among all those new accessions to our knowledge it is, however, only necessary, or possible, here to note a few which directly concern East Mediterranean cultures.

In the first place, vague attributions to "early Babylonian" or "early Mesopotamian influences" are superseded by precise stratigraphical information, closely linked with documentary evidence for generations, or at least for dynasties, and with a copious ancient folk-memory about "floods" which seem to have left their débris on some of the excavated sites (30). The implications of these crises of climate have not been fully studied yet.

Secondly, the dependence (at all events, ceramic) of the first cultures of Babylonia—and, as we now know, also of Nineveh and its neighbourhood (31-2) on the "painted-ware" cultures of the Mountain-zone, not only give the outlines of a chronology for eastern "painted wares," but help to explain intercourse through the Mountain-zone with the peoples of the steppe margin in the Koban and around Asterabad, and put these also approximately into their periods. I have deliberately grouped all kinds of "painted ware" in the Near East, as products of the Mountain-zone, because Frankfort's distinction (24-7) between "highland" and "lowland" cultures, though convenient for local use in Babylonia, obscures the probability that what he calls the "lowland" cultures differ essentially from the "highland" in that the latter descended directly from the highlands adjacent to the joint delta, while the former, though it was already a "lowland" culture when it spread down-stream across Mesopotamia, had its cradle in the same Mountain-zone, only further to the north-west, where transition of habitat and régime is more gradual, through Commagene and North Syria.

Thirdly, now that we have Mesopotamian prototypes for weapons, pins, and other metal-work in particular, it is possible to recognize their influence not only more precisely, but also far more widely and intensively than before. Childe's paper on implement types (32) is fundamental here. But we must bear in mind his own warning (*Dawn*, 1925, p. 139) that "the parallels with Mesopotamia are chronologically worthless; for in Babylonia and Assyria types perfected by the Sumerians before 3000 B.C. were preserved unchanged for two thousand years." On the other hand, the new finds have given us a greatly enlarged range in time for some highly specialized and finely wrought metalwork. It is unnecessary to assume stone prototypes for copper axes older than most of the perforated stone ones.

There is, however, the risk, as in earlier days, that workers in one field may see likenesses with objects from another, which are superficial or even accidental. When one reads of "peculiarly Cycladic phallic beads of copper in the Don-Donetz region," or even of a "certain resemblance" between gold objects from Maikop and from Troy II, one wants to know who has made the comparison, and whether both sets of objects have come under the same eyes.

V. EPILOGUE.

This has been a long story, not easy to tell clearly without omitting much, or intelligibly without including more. And, at the end of it, where do we stand, with our actual knowledge and immediate opportunities; for if retrospect is of any use at all, it is to give guidance for future work.

In the first place, there are still definite and serious gaps in our knowledge. The west and south coasts of Asia Minor, and a large part of the interior, the western half of Crete, Arcadia and other inland districts of Peloponnese, most of north-western Greece, Epirus, Albania and Western Macedon, and the East Balkan lands, are practically unexplored. Even if no surprises await us, the fact that we do not know positively—however cautiously we may guess—reacts on other parts of our reconstruction. But what is needed is not so much more extensive excavation, as regional survey supplemented with spade-reconnaissance, of the kind that has been fruitful in Central Greece, Thessaly and Macedonia. Only when this has gone far are we in a position to judge what sites really matter. For there are only two reasons for excavating an ancient site at all: one is that it must and will be destroyed for some purpose irrelevant to our work, and consequently must be dissected now or not at all; the other reason is that its contents—whatever they may be—are of crucial significance at this point in our enquiry. Like surgeons, we must become anatomists first; and operate only to find what we cannot otherwise know, and with a view to ulterior knowledge, not merely to discover what is underground. Let the dead bury their dead.

Secondly, we need more reflection and revision of theories and ideas. I receive enquiries from students and persons without employment, which suggest that excavation is regarded as an alternative to ski-ing or cruising, a substitute for archæological study, not an aid to it. We all begin as beginners, but before an excavator reaches his second season he should have some months of steady reading in hand. In large-scale excavation, continuity of leadership is of course all-important, but it is secured sometimes at ultimate cost to the leaders. A "sabbatical year" is as desirable in the field as in universities.

Most of the pioneer work in diffusionist controversy has—perhaps fortunately—been done in fields distinct from what we have before us now: in primitive Egypt, compared with Mesopotamia, and with the megalith-culture further west. And the multiple origins which in any event are indicated for south Ægean cultures make the problems of convergence more familiar than those of unilateral distribution. Over less formidable distances, also, relative chronology, at all events, has been hitherto more easily established by the recognition of counterpart datemarks of the kind already noted. It is indeed almost entirely in the No-man's lands, between Ægean and Danubian, for example, that controversy as to the movements of cultures has arisen through lack of agreement as to relative dates. The long discussion as to the relation of Thessalian to Ukrainian painted wares would be closed abruptly if we could date either directly in terms of the other. If it be true that a fragment of "Minyan" pottery has been found on a trans-Danubian site an important step has been taken; but we have not as yet an indisputable Ukrainian sherd from Orchomenos. The newly published fragments of unmistakable "corded ware" from Eutresis in Boeotia (31) are another instance; and it makes no difference whether the "corded" pot itself was transported, or the knowledge how to make the "corded" ornament with the one indispensable and ever-ready tool. Similarly, though the wide distribution of "grey ware" as far as the Cyclades—though not in Crete as yet—permits us to give the spread of that culture approximate limits of time, at all events relatively, this is not at present possible for the Dimini phase of painted ware, which has not been seen south of Thessaly, while no

satisfactory imports from the south have been found at Dimini itself. The difficulty is not evaded by supposing the Dimini settlement to be a later by-product of whatever spiral-and-paint-using culture spread southward and influenced Cycladic and Cretan fabrics, unless such a movement can be shown to have occurred.

Even more difficult is it at present to show that spiral-using fabrics farther north-west are as early as the Early Minoan. Nilsson (33) warns us that Montelius' absolute chronology with its very high estimates is still a common hypothesis in Central as well as Northern Europe, whereas it has never been generally adopted in Ægean archæology, where everyone can form his own opinion from fairly frequent Egyptian data. And it is no valid reason for retaining it, that it is compatible with certain "migrations" from Danubian regions to Ægean. A drop of a couple of centuries would turn the movement of the peoples the other way. It is for this reason that I would end by calling attention to the services of some who have been in field-work seldom or not at all, but to whose comparative work our whole subject owes much. Not everyone can travel, nor has everyone the wide and peculiar combination of qualities that make a great excavator. Examples of this kind of work are commoner in Germany than here, and I take three German instances. One, on a comparatively small scale and of earlier date, is Wilke's study of spiral mæander ornament (10), which has been so often a subject of archæological controversy. No one has attempted anything of the kind for Ægean spiral design, and until this is done, it is useless to speculate about the relations of Ægean to Danubian spirals. The second is Schmidt's (32) analysis of the repertories of the painted-ware styles, with special reference, it is true, to Cucuteni. Once again, till the Thessalian and Susan repertories have been analysed in the same way, comparisons are really premature.

My third example is the study by Matz of the principles of Ægean *design* as distinct from decorative *motives*, to illustrate the originality of his point of view, and the prospects which it opens. In Perrot-Chipiez' *Histoire de l'Art*, VI (94) a single page of illustration did less than justice to the principal varieties of Mycenæan seal-stones then known. Then came Sir Arthur Evans' two essays (94–97); Furtwängler's *Antike Gemmen* (1900), with its introductory essay on Ægean art; and *Scripta Minoa*, I (09), mainly concerned with early types and the pictographic script. But still there was nothing with which to compare Ægean gems. But Delaporte's catalogues of the gems in the Guimet Museum (09) and the Bibliothèque Nationale (10) were followed by Speleers (17) for the Cinquantenaire collection, Delaporte (20–23) for the Louvre, Hogarth's *Hittite Seals* for the Ashmolean (20), and Weber's *Altorientalische Siegelbilder* (20). For Egypt, Newberry's *Scarabs* (06) was supplemented by Petrie's *Button and Design Scarabs* (25).

On these really ample materials Matz bases the argument and conclusions of *Die Frühkretischen Siegeln* (28), recognizing the limitations of the comparisons hitherto customary of decorative motives and patterns, and examining afresh the principles on which motives formally identical are employed respectively by Egyptian, Near-Eastern (by which he means essentially Anatolian) and Ægean craftsmen. In Egyptian design of all periods (except those in which Western influences are independently admitted) a fundamental incompetence to treat a surface—circular or rectangular, it makes no difference—as a whole, leads to back-to-back

and foot-to-foot *dis*position, rather than *com*position, or at most (and quite late) compromises on a segmental exergue below the main design; or multiplies axial bisection in the direction of quadripartite or hexagonal (triaxial) schemes.

In Western Asia generally, on the other hand, though the "field" can be planned as a whole, there is always top and bottom, beginning and end, of the design; leading to frieze composition, cylinder designs endless in one direction only, and as artistic climax, the confrontation of inward-trending friezes on a centrepiece, as in the familiar "heraldic" compositions of the mixed Oriental style, wherein Egypt probably supplies its immemorial axiality. The inherent weakness of this kind of *juxta*position is disguised rather than compensated by the crude device of a border or frame.

In contrast with both these deep-seated preconceptions in design, Cretan seal-design from the first composed round the centre-point, with the circumference as base. When it repeats a design, therefore, it can extend it in any direction; or in many, creating a diaper-pattern (Rapport-muster) such as may be detected on many seal-stones as well as in vase painting and such masterpieces as the ceiling at Orchomenos. To the same appreciation of centre and circumference as complementary and indissoluble factors in design is ascribed the love of spiral and mæander motives, characteristic of Ægean decoration at all periods but the earliest, and also what Matz characterizes as torsion; that is to say, the structure-lines of the whole field are not radial from the centre, but tangential to it, as though the field or object to be adorned revolved under the craftsman's hand. All these peculiarities contribute to that impression of movement, of kinetic balance, so profoundly characteristic of Minoan design.

Matz is on more difficult ground when he asks whence Ægean art acquired this vivacity. Clearly it does not come from Egypt, or from Western Asia; and he has little difficulty in showing that Egyptian and Hittite use of spiral ornament is late, inexpert, and incongruous. Though his enumeration needs to be revised, he is probably right in supposing that this whole tendency is not autochthonous, and that in the earliest Ægean art it is not perceptible. Certainly in Cretan neolithic and the Pelos-stage of Cycladic art, design is wholly static, however devoid of either axial or zonal habit. It is also significant that the first spirals in Cycladic incised-ware are often mistaken for (or replaced by) concentric circles with tangent lines, as in post-Minoan art long afterwards; and that in Crete some spirals are disorganized and discontinuous, like those of Dimini and Cucuteni I. This, it may be argued, is most likely to occur when so original and self-determined a design as the spiral or mæander is newly introduced. Seeing that early forms of Cretan seal-stones reproduce those of trans-Danubian *pintaderas*—used (it is believed) for stamping their frequently spiral or mæander designs on to textiles or the human body—Matz infers that Ægean design has its most important sources in the wide Danubian province adjacent to it on the north, and is essentially derivative from it. Not that the complex spiral designs either of Butmir or of Erösd and Cucuteni need be regarded as directly ancestral to Cretan—which is indeed precluded by their relative dates—but in the sense that all these local examples of spiral, that is to say *torsional*, design express a common inheritance of craftsmanship and artistic principle.

So we come back to the old question of priority between East and West, and the old obstacle of the No-man's land between Ægean and Danube on the one side, and Ægean and Euphrates on the other. Until we have not only continuity of material on a sequence of sites, but coherence of styles within a chronological scheme, all attributions must be provisional. But fresh aspects of the problem, revealed by fresh methods of approach, contribute to define the question and may suggest an answer. Doubtless there is a way out of this labyrinth, if we desire and deserve it.

BIBLIOGRAPHY.

SELECT LIST OF BOOKS AND ARTICLES QUOTED IN THE TEXT.

Where the title is a long one, the subject of the article is given instead, within brackets.

1769 Wood, Robert. *On the Original Genius of Homer.*

1794 Wolf, F. A. *Prolegomena ad Homerum.*

1810 Thomsen (see 1836).

1820 Müller, K. O. *Die Dorer*, 1820; *Die Minyer*, 1824.

1826 Fiedler, F. G. *Reise durch . . . Griechenland.*

1834 Ritschl. *Iliad* (ed.).

1835 Lönnroth, E. *Kalevala.*

1836 Thomsen, C. J. (Sequence of stone, bronze and iron.)

1841 Ross, L. *Reise in den Griechischen Inseln.*

1842 Movers, F. K. *Die Phœnizier* (1842–56).

1846 Grote, G. *History of Greece.*

1849 Worsaae, J. J. A. *Primeval Antiquities of Denmark.* (E.T.)

1852 Luynes, Duc de. *Numismatique et inscriptions Chypriotes.*

1859 Kirchhoff. *Odyssey* (ed.).

1860 Koechly. *Iliad* (ed.).

1861 Gastaldi, B. *Atti d. Soc. Ital. d. Sci. Nat.*, iii.
Stroebel, P. *Gaz. di Parma*, No. 160.

1862 Fouqué, F. (Prehistoric Thera, publ. 1879.)
Pappadopoulos. (Tombs in Syros.) *R.A.* 1862, 224.

1864 Renan, E. *Mission en Phénicie.*

1866 Keller, F. *The Lake Dwellings of Switzerland* (E.T.).
Salzmann and Biliotti. (Excavations at Ialysus and Camirus in Rhodes).

1868 Schliemann, H. *Ithaca, the Peloponnese and Troy.*

1869 Finlay, G. "Observations on prehistoric archæology in Switzerland and Greece" (in Greek).
Gladstone, W. E. *Juventus Mundi.*

1872 Smith, George. (Cypr. decipherment.) *Tr. Soc. Bibl. Arch.*, I, 129–44.

1876 Schliemann, H. *Mycenæ* (E.T.).

1877 Cesnola, L. P. di. *Cyprus, its Cities, Temples, and Tombs.*
Gardner, P. (Shaft graves and Treasuries.) *Quart. Rev.*
Sandwith, T. B. (Pottery of Cyprus.) *Archæologia*, xlv.

1878 Geddes, W. *The Problem of the Homeric Poems.*
Kalokairinos, M. (Potsherds from Knossos) (*cf.* 1885).
Koehler, U. (Carian theory.) *Athen. Mitth.*, iii.
Lang, R. H. (Cypriote sculpture.) *Tr. R. Soc. Nat.*, II, xi, 20 ff.

1879 Fouqué F. *Santorin et ses Eruptions* (prehistoric Thera).
Furtwängler and Loescheke. *Mykenische Mongefässe.*

1880 Newton, Sir C. *Essays on Art and Archæology.* (Cyprus 1877, Mycenæ 1878, Troy.)
Stillman at Knossos.

1881 Cesnola, A. P. di. *The Lawrence Cesnola Collection* (Cyprus).
Schliemann, H. *Orchomenos* (exc.: publ. 1886).

1882 P. Gardner. *The Homeric House.* J.H.S., iii.
Schliemann, H. *Ilios.*

1883 Boetticher. (Hissarlik a "fire-necropolis.")
Fick, A. *Odyssey* (ed.); *Iliad* (1885).
Milchhoefer, A. *Die Anfänge der Kunst in Griechenland.*
Schliemann, H. Visits to Crete.

1884 Bent, Th. (Tombs in Cyclades.) J.H.S. v, 42.
Christ, W. *Iliad* (ed.).
Comparetti. (Praesos inscr.) *Museo Ital* ii 673.
Helbig, W. *Das Homerische Epos aus den Denkmälern erläutert.* (2nd ed., 1887.)

1884 Lolling, H. G. (Dimini tomb.) *A. M.*, 1884, 99. (exc. *A.M.*, 1886, 435; 1887, 136).
Meyer, Eduard. *Geschichte des Altertums*, I.[1]
Müller, Sophus. (On Mycenæ.) *Arch. f. Anthr.*, xv, 338.
Rossbach, O. (On Milchhoefer.) *A. Z.*, 1884, 170.
Studniczka, F. *Beitr. z. Gesch. d. altgriechischen Tracht.*
Wilamowitz-Moellendorff, U. *Homerische Untersuchungen.*

1885 Acropolis of Athens: excavation, 1885–89.
Busolt, G. *Griechische Geschichte*, I.[1]
Chantre, E. *Recherches . . . dans le Caucase.*
Fabricius, C. (Pottery from Knossos.) *A. M.*, x, 59 ff.
Montelius, O. (Br. Age chronology.) *Om. Tidsbestämning*, etc.
Reinach, S. (Summary of Ohnefalsch-Richter in Cyprus.) *Chroniques d'Orient*, I, 185 ff.

1886 Cephallenia exc.
Dümmler, F. (Tombs in Cyclades.) *A. M.*, xi.
Furtwängler and Loeschcke. *Mykenische Vasen.*
Jebb and Middleton. (Homeric House.) J.H.S., vii.
Leaf, W. *Iliad*, i-xii (ed.).[1]
Lolling. Dimini exc. *A.M.*, 1886, 1887.
Ohnefalsch-Richter, M. (exc. in Cyprus).
Schliemann, H. *Tiryns* (exc. 1883–5).

1887 Helbig, W. *Das Homerische Epos.*[2]
Jebb, R. *Homer.*
Murray, Alex. (Edinburgh lecture: Ionian origins).
Schliemann, H. *Orchomenos.*
Siret, H. and L. *Les premiers âges du métal* (Spain).
Tsountas (exc. at Mycenæ). *Eph.* (1887), 169.

1888 Bent, Th. (Tombs at Kavokrio.) J.H.S., viii.
Dumont, F. *Céramiques de la Grèce propre.* (D. died in 1884.)
Rayet and Collignon. *Histoire de la Céramique Grecque.*

1889 Laconia: Vaphio tomb, exc. *Eph.* 1889.
Rawlinson, G. *History of Phœnicia.*
Tsountas, Chr. (Script at Mycenæ.) *Praktika*, p. 19.

1890 Flinders Petrie, Sir W. M. (Egyptian date-marks.) *J.H.S.*, xi, 271; *cf.* xii, 199.
Flinders Petrie, Sir W. M. (Kahun pottery.) J.H.S., xi, 271.
Murray, Alex. (Ionian origin of Myc. culture.) *A.J.A.* 1890.

1891 Flinders Petrie, Sir W. M. *Lachish* (exc.).
Naue, J. *Die Bronzezeit in Oberbayern.*
Orsi, P. (Tombs in Crete.) *Mon. Ant.* 1891, 201.
Reisch. (Schliemann's exc.) *Z. f. oesterr. Gymn.*, 1891.
Schuchhardt, C. *Schliemann's Excavations* (E.T., 1892).
Tsountas. (Messenia: Kampos tomb, exc.) *Eph.*, 1891.

1892 Collignon, M. *Hist. de la Sculpture Grecque.*
Gardner, P. *New Chapters in Greek History.*
Girard, P. *La peinture antique.*
Joubin. (Tombs in Crete.) *B.C.H.* 1892, 295.
Leaf, W. Appendix to Schuchhardt. *Schl. Ex.* (E.T.)
Leaf, W. *Companion to the Iliad.*
Stern, E. von. (Petreny exc.) *Zbor wiadmosci*, xvi.
Torr, C. (Date controversy.) *Academy, Athenæum, Times, Class. Rev.* (1892), 462.
Waldstein, C., and others. *The Argive Heræum* (exc. 1892 ff. publ., I (1902), II, (1905)).

1893 Beloch, J. *Griechische Geschichte*, I[1].
Busolt, G. *Griechische Geschichte* I[2].
Dörpfeld, W. *Troja*, 1893 (another report, 1894).
Evans, Sir A. J. (Tombs in Ægina.) J.H.S., xv.
Joseph D. *Homerische Paliste.*
Meyer, Eduard. *Geschichte des Altertums* II[1].
Much, M. *Die Kupferzeit in Europa*[2].
Myres, J. L. (Journey in Cyclades.)
Myres, J. L. (Kamáres ware.) Publ. 1895.
Myres, J. L., and Paton, W. R. *Carian Sites and Inscriptions. J.H.S.*, xvi.
Orsi, P. (Mycenæan finds in Sicily.) *Mon. Ant.*, I, ii; *Bull. Pal. It.*, xxxvi.
Reinach, S. *Le Mirage Oriental. R. A.* (1893).
Taramelli and Mariani in Crete. *Mon. Ant.*, vi.

1894 Evans, Sir A. J. *Cretan Pictographs.* Proc. Brit. Ass. (Oxford): in full (1895-6).
Evans, Sir A. J. *Cretan Pictographs and Prae-Phœnician Script, J.H.S.*, xiv, 270.
Edgar, C. C. (Exc. in Melos.) B.S.A. 1895-8.
Pottier, E. (Oriental origin of Myc. Art.) *Rev. Ét. Grecques* (1894), 117; *cf. Cat. vases peints du Louvre* (1896).
Reichel, W. *Homerische Waffen* (1901[2]).
Reisch. *Verh. 42 Philol-sammlung, Wien*, 97 ff.

1895 British Museum exc. at Enkomi in Cyprus (publ. 1899).
British School. *Excavations at Phylakopi* (1895-8. publ. 1904).
Cauer, P. *Grundfrage der homerischen Kritikt.*

1895 Evans, Sir A. J. (Distrib. of female figures.) *Proc. Brit. Ass.* (*Ipswich*), 834.
Evans, Sir A. J. Rhind Lectures at Edinburgh.
Fiala, Hoernes, Radimsky. *Butmir*, I (II, 1898).
Kretschmer, P. *Einleitung in d. griechischen Sprache.*
Mackenzie, D. (Journey in Cyclades).
Mariani, L. (Kamárais ware.) *Mon. Ant.*, vi.
Montelius, O. *Civ. primitive en Italie, I.*
Myres, J. L. (Kamárais ware.) *Proc. Soc. Antiquaries*, II, xv, 351.
Perrot, G., and Chipiez, C. *La Grèce primitive* (*Hist. de l'Art.*, vi).
Reinach, S. *Les Déesses nues. R.A.* (1895).
Ridder, E. de. (Exc. Orchomenos.) *B.C.H.* 1895, 136.
Sergi, G. *La stirpe Mediterranea.* (German, 1897; English, 1901.)

1896 Blinkenberg, C. *Antiquités pre-Mycéniennes.*
Evans, Sir A. J. *The Eastern Question in Anthropology.* Proc. Brit. Ass. (Liverpool).
Evans, Sir A. J. *Tree and Pillar Cult.* Proc. Brit. Ass. (Liverpool): in full, 1901.
Helbig, W. *La Question Mycénienne.* C.R. Acad. Inscr.
Leonardos, V. (Tombs at Marmariani.) *A. M.* (1896), 247, *cf.* 1930.
Myres, J. L. *Prehistoric Man in the Eastern Mediterranean*, I–III. Science Progress (1896–7).
Pottier, E. *Catalogue des vases peints du Louvre.*
Ridgeway, W. *What People made the objects called Mycenæan?* Proc. Brit. Ass. (Liverpool); J.H.S., xvi, 96 (1901 in full).
Shkorpil. (Bulgarian sites.) Mem. Soc. Arch., Odessa, 1896; *Moghili*, 1898.
Torr, C. *Memphis and Mycenæ.*

1897 Evans, Sir A. J. *Further Discoveries.* J.H.S. xvii, 327.
Kluge, C. *Die Schrift der Mykenäer.*
Myres, J. L. *Excavations in Cyprus.* J.H.S., xvii. *Copper and Bronze in S.E. Europe.* J.R.A.I., xxv.
Palliardi. (Painted wares in Moravia and Lower Austria.) Mitt. Präh. Comm., Wien (1897), i.
Reichel, W. *Vorhellenische Götterkulte.*
Tsountas, Chr., and Manatt, J. *The Mycenæan Age.*

1898 Chantre, E. *Mission en Cappadoce*, 1893–4.
Flinders Petrie, Sir W. M. *The Relations of Egypt and Early Europe.* Tr. R. Soc. Lit., xix, I.
Tsountas, Chr. (Exc. in Cyclades.) *Eph.* (1898–9).

1899 British Museum. *Excavations in Cyprus.*
Evans, Sir A. J. (Date of Enkomi finds.) J.A.I., xxx.
Myres, J. L., and Ohnefalsch-Richter, M. *Cyprus Museum Catalogue.*

1900 Evans, Sir A. J. *Excavations at Knossos.* B.S.A. (1900–1 and ff).
Furtwängler, A. *Antike Gemmen.*
Montelius, O. (Bronze-Age Chronology.) J.A.I., xxx: *Arch. f. Anthr.*, xxvi, 477.

1901 Bethe, E. *Homer und die Heldensage.*
Dörpfeld, W., and others. *Troja und Ilion.*
Evans, Sir A. J. *Tree and Pillar Cult.* J.H.S. xxii.
Ridgeway, W. *The Early Age of Greece*, I (*cf.* 1896; II, 1931).
Tsountas. (Exc. at Sesklo, publ. 1908.)

1902 Bliss and Macalister. *Excavations in Palestine.*
Chvojka, C. (Tripolyi and other sites in Ukraine.) *Zapiski*, v, 2 (1904).
Conway, R. S. (Præsos inscriptions.) B.S.A., viii, 125; *cf.* x, 115.
Dörpfeld, W., and others. *Troja und Ilion.*
Myres, J. L. (Kabyle and Cypriote pot fabrics.) J.R.A.I., xxxii, 248.
Schmidt, Hubert. *Cat. d. Schliemann-Sammlung.*
Vassits, M. M. Jablaniča exc.

1903 Furtwängler and Bulle. (Exc. Orchomenos.) (Publ. 1907.)
Gautier and Lempre. (Exc. Moussian.) Mem. D.S. Perse, viii.
Myres, J. L. *The Early Pot Fabrics of Asia Minor.* J.R.A.I., xxxiii, 367.
Noack, F. *Homerische Paläste.*
Schmidt, H. (Tordos exc.) Z.f.E. (1903), 438–49.

1904 Bethe, E. *Die Troja-Ausgrabungen und die Homerkritik.*
Contenau, G. *La Déesse nue Babylonienne.*
Flinders Petrie, Sir W. M. *Methods and Aims Archæology.*
Mackenzie, D. *Cretan Palaces.* B.S.A., xi, xii, xiii, xiv (1904–8).
Meyer, Eduard. *Ægyptische Chronologie.*
Much, M. *Heimat der Indo-Germanen.*
Pumpelly, R. *Explorations in Turkestan* (in full, 1908).
Schmidt, H. *Troja, Mykenai, Ungarn.* Z.f.E. xxxvi, 608.
Vollgraff. (Exc. Argos.) B.C.H. (1904–6).
Wozinski, M. *Die inkrustierte Keramik.*

1905 Dörpfeld, W. (Cretan palaces.) A.M., xxx, 292; cf. xxxii, 576.
Fick, A. *Vorgriechische Ortsnamen.*

1905 Gautier. (Exc. Tepe Aly-abad.) Mem. D.S. Perse, viii.
Kern, O. *Die Landschaft Thessalien.*
Montelius, O. (Strategy of Argive fortresses.) C.R. Int. Congr. Archæol. Athens.
Schmidt, H. (Sites in Macedonia.) Z.f.E. xxxiii, 98.
Stern, E. von. *Prämykenische Kultur in Süd-Russland.*
Welch, F. B. (Myk. imports in Palestine.) B.S.A., v, 117.

1906 Hirt, H. *Die Indogermanen.*
Mackenzie, D. (Cretan Vase Painting.) J.H.S. (1906).
Seure, G. (Sites in Thrace.) B.C.H. xxx.
Soteriades. (Exc. in Boeotia.) *A. M.* (1906).
Winckler, H. (Boghazkeui exc.)

1907 Bulle, E. *Orchomenos* I. (II, 1931.)
Mosso, A. *Cretan Palaces.* (E.T.)
Sayce, A. H. *Archæology of the Cuneiform Inscriptions.*
Vincent, H. *Canaan.*

1908 Fick, A. *Hattiden u. Danubier in Griechenland.*
Karo, G. (On Orchomenos.) Jahrb. (1908). (Anz., 126.)
Pernier, L. (The Phæstos disc, often republished). *Ausonia,* III, 255.
Schmidt, H. (Central Europe and Mycenæ.) Z.f.E. (1908), 48.
Soteriades (exc. Elateia.) *Eph.* 1908. 63 (*cf. A.M.* (1905), 134; (1906) 396).
Vassits, M. *Southeastern Elements in the Preh. Civ. of Servia.* B.S.A., xiv, 319. Vinča exc. *Pr. Z.*, ii, 23.

1909. Evans, Sir A. J. *Scripta Minoa,* I.
Hall, H. R. (Painted wares.) *Proc. Soc. Bibl. Arch.*, xxxi, 311.
Ormerod, H. A. *Prehist. in S.W. Asia Minor.* B.S.A., xvi, xviii, xix.
Peet, T. E. *Stone and Bronze Ages in Italy.*
Schmidt, H. Exc. Cucuteni (publ. 1911: *Cucuteni,* 1932).
Schuchhardt, C. *Das Technische Ornament.* Pr.Z. (1909-10).

1910. Mosso, A. *Dawn of Medit. Civilisation.*
Vassits, M. M. (Exc. Vinča.) Pr.Z., II.
Wilke, G. *Spiral-mäander-keramik und Gefässmalerei.*

1911. Evans, Sir A. J. (Minoan and Homeric epic.) J.H.S., xxxii, 272.
Flinders Petrie, Sir W. M. *Historical Studies* (Egyptian dates).
Gennep, A. van. *La Poterie Kabyle.* Rev. d. Ethn. et Sociologie (1911).
Meister, R. (new Cypr. languages.) Sitzb. k. Preuss. Akad., vii, 166-9.
Reisinger, E. *Kretische Vasenmalerei.*
Schmidt, H. (Cucuteni exc.) Z.f.E. (1911), 552.

1912. Flinders Petrie, Sir W. M. *The Formation of the Alphabet.*
German Institute. *Tiryns* I, II (III, 1930).
Leaf, W. *Troy.*
Penka, K. *Die vorhellen. Bevölkerung Griechenlands.* Beitr. z. Rassenkunde, ix.
Pottier, E. (Painted ware at Susa.) *Mém. D. S. Perse,* xiii.
Wace, A. J. B., and Thompson, M. S. *Prehistoric Thessaly.*

1913. Himner, M. (Exc. in Ukraine. Publ. 1933. *Świątowit,* xiv-xv.)
Myres, J. L. (Exc. in Cyprus.)
Vendryes, J. (Cypr. language.) *Mém. Soc. Ling. Paris,* xviii, 271.

1914. Forsdyke, E. J. (Minyan Ware.) J.H.S. xxxiv, 127.
Laszlö, F. *La station primitive d'Erösd.*

1915. Childe, V. G. (Minyan ware.) J.H.S., xxxv, 196.
Karo, G. *Führer durch die Ruinen von Tiryns.*
Myres, J. L. *Handbook of the Cesnola Collection* (New York).

1916 Peake, H. J. E. (Racial Elements of Troy.) J.R.A.I., xxxvi.

1917. Schmidt, H. Exc. Monteoru. (Publ. 1924.)

1918. Blegen, C. W. and Wace, A. J. B. *The Pre-Mycenæan Pottery of the Mainland.* B.S.A. xxii (1916-18), 189.

1921. Blegen, C. W. *Korakou* (exc.).
Evans, Sir A. J. *The Palace of Minos at Knossos,* I. (II, 1925; III, 1930).
Fimmen, D. *Die Kretisch-Mykenische Kultur.*
Rodenwaldt. *Der Fries des Megaron von Mykenai.*

1922. Karo, G. (Crete: general summary.) Pauly-Wissowa. *Real encycl.*², xi, 1743-1801.
Persson, A. W. (Exc. Asine.) Publ. annually.
Wace, A. J. B. (Exc. Mycenæ.). B.S.A., xxv, B.C.H., Archæologia, lxxxii.

1923. Demangel. *Le Tumulus dit de Protesilaos.* B.C.H., xlvii, 542.
Lamb, W. (Frescoes at Mycenæ.) B.S.A., xxv (1921-23), 162.

1924. Frankfort, A. *Studies in Early Pottery of the Near East*, I (II, 1927).
—— Painted ware at Nal, Beluchistan. *Ill. Lond. News*, 20th Sept., 1924.
Xanthoudides, St. *The Vaulted Tombs of the Messarà.*
Blegen, C. W. *The Pre-Mycenæan Pottery of the Greek Mainland.*
1925. Childe, V. G. *The Dawn of European Civilisation.*
Evans, Sir A. J. *Early Nilotic, Libyan and Egyptian relations with Minoan Crete.* (Huxley Mem. Lecture. J.R.A.I., lv).
Heurtley, A. W. Exc. Macedonia (till 1931). L.A.A.A., xii; B.S.A., xxvii–xxxi.
Stein, Sir A. (Painted ware in Seistan.) Burl. Mag., 1925, Dec.
1926. Casson, S. *Macedonia, Thrace and Illyria.*
Childe, V. G. *The Aryans.*
Swedish exc. in Cyprus, 1926–32.
Genouillac, H. de. Ceramique Cappadocienne.
Gjerstad, E. *Studies on Prehistoric Cyprus.*
1927. Dörpfeld, W. *Alt-Ithaka.*
Frankfort, H. *Studies*, II (I, 1924).
Heurtley, A. W. *Early Iron Age Pottery from Macedonia.* Ant. Journ., vii.
Karo, G. (Shaft graves.) A.M., xl (1915, publ. 1927).
Morgan, J. de. *Préhistoire Orientale, III.*
Nilsson, M. *The Minoan-Mycenæan Religion.*
1928. Andersson, J. G. *China before History* (exc. since 1921).
Blegen, C. W. *The Coming of the Greeks.* A.J.A., xxxii, 146. *Zygouries* (exc.).
Chapoutier, F. *Fouilles exécutées à Mallià.*
Childe, V. G. (Lausitz invasion) *Antiquity*, 1928
Evans, Sir A. J. *The Palace of Minos at Knossos*, II.
Flinders Petrie, Sir W. M. *Gerar* (exc.)
Hall, H. R. *The Civilization of Greece in the Bronze Age.*
Lamb, W. *Excavations at Thermi in Lesbos.* B.S.A. xxx–xxxi
Matz, F. *Die früh-kretischen Siegeln.*
1929. Evans, Sir A. J. *The Shaft graves and Beehive Tombs of Mycenæ.*
Forsdyke, E. J. *Minoan Art.* Proc. Brit. Acad.
1930. Evans, Sir A. J. *The Palace of Minos at Knossos*, III.
Flinders Petrie, Sir W. M. *Bethpelet* (exc.).
Heurtley and Hutchinson (Marmariani). B.S.A., xxx.
Myres, J. L. *Who were the Greeks?*
Peake, H. J. E. *The Flood.*
1931. Goldman, Hetty. *Eutresis* (exc.).
Gordon, F. G. *Through Basque to Minoan.*
Kunze, E. *Orchomenos II* (I, 1907).
Marshall, Sir J. *Mohenjo-daro and the Indus Civilization.*
Persson, A. W. *The Royal Tombs at Dendra* (exc. 1928).
1932. Childe, V. G. (Early implements.) C.R. Int. Congr. Prehist. Sci.
Evans, Sir A. J. *Knossos and Mycenæ.* C.R. Int. Congr. Prehist. Sci.
Flinders Petrie, W. M. *Tell Ajjul* (exc.).
Mallowan, M. E. L. *Preh. Civ. of Nineveh.* C.R. Int. Congr. Prehist. Sci.
Pendlebury, J. D. S. *Handbook of the Palace of Knossos.*
Rellini, U. (Italian painted ware.) C.R. Int. Congr. Prehist. Sci.
Schmidt, H. *Cucuteni.*
Vassits, M. M. Preistorick i Vinča.
1933. Dikaios. (Painted ware in Cyprus, unpublished; cf. Hall, 1909.)
Nilsson, M. *Homer and Mycenæ.*
Starkie. (Exc. Tell-el-Duweir; unpublished.)

Reprinted from the Journal of the Royal Anthropological Institute, Vol. LXIII, July–December, 1933.

Harrison and Sons, Printers in Ordinary to His Majesty, St. Martin's Lane, London.