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Leave No Stone Unturned: Stein and Williamson's Surveys Compared

The history of archaeological research in Iran is patchy. Work by scholars from outside the country has been concentrated within particular periods coinciding with times of eased international relations; other periods have been marked by a virtual hiatus in archaeological activity. During the main windows of opportunity, particularly the late 1920s and 1930s and the mid-1960s to the late 1970s, information on most periods from the Palaeolithic through to the Islamic era progressed quickly, although the emphasis of the research heavily favoured particular epochs, especially the Neolithic and Iron Age.[1] Although there are a number of important works available to international scholarship from these times, the virtual absence of archaeological fieldwork in Iran for the remaining part of the twentieth century means that the state of knowledge for this area lags far behind that of many of the neighbouring countries, despite its prominent geographical and historical position. The history of large area survey in Iran, particularly in the south, is even more limited and can be summarized essentially by the work of two individuals: Sir Marc Aurel Stein (1862-1943) and Andrew George Williamson (1945-75).[2] Over thirty years separate the end of Stein's investigations in Iran from 1931-37 and the beginning of Williamson's from 1968-1971, and many of the differences between the approaches adopted by these scholars reflect the development of the discipline over the intervening period. At the same time, there are important differences in the character and life histories of the individuals concerned as well as some points of similarity. It is these points of comparison, in the questions that they attempted to address and their methodology, that form the subject of the discussion here.

Approach

From the outset the work of Andrew Williamson and Sir Aurel Stein appear to be very different. The latter began his work in Iran at the age of seventy after a very long and illustrious career employed by the Indian Civil Service as an archaeological surveyor and explorer. By the time he made his late arrival on the Iranian archaeological scene the list of his achievements was already great and included huge expeditions through Central Asia and a whole host of smaller explorations covering the northern and western borders of what was then India. For Stein, the work he embarked on in Iran was essentially an extension of his former activities, a way of tracing the western limits of South Asian culture and of looking for the links between the big discovery of his time: the Indus Valley civilization and those already known from Mesopotamia.[3] From the reports Stein published on his work in Iran,[4] one gets a sense that he may never really have formulated key questions specific to the country or region itself, as he was able to do with Central Asia and India. Instead, the description that Mirsky gives of Stein as a 'historical topographer', especially in his later years, appears to be accurate here.[5] What he was able to achieve with his work in Iran was the familiar perceptive blend of historical, archaeological and geographical observations, presented in a well-organized but essentially narrative format that linked known aspects of history to the relict remains in the landscape. The point where his work in this area reaches its greatest sophistication is in his ability to map out the cultural scheme for the areas he visited, especially for prehistoric periods, but this rarely constituted a research question in its own right, rather it was an ability he inherited from the breadth of his previous experiences.

Andrew Williamson's starting point was very different. He was at the very beginning of his career when he arrived in Iran as a doctorate student from Oxford. He brought with him a small amount of experience gained from working on a number of medieval British excavations, including Wharram Percy, as well as a training in classical and Byzantine history from university. His knowledge of Iranian archaeology must have been gained largely while he worked in the field, first on some of the main excavations of the time, including Tepe Nush-i-Jan, Shahr-i Qumis, Tepe Yahya and Siraf, and after that through the course of his own research. The questions that Williamson formulated and attempted to address were very much centred on the region of southern Iran. As for Stein, the historical setting was important to Williamson, however he sought to do more than set this information within a geographical context through the archaeological remains. His aim was to define questions on the basis of the historical information, which he could then use as a starting point, which he could then build upon or test using the archaeological data. For example, it is clear from medieval records that a whole range of perishable commodities such as textiles, spices and perfumes were traded through the Indian Ocean, but there is little indication of their quantity or relative importance to the local economy, or the changes in these factors through the course of time. While acknowledging that ceramics could not be equated directly with other commodities, the durability of the ceramic material and the fact that it was traded in a number of different ways dependent upon socio-economic, political and geographic factors, meant that Williamson was able to use his survey data directly to support or refute the anecdotal information on trade patterns derived from written accounts.[6] Most importantly, he was able to use the survey data to gain an idea of any changes in the rate and scale of trade through time.

Survey Methodology

Rather like his outlook on the archaeology of Iran, Stein's survey methodology was one that had been developed and refined through the course of his long career. The success it had brought him in the past meant that it could not be separated from Stein's personal sense of confidence and pride. This did not mean that his techniques were entirely closed to modification and review; indeed, it was in Iran that Stein first attempted to make use of motor transport. However, his strategy was, essentially, one that was developed in Central Asia. It involved the use of a large team, including a surveyor, mapmaker, cook, military escort, local guides and animal handlers, backed up by a train of pack animals to carry the necessary supplies and finds picked up along the way. Progress was made on foot over the course of several months, and the whole survey took place over a number of years. The route taken was essentially linear, following the main lines of communication open at the time or known from antiquity, though deviations were made to investigate finds or other remains as reported by those encountered along the way. At the time foreign archaeologists still had the liberty, though carefully watched, to dig into sites as they saw fit. For Stein, excavation was another form of sampling; it was more detailed than survey work, but was undertaken as quickly as possible with as many people as he could muster from the local population. In some cases, he was able to enlist a large local workforce capable of exposing an extensive area. Although there was clearly an elaborate degree of planning in Stein's work, especially of logistics, the archaeological approach was essentially opportunistic.

Although Andrew Williamson's methodology was, by comparison to modern day practice, still antiquated, he was obviously affected by the changes in the discipline that took place in the middle decades of the twentieth century, when archaeology became concerned not only with documenting the qualitative aspects of the evidence, but also with finding ways to quantify aspects of change in the material record. In many ways, Williamson's methodology was little changed from that of Stein's day. His approach to site identification was similar to Stein's in that he followed the main lines of communication in a linear fashion, using whatever information he could gather from historical sources, accounts from more recent explorers and his own intuition, in order to identify the upstanding remains of archaeological sites, or, more occasionally, the remains that were visible from the scatters of cultural débris on the ground. Although no sources have come to light that provide a detailed schedule for the timetabling of Williamson's surveys, it is clear that, like Stein, he was in the field for several months at a time. Although Williamson and Stein probably spent a similar length of time in the field each season, overall we see that Williamson's surveys were conducted over far fewer years. Williamson's survey area was also smaller. At the same time, the coverage was probably more detailed, partly because of the smaller area covered but also because of the increased speed provided by motor transport. This allowed him to revisit many of the important sites he had identified and to double-check some of the more important areas of the survey. Where Williamson's method differs substantially from Stein's is in the slimming down of resources invested in the work itself. Instead of travelling with a whole caravan of retainers and supplies, Williamson was able to work either on his own or with one other helper/companion, travelling by jeep or motorbike over considerable distances, carrying all the necessary materials and supplies.[7]

Another important difference regards the way in which Williamson chose to deal with the sites he visited. In some respects it was less detailed than Stein's approach: he rarely produced maps and those he did produce were in sketch-form only. Furthermore, with the exception of two sites selected for further investigation, he did not open up test trenches.[8] However, the way in which Williamson chose to sample demonstrates his more sophisticated approach to pottery. Although Stein and Williamson both made use of the concept of the period type fossil,[9] a primary focus of Williamson's research was his attempt to work simultaneously on the classification of material, through studying survey assemblages, and the dating of recognised groups, through cross reference to diagnostics recovered from excavated contexts. Survey work allowed him to test and review continuously the dating and definition of these groups by looking at the composition of individual site assemblages, in particular the co-occurrence of particular wares. Apart from attempting to date whole sites on the basis of the ceramic material, Williamson was also able to use the classification of material to trace out intra-site differences in the distribution of groups by period, thus arriving at a more detailed picture of particular site histories.[10] Another important focus of his research was the regional distribution of wares in relation to the known production centres or countries of origin. Using this data he was able to build up models of exchange networks or settlement patterns in different areas and to demonstrate how these may have transformed over time.[11] In turn these patterns, founded on archaeological evidence, could be used to inform ideas of socio-economic or political change that are otherwise only suggested by the historical record. Thus, instead of merely using the pottery to produce a cultural map of the past, Williamson was able to follow the example being set by Adams in Iraq, where archaeological data was being used to gain an understanding of the rate and scale of large scale processes through time.[12]

Comparison of the collections

Since the initial post fieldwork analysis of the Sasanian and Islamic pottery collections recovered by Stein during his archaeological expeditions,[13] there has been little attempt to synthesize the collection. One of the main problems we face is that the collection is split between museums in the UK, USA and Iran, all of which have different strategies for dealing with sherd material. As part of a recent Sackler Fellowship at the British Museum (April-September 2003),[14] I made a start on the process of reviewing this material by updating the classification and dating for all the Sasanian and Islamic pottery in the collection.[15] This material is only a small sub-section of the entire Stein assemblage in the Museum; and represents around 2,000 sherds out of a total of around 13,000, the greatest bulk of which come from prehistoric periods. Almost all of the later sub-section of the

assemblage can be related directly to the detailed classification of southern Iranian material that has been developed through research on the Williamson Collection.[16] To date, study of this Collection has been concentrated on the component that was brought to the UK and deposited in the Ashmolean Museum, Oxford. This amounts to about 17,000 pieces, or one third of the complete survey assemblage. An outline of the research into the Williamson Collection has been provided elsewhere.[17] In time, this research will lead to a full publication of the catalogue and analysis. The classification of the Williamson Collection, which will be dealt with more fully in the catalogue, has been developed both through the careful sub-division of the assemblage itself and through reference to the excavated, well dated and fully quantified sequences from Jazirat al-Hulayla, Kush and al-Mataf in Ras al-Khaimah in the United Arab Emirates (UAE), which were supported by field surveys in that area.[18] Geographically, Ras al-Khaimah is separated from Iran by a narrow stretch of sea, the Straits of Hormuz, and in most periods it appears to fall within the same ceramic distribution zone. Where there are points of departure in our understanding of the pottery that circulated along the northern and southern shores of the Gulf, work on the Williamson Collection, which contains a good cross section of inland and coastal material, has helped to refine the previous classification developed in the UAE With the enhanced classification we now have the potential to define material from this region more clearly, and to date it more closely. It is now possible to apply this new framework to the ceramic material in the Stein Collection and then to integrate the results back into a wider analysis of survey evidence from this area.

As stated above, the surveys conducted by Stein and Williamson are the only two large area surveys of this region. One can point to a number of smaller surveys mostly covering single valley systems;[19] the Firuzabad area;[20] the Borazjan plain;[21] the Bardsir and Lalehzar Valleys,[22] later extended to an area of 250 m² along the Chari and Ghubayra rivers in the eastern Bardsir plain;[23] the Sabzevaran valley;[24] the Shah Maran-Daulatabad basin,[25] and the survey combined with trial excavations on the island of Hormuz.[26] Collectively, these individual projects should be able to provide a detailed picture for a wide range of well defined area types, which will be extremely useful both for checking the results derived from a wider survey and for looking more closely at regional variability. The advantage of more extensive survey is that, although the level of resolution may not be as high, the survey should allow one to link the results from smaller surveys together and to gain an overview of processes on a much wider scale, such as the interaction between coastal and inland zones, or the differences affecting separate regions of the country. As the Stein and Williamson surveys are the only two that have covered the Iranian shores of the Gulf, they are particularly important in that they offer the potential to link up this data with the more extensive body of research available from the southern shores of the Gulf and Mesopotamia.[27] This remains an important goal and something that will need to be undertaken in order to gain a comprehensive view of interaction and change across the Gulf region, an area that in many respects represents a coherent, though often divisible, entity.

Much can be said about the results of the analysis of the archaeological information contained within the Stein and Williamson surveys. However, my aim here is to compare the work of the two individuals, in order to test the credibility of the results and also to bring new light to the character and work of Stein and Williamson.

Martha Prickett, who accompanied Williamson during most of his field survey, describes their sampling procedure as follows:

> The only sherds retained were those considered unusual or potentially important for illustration. Therefore, the sherd collections are not representative of the general range of ceramics on [the ground].[28]

This description does not inspire one with confidence as to the credibility of the sample, yet the problem may not be as great as we fear, especially for those sites which are represented by a limited range of periods of occupation. One way to test the credibility of the selection of samples and the relationship of the sample to the actual composition of pottery on the sites, is to compare the results from separate surveys, thereby providing a source of independent verification. This is made possible by the fact that there are a number of sites that were visited by both Stein and Williamson. This overlap has occurred partly because of the limited number of major sites within the area they both covered. It is also clear that Williamson drew directly on the information collected by Stein, and in many cases would have made a deliberate decision to revisit the same locations. Whether that itself has a bearing on any comparison of the results is difficult to judge. The fact that Williamson referred to Stein's work raises the possibility that the existing site description may have influenced Williamson's own choice sample, but this appears fairly unlikely. There is no obvious reason why Williamson would want to alter his collection strategy in the light of that information. The list of sites given below (**Table 1**) includes a selection of those visited by Stein and Williamson. There is no guarantee that all the relevant sites have been identified, but for the present purposes only a sample is required.

Table 1. Sites visited by Stein and Williamson

Site Name	Williamson Site Ref.	Stein Site Ref.	Williamson Sherd Qnt.	Stein Sherd Qnt.
Bijnabad	P5	Bij	68	5
Gust-i Burjan	P6A/B	Gus	149	8
Qal'a-i Kuchick	P7	-	82	0
Kunar Sandal	P8-9	Kuns	72	2
Tump-i Husainabad	P10	-	4	0
Tump-i Kharg	P13-14	Kar/Khar	96	10
Tump-i Namurdi	P15-16	Sau	108	1
Tump-i Hazar Mardi	P17	Haz	80	20
Tump-i Surkh	P18N/S	Sur/Rud	76	6
Tump-i Surkh Qalat	P19	Kal	76	11?
Tepe Mauru	Q17-19	-	239	0
Tappa-i-Sultan Miri	Q23E/W	S Miri	0	1
Hissar	Q28-31	D Shor	223	5
Kung	A17-20	Kung	299	19
Borogla	D19	-	5	0
Shiu/Shiwu	D15-16,29	-	29	0
Ziarat	D18	-	115	0
Qalatu	D17	-	48	0
Siraf	F10	Tah	36	73

There are several sites where either one or other of the assemblages are not represented in the collections that have been available for this study. Furthermore, for a number of sites the assemblage from the Stein Collection is too small to make a reasonable comparison. As a result, a small group of sites have been selected, the criteria for selection being a minimum of eight sherds from the same site represented in each collection.

In order to compare the assemblages from the two surveys all of the recognized ceramic classes have been assigned to a chronological period (**Table 2**). Using the database of sherd records that has been created for the Williamson and Stein Collections, the numbers of sherds from each period from the selected sites have been counted. Comparison of the plots from the Stein and Williamson data should then give an indication of the degree of similarity or difference in the periods represented by the two different assemblages for each site. There is a complication in this process, namely in the attribution of specific periods to the recognized classes in the collection. These designations warrant a lengthy discussion, however, for the purposes of this paper, the process can only be outlined briefly. The phasing of the material comes from the seriation tables produced from the Kush and al-Mataf excavations.[29] One of the problems faced with fitting the material into a single set of chronological periods is that the resolution of dating for different wares is not a constant factor. For some groups of material it may be possible to assign them to a two hundred year time frame, whereas for others one can only narrow them down as far as a general era, such as Partho-Sasanian or Later Islamic. The decision had to be made whether to include as much of the sample as possible and use very broad periods, or to omit material but keep the periods more closely defined. After some consideration the latter option was chosen in order to ensure that the points of comparison or contrast between the two assemblages could be identified with a meaningful level of precision.

Table 2. Ceramic periods dated through reference to the Kush/al-Mataf sequences

Period	General Time Period	Date
1	Pre Parthian	< 1st c. BC
2	Partho-Sasanian	1st c. BC–7th c. AD
3	Sasanian	3rd c.–6th c.
4	Late Sasanian–Early Islamic	7th c.–9th c.
5	Samarra Horizon	9th c.–10th c.
6	Middle Islamic 1	10th c.–11th c.
7	Middle Islamic 2	11th c.–13th c.
8	Middle Islamic 3	13th c.–14th c.
9	Late Islamic 1	14th c.–16th c.
10	Late Islamic 2	16th c.–18th c.
11	Late Islamic General	14th c.–19th c.
12	Recent	18th c.–19th c.

Results

From the list of nineteen sites visited by Stein and Williamson, six were selected for comparison. From these, the site of Tump-i Surkh Qalat had to be dropped because the site abbreviation used by Stein was duplicated in other surveys and it was not possible to guarantee that sherds with this designation actually came from this site. The rest of the sample is presented individually site by site (**Fig. 1**). It should be borne in mind that most of the material that could not be assigned to a period and which was therefore dropped from the analysis are coarse unglazed wares, or some other poorly defined wares. In due course it may be possible to date these groups more securely by looking for associations between them and more closely dated material, especially from sites with short occupation horizons.

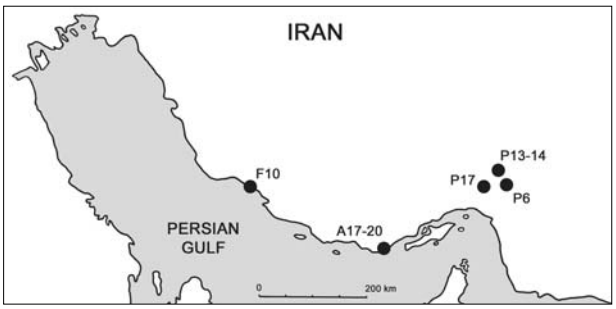

Figure 1 Map showing the location of sites used here for comparison

Gust-i Burjan (P6)

This site is located in the Jiruft plain about one mile north-east of Bijnabad. Stein described it as a large mound measuring 340 yards x 260 yards, oriented east-west, and 22 feet high with a modern fort on top. To the south-east there is a second mound measuring 500 yards x 450 yards and 10-12 feet high. Almost all of the pottery from the site is plain ware, or plain ware with a red slip. A few pieces with reddish-brown patterns or red ware with burnished strips and blue/green-glazed ware were recovered.[30] This pottery assemblage includes what appear to be alkaline glazed ware, plain red slipped ware and fine orange painted ware. These are all groups that circulated during the Partho-Sasanian period, the latter in particular being a good type fossil of the early to mid-Sasanian period. When the sherds are plotted against the Williamson data (**Fig. 2**), the results prove to be similar although the chronological range of the Williamson data is broader. A total of 88 Williamson sherds and 3 Stein sherds could not be assigned to any period.

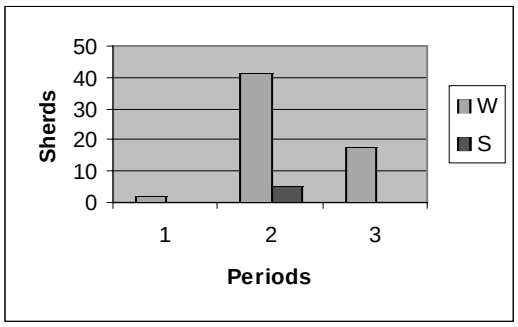

Figure 2 Sherd counts by period for Gust-i Burjan (P6). In the legend W = Williamson and S = Stein, the same follows for the rest of the graphs

Tump-i Kharg (P13-14)

Stein described this site as the largest of the mounds in the Rudbar area, measuring 470 yards x 400 yards, oriented north-south, and 30 feet high, with débris extending for a further 1100 yards x 800 yards north-south of the mound. A stone-built fort was erected on the northwest side of the mound, known as Qal'a-i-Khwahar. Plain and glazed pottery, as well as mud brick, cover the surface of the site. No prehistoric remains could be identified. The latest pottery picked up includes numerous pieces of incised and moulded ware, including a number of mould fragments for the

production of relief-decorated ewers. A number of pieces of slip painted ware were recovered from the surface and pieces of appliqué-decorated alkaline glazed ware. Two trial trenches were opened up. One produced an almost intact alkaline glazed jar.[31] The description of the site suggests an occupation from the Late Sasanian/Early Islamic period down to the end of the thirteenth century. Again, the assemblage collected by Williamson fits this description fairly well (**Fig. 3**), although the Late Sasanian/Early Islamic period is not abundantly represented and the chronological range from both surveys extends well beyond the periods mentioned. In the case of Periods 10 and 11, this may be accounted for by samples collected from the fort. Stein refers to a main period ranging from the tenth to thirteenth centuries, and this period is the most fully represented in the assemblages of both Stein and Williamson. A total of 33 Williamson sherds and 2 Stein sherds could not be assigned to any period.

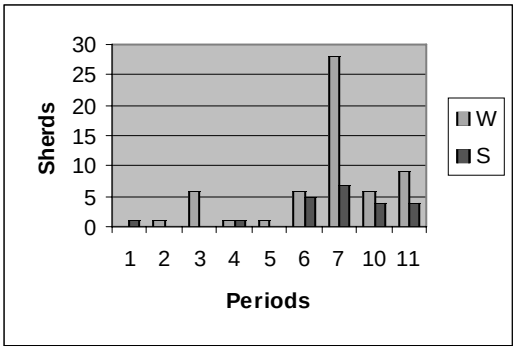

Figure 3 Sherd counts by period for Tump-i Kharg (P13-14). Legend see Fig. 2

Tump-i Hazar Mardi (P17)

Located in the Lower Halil-Rud area, Stein described this as a substantial tell site, oriented north-south, and measuring *c.* 570 yards x 200 yards and 30 feet high. Stein spent one day opening up a sounding. Various late historic materials were recovered including plain ware, painted ware and blue/green alkaline glazed ware. Pottery found at surface level was generally more varied and included a ware 'painted in black over a deep red burnished ground' reminiscent of 'late prehistoric ware from Baluchistan and Makran'. All together, the pottery evidence suggests that the site was occupied from late prehistoric times down to the later pre-Islamic period.[32] Again the assemblages (**Fig. 4**) correspond closely with the description of the site provided by Stein and there is close agreement between the type of sherds selected by the two surveyors, though as with Fig. 1, the larger assemblage here covers a slightly wider chronological range. A total of 71 Williamson sherds and 4 Stein sherds could not be assigned to any period.

Kung (A17-20)

Stein described Kung as as a large fishing village close to Bandar-i Lengeh. The site had been used by the Portuguese as a trading port for nearly a century after they lost control of Hormuz. A number of low mounds and butts of stonewalls lay to the west of the village, and half a mile to the north-east was an area 600 yards long close to the shore covered in potsherds, including Chinese pottery and some high quality late Islamic material.[33] The Stein assemblage for this site is rather small for the purposes of comparison (**Fig. 5**), however the relative proportion by periods for the two assemblages matches closely. There also appears to be a close agreement between the main bulk of the two assemblages and the description of the site provided by Stein, with a high post-medieval component. The trace element of earlier material, represented particularly in the Williamson Collection may be related to the area of mounds that Stein described as lying west of the village. All of the sherds could be assigned to a period.

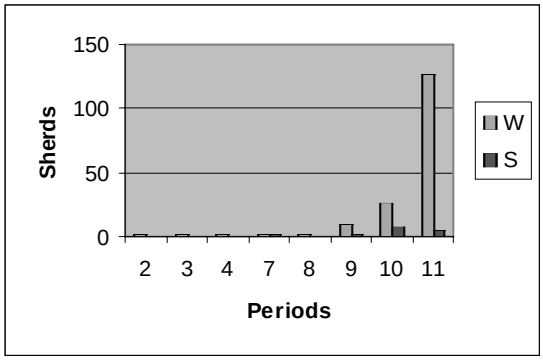

Figure 5 Sherd counts by period for Kung (A17-19). Legend see Fig. 2

Siraf (F10)

The site of Siraf is well known and better documented than the others owing to the excavations directed there, although only interim reports have so far been published,[34] along with a preliminary study of the pottery.[35] Stein described the site as lying immediately to the west of the village of Tahiri and covering an area of one and a half miles along the shore. The site is situated on steep terraces that climb straight up from

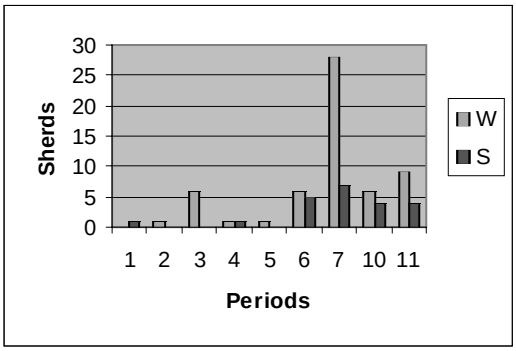

Figure 4 Sherd counts by period for Tump-i Hazar Mardi (P17). Legend see Fig. 2

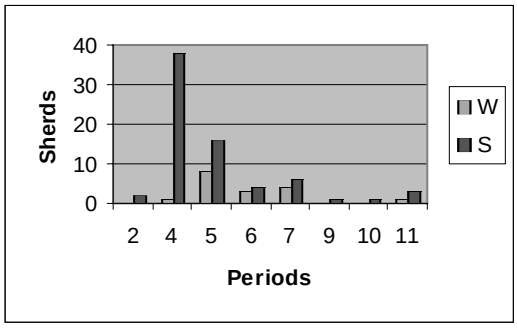

Figure 6 Sherd counts by period for Siraf (F10). Legend see Fig. 2

the shore to a height of 300 feet. From the top of this ridge down to the shore there are thickly spread remains of levelled house foundations, which at the widest cover an area of 600 yards. The pottery recovered from the site includes relief decorated blue/green alkaline glazed ware, Changsha ware and numerous pieces of Chinese white ware. The illustrated coarse ware appears to be of a Sasanian type. From the material he collected, Stein noted that there did not appear to be any evidence for pre-Islamic settlement at the site.[36] This suggestion is partly refuted by Stein's own data. Generally the two assemblages correspond fairly well (**Fig. 6**), although there is a discrepancy between the huge amount of pre-Abbasid material in Stein's data and the virtual absence of such material in Williamson's. For the later periods the collections correspond more closely and fit well with what is known about the site, including the tail-off in material during the thirteenth century. A total of 19 Williamson sherds and 7 Stein sherds could not be assigned to any period.

Conclusion

The five sites that are available for direct comparison of the surveys of Sir Aurel Stein and Andrew Williamson have provided a reasonable sample in terms of site periodization, with a wide range of periods represented and some variation between longer and shorter occupations, although the sample is weighted towards sites from the 'P' area of Williamson's survey (the lower Halil-Rud in Kerman province). The greatest difference between the results lies in the chronological range expressed by the different samples, but this is almost invariably explained by the larger size of one or other of the assemblages. In most cases there is more material contained in the Williamson Collection than in the Stein Collection. This may be the result of differences in collection strategy, but it is more likely that it reflects the subsequent division of the Collections. This aside, the peaks in terms of the periods represented by most material across both collections usually agree closely. This may be surprising given the fairly unsystematic collection strategy of the two researchers, and in view of the differences already outlined in the outlook, methodology and aims of the two individuals. To this one must add the factor of arbitrary data selection: the fact that the assemblages themselves are not even complete. Given these differences of approach, it appears unlikely that the replication of results can be attributed to both researchers focusing on the same range of material, particularly as there are over a hundred distinct ceramic classes represented in each collection and many of the type fossils that Williamson selected had not been recognized as such previously.

What this concurrence of results appears to tell us then, is that despite all the variables affecting the retrieval of data, the chronological integrity of the sites themselves, as represented by surface débris exposed over a period of over thirty years, has been coherent enough to force a replication of results by the two individuals. In short, this analysis allows one to be a little more confident about the credibility of the survey data. Added to this, the period descriptions given by Stein for the sites that he visited, either explicitly or through the description of the main types of pottery encountered, appears to be reasonably accurate when compared with the periodization derived from more up-to-date techniques of excavation and ceramic classification. In itself the exercise of comparing the results of the two surveys has been useful as a means of checking the credibility of the surveys. Obviously, the results that have been attained so far are not definitive, as the inspection of the survey assemblages is itself still incomplete. However, the fact that there does appear to a general level of agreement between the assemblages strengthens the case for working towards a further integration of the data from the collections. This is an important research goal both in terms of extracting the full potential from the two most significant survey projects undertaken in this region to date, and as a means of laying out a scheme in terms of the major trends in ceramic distribution, which can inform current research in the area and act as a platform for subsequent investigation. We also have a responsibility, I believe, to conclude work that has already been initiated and there is still some way to go before the backlog accrued over the previous century can be regarded as having been satisfactorily dealt with. Work on these two collections should contribute significantly towards these areas.

Acknowledgements

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Notes

1. T.C. Young, 'Archaeology. Pre-Median: history and method of research', in E. Yarshater (ed.) *Encyclopaedia Iranica*, Vol. 2, Routledge & Kegan Paul: New York and London, pp. 281–88, especially pp. 281–85. D. Huff, 'Sasanians', in *Encyclopaedia Iranica*, Vol. 2, pp. 302–8, esp. p. 302. R. Hillenbrand, 1987: 'Islamic Iran', in *Encyclopaedia Iranica*, vol. 2, pp. 317–22, esp. p. 318.
2. It may be possible to extend this to three individuals including the surface collections made by Ernst Herzfeld (1879–1948) that included the area of Fars as well as parts of northern and western Iran. Herzfeld's surface collections have never been worked on or published, however there are 1,700 marked linen bags containing his surface collections of sherd material stored in the Islamische Kunst section of the Staatliche Museen in Berlin, (St John Simpson personal communication, quoting from a paper delivered by Jens Kröger entitled: 'Ernst Herzfeld and Friedrich Sarre' at the symposium on Ernst Herzfeld and the Development of Near Eastern Studies 1900–1950 at the Freer Gallery of Art and Arthur M. Sackler Gallery, 3-5 May, 2001).
3. J. Mirsky, *Sir Aurel Stein, Archaeological Explorer*. Chicago and London, 1977, pp. 448–49.
4. M.A. Stein, 'An archaeological tour in the ancient Persis: A lecture delivered at the Annual Meeting of the British School in Iraq on 12 December 1934', *The Geographical Journal* 86.6 (1935), pp. 489–97. M.A. Stein, 'An archaeological tour in the ancient Persis', *Iraq* 3 (1936), pp. 111–225. M.A. Stein, *Archaeological Reconnaissances in North-Western India and South-Eastern Iran*, London, 1937. M.A. Stein, *Old Routes of Western Iran. Narrative of an Archaeological Journey Carried out and Recorded by Sir Aurel*

Stein, K.C.I.E., London, 1940.
5. Mirsky, *Sir Aurel Stein*, p. 507.
6. A.G. Williamson, 'Persian Gulf commerce in the Sasanian period and the first two centuries of Islam', Bastan Chenasi va Honar-e Iran 9–10 (1972), pp. 97–109 (foreign section), pp. 142–51 (Iranian section), especially pp. 98–99.
7. Communication from Sumner to Kennet, 12 August 2002.
8. A.G. Williamson, 'Sirjan', *Iran* 9 (1971), p. 177. Williamson, 'Excavations at Tepe Dasht-i-Deh', *Iran* 9 (1971), pp. 182–83. Williamson, 'The Yahya Project: Tepe Dasht-i-Deh', *Iran* 10 (1972), pp. 177–78. Williamson, 'Sirjan-i-Kuhna and Tepe Dasht-i-Deh', in P.R.S. Moorey (ed.) *Excavations in Iran. The British Contribution*. Organising Committee of the Sixth International Congress of Iranian Art and Archaeology: Oxford, 1972, pp. 26–28.
9. Williamson, 'Sirjan'; 'Excavations at Tepe Dasht-I-Deh'; 'The Yahya Project' and 'Sirjan-I-Kuhna'.
10. A.G. Williamson, *Sohar and Omani Seafaring in the Indian Ocean*, Muscat, 1973, p. 19.
11. A.G. Williamson, 'Regional distribution of medieval Persian pottery in the light of recent investigations', in J.W. Allan & C. Roberts (eds) *Syria and Iran. Three Studies in Medieval Ceramic*. Oxford Studies in Islamic Art 4 (1987), pp. 11–22.
12. These are specific kinds of pottery that are considered to be characteristic of a particular period or periods and can therefore be used for dating any site where they are found. R. McC. Adams, *The Land Behind Baghdad. A History of Settlement in the Diyala Plain*, Chicago, 1965.
13. R.L. Hobson, 'Pottery fragments from southern Persia and the northern Punjab', in M.A. Stein (ed.): *Archaeological Reconnaissances in North-Western India and South-Eastern Iran*, London, 1937, pp. 244–47.
14. Thanks are offered to the Department of the Ancient Near East for offering me the opportunity to undertake this research.
15. This collection has been split arbitrarily between the departments of the Ancient Near East and Asia. A large part of the work undertaken during the Sackler Fellowship involved an attempt to unify the recording across both departments and to make sure that all of the material could be accounted for. This task is now complete, meaning that it is now possible to access all of the Sasanian and Islamic pottery in the collection via the central museum database.
16. Thanks are offered to the British Institute of Persian Studies who provided the necessary funding for this lengthy research project and to the Department of Archaeology and the University of Durham for supporting the work.
17. S.M.N. Priestman and D. Kennet, 'The Williamson Collection Project: Sasanian and Islamic pottery from southern Iran', *Iran* 40 (2002), pp. 265–67. Priestman, 'The Williamson Collection Project: Sasanian and Islamic survey ceramics from southern Iran, current research and further objectives', *Iran* 41 (2003), pp. 345–48.
18. D. Kennet, 'Jazirat al-Hulayla – early Julfar', *Journal of the Royal Asiatic Society* Series 3, 4, 2 (1994), pp. 1–50. D. Kennet, 'Kush: a Sasanian and Islamic-period archaeological tell in Ras al-Khaimah (U.A.E.)', *Arabian Archaeology and Epigraphy* 8 (1997), pp. 284–302. D. Kennet, 'Evidence for 4th/5th-century Sasanian occupation at Katt, Ras al-Khaimah', in C.S. Phillips, D.T. Potts and S. Searight (eds) *Arabia and its Neighbours. Essays in Honour of Beatrice de Cardi*. (ABIEL II). Brepols (1998), pp. 105–16. D. Kennet, 'An Archaeological Study of the Sasanian and Islamic Periods in Northern Ras al-Khaimah (U.A.E.)'. Unpublished PhD: SOAS, London, 2000. D. Kennet, 'The development of northern Ra's al-Khaimah and the 14th-century Hormuzi economic boom in the lower Gulf', *Proceedings of the Seminar for Arabian Studies* 32 (2002), pp. 151–64. D. Kennet, 'Sasanian pottery in southern Iran and eastern Arabia', *Iran* 40 (2002), pp. 153–61. D. Kennet, 'Julfar and the urbanisation of Southeast Arabia', *Arabian Archaeology and Epigraphy* 14 (2003), pp. 103–25. D. Kennet, *Sasanian and Islamic Pottery from Ras al-Khaimah: Classification Chronology and Analysis of Trade in the Western Indian Ocean*. BAR International Series: Oxford (in press).
19. For example, the Marv-Dasht survey, see A.G. Williamson, *Kur River Valley Sasanian and Islamic Pottery: justification for the chronology and classification of sites*. Unpublished Report: Ashmolean Museum Oxford, 1969. D.S. Whitcomb, 'The city of Istakhr and the Marvdasht plain', *Akten des VII. International Kongresses für Iranische Kunst und Archäologie, München, 7–10 September 1976.* Archäologische Mitteilungen aus Iran. Ergänzungsband 6: Berlin, 1979, pp. 363–70. W.M. Sumner and D. Whitcomb, 'Islamic settlement and chronology in Fars: an archaeological perspective', *Iranica Antiqua* 34 (1999), pp. 309–24.
20. D. Huff, 'An archaeological survey in the area of Firuzabad, Fars, in 1972', *Proceedings of the 2nd Annual Symposium on Archaeological Research in Iran.* Tehran, 1974, pp. 155–79.
21. D.S. Whitcomb, 'Bushire and the Angali canal', *Mesopotamia* 22 (1987), pp. 311–36.
22. D.W. Chase, G. Fehervari and J.R. Caldwell, 'Reconnaissances in the Bard Sir valley', in J.R. Caldwell (ed.), *Investigations at Tal-i-Iblis*, *Illinois State Museum Preliminary Reports* 9 (1967), pp. 73–107. G. Fehervari and J.R. Caldwell, 'Islamic sites outside the Bard Sir valley', in J.R. Caldwell, (ed.) *Investigations at Tal-i-Iblis*, pp. 41–64. G. Fehervari, 'Archaeological reconnaissance in Kirman province in the autumn of 1966', *The Memorial Volume of the Fifth International Congress of Iranian Art and Archaeology*, *Tehran – Isfahan – Shiraz, 11th – 18th April 1968*, Vol. 2: Tehran,1968, pp. 74–82.
23. M.S. Sajjadi and H.T. Wright, 'Archaeological survey in the Qobeira area, province of Kerman, Iran', *Annali, Revista del Seminario di Studi Asiatici e del Seminario di Studi Africani, Instituto Universitario Orientale di Napoli* 50.1 (1990), pp. 1–40.
24. M.S. Sajjadi, 'A class of Sasanian ceramics from southeast Iran', *Estratto da Rivist di Archeolaogia* 8 (1989), pp. 31–40.
25. M.E. Prickett, 'Tepe Yahya Project: Upper Rud-i Gusk Survey', *Iran* 14 (1976), pp. 175–76. Prickett, 'Settlement and the development of agriculture in the Rud-i Gusk drainage, southeastern Iran', *Akten des VII. International Kongresses für Iranische Kunst und Archäologie, München, 7–10 September 1976.* Archäologische Mitteilungen aus Iran. Ergänzungsband 6: Berlin, 1979, pp. 47–56. Prickett, *Man, Land and Water: Settlement Distribution and the Development of Irrigation Agriculture in the Upper Rud-i Gusk Drainage, Southeastern Iran*. Unpublished PhD: Harvard, 1986. M.E. Prickett, 'Settlement during the early periods', in C.C. Lamberg-Karlovsky (ed.) *Excavations at Tepe Yahya, Iran 1967–75 the Early Periods*. American School of Prehistoric Research Bulletin 38 (1986), pp. 215–46.
26. H. Bakhtiari, 'Hormuz Island', *Iran* 17 (1979), pp. 150–52.
27. D.T. Potts, *The Arabian Gulf in Antiquity,* Oxford, 1990.
28. M.E. Prickett, 'Settlement during the early periods', in C.C. Lamberg-Karlovsky (ed.), *Excavations at Tepe Yahya, Iran, 1967-75, the Early Periods*, American School of Prehistoric Research Bulletin 38 (1986), pp. 215–46.
29. D. Kennet, *Sasanian and Islamic Pottery from Ras al-Khaimah: Classification Chronology and Analysis of Trade in the Western Indian Ocean*. BAR International Series: Oxford (in press).
30. Stein, *Archaeological Reconnaissances*, p. 142.
31. Stein, *Archaeological Reconnaissances*, pp. 144–47.
32. Stein, *Archaeological Reconnaissances*, pp. 143–44.
33. Stein, *Archaeological Reconnaissances*, p. 194.
34. D. Whitehouse, 'Siraf', *Iran* 5 (1967), pp. 141–42. D. Whitehouse, 'Excavations at Siraf. First Interim Report', *Iran* 6 (1968), pp.1–22. D. Whitehouse, 'Excavations at Siraf. Second Interim Report', *Iran* 7 (1969), pp. 39–62. D. Whitehouse, 'Excavations at Siraf. Third Interim Report', *Iran* 8 (1970), pp. 1–18. D. Whitehouse, 'Excavations at Siraf. Fourth Interim Report', *Iran* 9 (1971), pp. 1–17. D. Whitehouse, 'Excavations at Siraf. Fifth Interim Report', *Iran* 10 (1972), pp. 63–87. D. Whitehouse, 'Excavations at Siraf. Sixth Interim Report', *Iran* 12 (1974), pp. 1–30.
35. M. Tampoe, *Maritime Trade Between China and the West. An Archaeological Study of Ceramics from Siraf (Persian Gulf), 8th to 15th Centuries AD*. BAR International Series 555, Oxford, 1989.
36. Stein, *Archaeological Reconnaissances*, pp. 202–12; plan 17; fig. 67–76; pl. xxvii, xxvi.

Plates 7-8 Sir Aurel Stein (Stein Collection, LHAS)