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Studia Troica ist eine Jahresschrift, in der die Leitung und die Mitarbeiter des Troia-Projektes über ihre Arbeit vor Ort in Troia und der Troas und die daraus resultierenden Forschungsergebnisse berichten. Manuskripte, die nicht unmittelbar mit diesen Arbeiten verbunden sind, werden von international renommierten Fachleuten auf ihre Druckwürdigkeit hin beurteilt. Deren Empfehlungen fühlt sich der Herausgeber verpflichtet.

Studia Troica is a periodical published annually in which the director and staff of the Troia project report on their fieldwork in Troia and the Troad and present the results of their research. Manuscripts submitted for publication which are not directly related to these studies are read by internationally renowned specialists in the relevant fields prior to publication. The editor will follow their recommendations.

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Recording the Excavations in Troy, 1855–2010

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Abstract

This article emerges out of a discussion within the team in Troy in response to recent developments in the practice and theory of recording archaeological excavations, as well as in the technology that makes them possible. Methodological awareness must be fostered by analytical concerns and its results offered for public scrutiny; any recording system is thus re-cast as the encapsulation of this methodological awareness. Before thoroughly modernizing the way the excavations are recorded in Troy, a review of how this has been done over the past century and a half is in order.

The article consists of two parts. The first presents the way excavations in Troy have been recorded in against the background of the evolution of recording theories in Europe and North-America. The second probes into some of the hermeneutic and epistemological issues raised by archaeology seen as controlled destruction, to highlight the interplay between description and interpretation in the process of recording.

Zusammenfassung

Vorliegender Artikel entspringt einer innerhalb des Troia-Projekts hinsichtlich der aktuellen Entwicklungen in den Themenbereich Theorie, Methode und praktische Anwendung neuer Dokumentationssysteme im Rahmen archäologischer Ausgrabungen geführten Diskussion. Methodisches Bewußtsein sollte analytischen Belangen gerecht werden und die erzielten Ergebnisse objektiv überprüfbar sein; in jedem Dokumentationssystem spiegelt sich daher der Umfang der Bereitschaft zur Umsetzung bestimmter methodischer Belange wider. Vor einer Modernisierung der gegenwärtig in Troia angewandten Grabungs- und Dokumentationsverfahren scheint eine Revision der verschiedenen, seit rund 150 Jahren üblichen Systeme angebracht.

Der Artikel besteht aus zwei Teilen; im ersten werden die in Troia geläufigen Aufnahmeverfahren vor dem Hintergrund der aktuellen Methodendiskussion in Europa und Nordamerika besprochen. Im zweiten Teil werden diese im Rahmen verschiedener hermeneutischer und epistemologischer Ansätze untersucht, die archäologische Ausgrabungen als »kontrollierte Zerstörung« betrachten, um so die Wechselwirkung zwischen Beschreibung und Interpretation während des Aufnahmeprozesses aufzuzeigen.

1 Archaeological recording in Troy in an international context.

Just as its 15 m of layers reflect history since the Early Bronze Age up to Byzantine times, so do recording methods in Troy epitomize the archaeologists' constant if desultory quest for ever better recording systems[1] throughout the history of excavations. This mirrors the evolution of archaeology from antiquity looting to »art historical« excavation of picturesque classical ruins, through to positivist reification of the archaeological record and finally »cultural production of the past«[2]. We will follow them here through the three main phases of the existence of archaeology as a borderline discipline between sciences and humanities that I shall call here, artifact archaeology, feature archaeology and site archaeology. Concluding the chapter is an overview of the recording systems used at Troy during the latest excavations.

1.1 Artifact Aarchaeology

When the first trenches known to us were opened on the ancient mound of Troy in 1855 by the British civil engineer John Brunton[3] after having built a hospital in Güzelyalı at the end of the Crimean war,[4] not even 50 years had elapsed since archaeology's first attempt to escape antiquarianism, with the publication of Richard Colt Hoare's *The History of Ancient Wiltshire*. The book abounded in beautifully engraved plates with a reference scale, and described results of the excavation of 379 barrows with what the author held to be »accuracy and […] too tedious a minuteness«[5]. The closest one could get in Europe to the excavation of tells was formally in the opening of barrows, although their minimal stratification had little in common with the array of stratigraphic conundrums from sites like Hisarlık. Brunton, digging with some 150 soldiers, had no concern for minuteness, and no sumptuous (if any) drawings. However, when he chanced upon a Corinthian capital and a Roman mosaic, he offered them to the British Museum in that very year (1856).

This same British Museum made a memorable decision in 1862, when they rejected an offer from Frank Calvert, owner of half of the Hisarlık mound, who was urging the Museum to fund an excavation of the site. He was ready to direct it for free and to donate all the finds. Since 1853, he was digging stratigraphically in the Troad, and one of his letters to Heinrich Schliemann in 1869 features a section drawing of the mound, with two strata, labeled »artificial« and »natural«; in 1871 he writes again with a section showing the temple of Athena.[6]

A major contribution to the study of mounds was Jens Jacob Asmussen Worsaae's *The primeval antiquities of Denmark* (1843) said to have been the most important archaeological work in the first half of the nineteenth century.[7] Worsaae, one of the founders of prehistoric archaeology, makes three important points: first, that before excavation proceeds, a complete description of the external form should be made; second, that as one digs, »trifling objects are always worth preserving«. And third, he also recommends that barrows should better be left unexcavated, because they impersonate the history of a nation. One can suspect nevertheless that he was quite unhappy with the excavation methods of his contemporaries.

Thinking ahead, the correspondence of Calvert with Schliemann shows that it is Calvert who drew Schliemann's attention to Hisarlik as the site of Troy.[8] In the meantime, hampered by lack of funding, Calvert could only open a few trenches 4–5 m deep in 1863–1865; during these years, he applied stratigraphic judgment and understood the importance of digging all the way to the virgin soil and of trial trenching. In the same years, in France, René Galles excavated (1862–1865) tumuli and dolmens; in the case of the Moustoir-Carnac tumulus, Galles drew plans and sections, and saw to it that soils and objects receive some description and even made use of certain analyses (phosphoric acid in the soil thought to be conclusive proof of a burial). Although an effort was made to record the main items, candid notes such as »[on a] trouvé ça et là plusieurs dents de cheval«[9] are still bound to make clear the limitations of the desire or ability to record archaeological material.

When Calvert began his exploration of the Troas, Auguste Mariette was still using dynamite to work his way through blocked passages in Egyptian sites. One gets the impression that the Middle East was an expensive playground for archaeologists, seduced by the copious richness of the sites and forgetting that soils are archaeological objects just the way colossal statues are. The Europe of barrows and ditches and prehistoric villages, with a meager percentage of statues or even shards was generally more conducive to attentive and patient excavation. As Director of the Egyptian Service of Antiquities, Mariette has indeed put an end to tomb robbers' activities; but his existing reports[10] have a narrative alertness proper to the journalist, or to the trench diary, for that matter. Recording is object/monument-oriented: »nous copierons, nous cataloguerons les monuments découverts«[11] and the same goes for the planning of the excavation: »nous marchons en effet de sphinx en sphinx, nous faisons de sondages de 6 m en 6 m qui nous font retrouver les sphinx cherchés«.

1.2 Feature Archaeology

Schliemann's massive interventions into the delicate structure of the ancient mound in Troy is anticipated by a century or so of more or less irresponsible ex-

cavations in Pompeii until the 1860s, when the site struck lucky with the organized large scale excavations of Giuseppe Fiorelli. Houses in Pompeii had never been excavated as a functional and cultural whole, while Fiorelli's stratigraphic excavations dealt with entire *insulae*. This was another step on the way to emphasizing a site as a continuum and organizing the scientific investigation around this fundamental assumption. Fiorelli divided the city into regions and blocks, and tried to construe their evolution. His excavation report from 1873[12] is also remarkable in that it quantifies so much that it anticipates archaeological statistics. Long lists of dimensions and technical parameters of architectural elements are given and made even less palatable by means of an endless list of numbers standing for the vessels, the bronze objects, terracottas, marbles pieces or bones (»87 scheletri umani, 7 di cavalli« etc.) found in this or that area. However, although Fiorelli dug meaningful wholes within a city, which was a progress, he rather published its objects.

Schliemann's shadow looms across modern archaeology like the threatening shadow of the unseen speared statue in de Chirico's metaphysical painting *Mistero e malinconia di una strada* (1913). In the scientific literature he has run the gamut from superstar to scapegoat, and is still either the nemesis or the object of ridicule of today's archaeologist. It seems that, for old and new researchers alike, one must have a strong opinion on Schliemann, before one can have an opinion on any archaeological matters. When it comes to recording, Schliemann is above all remarkable for his prompt and lavish publication of his major excavations, Troy (1874, 1880, 1884, 1891), Mycenae (1878), Orchomenos (1881), and Tyrins (1885).[13] Carl W. Blegen unequivocally stated that Schliemann fully and accurately put forth his results in various books and reports.[14] This was possible due to the wholehearted dedication (or, as the rags-to-riches merchant made it seem, investment) of his limitless financial resources to the noble and heroic endeavor of archaeology. A decade after him, Augustus H. L. F. Pitt Rivers, just as rich and eccentric, but more rigorous, was to do the same. His exhaustive publications[15] were deemed a *nec plus ultra*, but definitely Schliemann's have a lot to speak for them[16]. *Trojanische Alterthümer* (1874) is in fact one of the first serious archaeological reports ever published.[17]

Now, on the base of which records did he publish the excavations in Troy? Schliemann's approach to recording in the field was patriarchal – problems were solved on the spot by an omniscient person who had no use for either later deliberation or external validation; his main record of the excavation was his ever-changing understanding of the site. It is easy to understand why a palace was for him »Priam's palace«, and a gate the »Skaian gate«. Passion asks for quick convictions and Schliemann was selling Europe the product of his work; and then, it is easier to memorize narratives than numbers. The way he promoted interpretations to the rank of facts is redolent of self-advertising – along the lines of: if Schliemann's palace is also Priam's, so much the better for Schliemann. Nine of his diaries from field work are missing, including those for the years 1878, 1879 and 1882 in Troy. His preserved diaries show a daily record interspersed with drawings of finds and comments in German, Greek, French and Ottoman Turkish. Thus we have the records for the 1870 campaign (27 pp. in French), 1871 (76 pp.), 1872 (226 pp., these three in a notebook labeled *Voyage en Amérique*), 1873 (316 pp., with the sketch of a Turkish woman at the end), 1890 (70 pp. in Greek, no drawings).[18] Schliemann recorded on a daily basis the date, the number of workmen, the cost, weather, the location of the trench dug, and what he found. From 1872 on his diaries record the depths and offer some drawings, and from 1881 his publications present plans and sections.

There is no lack in his texts of ringing endorsements like »we collect everything« according to »in what soil they are fixed«[19], but actually much was removed without any record in the first hectic *Spatenforschung* years. One can almost feel, despite Schliemann's élan, his exasperation that the mound was so unwilling to surrender to him the ›black box‹ of the Trojan War. No three dimensional system of coordinates was used, although finds were routinely drawn in his notebooks together with the depth they had been recovered from and occasionally the distance from the edge of the mound, all of which is now, when it comes to reconstructing the stratigraphy, dramatically insufficient. What we have is just an impressionistic sketch of the mound, with a couple of spot-heights.[20] During his first years, he worked without a grid, without a contour plan, with-

out altitudes above sea level, the original shape of the mound was not recorded, and he did not record anything from trenches that he did not supervise himself.

On the other hand, we know that Schliemann, maybe influenced by Calvert, was the first to apply that formidable archaeological tool, stratigraphy, which had been developed in Denmark and Switzerland by prehistoric archaeologists, to the immensely intricate character of the mound of Hisarlik, and also had the novel idea of trying to expose vestiges of the same period over a larger area, a technique that was to be a benchmark of open area excavations since the 1960s. But not less modern was his approach to the site. First of all, he had a research design, in that he was digging to test a hypothesis. Modern, too, was his comparative method and multidisciplinary team, enlisting the (temporary) help and presence of ancient historians, numismatists, epigraphists, photographers, draftsmen, surveyors, architects, physical anthropologists, chemists and botanists.[21]

It is probable that on a number of occasions, Schliemann has doctored his reports to reflect not the reality but his desires. We do know he has lied and bribed not only in his business transactions, but also to obtain American citizenship and a divorce; but can we call him (with Calder and Traill), a »pathological liar«?[22] One recalls that he has never properly acknowledged his debt to Calvert, that he has removed apparently a page from his 1868 diary, because it did not fit his concocted story about how he identified Troy, and above all one considers the recent allegations that he has salted his sites with artifacts. One such case is »Agamemnon's mask«[23] and »Priam's treasure« has raised even more violent suspicions.[24] Schliemann's record of this treasure, found (?) in 1873, is indeed poor. His own descriptions in the diaries of the composition of the treasure, the place and date of discovery, are contradictory. One such description is dated *Athens*, then *Athens* is cut and *Troy* written over. They inspired published reports that are just as contradictory. He has authored, on the whole, some ten descriptions of how he found the treasure. The treasure was thus found inside, outside or on the citadel wall of Troy II; it included a lot of jewellery or it did not include any; Sophia was helping him dig out and carry the ob-

jects away, when she actually was in Athens at the time. His chief workman Yannakis offered yet another version in 1875. There is no drawing *in situ*, and if a treasure does not deserve it, what does? Traill suggested that actually Schliemann has added to some bronze vessels found together golden objects previously discovered in Troy, unreported so that he did not have to share them with the Turkish authorities, and kept to shock public opinion with an Iliadic treasure and get the kudos associated with major discoveries, This means that Schliemann's reports must be read in a more skeptical manner. Donald Easton has managed to explain away some of the problems associated with the history of »Priam's treasure«,[25] but it remains manifest that Schliemann's behaviour in this issue is highly controversial.

It is useful to contrast Schliemann's career with that of a British key figure of modern archaeology. The late 1880s saw the publication of four vast, profusely illustrated volumes by General Pitt Rivers who, after inheriting the Rivers estate, set off with Hoare's alacrity and Fiorelli's rigor to excavate a wide variety of features on his domain, including camps, villages, cemeteries, ditches and, more importantly, barrows. He was one of the very few archaeologists to be able to state that his work was »unlimited by considerations of finance, time or labour«. The full and prompt publication set standards unsurpassed for perhaps half a century. Volume four also features photographs, following in this regard the breakthrough achieved by Alexander Conze's publication of his digs from Samothrace, and preceding Wilhelm Dörpfeld's photos from the final publication of Troy in 1902.

The plans (and a few sections) are militarily precise and make use of drawing conventions. Pitt Rivers was not just »opening« a barrow; he indulged in total excavation, which involved going »down to the undisturbed chalk«, with every trench recorded in a standardized way (date, place, description, soils, finds, animal and vegetal remains, pottery). Though everything found was recorded in terms of position and depth, and he clearly understood stratigraphy, he excavated in spits (arbitrary levels). Indeed, as Gavin Lucas has pointed out, although obsessed with typology, Pitt Rivers' main interest was rather in sequencing finds.[26]

At the other end of the Mediterranean world, things had never been judged by the same measure; Oriental archaeology had always been lagging behind. Dörpfeld was a key person in synchronizing it with the advances in Europe. In 1882, when he joined Schliemann, the architect came from Ernst Curtius's Olympia excavation and brought with him all the method and acumen of the German classical archaeologist, shared by Theodor Wiegand's investigations in Didyma and Miletus or Conze's in Samothrace and Pergamon. Even with the aforementioned flaws on the part of Schliemann, the shift from a *Tiefengrabung* in Troy to a *Schichtengrabung* (as it was in Olympia) cannot be attributed strictly to Dörpfeld as a *deus ex machina* saving Hisarlık from havoc.[27] If anything was Schliemann's best discovery, it must have been Calvert, who showed the topographically-confused, but opportunity-greedy Schliemann where Troy actually was. Schliemann, a self-aggrandizing, media-addict person was the exact opposite of an industrious, quiet researcher like Calvert. But Schliemann's year-by-year progress as an archaeologist is compelling, and he went on to improve from campaign to campaign. It is visible that in Mycenae, where his 1872 notebooks are full of drawings of finds, he was already applying the »savoir faire« obtained and consolidated in Troy. Therefore, when Schliemann declared to the young architect on his first visit to Olympia in 1881, which set the basis for their consequential cooperation, that he had »come to learn«, it is doubtful that this was genuine modesty. Dörpfeld's contribution to the 1882 campaign was nevertheless a substantial addition of »ruhige Sachlichkeit« to Schliemann's »faustische Unrast«.[28] He expanded the stratigraphy from Schliemann's seven to nine settlements, but above all he produced more comprehensive drawings and plans that made it truly possible to work with the site intellectually, not only physically: to Dörpfeld we owe the first true archive of the site. For Blegen these drawings are »a model of careful and accurate draughtsmanship, demonstrating his uncanny ability to comprehend the connections«[29] between obscured stratigraphic and architectonic units.

At a time when Schliemann prepared what was to be his last Troy campaign, the British archaeologist and Egyptologist William Matthew Flinders Petrie decided to carry out (second only to the Ger-

man forefather of Anatolian archaeology) a stratigraphic investigation at the site of Tell el-Hesi in Palestine (1890),[30] where he could make sense of the sixty feet of occupation debris and, much as Schliemann, think in terms of a civilization sequence. Petrie summarized his excavation techniques in *Method and aims in Archaeology* (1904), mainly on the basis of his experience in Egypt. Chapter five of this influential book is called »Recording in the Field«.[31] Recording is defined as »the absolute dividing line between plundering and scientific work«. The tenets of object-oriented archaeology involuntarily shine through Petrie's text: »after finding things the first consideration is to record and preserve all the information about them«. »Things« prevail here again over soil structure; in the absence of artifacts, we are to infer, there need not be any drawings, or measurements, or, for that matter, meaning. However Petrie still offers what appears to be the best (published) discourse on recording up to his time. »Every discovery does destroy evidence unless it is intelligently recorded«, and upon this the archaeologist states: »our museums are ghastly charnel houses of murdered evidence.« He also draws attention upon the fact that there is no such thing as »raw data« and the archaeologist must work within a methodological framework: »in recording the first difficulty is to know what to record. To state every fact about everything found would be useless. It would be like a detective who would photograph and measure every man on London Bridge to search for a criminal. It is absolutely necessary to know how much is already known before setting about recording more.« Another hint that he gives is again ahead of his time: »the record should be presented finally in an intelligible form […] much like what might have been written by a contemporary of the times in question.« This is arguably asserting the right of the past to a history upon which the archaeologists do not project their own perspectives. All this said, and despite his excellent intuitions, the reality of recording on Petrie's dig does not match today's standards. Basically every sector or area on site, lettered from A to Z, was allotted a page in a notebook, in which all the layers were listed and numbered; thus the provenance of finds could be easily ascertained by the conjunction of a letter and a number, plus additional information as depth and coordinates. This system

was to be in use throughout most of pre-context sheet archaeology.

During Petrie's first years at Tell el-Hesi, Dörpfeld embarked (with funding from Sophia Schliemann and Kaiser Wilhelm II) on his two crucial campaigns of 1893 and 1894, resulting in meticulous notebooks and a report[32] that shows an excellent grasp of multilayered Troy. Separate plans of the overimposed settlements, in different colours, made it possible to organize Troy into coherent chronological units. Throughout his long career, Dörpfeld has not written about Schliemann except in brief and general statements;[33] the latter's attitude to him may have been ambiguous, too, because for all the praise he gives him in letters he never thought of him as of an equal shareholder in the Troy enterprise. In one letter sent from Troy he gives him what seems to be a backhand compliment: »I dictate this to Dörpfeld […] he writes so clearly!«. In the history of Troy excavations, Dörpfeld also has the merit of bridging the gap between Schliemann's and Blegen's excavations, to which he has participated in five seasons, his presence always acknowledged in the yearly reports by the leader of the Cincinnati team with enormous respect. In 1932, when Blegen was starting his own excavations, Dörpfeld was celebrating on site fifty years of active involvement with Troy, but only as a guest. Together with Gerhart Rodenwaldt, the then director of the DAI (Deutsches Archäologisches Institut), he had agreed to transfer the Americans the responsibility of any new excavations.[34]

Blegen's excavation benefited from a corpus of theoretical work published in Europe after the Great War. This more theoretically developed approach to recording is championed by John Percival Droop, who devotes one chapter to recording in his book, *Archaeological Excavation* (1915). It had become clear that recording deserved by now some conceptual debate. The main ideas promoted by Droop are the following:[35] 1. Nothing that is found is without interest; 2. an excavation should be so conducted that it would be possible to build up the site again with every object replaced exactly in its original position; 3. descriptions should be intelligible to another person or to the excavator himself six months afterwards, and 4. one should take notes on all observations although the greater number of these will in the end prove valueless.[36] The excavator of Samaria,

George A. Reisner may have been one of the first to introduce (in 1908–1910) pre-printed forms for objects on an excavation, and through A. Kidder, who was his student at Harvard, they have spread in North-America.[37] In the period between the wars, as a rule of thumb, the excavation reports do not say much about the recording systems used in the field and one can only guess at the underlying recording principles. The Swiss Gustave Jéquier, digging in 1924–1936 an Egyptian necropolis, suggests there are no generally accepted rules for recording: »il n'existe pas des règles uniformes et rigides dans le métier du fouilleur, qui n'est guidé que par les circonstances infiniment variables et par le bon sens, tout en tenant compte de ses resources en matériel, en main d'œuvre et en personnel scientifique […] l'archéologue procédera de façons fort différentes suivant le terrain et la nature du monument à attaquer.«[38] In Palestine, on the other hand, in the 1920s and 30s, at Tell en-Nasbeh, the field recorder was a permanent member of the staff. He was placing serial numbers on rooms, silos, cisterns and tombs the moment they were identified. These were water-proof tags: »he carries with him at all times a package of tough paper tags, specially printed for us in Munich«, which were attached to the walls of structures, in wind and rain.[39] On these tags the recorder wrote down the date, strip (III East, West etc.), 10 meter area, level, foreman name, number of the room/cistern/tomb, and checked the types of objects found (bowls, metal, seals, glass, shekef etc.). This is arguably the origin of placing context numbers on the layers exposed in the excavation. In 1934, the discoverer of the Doura Europos synagogue, Robert Comte du Mesnil du Buisson, published a manual where recording, most interestingly, was treated in the chapter »Publishing the excavation«. The true record of the excavation must consist – and this is where du Mesnil du Buisson is an innovator – of *le fichier du chantier*, a collection of white cards (or better, coloured to prevent glare) which the excavator fills out in the field whenever a feature is encountered.[40]

1.3 Site Archaeology

The delayed publication of Blegen's work prevented it from having the impact it deserved, and by 1958

when the last of the Troy volumes was out, Kathleen M. Kenyon had already established her own field and recording methods as standards in the Levant. But Blegen's seven campaigns in Troy (1932–1938) brought about a quantum leap in the knowledge of the development of the settlement (bringing the total to 46 phases). Although the seminal publication (four volumes, 1950–1958) reserves only a few pages to describing how the work was conducted and recorded, there is an increasing awareness that the team has to make public the internal routines which lead to the published results. Blegen makes clear from the very beginning that finds are collected by stratum, in baskets, wooden trays or cloth bags, provided with wooden labels inscribed with area, sector, level, sequence number, date, and notebook reference.[41]

The notebooks[42] remain the main recording tool (all are in English, with the exception of those of Friedrich Wilhelm Goethert for 1932 in German and of Remzi Oğuz Arik in French 1935), but this time they are written by several authors, with their respective views; the possession of knowledge does not stay with the director and a plurality of perspectives is encouraged. Blegen quoted from all his field archaeologists and went back to their trench diaries to piece together the broad image of the site.

In the field, work was done with 125 workmen at the peak (just as in Dörpfeld's time), but the Cincinnati team employed skilled workmen with small trowels, allowing for a radically different rhythm of observation and recording. The site also started to be conceived as a place that can be, and must be, visited. Dörpfeld supervised the laying of paths for visitors, and conservation became a priority, and has remained so.

Another not purly archaeological issue here was the funding. Just as Dörpfeld thanks Kaiser Wilhelm II, the Cincinnati team thanks William and Louise Semple, their sponsors: »Mr Semple breaks the first earth« in the trenches.[43] Plans and profiles are drawn by a specialized draftsman, but all archaeologists draw impressionistic profiles in their notebooks themselves, generally without scale and absolute coordinates, but sometimes with a description of layers. Pottery and small finds are also drawn in the field, and inventories of them are kept, together with catalogues of coins, inscriptions, sculptures. Weather

is recorded in the notebooks: like an explorer, Marion Rawson (notebook 1933, vol. vol. 3) logs it five times a day.[44]

Rawson's contribution to the success of Blegen's digs has been underrated. She was arguably his best field archaeologist, her terminology is modern and precise, and her photos are excellent. Besides, not many field archaeologists brought to Troy records of classical music to listen to, nor did they have a poodle called »Mon Cher Le Bonbon«. Her notebooks feature indexes of topics (e. g. in 1933, vol. vol. 3 and 1934, vol. vol. 5), among which are »levels« (meaning layers), measurements, rooms, shards, small finds, streets, floors, hearths, pots, bone, stone, terracotta, bronze. Her notebook 1932, vol. vol. 1 offers summaries of all small finds and of all trenches which uncovered burials. Sections with descriptions of layers are highlighted in 1933, vol. vol. 4 p. 2, see 1934, vol. vol. 5, and stratification sketches in 1934, pp. 35, 79, 106, 122. In 1936, vols. 9–11 she gives small finds lists, with number (e. g. 36.164), description (whorl, bone comb), room number (e. g., 210), area number (e. g. 227 M), depth of discovery, page of the drawing, and sometimes with other captions such as »under room 222« or »among stones of wall II 3«.

A graduate of Bryn Mawr, Marion Rawson had not taken any formal archaeology coursework, but she moved on to be Blegen's right-hand in Troy, and later during his more numerous Pylos campaigns. Patricia Boulter has argued that the final publication of the Cincinnati excavations would have been impossible without Rawson's organization as well as her influence over Blegen.[45] Her photographs were a fundamental part of the record, as were, also in the late thirties Agatha Christie's on Max Mallowan's digs in the Orient.[46]

An archaeological history could be written around the »biography« of a pinnacle near the center of the mound in sector E4/5, left unexcavated by Schliemann and Dörpfeld for future verifications. Blegen has been able to find here a valuable, almost complete stratigraphic sequence, and left part of it for his successors to do the same – this was accomplished later, in Manfred Korfmann's time, by Günter Mansfeld, who was able to juxtapose four types of documentation of basically the same structure and show their divergences.[47] The synchronization

of layers in the pinnacle to the stratigraphic master-plan of Troy was a necessary attempt to put every trench in the larger perspective and encourage a holistic approach to the archaeology of a site.

Historically, Blegen's conception of recording was comparable to what American rescue and research archaeology was proposing in the 1930s. The University of Tennessee was at that time conducting excavations of South-East prehistoric and historic Native American sites, prior to the building of the Tennessee Valley Authority dam and their inundation. Feature forms (now fully published by the Mc-Clung Museum) were designed to accommodate both photos and narratives pertaining to fire basins, caches of artifacts, post hole structures, dog burials, and so on. At the same time, the six campaigns of the Oriental Institute of the University of Chicago in the Diyala Region, Northeast of Baghdad in Iraq, were using object cards which (for example at the palace of the rulers at Tell Asmar) combine in a narrative a locus card and a small find card, with careful drawings, stratigraphic observations, and a diary-like narrative of the progress of excavation. On the other hand, a decade after Blegen's work in Troy, improvements were inevitably brought to his method. Robert Heizer took a cue from Reisner and other early attempts to standardize the recording form and started to experiment in the United States with pre-printed recording forms, particularly for burials, features, and profiles, but also for petroglyphs and artifacts. Although his system[48], conceived at the University of California at Berkeley, does not focus on stratigraphic units but always on ensembles of units, be they naturally clustered in features, or artificially exposed in a section, he is one of the pioneers of stratigraphic recording. The excavation notebook is thus not the only recording tool any longer, although it retains its importance as offering the only integrative narrative of the site. Heizer has suggested that at the end of the season, all documents, particularly the notebooks, must be typewritten – advice which, had it been taken, would have considerably facilitated the reassessment of numerous old excavations. In the Orient, on the other hand, American teams, building on the Wheeler-Kenyon system applied in Jericho[49], were designing new recording systems generally based on locus sheets; in the 1950s, G. Ernest Wright's system proved successful at Tell Balatah

(Biblical Schechem, excavations of the American Schools of Oriental Research), and was to lead in the late 1960s to Roger S. Boraas's pro forma (standardized recording forms) for Tell Hisban. Redesigned by Joe D. Seger, the Balatah system influenced two of the most important recording systems in Oriental excavations, namely, Tell el-Hesi[50] and later the University of Toronto project at Tell Madaba.

In Europe too, just as the Second World War put an end to Blegen's work in Troy, a committee bringing together, in a pan-European effort, directors of museums in eleven countries (including the British Museum and the Louvre) published a *Manuel de la technique des fouilles archéologiques*, a state-of-the-art handbook of archaeological practice, and indeed the best book to have been written on the topic before the Second World War.[51] Chapter six is particularly modern: *Documentation pendant le cours des travaux*, although it also discusses quite malapropos the transportation of small finds and bones.[52] The archaeological sites are seen as »archives qui ne sont plus jamais disponibles«. All documentation should be done in such a way that any other archaeologist may be able to complete and publish the excavation. Excavations that are not stratigraphic are, to be sure, banished from the archaeological code of honour. Finally the *Manuel* urges for transnational terminologic standardization: »il serait désirable qu'on put établir un système général, adopté dans tous les pays, en ce qui concerne la stratification ainsi que la terminologie pour les objects dans les catalogues«.[53]

During the war, the former director of the Römisch-Germanische Kommission,[54] Gerhard Bersu, who had already excavated in Britain at Little Woodbury (1938, 1939), undertook a new Iron Age excavation, this time interned as an enemy alien on the Isle of Man. He excavated with extreme meticulousness, including everyday domestic waste in the finds category, much on the line suggested by Pitt Rivers. His final plans look like those of an open area excavation, without the Wheelerian baulks, in order for him to be able to recognize and understand post hole (that is, timber) structures, something that had been done since Carl Schuchhardt in the 1870s, but afterwards only in the rather isolated world of Danish and Dutch archaeology. Yet the plans were made at the end of the dig when, just like Mortimer Wheeler later on, Bersu would remove all the baulks,

making a trench-by-trench excavation look indeed as if it had been one covering large open surfaces.[55] The Isle of Man excavations resulted in 500 m of sections being drawn in a naturalistic style.

At the same time, the *Manuel* gained recognition in France, and Edouard Salin draws repeatedly upon it in his treatment of funerary archaeology.[56] For him, the only way archaeology can achieve legitimacy is by producing a thorough record, even though the main tool remains the excavation diary.[57] He reinterprets the object oriented pro forma sheets proposed for burials by Ferdinand Scheurer and Anatole Lablotier's excavations in Bourogne[58] to list them in an excavation diary, and adds the number, type and dimensions, sex and height, grave goods and observations pertaining not only to the artifacts, but also to the age, cephalic index, and some ecofacts.

Mortimer Wheeler's excavations (and their associated publications) before and after the Second World War arguably offer a synthesis of most of these advances in archaeological practices. His new method, the grid (or box) excavation, was a permanent pursuit of vertical stratigraphy (resulting in »technical sections«[59]), with profiles being kept as baulks. Fundamentally, no progress will be made in the theory of recording after Wheeler before the advent of context recording and open area excavation. Modern recording systems, making thorough use of stratigraphy, have been in fact brought about by the scientific needs and demands of rescue archaeology on deeply stratified sites in the UK in the 1960s and 1970s. A turning point is the foundation of the archaeological service Winchester Research Unit in 1961 by Martin Biddle. Pioneers of open area excavation have also been Brian Hope-Taylor at Yeavering and Philip Rahtz at Cheddar, but the fundamental expression of open area has been given by Martin Biddle and Birthe Kjølbye-Biddle in 1969,[60] in what actually was an answer to the perceived drawbacks of the Wheelerian grid method. Edward C. Harris from the Winchester Research Unit is credited for this instrumentalization of stratigraphy that also led to the development of the Harris matrices,[61] and encouraged the breaking down of stratigraphy into contexts, or stratigraphic units. Once a site was understood as consisting of contexts of which none was more important than the other, all of them with relevant physical characteristics and

bearers of chronological clues, it was a small but decisive step for Harris to advocate the separate description of every context, each on its context sheet as an individual container of information. Thus, during the 1970s, the first record sheets and a new conceptualization of fieldwork occurred in what can be called a democratization of stratigraphy. The Department of Urban Archaeology (DUA) in London first used such sheets in 1974, a usage later much theoretically propped and popularized by the Museum of London Archaeology Service (MoLAS).[62]

Therefore, in 1988, when Korfmann started excavating in Troy, formalized excavation recording was very popular in Western Europe, due to the exponential increase of rescue excavations, the adoption of archaeology in university curricula, and an appetite, particularly in Britain, for theoretical exploration. Context sheets, generally inspired by the MoLAS system had been adopted by dozens of Universities and rescue archaeology companies in Britain (such as Oxford Archaeology and the York Archaeological Trust).[63] In Italy, the *Soprintendenze* implementing the patrimony policies of the *Ministero per i Beni e le Attività Culturali* had adopted strict regulations regarding the written record of the excavation; Andrea Carandini was using such sheets at Settefinestre already in the late 1970s, and universities such as La Sapienza or Padua were also applying them.[64] France had also developed two major systems of recording, both theoretically innovative and thoroughly published as independent work,[65] one used in Lattara,[66] and the other in the Mitterand Centre for archaeology in Mont Beuvray (Bibracte);[67] a plethora of forms had been designed and had become compulsory for these excavations.

In the Near East the situation was different. Practically all excavations there served research purposes. Mud brick structures and the density of finds posed the excavators problems excavators unheard of in Europe. The vast majority of the finds were also inaccessible to the archaeologists until the next campaign. Finally, the American and German tradition in recording was stronger on Oriental excavations. Their pre-printed sheets generally had a different profile, in particular being find-driven and not designed with a view to helping with Harris matrixes. Korfmann's ideas on recording had crystallized during his excavations at the small Bronze Age sites of

Demircihüyük (1975–1978) and Beşiktepe (1982–1987). His solutions, as it turned out, resemble more closely the systems in use in Israel and Lebanon.

Tell Balatah and Tell Hisban had been groundbreaking attempts to cope with the stratigraphic challenges of Oriental mounds, and inspired by their experiences, in the 1980s Tell Gezer and Tell el-Hesi excavations both offered coherent, meticulous publications including the practice and theory of pro forma.[68] The Tell el-Hesi recording forms are based on the notion of locus, as any layer or feature from an area (soil layers, walls, pits, surfaces). For the authors of the Tell el-Hesi Manual, a recording system should have four characteristics:

»1. It should be sufficiently simple to relieve the supervisor of constant worry about the system itself as he or she faces daily crises and unexpected finds.
2. It must allow for expansion or details and interpretation as continued excavation clarifies the nature of a locus.
3. The method of recording should keep all the data belonging to each separate locus in one place. 4. Interpretative comments by the supervisor are an essential process of the recording process.«[69]

The German excavations at Kamid el-Loz in Lebanon (1963–1981)[70], where no context sheets have ever been used, have, on the other hand, also influenced Korfmann. Hachmann's excavation follows stratigraphic principles and the data pertaining to the contexts (*Schichten*) can be found in several places; a register that is attached to the sector diary (*Feldtagebuch*) lists these layers, numbered from one (the most recent, generally the topsoil), and includes the indications of the plans and profiles where they can be found in the drawing record. Hachmann imposed in Kamid el-Loz a pragmatic approach, not willing to sacrifice much on the altar of academic perfectionism. On the other hand, Hachmann was the first to state a remarkable principle, which somehow anticipated the methodology of Çatalhöyük excavations, namely that the director's diary »steht jedem Mitarbeiter zur Einsicht offen. Es sollte insbesondere von den Grabungsaufsehern regelmäßig durchgesehen und abgezeichnet werden«.[71] Both the accessibility of this document for all participants in

the dig, here so explicitly stated, and the exhortation for all sector supervisors to use it regularly are highly commendable and can only foster a better sense of teamwork, together with information flow between team members. The result is a clearer image of the whole dig for every participant.

After the Blegen era, excavations in Troy were resumed by Korfmann and a team from Tübingen in 1988; they investigated not only the Acropolis, but also (and in the past years exclusively) the Lower City, whose existence was known to Dörpfeld and Blegen, but which had never been systematically explored. The excavation of Classical levels was the task of a team from Cincinnati led by Ch. Brian Rose. Most of the time, for a given trench, the Late Roman to Archaic levels were excavated and recorded by the American (Post-Bronze Age) team, and if Bronze Age layers were encountered, the excavations was continued by the German (Bronze Age) team. This resulted in the creation of two different types of documentation for many trenches. However, in practice, this has not been a problem, since specialists who study Troy rarely need to compare data from Classical and Prehistoric layers. After Korfmann's death in 2005, and since the Cincinnati team has stopped the excavations altogether in order to prepare the final publication, the excavations in the Lower City have continued to use the German system for all layers from modern surface to bedrock.

1.4 Recording in Troy: the Bronze Age System

The trench diary

The Troy excavation system has developed and improved gradually over the years with the contribution of hundreds of excavators and specialists using the system and its results. The document that holds together all this documentation is the trench diary. As Korfmann underlined that the »klare nachvollziehbare Trennung von Beschreibung und Interpretation«[72] is paramount to the diary, he introduced a positivistic approach, at least at a theoretical level, in the way the dig is documented. The said trench diary consists of a day-by-day narrative about the progress of the excavation; stamps describing all contexts and small finds identified (the latter with

photo thumbnails); sketches of all the features and contexts exposed in the trench in each day of the campaign; a small find catalogue; descriptions of plans and profiles; and tracking forms that facilitate post-excavation work. The narrative always begins by date, weather, number of workmen, and the elevation value read on the staff at the beginning of the day (in fact this is the second operation of the day, if the first is the setting of the dumpy level). This value is written in pencil and is checked at the end of the day by measuring again the datum point (*Betonpunkt*), to see if the dumpy level has been accidentally moved. Under this value will be added, in black pen, the level of the point expressed in meters above sea level. Whenever a bucket of pottery is filled, tagged and put aside to be taken to the excavation house for processing, its number is written in pencil in the diary, as a means to create a list of the units excavated during that day, of which some may yield several buckets. The narrative is written in print letters (something that should be compulsory on all digs, and is a rule on the Athenian Agora Excavations) and describes all layers and finds uncovered, all decisions taken, the interpretation and dating of all features. Together with this, it includes any other information such as the visits from tourists or specialists, discussions with other excavators about the trench, problems with the tools, observations related to the workmen and so on. Explanatory drawings in pencil of stratigraphic relationships, of interesting finds or of discarded items that might be of any relevance are a welcome addition. The trench diary is written during work, and, ideally, entered in the computer in the evening, or at the latest at the end of the campaign. At that point, what was left obscure during the dig might perhaps be expanded in more coherent phrases, however without altering any of the substance of the diary and especially without editing right from wrong interpretations or doctoring hypotheses to make the diary look more professional. A diary that is always right is evidently suspect. The entries can be in English, German or Turkish[73]. Just as is Kamid el-Loz, the Troy diaries have the even (left) pages free, because they are meant to accommodate working photos and small find photos, with the odd (right) pages being those on which the daily descriptive and interpretative notes are jotted down and structured as a daily synthesis on the

progress of the excavation. A final report wraps up the documentation.

In Troy, every layer that is the result of one anthropic, or exceptionally, geologic depositional process, or in some cases any arbitrarily removed volume of sediment (spit), is assigned a *Behälter* number.[74] A *Behälter* can never identify a negative unit, but can identify a small find, or the quantity of pottery, bones, or worked stone retrieved from a layer. For two reasons, cuts and other non-volume stratigraphic units such as interfaces do not receive a *Behälter* number, although they are described in the diary according to their archaeological significance,. The first reason is that a *Behälter* (as the name, »container«, »repository« indicates) is thought of as a group of finds; the recording system thus has, or at least had at the beginning, as a primary function to ascribe the finds to an accurately identified location. The other is that the use of Harris matrices has never been common in Troy, although some of the excavators have attempted to create such matrixes for trenches or complexes of trenches[75]. In the Troy system, once a context is recognized as such, it is not allocated a *context* number, but three or more *find* numbers in a running sequence starting with one whenever the first trench (Areal) of a Quadrat (sector of 20 × 20 m) is laid. Numbering units in a running sequence is perhaps the most characteristic feature of modern excavations. Out of these three numbers, the first will identify the pottery container, the second the bones (together with shells), and the third the worked stones. In some layers, and particularly in the Classical phases of the settlement, other numbers are meted out too, most commonly for glass and painted plaster, but also, among others, for shells (if they are so numerous as to justify a separation from bones), slag or mud brick revetments, as well as occasionally for terracotta or bronze fragments (if coming from unstratified Classical contexts). The overall policy of the Cincinnati team, also used by the Tübingen team after 2004, has been that iron fragments from Classical layers, which are part of unrecognizable objects, as well as nails that do not appear to come from coffins or key construction spots can be retrieved in an »iron« *Behälter*[76], rather than as small finds.

A label for such a context (Fig. 1) will thus include the name of the site and the year of the cam-

TROIA 2008 21 /07
HI26 Beh. 59/60/61
Y 9365   X 10298 9369   10299.5
▼ 27.35 – 26.99
ANZ. Keramik/Knochen/Glas RED

Fig. 1: Example of a Troy *Behälter* label.

paign, date of identification, sector (H25, I26 etc., or even, if the trench lays in two different sectors, HI25/26), the Northings (»x« coordinates) and Eastings (»y« coordinates) upon identification, and the highest and lowest point at which the layer has been spotted. The lowest point will necessarily be added only after the excavation of the layer is concluded.[77] The categories of objects and their numbers are also listed, as in the example above. Such a label is entered in the trench diary with the help of a pre-made stamp and filled out (in Kamid el-Loz a copy of every small find card is simply pasted on the page), then copied on wooden tags for every bucket receiving the material retrieved from the trench according to category – one bucket for pottery, one for bones, one for stones, with parallels in Blegen's system and in Gath excavations, as mentioned above, but also in Corinth.[78] If more than one bucket of pottery is retrieved, each bucket receives an identical label with the mention „*Eimer* 1/1", „*Eimer* 1/2" and so on. Small finds are put into special containers, labeled just as any other *Behälter*, with the addition of the number of the *Behälter* of provenience, namely the pottery *Behälter*, which plays the role of master unit. In a Harris matrix, as used in the past years, only the pottery *Behälter* were thus entered, as only they can also stand for the actual layers, the others being only called »associated *Behälter*". Of course, all layers can be renamed for the purpose of building the Harris matrix in post-excavation analysis of the stratigraphy, but this introduces a new opportunity for human error. However, especially for the early years of the Troy excavation, this might be necessary, since a *Behälter* can also refer to any arbitrarily removed volume of soil (spit), when strati-

graphic units have not been properly recognized and defined by the excavator. In the trench diary, near the stamp bearing the essential data about the layer, there is a standardized description of the soil (gray sandy silt, etc.) together with an informal tag of the deposit for orientation purposes (e.g. W of D, West of Wall D). Abbreviated, this should also feature on the back of the wooden tag tied to the bucket, since this ensures that a rapid check can be performed at any moment for orientation, or to make sure that shards are put into the right bucket by the workmen.

Daily sketch plans are pasted to the left (even) page of the diary. On transparent paper, the features excavated or simply visible during the day are pictured at 1:50 scale, with outlines in different colours and the number of the *Behälter* circled in the respective colour added on the side of the drawing. That same colour can be found in the stamp of the *Behälter* in the trench diary. Every *Behälter* that has been completely excavated has its final depths marked on the TS (*Tagesskizze*) between parentheses. If excavation is still in progress, the depths at the end of the day will be marked on the sketch. Basically, a TS shows for every day at what levels the excavation stopped and what walls, pits, hearths and other features, or simply layers, were still visible. Some of the more permanent features, particularly the walls, can be constantly recopied from one sketch to another. The overlapping of these sketches can yield precious stratigraphic information by comparing outlines of successive features. TSs are numbered, dated, signed, bear the site name and include a North arrow. According to the excavation procedures designed by Korfmann, every day as many TSs are drawn as new contexts encountered. This is the closest the Troy system comes to the MoLAS system,[79] which dedicates to each stratigraphic unit not only a context sheet, but also a drawing. In Gath, every day a new plan of each area is being drawn, called the Daily Graphic Diary, with information on all walls (marked in green), loci (in red), baskets (in black) and so on, with heights written in blue. In Kamid el-Loz, a sketch (*Feldskizze*, scale 1:100) contributes to an easier and more rapid understanding of the contents of the entry for anyone that will later use the diary. While future sector supervisors and the excavation director are particularly grateful for this, the archaeologists themselves

will find that this facilitates their orientation within their own diary, which in the course of a long campaign can and must become quite voluminous. On this sketch, one should note in simplified form the contours of walls, of pavements, of burials, and so on, while deposits that have been excavated separately are marked in different colours. A welcome and indeed mandatory addition are the numbers (Arabic numerals) of the features (called *Objekte* by Hachmann's team), that account for walls, pits, burials, channels, storage facilities and so on. Buildings, parts of buildings, rooms, courtyards, roads are identified by Latin letters. The drawing – an overlay – is pasted in the diary before the day's entry proper, and on the right page, however, the affinities with Korfmann's system are manifest.

The finds notebook is the register of *Behälter*, that is of all pottery, bone, and stone collections from all soil units, and of all small finds. The *Behälter* will only be described in terms of their category (*Keramik, Knochen, Stein, Schlacke, bemaltes Pflaster, Glas, Blei, Bronze, Eisen, Muscheln, Lehmziegel Kleidung* etc.), their common spatial coordinates, and the dates of excavation, while the small finds will receive a brief description (pertaining to category and material), the number of *Behälter* of provenience and a drawing in pencil overleaf (generally at scale of 1:1 or 1:2). This drawing needs not to be very accurate, since small finds are re-drawn by professionals, but a drawing upon discovery is the safest bet.

Some tracking forms are attached to every diary – a title page, including orientation information about the area, names of excavators, location of datum points used and the upper and lower limits of the sequence of numbers allocated to *Behälter* and small finds, a list of photographs taken (with date and subject), and list of samples (^{14}C, flotation etc.). Other documents are appended that greatly aid in the writing of the final reports and in post-excavation work, although they are useful tools to keep data in order and facilitate a better understanding of the site even while still excavating. This is the case with the list of stratigraphic units (the numbers that designate the *Keramikbehälter* retrieved from that layer) with on-site interpretation, where those units that are known to yield dates for masonry structures and other features are highlighted in some way, in order for their pottery to be seen by a specialist as soon as

possible. The associated *Behälter* and small finds are complementing this list, together with the diary pages and numbers of TSs where more information on them can be found. A list of walls is found to be very useful and comprises every wall with evidence for dating and interpretation. A final report is written at the end of the campaign, and appended to the trench diary.[80] Finally, in recent years, a Harris matrix has been attached if the trench is small enough, or if oversized, delivered with the drawings to be archived. If, as desirable, pottery and coins have been dated on site, this data can also be joined with the other documents, so that the diary is complete.[81]

To the written record left behind by the excavator, a professional photographer adds a photographic record to the trenches, complemented by the archaeologist with drawings of sections and plans. A master list of *Behälter* from all years, all areals, and all trenches, is also kept and updated by the head of find documentation and shard analysis, who makes sure that no numbers overlap or any other disfunctionality appears. To help with this, the archaeologist will deliver every day to the supervisor a list of the numbers allocated that day with a brief description. The presence of this clear-thinking inspector of the »data traffic«, has been actually crucial in ensuring efficient archaeological recording. The need for such a gatekeeper is another expression for the redundancy requirement in any recording system, meant to filter out lapses and errors. If no excavation, as has been often claimed, is better than its record, no recording system is better than the people who apply it.

The masonry sheet

Walls are recorded on a separate form, consisting of three pages (with sketches possible on the back). This is a pre-printed form (*Vordruck*), but does not have the graphic layout (with boxes, graphic-aided structuring of the data) we have come to expect from context sheets. Indeed, this *Formblatt zur Erfassung von Baukörpern (Mauern)* does not have the typical orientation data noted on such sheets, such as the year, or the numbers of photos or drawings associated. These forms are not dedicated to walls but to *Baukörper* (built structures), offering the no-

tion *Mauern* (walls) only at an interpretation stage, in a way similar to Hodder's »fire installation« in Çatalhöyük, that can be later interpreted as hearths. Top and bottom levels of the wall are indicated, with coordinates taken, for straight walls, at both ends, or for curved walls, on six different locations. If at least one course is preserved, the degree of preservation is considered good, but one should bear in mind that this form generally addresses Bronze Age remains. Stone walls are described in terms of type and form of stone, type of binding, dressing, plaster, painting, slope, and the aspect of corners. The date (as obtained during the excavation) is also entered, as is the treatment of the wall after excavation – removed (if the case, and when) or preserved in situ. This type of information is rarely found on wall forms of other excavations, another instance being the »wall cards« from Tell es-Safi, Biblical Gath. Korfmann had also reserved an entry for the restoration works – »done«, »planned«, »necessary«, »recommended«; this is again rare, an example being the wall evaluation sheets in Volubilis. The interpretation asks the archaeologist to choose between foundation, buttress, fortification wall, and others. The idea of preprinted interpretations, that the archaeologist can simply tick, has become very popular. Recent American systems, like at Crow Canyon,[82] follow up by pre-printing eight interpretations (certainly adapted to the specificity of their sites: kiva wall, deflector and so on). In the Troy system, the relationships to other walls are recorded as »liegt unter«, »liegt über«, »wird gestört durch«, „ ist jünger als«, »ist älter als«, and »ist gleichzeitig mit«. It can be noted that these five entries juxtapose interpretation judgments (younger than, older than, although it is not explicit where such inferences come from) with the acknowledgment of physical relationships between units (overlies, underlies). The same attention to stratigraphic relationships can be said to be indirectly recommended for soil units, in order to clarify the provenience of finds.[83]

Every dig has an idiosyncratic recording of walls. A different type of masonry sheets is offered by the MoLAS, which proposes the entry of »petrological samples«, and differentiates between internal and external walls. At Gath, not only the walls that abut or cut the recorded wall need to be written down, but also the floor that might abut the wall. Additionally,

brief notes are required for rebuilding, nature of destruction, and the collapsed material. The Tell el-Hesi forms, while recording stratigraphic relationships for walls in the same terms (overlies/underlies/is contiguous) have a more narrative profile, headed by a diary of excavation entry, which puts things more quickly into context, and closes on a post-ex entry related to the phasing of the wall. Forms on other excavations have addressed the putative presence in the wall of interesting features (Çatalhöyük, Crow Canyon) or worked stones (MoLAS form), and the inferred total height of the wall (Crow Canyon). The »architecture locus form« at Tell Madaba pre-prints, for materials, six different such types (brick, stone etc.) in twelve possible presentations (burned, decayed, reused etc.), with percentages, and asks for details concerning the foundation trench.[84]

The University of Göttingen excavations at Nienover have proposed *Baubefund Deckblätter* (built structure cover sheet)[85] in which, as opposed to Korfmann's *Formblatt*, interpretations are entered both during excavation and during the post-excavation work, considering if the wall has gone through later construction phases (additions) and if there are changes in the foundation trench. The French masonry sheets (*bordereaux* d'US *construites*) used to excavate Lattara interestingly indicate the TPQ and TAQ. Volubilis sheets also include the phase, and the *fonction statique* (load-bearing or not etc.) of the wall[86]. The Italian system implemented by most Soprintendenze also asks in its *Schede di unità stratigrafica muraria*[87] for samples taken.

To test if an integration of highly different types of documentation was possible, in 2000 Peter Jablonka built a database of contexts and a Harris matrix using information from the books of Dörpfeld and Blegen as well as from the ongoing excavation.[88] More importantly, Jablonka has introduced the marker *stratigraphisches Datum*, indicating how many steps down in the matrix is the context from the surface. This was an interesting reaction from Aegean archaeology to the proposal made by Framework Archaeology in 1999 in their influential recording system at Heathrow T5 to organize contexts inside a feature by means of Stratigraphic Group Ranks, with every context receiving a Rank. Framework Archaeology has defined this SGRank as »the number of individual steps on the matrix

that the context is located above the cut defining the feature itself« (Heathrow T5 database manual).

For many years, excavations in Troy were also recorded with video footage, a non-traditional idea also advocated by the Durham University and by Çatalhöyük excavations.

1.5 Recording in Troy: the Post-Bronze Age System

The system used by the Post-Bronze Age excavations since 1988 is oriented towards the excavating and recording of stratigraphic units, called loci or contexts. This has led to the implementation of context sheets, cross sections, and Harris matrices, which originally were not used in the Korfmann system. The context sheet is of particular interest here.

Once a locus is identified during excavation, it receives a sequential number that cannot be replicated across the same sector, and this is how it enters the Harris matrix and all lists of loci. This number also designates the pottery containers; for bones and stone, the two other most common find categories, extensions are created, so that if a floor is identified and given the locus number 894, the pottery coming from it will be addressed as 894, the bone as 894.001, the stone as 894.002, and so on. This has, first, the advantage that sequential locus numbers can stand alone and help to build the matrix. Second, containers of bone, stone, and glass are immediately identified as such by means of the extensions, without any need to look them up in the master register. The Tell el-Hesi system uses extensions in a somewhat related manner. Their manual[89] offers an example of locus sheet form targeted for a »pit«, although by the way it is filled, it is obvious that what is being treated is actually the »fill« of the pit. Because on the form the term locus is used as meaning feature, the locus number will receive an extension so that, in the case of this pit, its number will be the main locus number, 040.1, and all the layers that compose it (the 5 layers identified in this fill) will receive the locus sheets 040.2–040.6. However, the Tell el-Hesi example only deals with stratigraphy, and does not impact find processing.[90]

The post Bronze Age team describes loci (contexts) on a »context/*Behälter*« sheet, designed in the

early 1990s by Ch. Brian Rose, Maureen Basedow and Gianni Ponti. Throughout the entries, the context is only called a *Behälter*. The sheet can be used for deposits (soil loci) and structures (walls). The form contains orientation information including site name, year, Areal, days when excavated, location (that is general area, as in: »sanctuary«) and »U.C.« standing for the University of Cincinnati. Metadata include the numbers of sketch, plans and profiles, notebook pages, and the initials of the trench master. Stratigraphic relationships are described in non-standard terms: *the same as, covering, covered by, cut by,* and *cutting into* are traditional, but *supporting, set up against,* and *bonded to* are more interpretative and go beyond a mere transcription of physical contacts between contexts. The essential matrix of the context (bracketing it between the one above and the one below) is also drawn here. Both structures and deposits are described on the same sheet, which is not the common option among recording systems; generally masonry differs enough to require a different organization of data. Deposits are defined as one of the following: *artificial fill, natural deposit, collapse, fire, surface*, while masonry is defined by ticking the structure box. This involves an element of interpretation that was later to be picked up by Ian Hodder's Çatalhöyük excavations[91] and those of the Iceland Institute of Archaeology for which the context sheets have been designed by a former excavator of Çatalhöyük, Gavin Lucas.[92] *Fire* is an abbreviation for »burnt layer«, and the fact that the recorder is prompted from the very beginning to interpret the deposit is remarkable. The descriptive part of the sheet asks for the Northings and Eastings, and the depths upon discovery together with the depths when excavation was over, entered in boxes labeled NW, NE, SW, SE and C (center). Then the archaeologist describes the deposit in terms of compaction, colour, composition and inclusions, or the structure in terms of materials, size of materials, coursing and bonding materials. The ambiguous term s*tructure,* instead of the straightforward *wall* or *masonry* could be taken to also mean any features; however the categories into which the description of the structure is broken down directly suggest that it actually addresses masonry. A section for additional comments offers room for entering more information about a structure other than a

wall. This form continues on a second page,[93] where most space is dedicated to finds. Two sections deal with the pottery found (*Behälter* number marked down here again for redundancy), where the number of buckets is entered, together with the description of the diagnostic pottery (actually a brief note on the date for the majority of pottery and the latest date), and the type of bones found. The duo pottery-bones resembles, graphically and conceptually, the locus sheets used by the Madaba Plains Project in Jordan.[94] The back of that sheet presents the pottery and the bones found with date, pail, basket, location, and comments in a similar way.

The finds that have not been inventoried (NTBI finds, »not to be inventoried«) are also listed – fragments of iron objects or painted tiles, flint chips, loom weight fragments, and the occasional glass shard. The pottery notebooks from the Agora Excavations are handled in the same manner. The rest of other small finds are listed in the U.C. sheet as extensions ».2«, ».3«, ».4« up to ».15«, and they include, as mentioned above, bone, stone, glass, painted plaster, and so on, together with a variety of small finds, which are described in terms of 3D coordinates, type, and inventory number. The type of find is entered in words, not codified with a number, as it happens, for example, in the 1980 stage of the MoLAS system. In theory, the system can accommodate up to 999 bulk (bone, slag etc.) and small finds.

The Troy context sheet is a powerful recording tool, coherent and flexible. Out of the theoretically endless number of possible entries, its selection has proven viable over almost two decades of work. Other excavations, needless to say, use forms which, although sharing a core of recording requirements, also feature other entries.

In the description of deposits, many excavations use now for colour Munsell readings[95], for soil texture the Ahn scale[96], and for particle size, the Wentworth scale [97], all entered in separate boxes. Special entries are dedicated to the formation processes of deposits by the forms of Italian Soprintendenze, the Volubilis excavations, and the Tell Madaba project. The SEPE project in Egypt asks specifically if the shards are flat-lying or at all angles, and if they have sharp breaks or worn edges. This, as well as the very detailed entries on the sheets of the University of

Durham, attach great importance to formation processes of the archaeological record[98].

Other forms add entries for the volume of the excavated context (SEPE, Dor, Tell el-Hesi); the amount of disturbances (Dor, Iceland Institute of Archaeology); the risk of intrusions (Volubilis, the first series of MoLAS sheets from the 1980s, Sheffield University[99]); the lighting and weather conditions (Oxford Archaeology[100]); the tools used (Reading University, the recent MoLAS sheets, Çatalhöyük); and the pages in the journal where the context is described (Corinth). The Italian Soprintendenze list organic and inorganic components of deposits, Miletus and Essouk (Mali) write down the number of boxes, sacks, and baskets of pottery retrieved, while the SEPE project, Durham University, and Tell Madaba excavations reserve entries for the aspect of the upper and lower boundaries of the units. Yet other details are noted on some forms, for example, the number of the feature of which the context is a part (Athenian Agora and Nienover in Germany), sieving (the Soprintendenze, the Courson Archaeological Mission in Texas, again the Essouk excavations, and the Reykjavik system), and even more reflective notes, as University of Sheffield's entry on the inference potential of the context (scale from 1 to 5), or Gath system's »future work« entry, in which the recorder notes how the excavation strategy was changed by the new discoveries. Depending on the focus of the excavation, pottery sometimes receives considerably more attention. For example, the SEPE project plots all baskets from a context on the sketch on the back of the form. Some entries are indeed very rare on context sheets, although they are perfectly justified, as the entries for *terminus ante quem* and *terminus post quem* on the French forms used by the Lattes unit and the German forms of the University of Göttingen. These are inferred from stratigraphic data, but, as on the Troy sheets, also the latest dates of the pottery are noted. At Tell el-Hesi, the date of the predominant type of pottery is marked with an asterisk. In Sussita, the University of Haifa codifies the types of pottery and finds in 23 boxes (in very small print) of which those appropriate (discovered in that deposit) are ticked. Other forms give a broader image of the excavation of a particular context by opening the forms with a narrative of the excavation pertaining to that deposit

(Athenian Agora, Tell el-Hesi). An entry pertaining to the samples taken has become frequent now, good examples being Çatalhöyük and MoLAS.

The Troy context sheets have entries that are self-explanatory as opposed to a trend in codifying their names (or turning them into graphic symbols), so that only a trained excavator knows what they refer to. The University of Durham has originally managed to condense many dozens of entries into a single sheet, but this has been redesigned it in recent years. American (Crow Canyon), British (Çatalhöyük) and French (Bibracte) systems (and to a lesser extent the Israeli excavations at Dor and the German excavations in Konstanz[101]), have designed detailed catalogues of context and feature types, so that the excavators can enter an *interprétation normalisée* from the thesaurus, and then describe it themselves. The fact that the Troy U.C. form covers two pages allows more room for interpretation than it is generally possible with most British systems (which follow the MoLAS system), except for the cases where additional sheets are accepted (Durham University, Oxford Archaeology).

The trench diaries of the PBA team are actually a succession of pre-printed forms, called day summary sheets, on which the progress of excavation is described daily. They bear the name of the site, the initials U.C., the year, the *Areal*, the location, the date, the number of workmen, and the above sea level height of the dumpy level for that *Datum* format, with the coordinates of the Datum point. Most of the space is given to *Discussion*, in which the story of the day is entered. Such daily summary sheets are also recommended by the *Bayerisches Landesamt für Denkmalpflege*[102], Oxford Archaeology, Göttingen and in academic work.[103] In research excavations at Tell Madaba, such a sheet consists of three major sections – the loci excavated, the description of stratigraphy and the interpretation.

Cross-sections reflect the Post-Bronze Age team's emphasis on a thorough description of the stratigraphy. Since some features will not touch profiles at trench edges, when excavating a large trench or open area it is best to recompose cross-sections on the basis of the evidence retrieved and to attach them to the drawn record as imaginary sections at short intervals; they are invaluable for the intellectual reconstruction of the site. A good grasp of the stratigraphic relationships between all the loci enables the construction of complex Harris matrixes, as the one for the sanctuary area.

In comparison, the Bronze Age system did not resort to cross-sections, although this would have added a greater quantity of details to the profiles. But on the other hand, the BA team inventoried everything discovered with separate find numbers, while the richness of Classical layers made it impossible for the Post-Bronze Age team to inventory all finds coming from up to fifteen trenches at once, and led to storing the random iron nail as bulk finds or collections.

2 Archaeology as Interpretative Destruction

As the next step in recording practices will probably bring about an increase in the interpretative content of the act of recording, as opposed to sheer »description«, as reified in context sheets and other documents, it is important to look back at the origins and trajectory of this debate in contemporary archaeology. This will offer a theoretical framework for understanding the rationale of the changes in the recording system in Troy and elsewhere.

The attempt to totally separate description from interpretation is an indirect consequence of the Cartesian split between subject and object, which had a long-lasting impact on both sciences and humanities. New Archaeology especially has nurtured the conviction that the scientific way of excavating presupposed keeping data clean from theory. Contemporary archaeology has challenged this stance by arguing that no description is pre-interpretative; claiming to keep the two separate amounts to a neo-positivistic contraption for trying to look scientific and objective in a discipline which actually shares many traits with other interpretative humanistic disciplines.

Up to the 1960s, science was conceived as the engine of unstoppable progress. Two major underlying assumptions of the positivist model of science are, as it is generally accepted, the reality of the outside world and the independence of truth from what we think. Corollaries of these postulates are that any part of the world has a unique best description; that

observation is completely separated from theory; that science is cumulative; and that observation and experiments lead to new hypotheses and theories, the latter having a deductive structure.

It is still a debated phenomenon why New Archaeology, which was an attempt to »positivise« archaeology, to turn it into an anthropological inquiry with laws and scientific instruments (perhaps in itself a paradox), took off in an era when the positivist model was ever less accepted in the world of science. The decade that witnessed the publication of the most influential books of New Archaeology, Lewis R. Binford's *Archaeology as Anthropology* (1962) is replete with a Renaissance-like confidence in the power of science. When Carl G. Hempel published his *Aspects of Scientific Explanation* (1965) and his *Philosophy of Natural Sciences* (1966), they were to be enthusiastically taken over by the »new« archaeologists, who grounded in his hypothetic-deductive approach of natural science their own quest for finding testable hypotheses and laws of culture and for applying them to the archaeological record. Interestingly, as Hempel's tenets were eagerly adopted by the New Archaeology, the (logical empirical) positivist conception of science was in fact falling from grace with philosophers. Hempel was indeed not pointing to the future of epistemology, but rather looking back to a model that was not to survive. Harsh criticism was being brought to this model by Karl R. Popper's *Logic of Scientific Discovery* and *Conjectures and Refutations*, Thomas S. Kuhn's *Structure of Scientific Revolutions,* and Feyerabend's *Against Method.*[104] Popper (much in the spirit of David Hume) had been challenging the idea of verifiability of laws, pointing out that to prove a law right (or rather, to prove that a hypothesis has law status), one has to test it in an infinity of instances, therefore such a law will always remain potential; not to say that often the results of testing do not confirm or disconfirm anything whatsoever, but are quite interpretable. For Popper, laws can be proven wrong, but never right; they can be falsified, but not verified. If endless testing were even possible, testing and examination would quickly reach a point of diminishing returns. By the time Imre Lakatos published *The Methodology of Scientific Research Programmes* (1978), New Archaeology was already in decline: the scientific model of archaeology was proving to depend entirely on the personal equation of the archaeologist and no non-trivial laws had ever been systematically tested. Other scrupulous philosophers had cast a critical eye on the hypothetic-deductive method. For Hilary Putnam[105], for example, deduction cannot reach the truth since any premises will always be in doubt themselves. Also, in order to test a theory, most of the times auxiliary statements (AS) have to be introduced to make it testable, and then, besides the theory, the AS can be sources of doubt and flaw. In archaeology one cannot test unless one uses AS, so that, in Putnam's view, not even falsification is possible. The construing of data as theory-laden wrapped up the argument against both verifiability and falsification [106], and this avenue of research had become a cul-de-sac.

According to Kuhn, there are as many sciences as there are scientists; science can achieve its ends in different, noncumulative paradigms (which look non-scientific or metaphysical one to the other), and there can be no logical hierarchy between them as long as they all fulfill the ontological need to know. Indeed, Kuhn, and particularly Feyerabend, saw science as irrational. Observation, and the words expressing it, are in fact theory-laden and depend on one's conception of the world. If the language of science is full of metaphors and anthropomorphism, if knowledge is subjective, then what are observed facts, and how does one distinguish between theories, facts and values? Science is a social process and knowledge has a constitutive social character. All of this held for science in general, but the poignancy of this criticism was particularly felt in humanities.

The modern epistemological debate also shook the foundations of the belief in the possibility of the humanities to set truth as their final goal. Two main arguments have been brought into this discussion. The first is William v. O. Quine's theory of the »indeterminacy of translation«[107], which states that no science can take words as raw data, since words are not a measurable feature of the world. There is, for Quine, no single correct way to objectively interpret a sentence, as the analysis of verbal behavior cannot yield the truth. The second argument goes as follows: investigating society influences and changes it; therefore all observation of the world is actually an observation of the world as modified by our own

observational engagement. In other words, no judgment can be passed over the world as it was *before* the judgment.[108]

How was science to get out of this double predicament? A recourse to Imanuel Kant was here in order, and he was now used to bridge the gap between Cartesian skepticism and the constructivist twists in archaeological theory in the post-Binford era. For Kant, the world is not perceived objectively, but constructed by the observer, whose knowledge is conditioned by their social and political context and whose truth remains provisory.[109] All discussion of objectivity can then be suspended and the accent shifted towards meaning.

Meanwhile, the deductive method was being superseded in science by a different form of logical reasoning, which was induction. The mere fact that inductive reasoning is ampliative, that is, conclusions comprise more information than the premises, reflects a new bias towards the heuristic role of interpretation and imagination in science. While induction has limits – at any time new empiric evidence can contradict the proposed conclusion – it is a fine instrument in grasping the subtleties of a complex historical reality. Of the several types of induction (statistical, analogical, and so on), the most promising was *inference to the best explanation*,[110] an old favorite of the pragmatic philosophers like Charles S. Peirce and John Dewey, then reassessed by Gilbert Harman,[111] and more recently by Peter Lipton (1991). Inference to the best explanation is actually a creative process for generating hypotheses. It establishes the truth of a hypothesis from the fact that it best explains all available proof and data. Once the truth was thus equated with the best explanation, it remained to be defined what a best explanation was.

The demise of positivism after Feyerabend's *Against Method* found Ian Hodder and his young Cambridge team publishing what was to be the cornerstone of post-processualist archaeology, namely *Symbolic and Structural Archaeology*,[112] the main merit of which was to have understood precisely the need for a thoroughly new type of explanation in archaeology.[113] However, Hodder hesitated to enlist help from philosophers, possibly because of the perceived failure of the joint venture between the »new« archaeologists and Hempel. However, von Wright's

work could have offered here another basis of research; he had worked on »intentional explanations,« which account for the action of agents by reference to their ideas and incentives, with additional later work on »understanding explanations«, which in archaeology would translate as a plea for intelligibility and coherence.[114]

In the quest for the best explanation, a number of criteria have been put forward. The first requirement for a candidate »best explanation« is »empirical broadness«[115], that is, its capacity to address a great quantity and a wide variety of observations or (empirical) evidence, to explain many of them, to minimize contradictions, to harness multiple lines of evidence in the final proof, and to be applicable again for similar situations or phenomena.

This kind of reasoning introduces the notion of foil[116]. A problem with causal explanation is the possibility of infinite regression: why A? because B; why B then? because C, and so on. Incidentally, this kind of causal explanation does not take into account the fact that at stake here is not the cause, but the meaning. To avoid this regression, one can particularize the question asked by means of a foil. For example, not to ask why there is so much lithic debitage in this part of the site, but why is there much lithic debitage there *and not elsewhere*, or instead of it *being evenly spread*. Thus, the foil serves to focus the explanation, if of course, the foil and the question asked are mutually exclusive (not as in, for example, »why is there a basilica on the necropolis hill instead of a forum in the city«). The more foils the explanation has and the more explicit they are, the more valuable it is. Quine and J. S. Ullian, in *The Web of Belief*[117], *require from an explanation* modesty, *that is, not to try to explain everything to avoid dissolving into sweeping generalities;* conservatism, *not to break without a serious reason with what is already (thought to be) known;* simplicity, *to resort to the minimum number of entities and interactions (»Ockham's razor«); and* refutability, *to be formulated in such a manner that it can be proven wrong. Lars Fogelin*[118] asks the explanation to offer *a way of correcting the possible bias*, while Hodder[119] looks for *internal and external coherence, fruitfulness,* and *opening up of new perspectives*. The director of Çatalhöyük excavations also introduced into archaeology the philosophical concept of the hermeneutic spiral. This requires an ex-

planation to be offered after a conscious harmonizing of the investigator's context with the context of the investigated; that is, after moving back and forth between identity and alterity with the permanent modification of the whole, a sort of *Einfühlung* with the past. A simple way to formulate this is that interpretation creates data by changing patterns of data retrieval, which change interpretation, which change data again. It is argued here that such explanations can be offered in archaeology, and must be offered in some form already while excavating. Given how much archaeology is in fact teamwork, one may also add *intersubjective agreement* as a final requirement for a successful explanation.

It follows from the above that explanation is not the unique solution to a mathematical equation, obtainable with an algorithm beyond dispute. It is rather a multifaceted, creative process of empathy with past contexts meant to project today a coherent order of events and a consistent line of reasoning of past actors; its concrete result is a best an explanatory narrative. This exists only within the continuum description-interpretation-explanation. It is hard not to turn the analysis of this continuum into a language problem or into a skirmish of vacuous definitions. It will be worth remembering at this point the founding myth of new archaeology: *archaeology is anthropology, or it is nothing*. The distinction made between *thin description* and *thick description* in Clifford Geertz's famous *Interpretation of Cultures120* is meant to state anthropologically that description proper can only mean going beyond the obvious and the contingent into context and culture. By this »thick description« Geertz means providing an explanation. Eugene J. Meehan's social science approach has grasped this connection from a formal point of view. To Meehan, explanation is a dynamic description, involving interrelated sets of variables that express regular connections among phenomena121. But it should be clearly stated, as this has striking archaeological implications, that description is not possible in the absence of understanding; the key point is that one cannot describe, unless one has understood, that is, unless one already has an explanation. The evidence of the impossibility of description of the art object in the absence of interpretive categories has long been accepted in art history. For Eugenio d'Ors, one cannot see unless one

understands, and for Ernst H. Gombrich, one cannot describe art without using art criticism.[122]

Things are not different in archaeology. The number of attributes of any object (or process) in need of description is infinite; one can »zoom in« forever. On this account, a complete description is impossible. The describers must choose the required minimum, according to the goals and limits of their investigation, cultural background, temperament, and technical constraints. Description can only be a function of aim. Therefore, no two descriptions of a given »thing« will be alike. The record will be a selection and, as any selection, will reflect the professional knowledge, the acuity, and the taste and the mood of the recorder. In this way, the record is creative. Archaeology, though often considered destructive, can thus be re-cast as constructive, with the meaning that archaeologists derive added value from archaeological deposits as they remove them.

Indeed, in the past decade, the philosophy of archaeological remains as a »resource« seemed wrong; according to Gavin Lucas,[123] the sheer presence of the remains cannot be more important than their significance for us. In his view, archaeologists constitute the remains through their engagement with them, and thus fieldwork is a materializing practice that brings forth an archive not as a copy, but as a metaphor of the site. Lucas built on Linda E. Patrik's philosophical work[124] which showed that the archaeological record is both physical, fossil, passive, evidence frozen in the past, and textual, a sum of material symbols actively reconstituted in the present, In the irreducible contradictions between the two models actually lies the living force of archaeology as a discipline. The theorists behind one of the most influential excavations in Britain, the 40ha rescue excavation at Heathrow T5, have attempted to resolve these contradictions in practice by using a recording system where some interpretations are simply deemed objective. Gill Andrews, John C. Barrett and John S. C. Lewis[125] stated that historical interpretation must occur on-site, during excavation and recording, and that the deferral of interpretation to the post-excavation stages can in no way be condoned. Quite simply, to try to record the archaeological evidence and the excavation process in an objective, descriptive way from which the human observer has been eliminated, and then to

use this record to produce interpretations about the complex life of past collectivities is nothing short of paradoxical[126]. The full Framework Database resulting from the excavations ahead of the development of Britain's major airport was made available on-line to the public; the recording procedures are effectively embedded in the results. Hodder's worries that the recording process can come to shape and direct the excavation process[127] are justified if context sheets, for example, standardize interpretation in the Procrustean bed of descriptions, and in rigid dichotomies. Among field archaeologists, there is a suspicion that on some excavations, computers do not serve archaeology any longer, but rather the other way round. On the other hand, as Hodder pointed out, one needs to interpret the data, but how do we record these interpretations so that we can effectively use computerized searches with a small number of keywords? Several fault lines are apparent in the act of recording that cannot be easily ironed out. To summarize, description cannot be separated from interpretation, and both are indispensable to archaeological explanation. An understanding of this fact is a prerequisite for a more lucid way of doing archaeology. Our recording systems must somehow reflect this understanding more clearly, whether the future belongs to context sheet driven databases or paperless archaeology with digital plans, laser scanning and handheld computers.

Notes

1   By recording system I mean a set of coherent and standardized norms aimed at thoroughly describing the progress of the excavation and at making possible both the understanding of the site's history and its publication. However, I focus on the verbal aspect of recording, consisting mainly of trench diaries and context sheets, and not on photography, drawings find cataloging, or Harris matrixes. I use the words context and stratigraphic unit interchangeably for any occurrence in the archaeological record which can be correlated with a single event in the history of the site. By feature I mean any cluster of contexts that builds up a coherent morphological or functional whole.

2   Shanks – McGuire 1996.

3   Allen 1999, 76–79.

4   Silver 2004; Silver 2007.

5   Hoare 1812, 254.

6   Allen 1999, 119 fig. 25; 138 fig. 27.

7   Daniel 1975, 45.

8   Allen 1999; Easton 1991.

9   Galles 1865.

10   E. g. Mariette 1882, published by Gaston Maspero after Mariette's manuscript about his excavations in 1850–1854.

11   Mariette – Mauricett 1882, 71.

12   Fiorelli 1873.

13   For the context of Schliemann's excavations, Fitton 1995; best general assessments of Schliemann are Calder – Cobet 1990 and Korres 1990.

14   Blegen et al. 1950, 5.

15   Pitt Rivers 1887.

16   See Runnels 2002, 59: »these are the best reports of his or any age«.

17   Unless we decide to give the honour to Fiorelli's *Scavi di Pompeii* from 1873, or Conze's description of his digs in Samothrake 1875, where he makes excellent use of photos (including photos of the modern village, and, as later Dörpfeld 1895, his workmen).

None of them have section drawings. Some of Schliemann's material, it must be noted, has not been published: the pottery from Mycenae and Orchomenos, notably, as well as the results of the lesser campaigns from Motye, Nestor's cave, Marathon and Thermopylae.

18 Easton 1982. They are all in the Gennadius Library of the American School in Athens, and partly accessible online: <http://www.ascsa.edu.gr/index.php/archives/heinrich-schliemann-finding-aid> (accessed 10.04.2012).

19 Traill 1993, 209.

20 Schliemann 1874, pl. 116. Easton 1990 has toiled to reconstruct the original appearance of the mound.

21 Schliemann's early decision that it was Troy II which had seen the events in Iliad was wrong; he was able to realize this and renounce the creed that he had just publicized so widely and successfully. In 1890, when Mycenaean pottery was found in Troy VI, Schliemann (then 68 years old), commendably proceeded to reconsider all his results in this new light and devised a new plan to tackle the »new« Homeric settlement; he died later that year. Easton 1994a.

22 Calder – Traill 1985, cf. Traill 1993 and Traill 1995, *contra* Easton 1997/98.

23 The authenticity of the mask was doubted by Calder – Traill 1985, and defended by Bloedow 1989 et al. and Demakopoulou 1999.

24 Traill 1984, *contra* Easton 1994b.

25 Easton 1994b; Easton 1998.

26 Lucas 2001a, 24.

27 Goessler 1951; Korfmann 1993.

28 Goessler 1951, 66; the original citation is: Ernst Meyer in: Bericht des VI. Internationalen Kongress für Archäologie Berlin 1939 (Berlin 1940) 197.

29 Blegen et al. 1950, 21.

30 Petrie 1890; the identification with Lachish was later cancelled.

31 Petrie 1904, 48–59.

32 Dörpfeld 1902.

33 Kluwe 1999.

34 Blegen et al. 1950, 3.

35 Droop 1915,13, 17.

36 Mention is also made of an excavation day book in which the excavation director can enter on a weekly basis sic) the general trends of the work and the broad conclusions; these requirements, which add to the difficulties of the job, are auspicious since

»writing these notes compels one to understand what has been excavated and clarify ambiguities on the spot«. As one of the fundamental qualities of an archaeologist he interestingly lists the »power over words… writing concisely a rigidly accurate yet lucid report« – Droop 1915, 27–28, 35, 51.

37 Reisner's method was outlined in Reisner 1924, 34–46. His associate Fisher later used for each excavated room a progress card, printed on white stock 5×8 inches, where highlights of the work in that room were entered daily.

38 Jéquier 1940, 101. Along the same lines Office International des Musées 1939, 93 and Bersu 1977, 26 (written around 1940).

39 Badè 1934, 25 fig. 26, where *shekef* means shards of pottery.

40 du Mesnil du Buisson 1934, 213–229. He gives p. 217 as example one of his *fiches* form April 3, 1929, for a plastered floor, which has all characteristics of a locus card, except that it is not pre-printed. Locus sheets in different colours are later advocated by Herr and Christopherson 1998.

41 Blegen et al. 1950, 21. The usage of buckets with wooden tags picks up on a tradition also reflected in the excavations in Gath, and of course in the latest excavations in Troy.

42 Archived at the Department of Classics, University of Cincinnati.

43 Cox notebook 1932.

44 Heurtley's notebook 1932, vol. vol. 1, p. 11: »strong hurricane blowing all morning«.

45 Burke 1992.

46 Rawson kept »a continuous record in motion pictures of the principal activities from the beginning to the end of the excavations. The indoor photography was assigned to J. L. Caskey«. Blegen et al. 1950, 21.

47 Mansfeld 2001.

48 Heizer 1953.

49 Kenyon 1960; Kenyon 1965.

50 Blakely – Toombs 1980.

51 Office International des Musées 1939.

52 Also see chapters ten, »l'aménagement des champs de fouilles au profit de la recherche et de l'éducation du public«, and thirteen, »principes d'organisation des services archéologiques«.

53 Ibid. 108.

54 The Roman-Germanic Commission (RGK) at Frankfurt am Main is a department of the DAI.

55 Bersu 1977.

56 Salin 1946.

57 »Le journal des fouilles […] est le document essentiel qui doit permettre de tirer du gîte tous les enseignements qu'il comporte [… il faut] tout voir et tout noter immédiatement«, Salin 1946 53–54.

58 Scheurer – Lablotier 1914.

59 Wheeler 1947.

60 Biddle – Kjølbye-Biddle 1969.

61 Harris 1979.

62 Westman 1994.

63 Lucas 2001a, 58; Wilkinson 1992.

64 Parise Badoni – Giove 1984.

65 Which is generally not the case; the recording forms of most excavations are unfortunately never published, although in recent years some have been made available online.

66 Bats et al. 1986.

67 Paris 2004.

68 Dever – Lance 1978; Blakely – Toombs 1980.

69 Blakely – Toombs 1980, 41–42.

70 Hachmann 1969.

71 Hachmann 1969, 84.

72 Korfmann et al. 1994, 21; cf. »strikte Trennung von Dokumentation und Interpretation«, Weiler 1994.

73 Context sheets themselves are rarely bilingual, as in Essouk (Mali), excavations Sam Nixon, University College London (English/French), or those used by the Israel Antiquities Authority (Hebrew/English).

74 Although this remains a find-driven system, the name *Behälter* does not carry so much the connotations of discovery as German systems in general that use the *Befund* as the basic unit – such as Miletus, University of Göttingen excavations in Nienover, Bayerisches Landesamt für Denkmalpflege, or Weiler 1994. The *Behälter* system appears to be related to the traditional usage on Oriental (and later Aegean) excavations of the basket system, where the name of the container was kept in the recording parlance in e. g., Gath, Tell el-Hesi, the Agora excavations, University of Toronto's SEPE project in Egypt and sometimes even in local forms, *zembil* in Corinth, *gufah* in Jordan. The use of »baskets« probably originated with Badè's excavations at Tell en-Nasbeh in the 20s and 30s (Badè 1934), but the concept did not quite take on its present significance until Dever's excavations in Tell Gezer (1966–1972) and Yohanan Aharoni's excavations in Beer-Sheba (1969–1974). In recent years it was still widely used in the Near East, especially on Israeli sites, such as Tell es-Safi, Dor, Tel Batash, Tel Halif; occasionally the name may vary, but the idea remains the same (»pail« instead of basket in Tell el-Hesi in the Palestine or in Tell Madaba, Jordan). Excavations in Greece also employ this concept, whether in the same manner as in Sardis (e. g. in the Athenian Agora), or with different assumptions (e.g. in Corinth, where the basket is the main unit of stratigraphy and is often called, as in the excavations in Knossos, with its local name, *zembil*).

75 As has Ralf Becks, but see esp. Jablonka 2000.

76 Small finds are always brought from trenches with, apart from their own inventory number, the number of the *Behälter* of provenience.

77 In the notebook used in Corinth, baskets are also described with the help of a stamp. In Kamid el-Lod, stamps have been designed for application on plans and profiles in order to immediately produce a tiny table inscribed with site name and year of the campaign, number of plan (or profile) the scale, the date, and the name of the drawer. These stamps have also been imported to Troy.

78 In Gath, lists not only of loci, but also of baskets (Troy's *Eimer*) are kept. In Corinth, if a deposit yields more pottery than one basket can carry, the basket number stays the same with the addition of a »b«, a »c« etc. for any new *zembil*. All references to Gath and Corinth in this article are based on Maeir – Shai 2010 and Sanders et al. 2002 respectively.

79 Westman 1994.

80 At Tell Madaba, weekly and bi-weekly reports are attached to the diary.

81 The Troy system also uses forms for the analytical record of pottery; comparable examples have been in use in Tell el-Hesi (Israel), Selinunt (Italy), and Tebilla (Egypt).

82 Crow Canyon Center 2001.

83 Korfmann et al. 1994, 24.

84 On the same Madaba form, in the entry »tendencies«, the archaeologist assesses (so the excavation manual) »the aims of the builders as they built the wall and as the occupants used it«, but the box cannot accommodate more than five words in capitals. Herr – Christopherson 1998), cf. a revised manual at <http://www.utoronto.ca/nmc/Tell%20Madaba%20Materials/Tell%20Madaba%20Excavation%20Manual.pdf> (accessed 10.04.2012).

85 Stephan 2010.

86 For Lattara, Bats et al. 1986. The Volubilis system has not been published yet and all references to it stem from the author's work there in 2004 (director: Elizabeth Fentress).

87 Antecedents in Parise Badoni – Giove 1984 and Parenti 1985; cf. Mannoni 1975. Probably the most elaborate Italian USM is de the version for Rome's University La Sapienza, cf. DeMinicis 1988.

88 Jablonka 2000.

89 Blakely – Toombs 1980.

90 Another type of extensions used in the Levant are notably the »Point One« (.1) and »Point P« (.P) loci, concepts introduced by D. Lance in 1967 and refined by A. Seger in 1996 and used only in connection with a surface locus. A »Point One« locus contains the first meaningful layer, no more than 10 cm deep, under a living surface as a control unit. As a »Point P« locus one collects the pottery that is found smashed in situ on the surface.

91 Hodder 2000.

92 Lucas 2003. The first entries on these context sheets are »interpretive categories«, respectively »interpretation«. Tell el-Hesi (Blakely – Toombs 1980), the Agora Excavations, and the ARK databases (Eve – Hunt 2008) also promote alternative explanations on a strong interpretive background. Durham University contrast on their sheets, just as the previously mentioned Nienover excavations in Germany, the interpretation before excavation and the one in the post-excavation.

93 While rescue excavations keep this on one page, some research excavations do no refrain from expanding it (Sussita, four pages!), while in the databases the entries can be even longer (Çatalhöyük, Portus ARK database).

94 Herr – Christopherson 1998.

95 Not in Corinth; there Guy Sanders's recording system shuns the use of Munsell charts as unprofitable and recommends to keep things simple by expressing the colour of a sediment (always moist) in terms of: 1. colour: green, brown, white, grey, red, black, yellow, pink; 2. hue: greenish, brownish, grayish, reddish, yellowish, pinkish; and 3. modifier: light, dark, very dark.

96 E. g. Essouk excavations in Mali.

97 Recommended by Martha Joukowsky 1986 for the Aphrodisias excavations.

98 According to an internal unpublished document of the university, on Durham sheets, some of the following questions are codified as symbols: Is the surface of the context a clearly defined horizon, or a transition; is it horizontal or uneven? Is the deposit a laminate? Has it been exposed to weathering? Was it created in one episode or accumulated? Was it deposited by wind or water? The finds bar asks for identifying primary refuse, secondary refuse, and de facto refuse.

99 Chadwick 1997.

100 Wilkinson 1992.

101 Bibby 1993, 110.

102 Planck 1999.

103 E. g. Weiler 1994.

104 Popper 1959 (after a German original from 1934); Popper 1963; Kuhn 1962; Feyerabend 1975.

105 Putnam 1981.

106 Hodder 1999.

107 Quine 1960.

108 It will be noted how this affects the belief that archaeology is an unrepeatable experiment. First, all experiments in social sciences are un-repeatable; second, the archaeological experiment is so not only because the site is unrepeatable, but also because the excavator (his/her ontological configuration) is, too.

109 Rescher 2000, 133.

110 Fogelin 2007.

111 Harman 1965.

112 Hodder 1982.

113 For theory of explanation imported in archaeology see Watson et al. 1971 and Gibbon 1989.

114 von Wright 1985.

115 Fogelin 2007.

116 Lipton 1991.

117 Quine – Ullian 1978.

118 Fogelin 2007.

119 Hodder 1999.

120 Geertz 1973.

121 Meehan 1968.

122 D'Ors 1954; Gombrich 1966.

123 Lucas 2001b.

124 Patrik 1985.

125 Andrews et al. 2000.

126 Also Pavel 2011, 123–132.

127 Hodder 1999, 31

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