Many of the henges have yet to be excavated, so we do not know if they all contained wooden or stone circles, but of those excavated, only Gorseby Bigbury lacked signs of any internal structure. The signs from the others, however, do not all indicate that circles were the only type of internal feature used. Also found are "coves," simple central monoliths, horseshoe arrangements, cairns, and barrows.

In addition to the circles and barrows, often found near henges, there are other types of monuments that frequently lie close by. The first of these, avenues, usually served to connect a henge with another nearby monument, as at Avebury or Broomend of Grieche. There was also a short avenue leading away from one of the circles within Durrington Walls, and at Coupland what has been called a "crowway" passes through the entrances and completely across the monument. All these are assumed to have been processional ways, but their construction varied. The Stonehenge example is defined by two small earthen banks with external ditches; others were marked by parapets or cairns.

A second class of monument found near (in fact, often overlapped by) henges is the cursus (so-called from the one near Stonehenge by William Stukeley in the eighteenth century). These seem to have preceded the henges in some cases and to have been roughly contemporary in others. Typically a cursus is marked by long parallel embankments, often over a mile in length, with closed ends. They look somewhat like avenues but seem to lead nowhere. Among the henges with which they are found are the early sites of Dorchester and Maxey.

I have already suggested that differences in henge structure may indicate different time periods or different cultural affinities. These differences can be useful in answering certain other types of archaeological questions. In particular, we allow us to speculate about the origin of the henges and their connection with later monuments and they give clues to trade routes and migration patterns. In the first instance the segmental ditches of the early henges suggest a connection with the so-called causewayed camps known from earlier in the Neolithic. The circles of stones and posts allow the drawing of parallels with structures found in East Anglia or in the Dutch and palisade barrows as well as with other types of British monuments. Later there are possible connections with "pond" and "henge" barrows and with stone circles set atop banks. Finally, in the Low Countries and perhaps other parts of Western Europe there are Late Bronze Age and Iron Age monuments that seem to show the influence of henge design, suggesting that religious ideas may have been carried in that direction.

There are regional differences in henge construction, particularly evident in those double-ditch sites at Thornborough and on Hutton Moor that have been designated a subclass of the double-entrance group. But there are also close similarities between widely separated monuments, and it is these that offer help in reconstructing trade and migration routes. Most of the monuments I have mentioned so far have been in England. Certainly the greatest concentration of henges is in Wiltshire and the neighboring areas. But they are found in Wales, Scotland, and Ireland as well. In Wales and Scotland they are along major trade routes known from other evidence. In the case of one of the henge-like embanked circles in Wales, at Pennanenaw, traces of an ancient track dating at least to the Bronze Age can be seen passing so close by that one side of the circle has been flattened slightly to allow for it. Perhaps the traders crossed these at intervals along their tracks so required ceremonies could be performed at the proper times. In any case, the other Welsh henges known and those of Scotland are near coastal trade routes, with two in the Orkney Islands.

In Ireland the picture is less clear, largely because less attention has been given here to the Early Neolithic. The only attempt to list all those known mentions thirteen, but there are thousands of monuments so far listed only as "ring forts" or "stone circles" on the Ordinance Survey maps that have never been carefully investigated. Some of these are certainly henges. In addition, there are Irish royal sites of the Iron Age—Dun Ailinne, Emhain Macha, Tara—that include structures closely resembling henges, which seem to have served similar ceremonial purposes. These may indicate the later survival of some of the beliefs that produced the monuments of Britain.

As all the questions I have raised and qualifying words and phrases I have used indicate, our knowledge of henges is far from complete. But, undoubtedly, with time many of the uncertainties will be cleared away, as these ancient monuments continue to weave their fascinating web of scholarship and fascination, entrapping not only the people living nearby, tourists, and would-be Druids, but also more archaeologists to continue the work of surveying and excavation.

This article is being published to coincide with an exhibition of the carpets of Afghanistan which is to be held in the University Museum from March 17 to April 15th, 1973. The purpose of the exhibit is to display a range of carpets which have been selected explicitly for the purpose of demonstrating differences in materials, workmanship and overall quality.

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Most libraries contain a shelf of books which besides offering such a classification of Oriental carpets, curiously introduce the reader to the history of the craft and the trade. It is interesting to note that in one such book published in Philadelphia in 1913 (The Practical Book of Oriental Rugs by Dr. G. Griffin Lewis, pp. 19-20) it was stated that although the trade in Oriental rugs was at that time well advanced in Europe "twenty-five years ago few American homes possessed even one. Since then a marked change in public taste has taken place. All classes have become interested and, according to their resources, have purchased them in a manner characteristic of the American people, so that some of the choicest gems in existence have found a home in the United States. This importation will continue on even a larger scale until the Orient is robbed of all its fabrics and the Persian rug will have become a thing of the past." The last part of the prophecy has not of course come true. Production has been increased to meet the demand. However, Lewis continued: "Already the western demand has been so great that the dyes, materials and quality of workmanship have greatly deteriorated." Sixty years later the enormously increased demand can be viewed as one of the significant effects on the product. Different types and qualities fit into the market at different levels from the rare antique and top quality modern pieces, for the collector and the investor; down to a price range to suit the pocket of the ordinary American family.

In less extreme cases and for a large portion of the best carpets the weaving is financed by a merchant in the outskirts of a city, or in outlying villages. Here the work is done by men as well as women and children. Today such a merchant might have fairly direct dealings with major Western importers and dealers, with the result that the Western dealer can exert some influence on the colors, designs and sizes of the Oriental production.

However, the dealer is not the consumer. He is a businessman. He purchases, and insafar as he is able directs the production of the types of rug that he estimates will best enable him to maximize his sales. Furthermore, the dealer does not have the field to himself. There is another role that has to be considered in this anomalous system of communication: the role of the art historian.

The art historian complicates the economics of the system by introducing the alien and supposedly abstract and absolute criteria of academe. If we may for the moment ignore recent developments in the field and characterize him briefly, the art historian is primarily interested in tracing the history of art forms, in this case of symbols and designs, and secondarily of the material culture and technologies associated with them. In the case of movable art forms, such as carpets, the dealer tends through his business dealings to be in closer contact with the place of origin of the objects than the art historian who pursues the academic study of them—though the dealer is still at one remove. It is thus in the nature of things that there should be a close association between art historian and dealer, and there was between the archaeologist and the antique trade. The affluent public that patronizes the dealer, also patronizes the academic, since it is he who raises the value of these objects beyond the purely economic plane. The role of the art historian therefore has tended to reinforce the lack of communication between the weaver and the consumer.

The Western consumer buys Oriental carpets as floor covering and as investments. In making his choice generally he has little to go on besides personal taste and what the dealer tells him, modified by some degree of familiarity with the literature which is created by both art historians and dealers. This literature suffers generally from excessive definition and overclassification, which is bewildering to the layman, and with few exceptions contributes little to any practical understanding of the craft. Although there are significant differences in design, color, knot and quality that are related to place of production, these are by no means so closely related to the identity of the weavers that they may be used as reliable criteria of provenance. Some centers of production were more influenced by foreign demands than others and adapted their production accordingly.
woven on vertical looms, whereas most operators who wove for their own purposes used horizontal looms. All Afghan carpets formerly were, and the overwhelming majority still are, woven on horizontal looms. They are woven mainly by people of tribal origin, Turkmen and Baluch, most of whom until recently lived in tents or small villages close to the northern and western borders of the country. Recently some have moved into the outskirts of towns and cities, and members of other ethnic groups have also taken up carpet weaving.

Such small-scale operators used the materials they had at hand. They used wool for the warp, the weft and the pile of the carpet. The raw wool from the sheep was washed, carded, graded and spun in different thicknesses and strength according to whether it was to be used for warp, weft or pile. It was then dyed with vegetable dyes produced locally. Until very recently all Afghan carpets were made entirely of wool, and most still are. This requires a higher degree of skill than the use of cotton which is prevalent in carpets made on vertical looms (and also most of those made on horizontal looms outside Afghanistan), because, however strongly spun, a wool thread is not as strong as cotton and a wool warp thread is liable to snap at any time as it undergoes tension in the weaving process. When a warp thread does snap, it must be mended in place by spinning the snapped ends back together. Although the use of cotton thread for the warp obviates this problem, it changes the texture of the fabric without significantly increasing its durability. Since most of the warp is covered by the pile it is to a large extent a matter of taste whether cotton or wool warps should be preferred, but an appreciation of the craftsmanship involved and the feel of an all wool product can be persuasive. The same cannot be so easily be made against the use of a silk warp, but silk is more expensive and less readily available.

Across the warp threads, one, two, or three weft threads are woven between each row of the knots, which form the pile. The greater the number of weft threads, the stronger and more even will be the finished carpet, but this will obviously also make it more difficult to achieve the highest number of knots per square inch. There are two different knots in use (see figure). These may be made with single or double strands, and they may be made around single warp threads (as in the figure) or around double threads. Obviously if they are made around double threads the pile will be less dense and the carpet will be finished more quickly, and this is a notorious way of cheating. The difference between knotting with single or double threads, and between the two different knots, is not so simple. Generally, the finest, thinnest and most pliable carpets are made with the Sehna knot (Persian: yak pich) knotted with a single strand (yak tar), Ghiorodes knots (do pich) made with single strands (yak tar) are unusual. Both knots may be found made with double strands (do tar). In this case once again the Sehna knot produces a somewhat more pliable fabric, but the Ghiorodes may be considered more durable in that when a carpet is damaged the Ghiorodes will hold—since it is a real knot—whereas the Sehna will unravel. In a fine carpet the two may seem impossible to differentiate. However, if the fabric is bent back double, the Sehna will reveal every other warp thread uncovered, whereas with the Ghiorodes every warp thread is covered with the knot.

In the opinion of most fanciers, color composition is a classic feature of Oriental carpets, but there is in fact great variation both in the colors used and the way they are combined. The most significant variation is between colors produced by chemical dyes and those made from local traditional materials. Most carpets that reach the Western market today have been chemically washed and treated in such a way that their colors, for better or for worse, have been changed from their original quality. And some such treatment has been the practice for many decades. A less expensive and more effective treatment is to expose them to sunlight artificially by leaving them out in the streets to be walked on and driven over. This is still a common sight in cities such as Teheran and Kabul and has the effect of softening the colors.
It is commonly believed that the colors of a good Oriental carpet are prepared from vegetable dyes. However, the process of vegetable dyeing requires much time and trouble, and ever since chemical dyes began to become available from the West in the middle decades of the last century they have quickly spread throughout the Oriental industry. For a long time now even the more isolated producers in small villages and nomad encampments have been using chemical dyes, and today there are very few carpets indeed which are made from wool dyed with natural dyes. Most if not all of these come from Afghanistan.

Since both natural and chemical dyes may be completely fast and both may produce excellent colors, there may be no foolproof method of determining which has been used. Only a long familiarity with the potential of the different dyeing materials is a reliable guide. And after all if the colors are good, it is not important which were used. However, in carpets which are known to be naturally dyed the colors tend to be noticeably softer. Further, it seems likely in many cases that natural dyes are kinder to the wool in the long term. In many older carpets which have received a fair amount of wear the different colors can be seen to have worn differentially, leaving a relief effect due to the different qualities of the dyes.

Finally, different designs in tribal carpets are traditionally the work of different tribal groups, and among the Turkmen the design is related to the identity of the tribal groups, like the Scottish tartan. There is an overall recognizable identity in the design of Turkmen carpets which is generally referred to as Bokhara—the central Asian city where many of the best examples of Turkmen carpets were once produced. With a little familiarity the varieties of this general design, particularly those produced by the Saruk, Saltar, Tekke, Yamut, and Erarsi tribal groups, can be easily recognized. However, since the movements of these tribal groups and the changes in traditional Turkmen society occasioned by the inclusion of most of central Asia in Russia in the middle of the last century, these distinctions have become blurred. In Afghanistan today, among the Turkmen who still keep to traditional designs, a Tekke will weave a Yamut or a Saruk design if he considers that the economic prospect is better. Generally all these varieties are now referred to as Mauri—a designation derived from Mary, the Turkmen center now in the Soviet Union from which most of the best weavers in Afghanistan have migrated.

Most of the Turkmen who traditionally lived in the territory south of the present border between Afghanistan and the Soviet Union were Erarsi. The Erarsi have always woven rather thicker and less expensive carpets than the other groups. Most of the finest Afghan carpets that are being produced today come from Turkmen settlements in Barmazid, Shakh, Maurischia and the city of Herat. Most of the Turkmen in these places came into Afghanistan from Soviet Turkmenistan in the thirties and carved out small niches for themselves in areas not previously inhabited by Turkmen. In the process of adapting to their new environment and their new neighbors they lost some of the distinguishing features of their cultural identity. In dress, male Turkmen tend to be indistinguishable from their Uzbek or Pushin neighbors. Turkmen women are secluded.

According to some of them, for some ten to fifteen years after they arrived in Afghanistan they did not make carpets, and when they were sufficiently well settled in to turn again to carpet making, they had to overcome a break in the continuity of the tradition. They still had in their possession many fine old pieces, which they could use as patterns, and gradually the quality of their product improved and approached traditional levels. The secret of the finest carpets lies in the carding and spinning processes as well as in the weaving. It is among these groups (which are of Tekke origin) that a certain amount of vegetable dyeing is still carried out. In some cases their neighbors from other ethnic groups are learning from them by serving as apprentices.

Not being Turkmen they are less tied to the traditional designs, and are experimenting, using for instance conventional Turkmen borders with center pieces derived from Persian designs.

1 Boy pulling back shed stick in order to shift the position of the even warp threads in relation to the odd threads and facilitate the insertion of the second warp thread on another "Afghan gold."

2 After every three to four inches of progress the pile is cut down to the desired thickness with shears.
MODERN CHANGE

Not all the changes now taking place in the industry are at such high levels of quality. To cope with the enormous increase in demand, especially in lower price ranges, cheaper carpets are now being produced in large quantities. Traditionally in Afghanistan, when town-based merchants financed carpet-production, they did it by giving out wool to the camps and villages where the women would card, spin, dye and weave and return the finished product to the merchant. In this way the merchant promoted production and ensured the size of his own stocks, but had little control over what was produced. Apart from the fact that the quality might suffer somewhat because the women were not weaving for themselves, the carpets that were produced in this manner were of the traditional types that the women had learnt as girls from their own mothers.

During the last decade a few more enterprising merchants, mostly Turkmen, but in direct contact with the emporia in the capital—a situation which is easier now with the great improvement in communications—have set up their own "factories." In some cases fifty or more looms have been installed in one large building and men are for the first time in this setting employed to do the weaving. This allows them to break with tradition. To begin with, on their own admission, the quality was not satisfactory but it has already improved. The great advantage—from the merchant's point of view—is that he can control production. He can decide what size, color, design and (within limits) quality will be produced, watch the process, and enter into more definite contracts with exporters. In some cases these merchants travel abroad themselves and visit their foreign markets in Europe.

Most of the new designs and colors that have appeared on the market recently have come from this type of operation. They are directed at a new type of consumer, and for the first time producers, exporters and dealers can be said to be communicating directly and cooperatively in the creation of new markets. The introduction of new "Afghan golds" during the last five years is an example of this collaboration.

Besides the Turkmen (otherwise known as Bokhara or Mauri) the other major category of carpets produced in Afghanistan is Baluch. These are mostly made in villages close to the western border of the country. They are generally smaller, more diverse, less densely woven, and therefore cheaper, than the Turkmen carpets. There has been little expansion in this sector, except that individual Baluch now weave more for local markets and less for their own consumption. As with the Turkmen carpets there has been a noticeable change in design and color particularly in the cheaper pieces, which is due largely to the desire to adapt to a market, and the consequent mixture of native and alien criteria.

The production of Afghan carpets is also being expanded in other ways. Inmates of many of the prisons are employed by the government in carpet weaving. This source, as might be expected, produces items of mixed but seldom very high quality. A further source with perhaps greater potential is in the establishment of "Women’s Institutes" in the provinces. These allow some measure of "liberation" and public life to women who have been traditionally restricted to a domestic sphere of operation.

However, it is difficult to see how any expansion can take place in the production of the really highest quality carpets. And it is only these which will in the long term maintain the value and reputation of the Oriental carpet in the West. Furthermore, as the standard of living in Afghanistan rises, as must steadily happen, the present level of production at this quality is likely to wane. The last part of Lewis' prophecy may therefore come true after all. As he continues to say: "it therefore behooves us to cherish the Oriental rug now in our possession." Not only that. We should also seek to understand better the traditional technologies of their production while they are still there to be studied.

Suggested Reading
Hans E. Wulff
1966

Credits
P. 10 #1, 2, p. 11 #4, 6, 7, p. 14 #1, 2, p. 15 #3, 4, 5, 6, 8, Mary Farvar; p. 11 #3, p. 13 #2, 3, Brian Spooner; p. 11 #5, Pat Barr; map and p. 13 #1a, b, Virginia Greene; p. 15 #7, Jahan Spooner; drawings of carpet motifs, Ken Carbone.

From 1961 to 1968 he was Assistant Director of the British Institute of Persian Studies in Tehran. Since 1968 he has been Assistant Professor of Anthropology in the University of Pennsylvania and Assistant Curator of Near Eastern Ethnology in the University Museum.