

warrants are sent by the Bank to the stockholders by post. For this service the Bank receives from the government about £200,000 a year, or £300 for every million of the national debt below six hundred millions, and £150 for every million above six hundred millions.

The third function of the Bank is the issue of notes, and this department is entirely distinct from both of the others. The notes are issued to any one in exchange for gold or other notes. The notes are generally issued to bankers in bundles containing five hundred each. For every note issued an entry has previously been made recording its number and the date of issue. This entry is not closed until the note is returned to the Bank and cancelled. The note may be out for years, or only for a few hours; in any case the book in which it has been entered is kept open to receive the completion of its history. Ordinarily about 50,000 notes are paid by the Bank in a day, and about as many new ones issued. Those which have been in circulation are at once cancelled, the corner bearing the signature of the cashier being torn off, and the words indicating

the denomination punched out. When they are thus cancelled, and have been accounted for in the books, they are arranged according to their numbers and dates in parcels of from 300 to 1500, and are marked in such a way with references to the balance-sheets that a clerk can readily ascertain by whom and when each was paid in. The parcels are then deposited in the accountant's library, and preserved for five years, at the end of which they are burned. The accountant's library usually contains nearly one hundred millions of these cancelled notes, any one of which can be referred to in four or five minutes.

In its threefold functions the Bank employs over a thousand persons. Its capital is larger than that of any other bank, and no other monetary institution in the world possesses the confidence of the public to the same degree. It is practically the only issuer of notes in England. The circulation of other notes is limited to the places in which the banks issuing them are situated, and the average returns show that for the week ending December 30, 1882, the whole amount of such notes in circulation was only £3,380,868.

DR. SCHLIEMANN: HIS LIFE AND WORK.

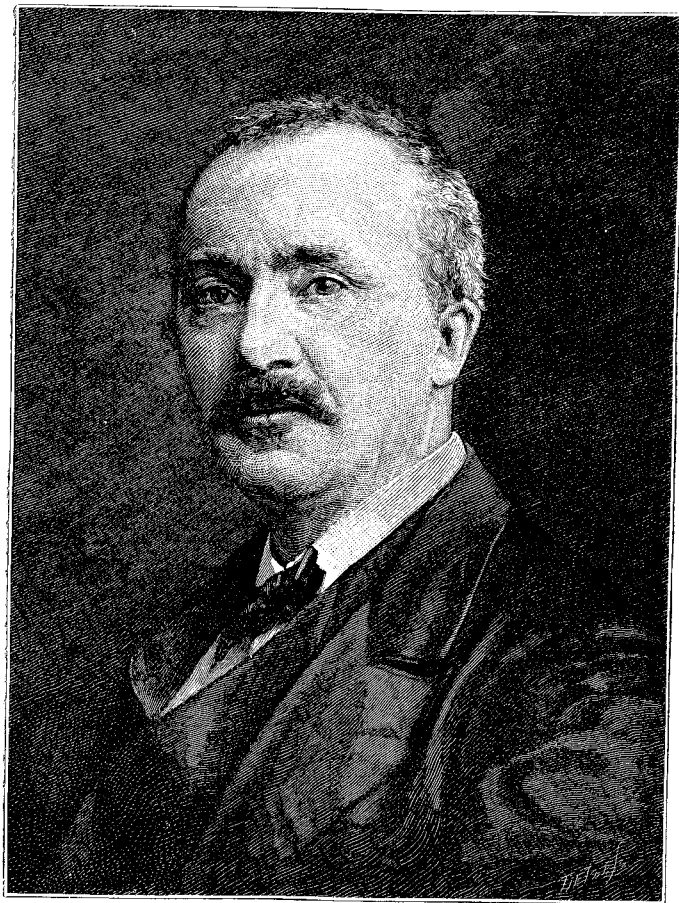
IN the present age we have many scholars, but few discoverers; we have many who will criticise, but few who can construct; many who live by their studies, very few who live for them. If Dr. Schliemann had been, like the old *diletanti*, endowed with large fortune and high position, he would have deserved, as they do, no small credit if he had spent both in the interests of archæology. But what shall we say to the man who struggles all his youth with adversity, and having won his fortune in middle life, devotes the larger part of it to the interests of science? We may rejoice that he has received a splendid reward—a reward which the carping of a few poor pedants can not mar, and which gilds for him his declining years, and supports his failing health. Honors and decorations are a very small part of it; the applause of Europe but little more; his true reward is the extraordinary success of his undertakings, the verification of his conjectures, the response of facts which has established his theories. No true inquirer is afraid of confessing mistakes, of receiving correction from in-

ferior men, of abandoning a favorite hypothesis in the face of conflicting facts. And yet how few scholars in the present day possess that honesty of mind! How many there are—and the present subject suggests some prominent instances—who will distort facts or torture texts to escape such a confession! how many there are who will sneak through a literary life with the object of keeping up a reputation by not committing themselves! How many look upon those who correct them as their personal enemies! Such are the reflections suggested by Dr. Schliemann's latest (may it not be his last!) contribution to archæology. He has again visited the Troad; he has again hired laborers, and lived in tents, and brought with him great experts, in order to clear up and verify what remained obscure and doubtful in his former investigations. The main difficulty in his mind was the apparent smallness of the early city which he found to have been burned, and which seemed certainly the city which gave a basis and a local habitation to the traditions embodied in the Iliad. The gold found there im-

plied considerable wealth; all the legends pointed to the spot having once been occupied by a powerful and civilized people, and yet there seemed no room for them. His new book gives us the natural solution. He had mistaken the acropolis of the "second city" for the whole of it. His architects proved to him that there had been an extensive lower city around the "Pergama of Priam," which was also burned in the great catastrophe, but was not resettled or built on again. From that time small and obscure descendants occupied the royal site, and left poor and shabby traces of their life. It was not till the successors of Alexander enlarged and beautified the town, and the Romans, with the sentimentality of vulgar upstarts, began to parade Ilium as the home of their ancestors, that another important town marked the persistent site.

Moreover, he had also failed to distinguish clearly the second and third layers of remains on this ever re-established site, for the settlers who came after the great conflagration did not level more than they wanted, and the older buildings here and there reach up through the stratum produced by the third settlement. Again, what he calls the sixth city was not marked by a layer of soil, but only by a large assortment of very peculiar non-Hellenic pottery, which he had called Lydian, but which he now declines to call by any name, while insisting upon the fact of its presence and peculiar character. The outcome of his long labor is, therefore, briefly this: on the site of Hissarlik, and there only in the Troad, there are piled up one upon the other a great series of human traces, reaching from the most remote antiquity into the decline of the Roman Empire. These human traces were separated into periods, in that each of them is covered by a more or less distinct layer of earth and ashes, upon which the next is laid. There are at least six of these layers; and what is most important and remarkable, only the topmost (sixth or seventh) is of what we call a historical character. It alone shows a distinctly Hellenic character in both its pottery, its utensils, and its buildings, and reaches a very little way (not more than six feet) into the earth. Nevertheless, we know that a small Greek town existed there for at least six centuries before Christ. If, then, the remains of such antiquity reach down only to six feet under-ground, what shall we say of the antiquity of the

older settlements, which are to be traced down to fifty-two feet under the present level? The mind recoils somewhat aghast from so gigantic a computation. But the character of these older remains corroborates our conclusion. They all bear a distinctly prehistoric character. There is no trace of coinage, of writing, of painting on terra-cotta, nay, in the deepest layers even the potter's wheel seems hardly known, and the wares are of the rudest hand-made description. The closer details as to these successive layers of pottery are very clearly given in a remarkable letter from Rudolph Virchow—a European name—and printed (pp. 376 *et seq.*) in the new volume. He there shows "that there is no place in Europe known which could be put in direct connection with any one of the lower six cities of Hissarlik." And again, after describing the character of archaic Greek pottery, he adds: "Seeing, then, that this highly characteristic archaic pottery is totally absent in the deeper strata in Hissarlik, we are at a loss to discover what in all the world is to be called Greek in them. With equal truth might many kinds of vases from Mexico and Yucatan, nay, even from the river Amazon, be called Greek." This is in answer to the ignorant people who attempt to assign late historical dates to all the successive settlements save one. The non-Hellenic, if not prehistoric, character of these ruder wares is singularly illustrated by comparing them with the oldest pottery our author found at Mycenæ. In the latter, though there can be little doubt that their date is not later than ten centuries before Christ, we find the unmistakable character of Hellenic work. They are the direct ancestors of the splendid vases imported to Italy, and copied in Etruria. This fact in itself makes all skepticism as to the antiquity of the remains at Hissarlik impossible, except on grounds of ignorance. We have heard in our own day of respectable scholars who are still skeptical about the deciphering of the Egyptian hieroglyphics, and the cuneiform writings of Asia. It is quite useless arguing with such people. All one can do is to beseech them to examine the evidence without prejudice, and to examine the evidence they must of course learn something about the subject in hand. It is not enough to have read Homer, or Curtius's *History of Greece*, or to have gone to the Troad as a tourist, and to have seen the



HENRY SCHLIEMANN.

place. Archæology is a special study, infested no doubt by amateurs, but requiring honest and serious attention.

The demonstration that there existed on the site always recognized in classical days as the site of Troy a very ancient and important city, with a citadel and such wealth that considerable remnants of gold were lost or forgotten in its ruins—a city, moreover, destroyed by a great catastrophe, and burned with fire in such a way as to preclude all accidental misfortune—makes it almost certain that the poet or poets of the *Iliad*, whatever historical basis their story may have, certainly attached their stories to this site, and that the memory of this great conflagration had in some way survived up to the time when the *Iliad* was composed. This, again, forces us to place the origin of this epic poetry, at least of the shorter and ruder attempts which pre-

ceded the *Iliad*, at an early date. The brilliant theory of August Fick, that these poems were first composed in the Æolic dialect, and then imperfectly recast in Ionic, falls in with the same argument. But we must not enter into learned discussions in this paper. It is right merely to allude to these literary and historical questions to show how important is the light thrown by Dr. Schliemann's excavations on questions which have hitherto been disputed on purely bookish grounds. Those who wish to have a large and clear view of the general course of enlightenment which our early history of Greece and Asia Minor has undergone from archæological sources will turn to the brilliant preface with which Professor Sayce has introduced Dr. Schliemann's new volume, *Troja*.

We have often tried to induce Dr. Schlie-

mann to dig on Hellenic sites, but his proper task and the general direction of his studies is to investigate prehistoric antiquity. For this purpose he has not only made his magnificent venture at Mycenæ, of which the results are recorded in a special work, and exhibited in the splendid collection of gold and silver ornaments now at Athens, he has also investigated the alleged home of Ulysses in Ithaca, the great tomb-treasure-house of the legendary kings at Orchomenus, and some other less important sites. These researches have conspired with sundry discoveries of prehistoric tombs in Attica, and of archaic art about Sparta, in modifying considerably the current notions of early Greek art and its development. This is the most important outcome of Dr. Schliemann's work, and that to which we desire to call special attention. It used to be a favorite theory among scholars, and is no doubt very common among those who confine themselves to a grammatical study of Greek texts, that the Hellenic race was perfectly original in its art, that the peculiar character of their architecture and sculpture and painting was their own invention, and due to no foreign source. The old legends of Cadmus and Agenor and Danaus bringing the arts from the east and south were rejected, and Greek art was considered to be purely *autochthonous*, as the scholars were pleased to disguise the term indigenous.

What has been now found to be the real state of the case? The historical Greeks have been everywhere preceded either by Greek ancestors, or by some kindred race who possessed both wealth and ingenuity, and had advanced no small distance both in the useful and the ornamental arts of life. Let us take, for example, the great stone buildings of Mycenæ. Here we find enormous stones squared, or even shaped into curves, so as to form the inner surface, perfectly regular, of a great bee-hive vault. We find heraldic sculpture used over their gates, and such massive defenses as must have mocked any assailant of those days. When Dr. Schliemann found the royal tombs within these walls, he found a vast store of ornaments, and vessels not only beautiful in shape, but delicately and gracefully ornamented, while the sculptures on stone and the gold masks on the faces of the dead were rude and ugly in the extreme. The general character of these ornaments could not

be called Greek; it was strictly prehistoric, barbarous if you please; nor could it be called Oriental; but there were not wanting traces of Oriental influence and cases of Oriental (including Egyptian) manufacture. A portion of an ostrich egg proved beyond doubt the existence of a trade with Africa. Engraved gems with strange designs pointed unmistakably to similar Babylonian or Hittite ornaments. And if we had fuller knowledge of the early art of Asia Minor, there can be no doubt that we should find the Mycenæan art was more imported than original. Not that we mean to deny the originality of the Greeks. We desire rather to correct the meaning attached to the word originality, and insist that in both art and literature pure invention is both rare and unsuccessful, and that true greatness consists in the genius of adapting and perfecting the forms or ideas handed down from earlier minds. There are some productions in which perfection of form was very early attained. The earliest and rudest pots are generally very ugly and clumsy imitations of a female human figure, sometimes of birds or beasts, and so long as this fashion persisted, no beauty was attained. But no sooner was this idea abandoned, and mere curves studied with the aid of the wheel, than we find shapes as graceful as any that can be designed in the present day—nay, superior to most of them. This is very remarkable in the gold jugs found at Mycenæ, and which, though of very perfect workmanship, are undoubtedly of great antiquity. And here not only the shape, but the decoration of the surface, is both ingenious and beautiful. In terra-cotta ware the surface decoration was slower in coming to perfection, but the shapes of many of the vessels found in prehistoric sites are not to be excelled. There was one vessel found at Mycenæ made of some kind of alabaster, and probably imported from Egypt, which at first sight looked for all the world like a Renaissance vase, the rim being actually a waved circle. The reader must go back to the earlier *Ilios* and *Mycenæ* of Dr. Schliemann for examples to verify our statements. All his former researches at Hissarlik, and even his last visit and further excavations, did not, however, satisfy the indefatigable man, who undertook in May, 1881, a journey through the Troad, very graphically told (pp. 303-348) in his *Troja*. He

wished to see whether there were any other prehistoric sites worth excavating, and also what could be made out about the geography of the country as described by Strabo. But, all through, the keen interest of the traveller, loving to talk with and understand the natives, and enthusiastic at the sight of natural beauty, gives life and beauty to the narrative.

The country is remarkable from many points of view—for the remarkable number of sulphurous and hot saline springs, which were once fashionable resorts for invalids, and were, no doubt, exceedingly valuable, but which are now deserted and forgotten. These observations remind one how Pausanias, in his *Achaica*, when speaking of the Ionic coast, a little southward, speaks of the sea baths as of peculiar efficacy. The reader imagines that he is speaking of ordinary sea-bathing, whereas it is probable he refers to some similar volcanic products further down the coast. Again, there is a remarkable description of the great Mount Ida, some 5500 feet high, covered with great forests, and with rich pasture, which no cattle can touch before the month of July, on account of the poisonous *agil* which grows among the grass, and does not ripen and become harmless till after midsummer. We can well imagine the enthusiasm of the veteran archæologist when he sat on the summit of Ida, among the rich spring flowers with which the old poet clothes the nuptial couch of the great deities who resort here in the *Iliad*, and when he recited to himself the famous passage of the loves of Zeus and Hera. With that confidence of prediction which we may fairly allow to his oft-tried and well-nigh infallible instinct, he declares that there is no site of any prehistoric importance now remaining unsearched in the Troad. There are some places covered with fragments of fresh work, but in all these the rock is so near the surface that excavations are not worth making. Deep soil is the first condition of success, for there can be no prolonged human occupation without continual deposits, which alter the original level surprisingly in the course of centuries. Thus the conduits of Hezekiah are some one hundred and twenty feet below the level of the present Jerusalem; and any visitor to Rome knows how deep the old Forum and the older sanctuaries at S. Clemente lie beneath the present city.

The author's summary of the present

condition of the Troad, as compared with its condition in classical days, is too curious not to be cited here, especially as his remarks apply generally to all Greek coasts as far as southern Italy. They were once teeming with life and culture; now they languish in desolation and poverty. "Besides, therefore, all the successive settlements at Hissarlik (Troy), besides two other small prehistoric cities, and three of early Greek date, we find that there were in this plain of Troy, which is only eight miles long, and less than half as broad in its widest part, eleven flourishing cities, all of which were probably autonomous (independent), and of which five coined their own money. If we consider that the eleven cities, besides two villages, existed here simultaneously in classical antiquity, and that one of these—the city of Ilium itself—had at least 70,000 inhabitants, we are amazed how such a mass of people could have found the means of subsistence here, whilst the inhabitants of the present seven poor villages of the plain have the greatest difficulty in providing for their miserable existence. And not only had these ancient cities an abundance of food, but they were also so populous and rich that they could carry on wars; and, as their ruins prove, they could erect temples and many other buildings of white marble. Ilium especially must have been ornamented with a vast number of such sumptuous edifices. This wealth of the ancient inhabitants of the plain of Troy can hardly be explained otherwise than by their great industry. They doubtless worked the gold, silver, and copper mines mentioned by Homer, Strabo, and Pliny, as situated in their neighborhood, and doubtless by their industry they had succeeded in entirely draining the plain of Troy, which has now become a swamp, and converting it into beautiful garden land. In the case of Ilium especially, the city was probably indebted for a good part of its wealth to its temple of the Ilian Pallas Athena, which must have been a very celebrated place of pilgrimage, and have attracted innumerable worshippers."

As I have said, every word of this applies to all the Greek coasts, to Argos and Sparta, as well as to Metapontum, Sybaris, and Croton on the southern coast of Calabria—nay, even to a great part of Latin Italy, and especially to the ancient Etruria, a land of cities and palaces, which

now is known as the Maremma, where swamps and woods cover cities and fields, and some herds of wild cattle and their half-savage keepers are the only occupants of a fertile but miasmous desert. Melancholy facts are these, and yet to the archæologist they are not without their consolation. Had all the world inhabited in olden times remained under cultivation, almost every vestige of prehistoric or of older historic life would either have been destroyed, or be now inaccessible under dwelling-houses or cultivated land. From sections of hills made by railways we might, indeed, as we have done, make important prehistoric discoveries, but how would such excavations as Dr. Schliemann's at Mycenæ and Troy be possible? So it has happened through untoward sentiment that the new capital of the Greek kingdom has been settled on the site of classical Athens. Had Nauplia, or even the Piræus, been selected, the soil now covered by the houses of modern Athens would have yielded countless treasure in inscriptions and art remains. But the purchase of land in the middle of a populous and rapidly increasing town is so expensive as to put an insurmountable bar to any systematic excavation. There are, however, fortunately for the archæologist, many sites in Italy, Greece, and Asia Minor still vacant, and likely to reward his labor. Of these I would mention as perhaps the most promising the site of the ancient Sybaris, which was destroyed, and the river Crati turned over its site, in 510 B.C., according to our authorities. It would no doubt require the instinct of a Schliemann to find the exact spot in the now wooded valley of the river, and much outlay to turn its course; but when all this is done—and a great antiquarian, Mr. Fr. Lenormant, assures us from personal observation that it can be done—another wonder may strike the world of letters, like the finding of Troy and of the royal Mycenæ.

The example of Dr. Schliemann ought to lead the way to similar enterprises. Already the Dilettanti Society have added to the glories of England by their costly and conscientious publications of Greek antiquities; already the German government have shown what can be done with a very moderate outlay, intelligently directed, at Olympia, and still later at Pergamus. Let us hope that among the many men who have inherited fortunes far beyond the requirements even of luxury,

some will apply their wealth to this very noble end.

For a noble end it is to inquire into the rudest remains of long-departed races, and to inquire not by theory and conjecture, but by an examination of actual facts. The pure savage attends only to the wants and pleasures of the day, and when the sun sets, has no desire but to sleep. The higher men rise out of this condition, the wider their sympathy with remote and by-gone members of their race, the more do they prolong into the night the interests and pursuits of the day. This it is which has ennobled civilized men; this it is which has given dignity to the poorest and narrowest conditions of life.

No more striking illustration could be found of these truths than the remarkable autobiography which Dr. Schliemann has prefixed to his *Ilios*. We there see him beginning his life in poverty and obscurity, and yet from the beginning showing an enthusiasm which raised him far beyond the trifles and troubles of every-day life. At the age of eight he begins to take an interest in the story of Troy, and to wonder how its walls could have totally disappeared. Even then he dreams of exploring it. When apprenticed to a grocer's shop at Fürstenberg (Mecklenburg), at something like a salary of £9 per annum, and selling herrings, butter, potato-whiskey, oil, etc., from five in the morning to eleven at night, he still hopes against hope to obtain an education, and spends "his two mites, that make a farthing," to reward with three glasses of whiskey a drunken miller, who could recite to him Homer in the Greek, which was then but a rhythmic sound to his ear. After perils by sea and by land, when he reaches £32 per annum, pays eight francs a month for his lodging, and never more than 2*d.* for his dinner, he is learning with assiduity English, and practicing his memory, which he considers weak. And all the while he is dreaming some day of learning Greek and excavating Troy. By dint of work his weak memory becomes so prodigious that he can acquire in a few weeks the vocabulary of a language, and so he masters successively all the literary languages of Europe. Doubtless his knowledge of Russian directly paved the way to his fortune, for an intelligent agent who spoke it was rare, and the house in Amsterdam who employed him found him invaluable for missions to St. Petersburg. But how

did he acquire his Russian? He found a grammar, a lexicon, and a bad translation of *Télémaque*. No one could be procured to speak to him one word. He had to compose for himself and recite his own compositions. "It occurred to me that I should make more progress if I had some one to whom I could relate the adventures of *Telemachus*; so I hired a poor Jew at four francs a week, who had to come every morning for two hours to listen to my Russian recitations, of which he did not understand a syllable. As the ceilings," he adds, "of the rooms of the common houses in Holland consist of single boards, people on the ground-floor can hear what is said in the third story. My recitations, therefore, delivered in a loud voice, annoyed the other tenants, who complained to the landlord, and twice while studying the Russian language I was forced to change my lodgings." Could anything conquer this indefatigable man?

We can not follow out further the details of his extraordinary career—his realizing at the age of forty £10,000 a year; his vast travels through the habitable globe; his settled determination to make discoveries in archæology. Few men have lived to see a more complete realization of their dreams. Instead of herrings and butter, he has handled the gold and the jewels of forgotten kings; instead of treating with whiskey the drunken miller in the purlieu of a German village, he inhabits a palace at Athens, where the *élite* of society and of letters congregate about his hospitable table. He adds an alphabet of honors to his name, and has added to the wealth of nations by his public gifts.

But now that he has been advised to abandon his arduous labor and devote his remaining years to a better care of his delicate health, he can look back on all these distinctions as only the index of his real desert—that of having added permanently to human knowledge. What a cloud of conjecture and hypothesis has he removed from both Troy and Mycenæ? For if his discoveries have in their turn given rise to many controversies, they are controversies about the interpretation of facts, not about the respective probability of rival theories. He has proved, what modern skeptics were coming boldly to deny, that the old legends of the Greeks had a local attachment, and were based upon

facts in past history. He showed that the sites of cities are permanent things, which men will not surrender even after violent catastrophes, and that we may always seek the old under the new. The growth of legends about tombs of great men is particularly interesting, for it can be paralleled in the legendary history of other and distinct branches of the Aryan race. Above all, he has added a great store of facts for the comparative study of prehistoric man in the south of Europe. We are now beginning to see the general features in the industry and the ornaments of primitive men, and the curious truth that the pottery in all the prehistoric strata at Troy, up to the verge of the Greek remains, is perhaps less like these remains than it is to the prehistoric pottery of Italy, Germany, or even Peru, shows that we may yet attain to a general view of the state of man under certain conditions of life.

It was, of course, impossible that such a discoverer as Schliemann should not make conjectures which have not been verified, or assume as true statements based on mere traditional acquiescence. His last work shows how readily he accepts the correction of new evidence. Years ago, when I pointed out to him that the statements of the late Greek historians about the destruction of Mycenæ were false, and that the town was destroyed centuries before the alleged date (468 B.C.), he at once bowed to the evidence, verified as it was by his own discoveries. It is by this honesty and simplicity of purpose that he has lived down the attacks of unworthy assailants. No man is more jealous of his assumed property than the scholastic pedant, and no one resents more the invasion of philology by self-taught and unceremonious inquirers. But if Dr. Schliemann could harbor in his large heart the feelings of an ancient Levite, he might well reflect that his enemies, the pedants, have been discomfited and brought to confusion. The ablest and most learned of them, Dr. Brentano, has lately committed suicide, and if his English disciple has not gone so far as to copy him literally in this, he has at least gone as far as charitable adversaries can desire in committing archæological suicide, by maintaining theories which blot him out from the number even of incipient students in that science.