

CHAPTER V

PRIMITIVE WARFARE

1. Excavations in London and Yorkshire

The years between 1862 and 1865 had been essentially preparatory ones for Fox. His early scientific connections had put him in a good position, in terms of his memberships in various antiquarian and ethnological societies both in Ireland and in London, to further his scientific involvement. He had participated in field excavations, assisted in a publication on early Irish forts and laid the groundwork for his later archaeological career, first through his records of raths and other monuments near Cork and, more recently, through his survey of Roovesmore Fort. Finally, he had expanded his collection and, at the same time, had altered its character through an increasing number of prehistoric and ethnographical materials. In short, he was ready to make a mark of his own.

Unfortunately, he was still more or less tied to Ireland. Visits to London were relatively infrequent, and only occasionally was he able to attend the meetings of the several societies to which he belonged. Also, much of his time was taken up with his military duties, and, as a result, his archaeological activities could only be carried on during his leisure time, although by modern standards the time he could spend on his own was considerable. Fox was, nonetheless, relatively isolated in his work. His collaboration with Caulfield in the summer of 1865 appears to have been a temporary one; Windell and Hewitt appear to have been fellow collectors and little more¹. Also, there are several indications that Fox was generally dissatisfied with the approach of the local antiquarian community, contrasting their own relatively casual efforts to those of the new scientific archaeology of which he was aware in London². His own efforts, as a result, centred increasingly on the literature. As a member of the Ethnological and Archaeological Societies as well as the Society of Antiquaries and the Archaeological Institute he received at least four major journals, not to mention those of the United Services Institution and Geographical Society, to which he still belonged. He also received a subscription to Natural History Magazine and possibly several other journals³. By all indications, then, Fox was amassing a considerable private library as well as a collection of artefacts. His posting in Ireland, in many ways, made such a circumstance a necessity.

For three years Fox had lived on Montenotte Road, in the northern part of Cork. There, despite the obvious frustrations of being away from the centre of scientific life, he had settled into the relatively conventional roles of officer and father. His family had grown as well. A third daughter, Agnes Geraldine, was born in 1863, a fourth son, Douglas Henry, came late the following year⁴. Holidays were taken in both the spring and autumn,

¹ Fox later presented a short note by Caulfield at the Ethnological Society 'Note on a supposed Ogham Inscription from Rus-Glass', JESL, NS 2 (1870), 400.

² Trans of the 3rd International Congress of Prehistoric Archaeology, p. 314.

³ SSW, PRP, P148.

⁴ Burke's Landed Gentry, p. 767.

with the whole family travelling to London or visiting country relatives for several weeks at a time. Occasionally, Fox was on his own, often staying at the Guards Club, rather than at his mother's Belgrave home⁵.

Despite the steady routines of his life, his military duties were gradually shifting in focus. Involved at first almost exclusively in surveying efforts, Fox was becoming more and more involved in relatively tedious administrative tasks. Toward the end of 1865, however, he was called upon to carry out a special operation, the investigation of the several members of the Fenian movement within his district, and to report his findings to his superiors on a regular basis⁶. Like most other British officers and administrators in Ireland, Fox was frankly appalled at the sudden spread of republican sentiments within the ranks and among the surrounding populace. The movement, which had its origins among Irish-American soldiers in the aftermath of the recent American Civil War, was dedicated to the establishment of a republican government in Ireland by means of training and the supply of arms⁷. Fox, in particular, was disturbed by the number of enlisted men and noncommissioned officers who were actually taking part in such activities. 'Fenianism', he reported, 'must be regarded as a war of races indeed. I fail to discern any other sufficient cause for the chronic disaffection in Ireland'. It is obvious too that the lessons of ethnology and anthropology had their impact. The sudden rise of Fenianism, he concluded, could not be fully understood in conventional political terms, but only in the 'social ethnical and psychological (sic) condition of the people'⁸. It was, then, from his point of view, a racial question, not a social one, suggesting, in turn, that many of the more racist attitudes of the anthropologists had been at least in part incorporated into his own understanding of the movement, or 'conspiracy', as it was more frequently termed. As Hunt and Carter Blake had both argued, it was science, not politics, which provided the answer to the Irish question⁹.

In December 1865, Fox was posted back to London. His position was officially Junior Acting Major in the Second Battalion, then stationed at Buckingham Palace¹⁰. While prompted by a vacancy, his posting was in many ways an outgrowth of his special

⁵ RAI, A20, A25; List of Members, TESL, 6 (1868).

⁶ SSW, PRP, A16; Thompson, Introduction to Catalogue of the Pitt-Rivers Papers, p. iv.

⁷ John O'Leary, Recollections of Fenians and Fenianism, 2 vols., Intro. By Marcus Bourke (1896, rpt. Shannon; Irish Univ. Press, 1969). Other background found in Desmond Ryan, The Fenian Chief: A Biography of James Stephens (Dublin: Fillard Son, 1907); Burn, pp. 67-68 and James Butler, C.E. Carrington, eds., The Cambridge History of the British Empire (Cambridge: at the Univ. Press, 1967), III, p. 690.

⁸ SSW, PRP, A8c.

⁹ See James Hunt, 'On Anthropological Classification', AR, 1 (1863), 382-82; RBAAS (1863), 139; 'Address to the Society', JASL, 7 (1869), civ-cvii; and Carter Blake in Anthropological Miscellanea, AR, 2 (1864). For comparable views of the 'Irish race', see John Crawford 'On the so-called Celtic Languages in Reference to Race', TESL, 4 (1864), 71-104; Thomas Wright, 'On the Intercourse of the Romans with Ireland', TESL, 5 (1866), 168-73; J. Gould Avery 'Civilisation: with Especial reference to the so-called Celtic Inhabitants of Ireland', JASL, 7 (1869), ccxxxi-ccxxvii; and J. W. Jackson, 'The race Question in Ireland', AR, 7 (1869), 154-76.

¹⁰ Grenadier Guards, Regimental Orders, 1863-66, Folio 12, rear of book; Hamilton, III, 423-24. My appreciation to Major P.A.J. Wright for his assistance.

knowledge of Irish politics and of Fenianism in particular. In the early part of 1866, he was appointed prosecuting officer in the trial of two non-commissioned officers, Drum Major James Butler and Sergeant Thomas Darragh. Both were charged with treason for their participation in the movement. Their offenses were from a modern point of view relatively minor—the drilling of other Fenians during their off-hours—but the British military authorities were obviously concerned that an example be made of their activities. A number of other Fenians had also been arrested in the autumn of 1865, some apparently as the result of Fox's investigations at Cork. Fox himself was present at the Courts Martial held at Cork in February and March, delivering an eight-page address to the Court; a picture of Fox at the trial was published in the London Illustrated News¹¹. The evidence from the Court's point of view was conclusive, and both men were convicted. Butler was sentenced to penal servitude for life; Darragh was condemned to death. Fortunately for both, their sentences were never carried out. Butler later managed to return to England, and Darragh had his own sentence commuted to transportation and lived out the rest of his life in Australia¹².

With the end of the trial, Fox returned to regimental duties with the Second Battalion of Guards, then still in London. Shortly afterward he obtained a new home at 10 Phillimore Gardens, in South Kensington¹³. Far more convenient to the West End and, in Fox's case, the several centres of his archaeological and scientific interests, Phillimore Gardens also close to Kensington Gardens and Holland Park, an obvious consideration for a couple with eight children. It was apparently a well-timed move as well, for on 11 April 1866, Alice gave birth to the couple's last child, a sixth son named Arthur Algernon¹⁴.

Fox's return to London provided him foremost with an opportunity to renew his scientific involvement at an increased pace. On 9 April, or two days before the birth of his son, he was at the Archaeological Institute giving what was in fact his first formal paper there, a short account of his activities at Roovesmore Fort of the previous summer. His paper was published in abstract only, the final version appearing the following year¹⁵. He was also in touch with Franks during that time, arranging for the presentation of the Ogham inscribed stones—those 'remarkable monuments of palaeographic art' as he later described them—to the British Museum¹⁶.

¹¹ London Illustrated News, 3 Mar 1866. Notices of the Fenian movement were reported repeatedly during the year 1866-67.

¹² PRO, WO 33/17A, pp. 255-435; WO 81/113, pp. 119-28; WO 81/114, p. 11.

¹³ RAI, Subscribers Ledgers, ASL; A6:1. Funds apparently were provided by his mother. LCA, LFP, LXI 14. See Thomson, General Pitt-rivers, p. 30.

¹⁴ Burke's Landed Gentry, p. 767.

¹⁵ Fox, 'An Account of the Remarkable Antiquities that he had explored during the previous year in Ireland', AJ 23 (1866), 149. The final version was 'Roovesmore Fort and Stones inscribed with Oghams, in the Parish of AGLISH, Co. Cork'. An incomplete version of a second paper entitled 'Notes for a Paper on the Possible Occurrence of Characters similar to the Ogham amongst the Eskimo' is among his papers, PRP, P 9.

¹⁶ Fox, 'An Account of Remarkable Antiquities', p. 149; A. W. Franks, 'Account of Additions made to the Collections of British Antiquities in the British Museum during the year 1866', PSAL, 2dS 3 (1867), 440.

After a holiday at Alderley, during the summer of 1866, Fox returned to his combined life as regimental officer and amateur archaeologist and ethnologist¹⁷. Much of his time appears to have been spent completing the draft of his first papers on primitive warfare, presented in the spring of the following year¹⁸. Other efforts centred on the societies and their meetings, which he began to attend regularly that autumn. His field-work experience in Ireland was obviously also still fresh with him as well, and he was soon prompted to take up new investigations of a similar type in London.

The first of his new archaeological ventures was in the City of London, at the site of the foundations of a new wool warehouse. Fox's attention had been first drawn to the site by a notice in the Times of 20 October¹⁹. The Times notice pointed out that workers had uncovered the remains of part of the old London Wall as well as a large number of bones and other debris. Other materials had turned up at similar sites, but the latter was one of the largest deposits recorded thus far. Already some twenty cartloads of bones and other remains had been removed from the area, and more were expected. Fox visited the site in late October and, over the course of the next several weeks, stopped by almost daily to watch the progress of the work.

As he later recorded, the Thames site measured approximately 70 by 200 feet and was located almost immediately adjacent to the Old Wall (actually the Roman Wall with Medieval additions). An undisturbed stratum of alluvial gravel was verified at the level of 16 feet, and above that was a layer of what Fox described as 'an irregular deposit of peat'. That was followed by a third layer of accumulated debris and medieval and modern fill varying from three to nearly nine feet in depth. Distributed over the entire site and rising two feet into the peat were the remains of approximately two dozen oak piles, presumably the supports for a carriageway or wharf over the marshy ground outside the walls, but identified by Fox as 'pre-Roman'. Just above those were a number of pottery fragments and fragments of metal and leatherwork, acknowledged at the time as Roman. Included too were the coins of Nerva, Vespasian, Trajan and Antonius Pius. A number of animal bones were discovered in all three strata, although the greatest concentration was, as with the pottery sherds, in the undisturbed peat. For advice, Fox turned to Richard Owen, who identified the bones of at least seven species including wild horse, wild cat, wild boar, red deer, ox, dog and roebuck. Franks was called in to identify the Roman Samean [*sic*] ware.

Fox first made his findings known at a meeting of the Archaeological Institute on 2 November 1866. In an obvious reference to Ferdinand Keller's widely publicized discoveries in the Swiss lakes he explained: 'At a time when the remotest quarters of the globe are being searched for traces of lake dwellings, it appears most desirable that the opportunity of examining a specimen of this class of habitation in the very centre of the

¹⁷ Mitford, Stanleys, pp. 17-19.

¹⁸ SSW, PRP, P148. Thompson, General Pitt-Rivers, p. 35.

¹⁹ SSW, PRP, Clippings, 'A Description of Certain Piles found near London Wall and Southwark', JASL, 5 (1866), 1xxi. The site is also described in Fox, 'Objects of the Roman Period'. Earlier discoveries were lavishly described in the London Illustrated News, 19 Aug 1865.

city should not be passed over without receiving the attention it deserves²⁰. To illustrate his account, he exhibited drawings of the strata, as he perceived them, including an indication of the find spots of the various artefacts and bones placed on display before the Society. The important point, from Fox's position, was the juxtaposition of human and animal remains. The Samean [*sic*] ware, he explained, was found at 'the lowest depth; but, so far as my own observation goes, it did not rise to the level at which the roebucks' horns were found'²¹. The lessons of both Boucher de Perthes and Keller, repeated in miniature, had obviously made their impression, and Fox took pains to establish that point²².

Fox managed to attract considerable attention for his finds. A second, and slightly different, account was published shortly after in the Journal of the Anthropological Society²³, where Fox also exhibited his section drawings and various finds. The Archaeological Institute subsequently published a short notice, and Franks called attention to Fox's discoveries several weeks later before the Society of Antiquaries, exhibiting a bone implement found (by Fox?) near the London Wall²⁴. Finally, Fox himself delivered a second lecture at the Archaeological Institute, referring to his recent discoveries as well as his discoveries at Christ's Church, Cork, during the course of similar excavations. Soon afterwards, he displayed 'an Ivory Peg-Top Shaped Object', from his collection, at the Society of Antiquaries, providing a short explanation and diagram²⁵. In early January, his first long article on Roovesmore Fort appeared in the Archaeological Journal.

Increased recognition brought increased responsibilities. During the summer of 1866, he was appointed to the steering committee of the Archaeological Institute along with Edmund Oldfield, John Henderson and John Nichols, and began to attend meetings on a regular basis soon afterward²⁶. In late December he was elected to the Council of the Anthropological Society, winning over Thomas Pate by a single vote²⁷. On 15 January 1867, he attended his first Council meeting, along with Carter Blake and J. F. Collingwood, and shortly afterward he was made a member of the Publication Committee and a first chairman of a committee whose job it was to maintain a watch on the work of London contractors and attempt to salvage any remains²⁸. Finally, in March 1867, he was elected to the Council of the Society of Antiquaries, together with Thomas Lewis,

²⁰ Fox, 'Objects of the Roman Period', p. 163.

²¹ Ibid.

²² See Fox's, 'Inaugural Address, Salisbury', p. 274.

²³ Fox, 'A Description of Certain Piles'.

²⁴ A.W. Franks, Exhibition of 'A Bone Implement Found at London Wall', PSAL, 2dS 3 (1867), 413. Fox is mentioned in Franks' notice.

²⁵ Fox, 'Account of a human heart'; 'On an Ivory peg-top shaped object'. The foundation stones were laid for Christ's Church on 21 Jan 1865. The architect was the well-known Gothic Revivalist, William Burges (1827-1881), London Illustrated News, 21 Jan 1865.

²⁶ SAL, Council Minutes, AI, 13 Jul 1866.

²⁷ RAI, Council Minutes, ASL, 19 Dec 1866, A3:1.

²⁸ RAI, Council Minutes, ASL, 15 Jan 1867, 19 Mar 1867, A3:1.

William Black and his long-time friend Arthur Tupper²⁹. It was not clear, in fact, whether he stayed in London throughout all of the winter, but we do know that on 22 January 1867, his purchase of a colonelcy was finalized³⁰. Between the army and his scientific work, his time was fairly well taken up.

By April, the newly promoted Colonel Fox and his family were back in Yorkshire, again, it appears, on holiday. During much of his stay, however, he was involved with archaeological work, mastering the recording of a number of wold sites, many of which he must have been long familiar with, but which up to that time had been effectively beyond his reach. He also took the opportunity to become acquainted with the Canon William Greenwell (1820-1918), a well-known local antiquarian, in order to discuss the work. Fox had first read about Greenwell's activities nearly two years before in the Archaeological Journal³¹. A clipping from the Times citing Greenwell's work at Langton Wold Tumulus is still among Fox's papers dating from that period. The introduction, however, was precipitated by Albert Way, who wrote to Greenwell, with whom he had long been acquainted, to warn of Fox's impending arrival³². Greenwell, at the time, was working near Scarborough, and Fox stopped by to visit Greenwell on the site. He took extensive notes on Greenwell's finds and methods, also acquiring a few more flint tools for his own collection, both as a result of Greenwell's excavations and some of his own undertakings shortly afterward. Fox was fond of describing himself as a student of Greenwell's, and as early as 1869 obviously considered Greenwell one of the principal authorities both on tumuli and on excavation techniques³³. His influence on Fox's own work, therefore, cannot be overestimated.

Fox and Greenwell were certainly an unlikely pair. Greenwell was at the time a Minor Canon at Durham, having served earlier as Curate at Burton in the East Riding³⁴. His background, accordingly, was of a scholarly and clerical nature, far different, of course, from Fox's own sporting and military one. His earliest antiquarian collections centred on a collection of rubbings of Pre-conquest stones, and at the time Fox knew him, he was

²⁹ Council Minutes, SAL, 16 Mar 1867.

³⁰ Gray, Index, p. xi.

³¹ SSW, PRP, P11, 12. Greenwell's articles were entitled 'Notices of the Excavation of Ancient Grave-hills in the North Riding of Yorkshire', AJ, 22 (1865), 97-117; and 'Barrows on Wykeham Moor near Troutdale', AJ, 22 (1865), 1-303.

³² Letter, William Greenwell to Albert Way, 7 May 1867, SAL, WaP.

³³ Fox, 'Primitive Warfare III', p. 522. Pitt-River, 'On Excavations in the Earthwork called Dane's Dyke, at Flamborough, in October 1879, and on the Earthworks of the Yorkshire Wolds', JAI, 11 (1882), p. 463. 'Inaugural Address, Salisbury', p. 266. Also see Gray, Index, p.v; Thompson, General Pitt-Rivers, p. 56.

³⁴ DNB; C.H. Read, 'Presidential Address, 1909', PSAL, 22 2dS (1909), 478; Obituary Notice, Archaeologia Aeliana 3dS, 15 (1918), 1-20; Penniman, A Hundred Years, pp. 161-62; Joan Evans, Time and Chance, pp. 124-27; Antiquaries, pp. 340-42; Henry Randall, History in the Open Air (London: George Allen and Unwin, 1936), p. 11; and Daniel, A Hundred and Fifty Years, pp. 174-76.

still largely preoccupied with medieval remains as well as prehistoric ones³⁵. He began his best-known series of excavations only in the late 1860s, presumably as a complement to his other summertime recreation, fishing—a pastime which in itself says something about the contrasting personalities and temperaments of the two men. What Fox and Greenwell did have in common, however, was a commitment to scholarship and as far as it signified an orderly approach to any subject—to 'science'. As Greenwell enjoined his fellow antiquarians: 'It is impossible to reprobate too strongly that ignorant and greedy spirit of mere curiosity-hunting which has done—and alas! is still doing such injury to proper investigation of our ancient places of sepulchre'³⁶. Like Fox, he was critical of the work of Irish antiquarians, calling attention, as well, to the disorderly condition of the Irish Academy and complaining of the lack of scientific commitment there³⁷. On such points, therefore, Fox and he were in complete agreement.

Fox's first encounter with Greenwell was, nevertheless, shortlived, and while the relationship in the end was a lasting one, the two did not meet again until the following year. (A plan to get together that autumn apparently never materialized³⁸.) By the end of April, therefore, after only a fortnight in Yorkshire, Fox was back in London joining Franks, Evans and his old friend, Captain Tupper in a discussion on race at the Society of Antiquaries³⁹. In May, he returned to Ireland to carry out some last minute arrangements there and to conduct a series of minor excavations in the town of Midleton near Cork⁴⁰. It was apparent, though, that Greenwell's example had had its effect. While Fox's official duties again were apparently not very demanding, they still stood in the way of what he was obviously seeing as his chance to make his own mark in archaeology and ethnology. By June it was clear that his decision had been made, if in fact it had not been made far earlier, and on 6 July 1867, Fox went officially on half-pay⁴¹. It is possible that some change in his mother's health may have had some part in this choice he would return to active duty soon just before her death in 1874—but it was obvious that his main motivation was a professional one.

2. The Changing Museum Ideal

One of Fox's principal projects upon his retirement was the promotion of what might be termed the museum ideal. By that period few among the newly established anthropological or ethnological communities would have questioned Fox's assumption that a museum was essential to their joint interests. Hunt and Blake had both stressed the need for a study collection at the Anthropological Society and had done what they could to establish a small museum in the Society's St. Martin Place apartments⁴². Both too had

³⁵ Obituary Notice, *Archaeologia Aeliana*, 1918. See his later *Durham Cathedral* (Durham: House of Andrews, n.d.).

³⁶ Greenwell, 'Barrows on Wykeham Moor', p. 241.

³⁷ Evans, *Time and Chance*, p. 124.

³⁸ Letter, William Greenwell to Albert Way, 28 Sept 1867, SAL, WaP.

³⁹ Discussion, 30 Apr 1867, PSAL, 2dS, 3 (1867), 488.

⁴⁰ Fox, 'Note on a gold Lunette, found near Midleton, Co. Cork, 1867', PSAL, 4 (1869), 195.

⁴¹ Hamilton, III, 438.

⁴² See above, p. 227.

emphasized the importance of governmental support, realizing the great expense a truly representative collection would incur. Lubbock and Evans, among the ethnologists, had taken a similar stand, Lubbock, in the introduction to his widely read Prehistoric Times, Evans, in the course of his many presentations before both the Ethnological and Anthropological Societies and, in part, through his own collecting example⁴³. As a result, the idea of a comprehensive anthropological museum was rapidly becoming a unifying element—perhaps the only issue upon which all factions could agree.

Other scientific organizations had long before come to similar conclusions, as Fox himself was quick to emphasize. A museum had been an important feature of the Royal Society since its inception, fulfilling the essentially Baconian principles upon which the Society was founded⁴⁴. Even after the transfer of most of the Society's collection to the British Museum, in the late eighteenth century, the Royal Society still voiced an interest in museum affairs and continued to maintain a small collection of scientific instruments and other exhibits in its entrance hall at Somerset House⁴⁵. The Royal Institution, one of the chief focuses of Fox's interests during the 1850s and early Sixties, also included provisions for a museum, particularly of the mineralogical and botanical specimens featured in the Institute's weekly lecture series⁴⁶. Other more recently established societies, such as the Geological and Zoological Societies, tended to follow the older example, as if to prove their scientific standing⁴⁷. Indeed, as in the case of the United Services Institution, the decision was almost preordained. Overall, then, a museum had become the symbol of scientific endeavour, and as such was seen as one of the chief means by which a new discipline, such as that represented by either the Ethnological or Anthropological Societies, might 'be fairly admitted into the brotherhood of the established sciences', as Fox put it⁴⁸. The surprising point is that it should have taken so long for other ethnologists and anthropologists to come around to the idea.

While the museum had considerable symbolic value, it was also seen as a concrete means of promoting scientific advancement, a centre for research and training, as Fox understood it, in particular. Again, as Fox emphasized, the example was offered by the natural sciences. Linnaeus had based his own classification system directly on the Swedish Royal collections at Uppsala and, in large part, considered his own system to be as much a

⁴³ Lubbock, The Origins of Civilisations, pp. 172-73; Evans, Stone Implements, p. 25. Also Evans, Time and Chance.

⁴⁴ Nehemiah Grew, Museum Regalis Societatis or a Catalogue and Description of the Natural and Artificial Rarities, belonging to the Royal Society and preserved at Gresham College (London: For the Author, 1681); James Spedding, ed. The Works of Francis Bacon, vol. III (London: Longman, 1857), pp. 165, on Bacon's Salomon's House of New Atlantis with its 'two very long and fair galleries...'. Also see Farrington, 'The Rise of Natural History Museums', 206.

⁴⁵ Bohn, p. 537-43; Shepperd, Plate XI.

⁴⁶ Bohn, p. 537-74; Bence Jones, The Royal Institution, (London: Longmans, Green, 1871), pp. v and 305.

⁴⁷ H.B. Woodward, The History of the Geological Society of London (London: The Geological Society, 1907); A.T. Gage, A History of the Linnean Society of London (London: The Linnean Society, 1938). Also: Bohn; Thornbury, IV, 270, 316, 564-67.

⁴⁸ Fox, 'Address, Brighton, 1872', p. 157.

catalogue of museum specimens as a programme for understanding the complexity of the organic world⁴⁹. Geologists and paleontologists had as well depended on museum specimens for their own work. Lyell's Principles of Geology (1830), grew out of his experiences at Edinburgh and the British Museum, as well as his work in the field, and, of course, Darwin had relied upon established museum collections for his own theoretical work⁵⁰. As Fox himself recognized, the pattern was well-established⁵¹.

The museum was also seen by Fox and others as a means of training younger scientists. Cuvier, Agassiz, Faraday, Richard Owen, Asa Gray and countless other leading scientists used museum collections as a basis for their lectures, and, indeed, in the middle part of the nineteenth century the larger institutional museums were the only vehicles for specialized training of a scientific kind⁵². Finally, the scientific museum was seen as a means of educating the general public, a place of 'public instruction not solely a place of reference for savants' as Fox put it⁵³. By the time his own collection was made generally available, beginning only in 1874, the latter purpose had become perhaps the most important one.

The idea of the museum as a popular institution was relatively short-lived at the time of Fox's own museum efforts. In a broader sense, of course, museums and collections could be said to have had a popular appeal at least since the eighteenth century, when museums of various kinds competed with travelling circuses and other shows as public entertainments. Ethnographical collections themselves had long been popular, beginning in England as early as Don Saltero's collection of 'gimcracks' and 'rarities', displayed at Chelsea in his public house⁵⁴. During the early nineteenth century that tradition became, if anything, even more firmly established, with William Bullock's various exhibitions and those of George Catlin, serving perhaps as primary examples⁵⁵. Most larger and more established institutions, such as the British Museum, however, tended to eschew showmanship of such a kind. The British Museum, for example, only began to admit general visitors in the early part of the nineteenth century, and even then numbers were kept to a minimum by a staff more intent on preserving standards of scholarship than

⁴⁹ Systema Natura 1735, facs. of last ed. (Nieuwkoop: B. de Graet, 1964). See Wilfred Blunt, The Complete Naturalist: A Life of Linnaeus (New York: Viking Press, 1971); Alice Dickinson, Carl Linnaeus: Pioneer of Modern Botany (New York: F. Watts, 1967).

⁵⁰ Lyell, Principles of Geology (London: John Murray, 1830); Darwin, Origin, p. 487.

⁵¹ Fox, 'Primitive Warfare I', p. 616; Catalogue, p. xi.

⁵² Farringdon, 'Natural History Museums'; W. Boyd Dawkins, 'The Organisation of Natural History Museums', Nature, 16 (1877), 137-38; L.B. Gratacap, 'Natural History Museums', Science, NS 8 (1898), 29-37, 61-68. For more recent descriptions: L.G. Woodruff, The Development of the Sciences (New Haven: Yale Univ. Press, 1923); Albert A. Gunther, A Century of Zoology at the British Museum (London: Wm. Dawson and Allen Lane, 1975); Hillary Rose and Steven Rose, Science and Society (London: Allen Lane, 1969); and P.S.L. Cardwell, The Organisation of Science in England (London: Heineman, 1972).

⁵³ Pitt-Rivers, 'Address, Bath, 1888', p. 825.

⁵⁴ Saltero, Catalogue of the Rarities to be seen at Don Saltero's Coffee House in Chelsea (London: by Tho. Edtn for the Proprietor, 1729). Faulkner, p. 373. Also, Murray I, 171-72; Thoresby, p. 376.

⁵⁵ See above, pp. 213-14.

entertaining what they typically dismissed as 'the holiday guests'⁵⁶. Only through the pressure of Parliament did the British Museum establish a more lenient admission policy, and it was only during the 1840s that the Museum's collections became what might be considered fully accessible. As Fox complained, the British Museum's collection as well as those of similar smaller museums, were little more than 'toy shops' from the visitors' point of view, offering little in the way of instruction or enlightenment⁵⁷. It was only during the 1850s, then, the period during which Fox's collection as initially formed, that the idea of the museum as an educational institution first came to be widely accepted—and then only tentatively.

One of the first active proponents of the idea of an educational museum was the reformist and architect James Fergusson (1808-1886). Fergusson, together with Owen Jones and other members of the Society of Arts, argued for an entirely different kind of institution—one aimed at the 'instruction and amusement of the unscientific classes'⁵⁸, and not simply, as Fox had said, for the 'savants'. His aims were expressed in a series of articles published during the 1850s, and by the end of the decade many of his suggestions had been carried out in a number of institutions, particularly the Society of Arts' own collection in Marlborough House⁵⁹. Edward Forbes (1815-1854), through his post at the Museum of Practical Geology, had attempted to carry Fergusson's ideas into effect, arranging the geological and biological collections under his charge in a way so as to allow visitors to conduct themselves through the galleries rather than having to depend solely on a guide⁶⁰. Forbes efforts were equally successful, and most provincial museums with extensive natural history collections, such as those of Manchester or Exeter, tended increasingly to emulate his example, incorporating many of his ideas on display and organization into their own varied collections. Fox's own efforts almost implicitly would share in such an ideal.

In a less direct way Fox was influenced by new developments in fine arts museums as

⁵⁶ Edwards, *Lives*, p. 14. On the relaxation of entry requirements, see: Miller, pp. 139-41; Hudson, pp. 8-20; Shelley, pp. 58-62; Wittlin, pp. 113-14; Watson, p. 19. On earlier difficulties, see G.R. De Beer, 'Early Visitors to the British Museum', *BMQ*, 18 (1953), 27-32; and Cesar Graña, 'The Private Lives of Public Museums', *Transactions*, 4 (1967), 20-25.

⁵⁷ Fox, 'Primitive Warfare, III', p. 438.

⁵⁸ James Fergusson, *Observations on the British Museum, National Gallery and National Record Office* (London: John Weale, 1849), p. 29. He was citing John Edward Gray, an assistant at the British Museum. See Gray's later 'Presidential Address to Section D. of the British Association', *RBAAS* (1864), 76-77. Also A.C.L. Gunther, 'Address, Section D', *RBAAS* (1880), 591; and Gunther, *Zoology*, p. 89.

⁵⁹ Also see Fergusson, *On a National Collection of Architectural Art* (London: Chapman and Hall, 1852). On the role of didactical displays in 'trade' or 'technological' museums see Pevsner, *High Victorian Design*, p. 139; Julian Barnard, *The Decorative Tradition* (Princeton: The Pyne Press, n.d.), pp. 42-45. On the Society of Arts own Museum at the time, see Steegman, pp. 143-44; Bohn 433; and Thornbury, III, 47-48.

⁶⁰ Edward Forbes 'On the Educational Uses of Museums', *Amer. Journ. Of Science*, (1854) 340-52; 'Museums as Instruments of Education', *The Art Journal*, 5 (1853), pp. 282-85. On the impact of Forbes' lectures see Thomas Greenwood, 'The Place of Museums in Education', *Science*, 22 (1830), p. 247; and *Museums and Art Galleries* (London: Marshall, 1888).

well as scientific or technical displays. As with scientific collections, the fine arts museum had originally been considered the domain of scholars and, in many cases, artists themselves. The National Gallery in London was, at the time of its foundation in 1834, little more than the private exhibition gallery of the Royal Academy, and even during the 1850s it was still arranged so as to satisfy the interests of members of the Academy rather than the public⁶¹. That circumstance was best illustrated by the fact that its pictures were arranged by subject or theme rather than by school or chronology, as most collections were to be later in the century. Other art collections in Great Britain, with the possible exception of the Dulwich Gallery and Sir John Soane's collection of architectural models and casts, tended to follow in that tradition, providing models for artists to copy rather than materials for instruction⁶².

A sudden change in organizational principles came in the 1860s, however, largely as a result of the well-publicized criticism of the German art historian Gustav Waagen (1794-1868). Waagen suggested that the British nation would benefit greatly from the introduction of an historical system, such as that beginning to be employed in Germany, and suggested that British collections follow the lead⁶³. By the mid-1860s his suggestions had obviously made some impact; particularly on the National Gallery, whose young director, Charles Eastlake (1793-1865), accepted Waagen's dictates with few reservations⁶⁴. Within a few years other art collections throughout Britain tended, in turn, to conform to the Waagen and Eastlake system, organizing their exhibits along a strict chronological system to illustrate the history and development of art. Again, the parallels with Fox's collection are worth noting.

The example set by both scientific and art collections during the 1850s and 60s was followed closely by a number of ethnologists and in some ways Fox could be considered a relative latecomer to the idea of an ethnographical museum based on new didactic principles. Among ethnologists the lead was taken most vocally by Fox's friend and later sponsor at the Royal Society, Thomas Huxley. Huxley's efforts centred on the Museum of Practical Geology. As with Forbes before him, his intention was to make the Museum's collections as interesting to the general visitor as to the dedicated scholar. Soon he extended that idea to ethnology as well, and by the early sixties he had expressed his

⁶¹ Philip Hendy, The National Gallery, London (New York: Harry N. Abrams, n.d.), xiv-ly, pp. 10-15. On the Royal Academy and the Society of Dilettantis' own efforts and the 'fine arts' tradition, see Nikolaus Pevsner, Academies of Art, Past and Present (New York: Da Capo Press, 1973), pp. 220-24; Kenyon, p. 58; and Hudson, 21-23.

⁶² The gallery at Dulwich College, bequeathed by Sir Peter Bourgeois in 1811, was considered a model of instructional technique. Gustav Waagen, Works, Arts and Artists in England (London: John Murray, 1838), II, 378-89. Soane's Museum, designed for the use of architectural students, was equally didactic. On the background to the Dulwich College, see Helmut Selig, p. 111; Pevsner, Building Types, p. 123 and Henry-Russell Hitchcock, 'The Genesis of the Museum', The Architectural Review, 141 (Feb 1967), 111. Soane's Museum is described at length in Arthur T. Bolton, Description of the House and Museum on the North Side of Lincoln's Inn Fields, the Residence of Sir John Soane (Oxford: Oxford Univ. Press, 1830); and Hudson, pp. 49-53.

⁶³ Waagen, Art and Artists.

⁶⁴ Hendy, pp. 10-11.

hopes for a new and scientific ethnological collection before members of both societies⁶⁵. His main interests, however, concentrated on museums of comparative anatomy rather than on the archaeological and ethnographical collections which were the focus of Fox's own interests. Nonetheless, he supported the idea of an ethnological museum, incorporating both physical and material remains, and by way of example had introduced a number of archaeological exhibits to the Jermyn Street collection⁶⁶. Alfred Wallace, Darwin's champion within the Anthropological Society, was much more direct. In his article 'Museums for the People', published in MacMillan's Magazine in the spring of 1869, he stressed the need for a public ethnological institution or museum, adhering closely to the pattern established in geology, mineralogy, botany and zoology. 'The arts of mankind', he explained in apparent paraphrase of Fox's own argument, 'should be illustrated by a series, commencing with the rudest flint implements, and passing through those of polished stone, bronze, and iron—showing in every case, along with the works of prehistoric man, those corresponding to them formed by existing savage races'⁶⁷. Again, as in Fox's case, he recommended that each material and technology be arranged by subject, such as clothing, house forms, musical instruments, and of course, weapons, each forming comparative groups. Drawings, he further suggested, could be used to supplement other materials, particularly when those were too big for display purposes. Published three years after Fox's return to London, it is clear that Fox's own views had had their impact.

Huxley, Wallace and Fox each understood that the resources of the Ethnological or Anthropological Societies were not capable of supporting a museum such as they proposed. Furthermore, by that date they realized as well that they already lost whatever opportunity they may once have had at an earlier period when materials were more readily accessible. As Hunt explained in 1864, it was 'generally felt that it is better to have no museum at all than a defective one—small museums are highly inconvenient, while large ones are kept up at great expense'⁶⁸. Other societies had reached the same conclusions, and, as a result, most had passed their own collections on to the British Museum or other larger institutions where it was felt they could be more properly displayed and cared for, something most ethnologists and anthropologists recognized as well. Not surprisingly, therefore, the attentions of the majority of ethnologists and anthropologists, including Fox, tended to centre increasingly upon the formation of a national collection. The British Museum, again, was the most logical focus.

3. Efforts Towards a National Ethnographical Museum

The growth and relative success of the British Museum's ethnographical collections, up to that time, had depended largely on the efforts of Fox's close friend, A.W. Franks. Associated with the British Museum since 1851, Franks tended to give greater and greater attention to ethnography and archaeology during the 1860s. His main focus was

⁶⁵ In particular see 'The Advisableness of Imparting Natural Knowledge', Fortnightly Review, 3 (1866), 626-56. Also, 'Methods and Results of Ethnology'.

⁶⁶ Huxley, Life and Letters, I, 143-50.

⁶⁷ Alfred Russell Wallace, 'Museums for the People', Macmillan's Magazine, 19 (1869), 248.

⁶⁸ Hunt, 'Presidential Address, 1864', p. lxxxiii.

the famous Christy collection, then housed at Christy's old apartments on Victoria Street. The latter was gradually reorganized throughout the late sixties; and by the time the Museum's first official catalogue, the Christy collection had attained the high standard of display upon which Fox himself later commented.

The Museum's main collections were, in contrast, more or less neglected. In 1866, when a new department of British and Mediaeval Antiquities and Ethnography was officially formed, the collection differed little from that of over twenty years before. The only real change was in terms of the actual number of pieces available. As to its arrangement, it still followed what had come to be called the geographical system, a point emphasized, in turn, through the provision of labels both for the cases and on the individual items⁶⁹. Increasingly, as a result of its organization, its systematic character had come to be recognized, despite what was, in fact, a total lack of system or plan. Fox referred to its scheme as 'more strictly ethnological' than his own, because of its concentration on 'the general culture of each distinct race'⁷⁰. In truth, of course, it was little more than a patchwork of objects, its organization based either on necessity or convenience or both. Franks himself blamed the situation on staffing shortages and the 'constant interruption [of visitors] during the official day'⁷¹. Choice, then, had had little part in his decision.

From an administrative point of view, the Museum's ethnographical collections were in a tenuous position at best and had been for many years. A Parliamentary Select Committee, as recently as 1860, had recommended that the ethnographical collections should be removed, along with other miscellaneous materials, to new accommodations near South Kensington. Antonio Panizzi (1797-1879), the imperious Principal Librarian of the Museum from 1860, cared little for the ethnographical collections and also wished for their removal⁷². That they should have remained, therefore, in a 'molluscus and invertebrate condition of development', as Fox later put it⁷³, was certainly not surprising.

Despite their disorganized condition and uncertain future, the British Museum's ethnographical collections helped convey a sense of legitimacy to the new science as Fox and others realized. While no longer as popular as they had been during the early part of the century, when exotic curiosities were, in fact, still curiosities, the ethnographical galleries remained one of the most popular displays at Bloomsbury, as the staff itself was fond of pointing out. Their inclusion within a new department of Antiquities in 1866, helped as well to redefine the scope of the ethnographical collections and, in turn, helped to establish ethnology's independence as a subject. By the end of the decade, many other museums including those of Bristol and Ipswich, to mention only two examples, had followed the British Museum's example, rearranging and relabeling their own displays of exotic curiosities in order to suit the projected requirements of the new science⁷⁴. In 1872,

⁶⁹ Brauholtz, 'Ethnographical Museums and the Collector', *JRAI*, 68 (1938), 5.

⁷⁰ Fox, 'Principles of Classification', p. 295.

⁷¹ Cited Brauholtz, 'History of Ethnology in the Museum after 1753 (pt. 1)', p. 92.

⁷² *PPH of C 1860 Vol XVI* p. 173; cited Miller, pp. 239-41.

⁷³ Pitt-Rivers, 'Address, Bath, 1888', p. 827.

⁷⁴ Chilcott's *Descriptive History of Bristol*, 7th ed. (Bristol: J. Chilcott, 1846); L.W.G. Malcolm, 'Notes on Ethnological Arrangement in the Bristol Museum', *MJ*, 22 (1923), 4-7; D.P. Dawson,

the guide to the City Museum at Hull described its 'Ethnological Department' as 'choice'⁷⁵. Most other metropolitan and local museums were reluctant to fall behind, thereby increasing the number of ethnographical museums, if only by default.

Another factor in the establishment of ethnographical collections was a growing serious international competition among museums. Fox commented that other nations should not be allowed to surpass Great Britain in terms of the size of their collections⁷⁶, and indeed, his own efforts must be seen, at least in part, as a patriotic response to that need. Others among the anthropological and ethnological communities clearly felt the same way. J. O. Westwood had emphasized, as early as 1858, that Britain's national collection of both antiquities and ethnographical materials was far smaller and less representative than those of Denmark and Germany, where collections of that kind had received greater governmental attention from an earlier date⁷⁷. 'A national museum, created and maintained at the public expense', as Fox later proposed, seemed really the only solution⁷⁸. It was almost inevitable, then, that the British Museum should be the focus of that effort, and while Fox continued in his own work, many of his hopes were obviously leaning toward the British Museum's collection as well.

Probably the most important development occurring among ethnological museums at the time—at least as far as Fox's anxieties were concerned—was the sudden spurt of collecting activity among German institutions and museums. The most ambitious programme was probably that of the National Museum in Berlin, and in many ways the Berlin Museum served as a model for other efforts elsewhere. The Berlin Museum was organized after 1865 to include two major new departments—one devoted to the study of northern antiquities and a second established for the promotion of ethnographical studies, much along the lines of that established in Holland and Denmark at an earlier date. The number of objects involved is difficult to determine, but the guidebooks of the period suggest that the Berlin collections, by the mid-1860s were at least twice as large as those of the British Museum and occupied three times the number of rooms⁷⁹. With the

Bristol Museum, Personal Communication, 9 Oct 1975; David L. Jones, Ipswich Museum, Personal Communication, 14 Oct 1975; Patricia Butler, Ipswich Museum, Personal Communication, 10 Oct 1975. Other early collections included those of the Royal Society in Edinburgh, of the Perth Institute, now the Perth Art Gallery and Museum and the Leeds City Museum. 'Descriptions of Some Indian Idols in the Museum of the Society', Trans. of the Scottish Royal Society, 9 (1823), 381; Murray, I, 156; Tertia McMeehin, Perth Art Gallery and Museum, Personal Communication, 27 Oct 1975; C.M. Mitchell, Personal Communication, 6 Oct 1975; Browns' Illustrated Guide to Hull (Hull: A. Brown and Sons, [1888]), p. 6. Also see Murray, I, 246.

⁷⁵ The Hull collections have since been incorporated into the City of Kingston-upon-Hull's Museum and Art Gallery. John Bradshaw, Personal Communication, 7 Oct 1975.

⁷⁶ Fox, 'Principles of Classification', pp. 294-95.

⁷⁷ Westwood, 'Archaeological Notes, Denmark, Prussia and Holland'; 'Archaeological Notes made in a Tour in Western Germany and France', AJ, 20 (1863), 141-57.

⁷⁸ Pitt-River, 'Address, Bath, 1888', p. 825. Cf. 'Principles of Classification', p. 295.

⁷⁹ Max Schaster, Les Musées Royaux de Berlin (Berlin: Librairie de Fr. Nicolai, 1868), pp. 135-60. Also see Oliver Cummings Farrington, 'Ethnographical Collections in Germany, Part I',

appointment of the well-known German anthropologist Adolf Bastian (1826-1905) in 1868, it was evident that the Berlin collections would increase at an even faster pace. By the early seventies, with the emergence of such other important ethnographical museums as those of Hamburg, Leipzig, Dresden and Munich, German museums had become unassailable, at least in terms of the number of objects held, and they were clearly the envy of British anthropologists and ethnologists⁸⁰. While Fox as an individual collector could hardly hope to compete, there is little doubt that the German success story was adding a fresh impetus to his own efforts.

As of the late 1860s, however, the challenge was still, for Fox as well as other members of the British anthropological and ethnological communities, a generally amicable one, far different from the almost bitter competition among the larger museums, experienced at the end of the nineteenth century. Indeed, the effort was still seen as one of scientific unity, each nation being expected to make its own contribution to the whole. Such a universalist ideal was perhaps best exemplified by a temporary display of archaeological and ethnographical material at the International Exhibition in Paris held during the summer of 1867. As with its predecessor displays, the Paris Exposition was essentially a catalogue of technological advancement. Again, there was a hall of machinery, a hall of arts, a pavilion devoted to manufactured goods and another devoted to agricultural products. Weapons played an even larger role than before, reflecting the increasingly martial tenor of the times; the Prussian needle gun, which caused considerable comment, was perhaps the most dramatic indication of such an attitude⁸¹. At the same time, man's earliest productions, long accepted by antiquarians and others as the only appropriate introduction to an exhibition of that kind⁸², were given a special place in the scheme, largely through the efforts of the French archaeologist Gabriel M. de Mortillet (1821-1898). Exhibitions ranged from Lartet and Christy's flint tools to later materials unearthed by Keller in the Swiss lakes. Taken together, the exhibition displayed the 'grande loi du progres de l'humanite', as Mortillet explained, through its display of technological

Nature, 60 (1899), 467-69, 770-71; 'Notes on European Museums', *American Naturalist*, 33 (1899); Bahnson, pp. 6-10.

⁸⁰ Recognized by Westwood as early as 1858. 'Archaeological Notes, Germany and France'. On other German collections and their importance to the subject see Bahnson, 'Ethnological Collections, Part II', pp. 12-13; Bazin, *Museum Age*, p. 238; Penniman, *A Hundred Years*, p. 85; Lowie, 30-38. The best short description is found in *Guide to the Royal Collections of Dresden*, trans. by C.S. Fox, 2nd ed. rev. (Dresden: Albanus, 1902), 79-80, 101-03, 124-26.

⁸¹ *L'Exposition Universelle de 1867*, ed. M. Fr. Ducuing (Paris: La Commission Imperiale, 1867); *Les Expositions et l'industrie et l'Exposition Universelle de 1867* (Paris: L. Hachette, 1867); Imperial Commission, *Paris Universal Exhibition of 1867. Catalogue of the British Section* (London: For Her Majesty's Commissioners by Spottiswoode, 1867; Paris: C. Delagrave, 1867); *The Art Journal Illustrated Catalogue of the Universal Exhibition*, (London: The Society of Arts, 1868); Wilhelm Hamm, *Illustrierter Katalog de Pariser Industrie-Ausstellung von 1867* (Leipzig: F.A. Brochhause, 1868).

⁸² See, for example, Paul Broca, 'Report of the Paris Society' *AR*, 1 (1863); and descriptions of the Exposition such as that of E. Roberts, 'Discussion of an Irish Club', *JBAA*, 14 (1868), 25; or of Mrs. Lynn Linton, 'On the Ethnology of the French Exhibition, as represented by National Arts', *TESL*, 6 (1868), 216-26.

advancement and comparison⁸³. It was left for Fox simply to give Mortillet's message a more permanent expression.

4. Man and Nature; Fox's First Paper on Primitive Warfare

Fox's views on his collection and his hopes for a comprehensive research institution, and museum, are best revealed in a series of papers of the late sixties on primitive warfare. The first of those was delivered at the United Services Institution on 28 June 1867, or several days before his semi-retirement was made official. A draft must have been completed during the previous summer, although the latest reference was to a December 1866 issue of the Times⁸⁴. By all indications the lecture was well-attended and well-received, despite its length—nearly two hours. As the lecture was a general one and part of the Institution's regular lecture series, there is no record of discussion afterward. It was, therefore, more in the nature of a public presentation than part of an official meeting, although it was formally introduced by Colonel Philip J. Yorke, who chaired the gathering.

In keeping with the Institution's long-standing tradition of scientific pragmatism, Fox was careful to provide a practical explanation for his own work, suggesting that 'the requirement of our advancing age demands that every vein of knowledge should be opened out,...'. Moreover, as he had emphasized in his lectures a Hythe, the only valid means of understanding the present world and 'the practical discoveries of modern science' was from his point of view, 'to take a glance backward' at the foundations of the discoveries which made that world possible⁸⁵. While he admitted that an examination of primitive weapons would lead to few immediate solutions—'We have no need of bows and arrows in the existing state of war'⁸⁶—they did indeed help to illustrate many of the basic principles both of construction and use which were still pertinent in the modern day. Representative as such weapons were of successive stages in the development of modern weapons, they also provided a basic outline of the whole history of military technology. To illustrate his talk, examples were presented both from his own collection and from that of the Institute. The latter were placed on display at the front of the lecture theatre for the benefit of the audience.

The principal theme of Fox's lecture was the continuous nature of technological change. In a way reminiscent of earlier writers on military technology, he was intent to provide an outline of that development, and, following what was in fact a relatively conventional theme, he simply combined modern and ancient weapons to illustrate his thesis. Unlike most other writers, however, he was concerned to press the beginnings of technology back to an even earlier period, and, by doing so, to illustrate man's earliest efforts to

⁸³ Cited, Brew, One Hundred Years, p. 63. Also see Gabriel de Mortillet, Materiaux pour L'Histoire Positive et Philosophique de l'Homme, (1865; rpt. Paris: Reinwall Library, 1888).

⁸⁴ SSW. PRP, P17.

⁸⁵ Fox, 'Primitive Warfare I', pp. 612-13. John Collingwood Bruce, 'The Practical Advantages Accruing from the Study of Archaeology', AJ, 14 (1856), 1. Cf. Stafford Northcote, 'Inaugural Address Delivered in Congress in Exeter', JBAA, 18 (1862), 3.

⁸⁶ Fox, 'Primitive Warfare I', p. 613.

separate himself from the natural world. 'The lower the archaeologist searches in the crust of the earth for relics of human art' he explained, 'the more faint become the traces of that broad gulf, which in our times appears to separate man from the brute creation'. Both men and animals, moreover, were subject to the same laws. 'Modern science finds no evidence of any such abandonment of the universe to man's jurisdiction'⁸⁷. Continuity, gradualism, the ever-increasing acceleration of social and technological advance were shown to have governed each step of man's progress and, in a sense, continued to dictate his present development.

Darwin was invoked almost from the outset. The Darwinian view of species change, Darwin's own dependence on Lyell, and the evidence derived from the palaeontological record were compared directly to Fox's own view of the sequence of technological advance. The 'analogy of tree growth', employed by Darwin, served as well to 'explain the distribution of the human races and the progress and expansion of the arts'. Just as the 'mollusca of recent species' could be shown to have an organic relationship with the 'mollusca of the primary geological period', so could the 'existing races of mankind ... be taken to represent the budding twigs and foliage ... upon the great stream of life'. Nor was it an entirely abstract image. Darwin through his concept of natural selection also suggested to Fox something of the mechanism of technological change. In an obvious reference to Alfred Wallace's recent reinterpretation of Darwin's work at the Anthropological Society, Fox explained that the capability for advancement or for 'civilization', as he defined it, was 'confined to particular races, whose function it has been by means of war and conquest, to spread the arts among surrounding nations, or to exterminate those whose low state of mental culture rendered them incapable of receiving it'⁸⁸. The gradual extermination of the population of Tasmania, as well as that predicted for the native inhabitants of Australia and North America, was but a continuing illustration of what was for Fox, then, a basic truth.

To better illustrate his argument, Fox turned first to man's earliest technological advances, advances undertaken, he suggested, 'to attain proficiency in the art of war'. The immediate model was that offered by the 'lower animals'⁸⁹. Both man and animals, Fox explained, following Bray in particular, were governed by the same basic instincts: alimentiveness, amativeness, and combativeness, the latter of which also governed the selective propagation of the species. Not surprisingly, he continued, man and animals shared a number of basic defensive and offensive mechanisms. Many of man's weapons derived specifically from examples offered by animals. The use of turtle shells for shields, armadillo scales for armour or the use of deer or antler horns as piercing weapons were suggested as typical examples of man's first steps to obtain weapons of his own. In turn, a hierarchy of development was suggested for each new development or change, each representing an advance over that which preceded it, although at each stage, nature (the lowest stage) still could be referred to for fresh ideas. As a result of that process, each weapon could be shown to possess a kind of 'history of its own', as Fox explained—

⁸⁷ Ibid, p. 614.

⁸⁸ Ibid, pp. 615-16. Cf. Wallace, 'Origin of Human Races'.

⁸⁹ Fox, 'Primitive Warfare I', p. 619.

one independent of the intentions of their makers. Early African and Australian throwing sticks and boomerangs, for example, were shown to possess a common origin and continuity. The modern shield was shown to have been adapted from the simple throwing stick still employed in East Africa. By that means it was possible, therefore, to reconstruct the origin of the earliest weapons and, also, to establish relationships which had never been considered previously. Moreover, not only did Fox's method provide an indication of man's first technological steps but would eventually provide information on 'everything connected with the origin of mankind'⁹⁰, indicating something of the full scope of his later programme.

The sources for Fox's paper were varied in nature. On the one hand, there was the obvious influence of the number of historians of military technology, Fox's knowledge of which extended back to his first researches at Hythe. Secondly, there was the general theme of technological and social progress, so basic to the Victorian consciousness as to preclude analysis. There was also the overriding influence of Lyell, with his emphasis on the continuity of historical change, the absence of sudden transformations or abrupt advances, despite what was, in fact, the somewhat contradictory evidence of contemporary developments.

In terms of more specific sources, Fox obviously depended on the writings of a number of antiquarians, Meyrick's Ancient Armour and Beckman's History of Inventions, apparently serving as his principal references⁹¹. Cyer Cumings' early article 'On Weapons and Armour of Horn', published in the Journal of the Archaeological Association in 1845, provided several illustrative examples as did Gustav Klemm's Werkzeuge und Waffen of 1854⁹². Finally, Hoddor Westropp's 'On the Analogous Forms of Implements Among Early and Primitive Races', published just a year before Fox's paper⁹³, must be taken note of. As with Fox's paper, Westropp's article had stressed the importance of 'man and instinct' and referred to the same 'combative propensities' which governed his technological advance. Fox's failure to refer to Westropp's article in his own paper, although he must have been aware of it, suggests something of the intensity of their rivalry.

Overall, Darwin's influence, despite repeated reference to his name and work, was minimal. Darwin's concept of 'unconscious selection', while mentioned several times, was never developed or applied in a systematic way as it was in Fox's later papers. The Darwinian image of organic growth and the view of 'bifurcation' which it offered was evidently a significant one, but then too, Darwin could not really be considered as the only source of the latter viewpoint; the genealogical tree of ethnology was just as likely a source. Finally, Wallace's interpretation of Darwin in social terms, while touched upon,

⁹⁰ Ibid, p. 618.

⁹¹ Meyrick, Critical Inquiry; John Beckman, A History of Inventions, Discoveries and Origins, trans. by W. Johnston, 4th ed., Bohn's Standard Library (London: H. G. Bohn, 1846).

⁹² Cumings, 'Weapons and Armour of Horn'; Gustav Klemm, Die Werkzeuge und Waffen, ihre Entstehung und Ausbildung (Sondershausen: G. Neuss, 1858). Also Allgemeine Cultur-Geschichte der Menflichkeit, 10 vols. (Leipzig: Von B. Teubner, 1843-52).

⁹³ Westropp, 'Analogue Forms', JASL; also AR, 4 (1866), 208-13; MASL, 2 (1866), 288-93.

was never applied in a consistent manner. Overall, therefore, it was probably less a formal source of explanation than a colourful and convenient image.

In general, Fox's view of technological advance and his understanding of the mechanisms of that advance appear to have depended more completely on a kind of generalized notion of mental development rather than one of conflict and social change. Phrases such as 'the low state of mental culture' or the 'fossilization [of] the intellect of nations' were introduced to help describe what Fox considered the unequal distribution of civilization⁹⁴. The image he presented compares most closely to that of Richard Dunn or of C.S. Wake, both of whose work concentrated more on mental than technological development⁹⁵. 'Aboriginal men' were considered by Fox as 'children'⁹⁶, providing, through their present variety, an illustration both of general development and the presumed history of European man's development as well as that of an individual's progress from infancy to manhood. Each race was not necessarily capable of independent advancement, even were they to be 'subject to compulsory education' as Fox put it, but collectively the existing races offered 'living illustrations of the social customs, the forms of government, laws, and warlike practices, which belonged to original races from which they sprung, [and] whose implements ... are now found low down in the soil ...'⁹⁷.

A fundamental assumption of Fox's paper was that the development of both ideas and technology were somehow natural, that is, dependent on laws external to human intervention. There, of course, Darwin's hypothesis was well-placed. Of perhaps more immediate interest, however, was a publication of Rev. J.G. Wood's called The Natural History of Man, then only recently published by Routledge⁹⁸. Wood's well-illustrated treatise was a virtual celebration of Victorian anthropomorphism. Hornets' nests were considered as 'houses'; feathers as 'adornments'; antlers and horns as 'weapons'. Again, as with Fox, the message was the comingling of the natural and human world, although in Fox's case the emphasis was, in many ways, reversed. It was of course, a common enough image, one rooted, for instance in the naturalist longings of the romantic poets as well as in contemporary painting and decorative taste. Indeed, it formed a basic theme in nearly every facet of Victorian life⁹⁹. As Robert Hunt had written of the Great Exhibition:

⁹⁴ Fox, 'Primitive Warfare I', p. 615.

⁹⁵ Robert Dunn, 'Civilisation and Cerebral Development'; C.S. Wake, 'The Psychological Unity of Mankind'.

⁹⁶ Fox, 'Principles of Classification', pp. 613 and 616.

⁹⁷ *Ibid.*, p. 618.

⁹⁸ John G. Wood, The Illustrated History of Man: being an Account of the Manners and Customs of the Uncivilised Races of Men (London: George Routledge and Sons, 1868). See also Wood, The Illustrated Natural History (London: George Routledge, 1853) for earlier examples.

⁹⁹ Earlier works suggestive of that of Woods and also referred to by Fox, include Samuel Mauder, The Treasury of Natural History (London: Longman, Brown, Green and Longmans, 1848). William Swainson, On The Habits and Instincts of Animals (London: Longman, Orme, Brown, Green and Longmans, 1840). A similar anthropomorphism entered even into furniture design. See William G. Fitzgerald, "'Animal' Furniture', The Strand Magazine, 12 (1896), 273-80, which discusses the craze during the 1860s. See Peter Conrad for a general discussion: C.E. Raven, 'Man and Nature', in Ideas and Beliefs of Victorians, pp. 173-79.

'The Exhibition is a reflex of the book of Nature'. Or as Edward Forbes had explained of 'man' in the same context: 'Out of stem and leaf he constructs the implements of peaceful toil, the furniture of luxurious age, the weapons of deadly warfare; ...'¹⁰⁰. For Fox, that message had assumed but another dimension.

But while Fox evidently subscribed to the conventional viewpoint of man's interaction with nature, there was one important point of difference. For Fox, the truth of the argument was rooted not only in the abstract notion of naturalism, but in the self-evident truths of the material—or even more particularly—the archaeological record. Long 'passed over with contempt', as Fox put it, the relics and utensils of ancient man indeed demonstrated the general outline of the developmentalist argument. That record was further supported by the geological evidence and by the evidence offered through comparison with the tools and weapons of modern savages. Together, ancient and comparable modern artefacts of man's developmental progress, both offered important insights into the range and limitations of that development. In the widest sense, the material record offered a basis for reconstructing the whole of human history.

5. Fox's Survey of Sussex Hillforts

Fox lost little time in testing his theories or in making them known to other prehistorians and ethnologists. Shortly after his first paper on primitive warfare, he was involved in a survey of hillforts of the Sussex countryside. It was an obvious enough subject for an archaeologist of Fox's background. Moreover, the techniques were directly comparable to those employed earlier in Ireland. Unfortunately, unlike Ireland, Fox was forced to depend on less detailed maps (scaled at one inch to the mile rather than six inches), and in consequence his final record suffered accordingly¹⁰¹.

In all, Fox provided maps for seven separate sites: Seaford, Mt. Caburn, Hollingbury, Whitchurch, Wolstanbury, Chanctonbury Ring and Cissbury. It was obviously both an ambitious and a physically taxing project, requiring that he walk over most of nearly a 250 square mile area on foot. Fox considered himself particularly well suited to the task, suggesting too that his military background helped provide insights into the original purpose of those remains which others would have overlooked. 'With regard to the military antiquities', he explained, 'it seems to have been a misfortune that few of the commentators who have treated on this subject, however well qualified in other respects, had been military men'¹⁰². Also, as he emphasized, most other antiquarians were prone to concentrate their attention on sepulchral remains—often the most productive from a collector's point of view, as well as the most romantically attractive sites—rather than investigating the civil and military monuments, which, in Fox's terms, offered the greatest

¹⁰⁰ Robert Hunt, 'The Science of the Exhibition', p. iv; Edward Forbes, 'On the Vegetable World', p. i.

¹⁰¹ Thompson, General Pitt-Rivers, p. 45. The English maps were not available until later in the century, when a scale of 1:2500 was accepted for cultivated land and 1:10560 for uncultivated land. Hartley p. 3; Skelton, pp. 425-26.

¹⁰² Fox, 'An Examination into the Character and probable origin of the Hill Forts of Sussex', Archaeologia, 42, pt. 1 (1869), 32. Other records of his work are found in PRP, P 20 and 21.

potential for understanding the everyday life of Britain's ancient inhabitants. First reported in February of the following year at a general meeting of the Society of Antiquaries¹⁰³, Fox's Sussex survey marked something of a departure from other studies of its kind, and Fox was quick to point that out. In terms of his general focus, his work at Sussex was also an anticipation of his later and better-known work at Cranborne Chase.

Once again, actual excavations played a surprisingly small part in the total effort. Each site was provided with a rough sketch map and several sectional drawings. Only Cissbury was examined in any detail, and only at that site were actual excavations carried out in order to provide a better picture of the original fort and its operations. The latter took the form of a number of test pits, eventually about thirty in number, upon which other facts were eventually established.

On the basis of Cissbury a number of general conclusions were drawn. First of all, it was concluded that little attention was paid by the builders to fuel and water supplies, suggesting that the camps were intended for temporary occupation only. Second, the size or complexity of ramparts depended inversely upon the natural features of the terrain—that is, the inhabitants of the fort seldom bothered to fortify sections already protected by escarpments or other naturally protective features. Third, ditches were found on both the interior as well as the exterior of the walls, suggesting a secondary line of defence. Fourth, each site included a number of outworks or barbicans and, most typically, included an 'interned' (or 'internal') entrance. Finally, each site tended to include a number of indications of pits or other subterranean indentations suggestive of flint manufactories. The large number of flint chips served as primary evidence for the latter. Overall, then, the evidence suggested forts of temporary occupation, following a structured pattern, as Fox noted¹⁰⁴. In terms of his theme of historical reconstruction, it was the flints which were of greatest interest. 'I was not at all surprised to find amongst so large a collection of implements of the same period ... every kind of connection between earlier and later types. It was precisely what I expected, and what I believe will always be found when a sufficient number of objects of the same age are brought together'¹⁰⁵. Again, it was the fundamental 'law of continuity', a law which applied not only to the sequence of artefacts over time, but also to the artefacts of any given period that provided the basic key to understanding the chronology of cave sites and the wider pattern which each represented.

Fox's work at Cissbury and elsewhere in Sussex appears to have begun sometime around mid-August, although many of the actual excavations were put off until the following winter. His other activities that summer are unrecorded. It can be imagined, however, that much of his time was taken up moving his family into their new home and with settling his financial affairs. He apparently missed the summer meeting of the British Association, held that year at Dundee, and would not become fully active in that

¹⁰³ Fox, 'Memoir on the Hill Forts of Sussex', *PSAL*, 2dS 4 (1868)

¹⁰⁴ Fox, 'Further Remarks on the Hill Forts of Sussex, being an Account of the Excavations in the Forts of Cissbury and Highdown', *Archaeologia*, 42 (1868), 53-76.

¹⁰⁵ *Ibid.*, p. 71.

organization or take part in its various activities to any degree until the following year¹⁰⁶. There is no record either of Fox's having attended the second and well-publicized Congress International d'Antropologie et Archeologie Prehistoriques held in Paris that year, to coincide with the International Exhibition. Franks, however, did attend, along with several other British prehistorians, and it is clear from his later writings that Fox carefully followed the proceedings there¹⁰⁷. Soon afterward, Fox recommended that a separate section for 'Prehistoric Archaeology', or 'Archaic Archaeology', as he sometimes phrased it, be established within the Anthropological Society in order to give better recognition to a subject which was obviously attracting considerable international interest¹⁰⁸.

With the resumption of meetings of the various societies in the late autumn, Fox resumed his activities with increasing persistence and was soon regularly attending general meetings of the Society of Antiquaries, the Institute of Archaeology and the Ethnological and Anthropological Societies. As a member of the Council of the latter, he was also expected to attend special meetings to help decide on future programmes and policy¹⁰⁹. His first opportunity to speak at length, however, came in connection with a special exhibition, held at the Anthropological Society, of the prehistoric series gathered by J. Wilmot Rose, and recently offered to the Society as a permanent addition to its museum. Rose, who had lived in Denmark for several years and in consequence had established close ties with the Danish antiquarian community, was intent upon establishing a major prehistoric collection in Britain, comparable to that in Copenhagen; he had accumulated his series of some 1500 stone implements with that in mind. His offer to the Anthropological Society of November 1867 had similarly been made with the understanding that the Society might assume responsibility not only for the collection as stood but also for a more ambitious programme for which Rose's own collection would provide the nucleus¹¹⁰. Rose's offer was discussed at length at several regular meetings of the Society and also among the Council members¹¹¹. Shortly before Christmas, Fox was asked by Bernard Seeman, who chaired the meeting, to present a short talk on his own collection, before opening discussion to the floor¹¹². Fox brought with him several examples from his own collection, comparing those with several pieces from that of Rose, including a number of examples from his recent work at Cissbury. What struck him most, Fox explained, was the resemblance among Irish, Celtic and Danish forms. Furthermore, not only were the stone tools similar, but bronze ones followed a similar pattern as well, each suggesting a gradual transition from one material to another.

¹⁰⁶ Fox first joined the British Association in 1868 and appears never to have attended a meeting before that date. Personal Communication, Sarah Wilcox, 15 Jan 1980. The Dundee meeting is described at length in AR, 6 (1868).

¹⁰⁷ Fox, 'Primitive Warfare III', p. 530. The conference was also well covered in various journals.

¹⁰⁸ T.H. Huxley, 'Presidential Address to the Ethnological Society', JESL, NS 2 (1870), p. xvi: Fox, Letter to Huxley, 3 Sep 1868, HP, ICS: Letter to Lubbock, 1 Jun 1868, LP, BL, Add MS49642, f119.

¹⁰⁹ See RAI, Council Minutes ASL, 3 Dec 1867, A3:1.

¹¹⁰ Wilmot Rose, 'The Rose Collection of Stone Implements', JASL, 6 (1868), xl-xlix.

¹¹¹ RAI, Council Minutes, ASL, 22 Jan 1868, 4 Feb 1868, A3:1.

¹¹² Discussion following 'The Rose Collection', pp. lxix-l.

Speaking from the audience, Professor Bell agreed in part, emphasizing, however, that in the case of the bronze implements 'there are indications that at an early period a new race of men had ... suddenly changed the character of the implements previously used'. Fox, after responding to Bell's point, allowed that 'in the metal age, distinctions were observed for which identity of race might be traced', but maintained still that changes in actual forms tended to present a picture of gradual change, each new implement in the series appearing to have 'grown out' of that immediately prior to it. Tupper, who was soon to join Fox at Cissbury, offered further support for Fox's argument.

All members, including Fox, agreed upon the importance of collections such as Rose's for the advancement of the subject at hand. A Mr. Higgens was struck by how 'so extreme and typical a collection of stone implements' could have been brought together in such a short period of seven years', remarking as well upon the precision with which each specimen was recorded and arranged. Hunt, who was also present, pointed out that a complete series, such as that of Pose, was indispensable for lectures of the kind just given by Fox, pressing for the Society to accept Rose's generous offer and the challenge that it presented. Others were less enthused, realizing the difficulties the responsibility for the collection would pose. Most agreed with James Wyatt, who writing to Hunt shortly afterward, accepted the importance of an anthropological collection but suggested that the British Museum, with its prior experience, was a better repository¹¹³. Finally, in January, Hunt reported that the offer had been officially declined, and, as a result of the recommendations of those such as Wyatt shortly afterward, the collection was transferred to the British Museum's Department of Antiquities¹¹⁴. Fox, who had recently donated a number of his Cissbury finds to the Christy collection, concurred with the Council's decision¹¹⁵.

While Fox obviously accepted Hunt's views on the importance of ethnological and archaeological collections for the promotion of science, it is clear that he, like many others, was not certain that the Anthropological Society was the proper vehicle for such an effort. Hunt, as his remarks suggest, had in part been attempting to convert Fox to the anthropologists' cause, thinking, perhaps, that by supporting Fox's efforts to establish a centralized museum he could also help cement Fox's loyalties. As a further indication of Hunt's strategy, Fox was soon afterward put forward as a candidate for President, a move supported at the time by Edward Brabrook and J. Dunbar Heath as well as Hunt¹¹⁶. Richard Charnock, John Beddoe and J. Bernard Davis were to serve as Vice-Presidents; Hunt was to be Director. The time had evidently come, however, for Fox to make his choice of loyalties, and the offer was declined¹¹⁷. Shortly afterward Arthur Tupper resigned from the Council, as part of a series of protests against the Anthropological Society's recent dealings, and, while Fox remained a member of both the Society and the Council, his influence had obviously been diminished by his refusal of the presidency. By the time negotiations between ethnologists and anthropologists resumed in the spring, it

¹¹³ Discussion, *JASL*, 6 (1868), xlix.

¹¹⁴ RAI, Council Minutes, ASL, 22 Jan 1868.

¹¹⁵ Fox, Discussion following 'The Rose Collection', p. xlix.

¹¹⁶ RAI, Council Minutes, ASL, 3 Dec 1867, A3:1.

¹¹⁷ RAI, Council Minutes, ASL, 31 Dec 1867, A3:1.

was clear to most in which camp Fox's own loyalties lay.

For the time being, however, Fox avoided the controversy and by mid-January was back at Cissbury continuing with his excavation of flint pits¹¹⁸. He was accompanied at the time by Tupper, his long-time friend from the United Services Institution. Canon Greenwell also visited the site and carried out a number of separate excavations there himself. It was, in fact, the first true collaboration of the two, although, as Thompson has suggested, there may well have been some disagreement over techniques at the time, thereby putting an end to it¹¹⁹. Greenwell, who was apparently staying with Fox, was elected a member of the Ethnological Society shortly afterward, and Fox also appears to have initiated his election to the Society of Antiquaries¹²⁰. Surprisingly, however, Fox's name was subsequently scratched from the list of those supporting Greenwell's candidature¹²¹. Whether, as Thompson suggests, that too was an indication of a disagreement remains a matter of conjecture. Either way, both at least remained on speaking terms at the Archaeological Institute, of which both had been members for a number of years. Also on 16 January, or near the end of Greenwell's stay, they both attended a general meeting of the Society of Antiquaries: Greenwell exhibited two stone axes discovered near Newcastle two years before and a second discovered more recently near Weaverthorpe in the East Riding; Fox brought with him a ringbrooch from Lough Neagh, in the northern part of Ireland, discovered shortly before he left¹²². If a quarrel had broken out, there was no indication of it at that time.

By early February Greenwell was back in Yorkshire, again taking up his work on sepulchral remains. His findings were later published through a collaborative effort with Fox's close friend, George Rolleston as British Barrows, a Record of the Remains of Sepulchral Mounds in Various Parts of England (1877)¹²³. He also participated in several field surveys similar to those recently carried out by Fox in Sussex, and possibly suggested to him by Fox's work. Fox, in the meantime, presented his papers on Sussex Hillforts, including a more detailed account of his excavations at Cissbury¹²⁴. Comparing his own efforts to those of a paleontologist in search of new specimens, he explained that each layer revealed a wide range of tools, not only those of more recent invention and derivation. Older tools and weapons, he argued, could be understood as 'survivals' or to use his terms 'relics'. He also returned to the argument that the tools of contemporary

¹¹⁸ 'Further Remarks on the Hill Forts of Sussex'.

¹¹⁹ Thompson, General Pitt-Rivers, p. 49.

¹²⁰ He joined the Anthropological Society in 1865, the ESL three years later. RAI, Subscribers Ledgers, ASL, A6:1, ESL Council Minutes.

¹²¹ William Greenwell, Certificate of Candidature, SAL.

¹²² William Greenwell, Exhibition of 'Two Stones Axes found in 1866 in a cist at Leghill near Newcastle,' PSAL, 2dS 4 (1868), 60-61. Fox on a 'Ring-Brooch from Lough Neagh', Ireland, PSAL, 2dS 4 (1868), 61-62.

¹²³ William Greenwell, British Barrows: A Record of the Examination of Sepulchral Mounds in Various Parts of England - Together with Descriptions of Figures of Skulls, General Remarks on Prehistoric Crania and an Appendix by George Rolleston (Oxford: At the Clarendon Press, 1877).

¹²⁴ Fox, 'Further Remarks', p. 70. See William Greenwell, 'On The Barrows of the Yorkshire Wolds', RBAAS (1872), 187-88.

savages might be used for comparative purposes:

'so by a precisely similar process of natural selection, if we may apply that term and I think we may, to the earlier stages of human art, many ancient types of tools and forms of ornament are in like manner retained by savages from habit, prejudice, and a variety of causes, long after they had been superseded by others of more recent origin; so that, at any given period of the history of an aboriginal race, the varieties of any particular class of implement actually in use, if fully collected and arranged, will within certain limits exhibit all the links of connection between present and past forms'.

As Thompson has pointed out, Fox's 'series' system obviously still took precedent over stratigraphy, in relative contrast with Greenwell¹²⁵.

If Fox's papers on the Sussex hillforts were an occasion for him to exhibit his skills as a surveyor and excavator, they also allowed him a chance to present his ideas upon his collection, or more accurately, the philosophy behind it. The general theme was clear enough: that by arranging together objects from a single site, definite lines of development and continuity could be determined. Moreover, by tracing such lines of continuity it was possible, he felt, to provide a gauge against which to judge and then, situate, either temporally or culturally, other, more isolated objects. The real key to the system's success, however, lay in its sheer concentration of objects, that is, in having enough materials to be able to form the various series necessary for comparative purposes. The same argument, he held, was true for tools and weapons of modern savages, each complex, in a sense, providing a record not only of present variations but of past development as well:

And the reason of its not having been sufficiently insisted upon hitherto arises, I believe, from such collections having been so frequently dispersed, instead of being arranged together in a good typical series, and also from the fact that travelers and collectors not properly imbued with this principle have usually brought home, preserved for their museums, those specimens which fall in with a classification predetermined in their own minds, and which serve rather than to exhibit well-marked differences of form, than those which by their resemblance contribute to show the almost imperceptible mutations which connect one form with another. This, however, is not truly scientific, and I venture to think – at the same time being well aware of the difficulties that stand in the way of such a proposal – that no real progress will be made in prehistoric researches until in the arrangement of our museums, the analytical method

¹²⁵ Thompson, General Pitt-Rivers, p. 49.

has been superseded by one more synthetical, classification by continuity, and until the desire on the part of curators to obtain unique and remarkable specimens, and arrange them in cases in such a manner as to produce symmetry and please the eye, has been replaced by an arrangement calculated to exhibit at a glance, side by side, in close proximity, all those varieties of the same class of implements, by means of which we shall be enabled to trace out the slow and uninterrupted flow of progress which has taken place in all the early stages of art¹²⁶.

In April, Fox returned to the field to further test his theories, as well as to increase his own samples. The focus during that period was Oxfordshire or, more precisely, the area around Kidlington, Charlbury and Woodstock to the west, including the stone circles at Chipping Norton and Enstone. As in Sussex several months before, his initial excursion was apparently undertaken alone. One of his chief interests, outside of the stone circles or 'henge' monuments, was a dyke stretching across the area just north and west of Woodstock known as the Devil's or Grime's Dyke. Robert Plot, the seventeenth century antiquarian and topographer, had suggested that it was the remains of a Roman road, Fox suggested that it represented part of a fortification built in defence of a Roman settlement. There too, what struck him was the occurrence on the surface of both flint arrowheads and what he identified as Roman remains. In all, he identified some four different types of arrowheads, types generally found, he asserted, in all sites marking the transition from stone to bronze tools. Apparently long recognized by antiquarians elsewhere, Fox suggested, 'they have not, I believe, been previously discovered in this part of Oxfordshire'¹²⁷.

By early May, Fox had returned to London and was soon thoroughly embroiled once again in the politics of the Ethnological and Anthropological Societies. In many ways he appears to have been reluctant to do so. As we have seen, Fox has a tendency to remain somewhat outside of the squabbles of the two groups. Moreover, despite the fact that most of his friends were drawn from the more creditable ethnologists, he was not altogether out of sympathy with men of the attitudes of the opposing faction. There is little doubt, however, that he supported the idea of amalgamation, a subject of discussion and interest at least since 1866 among members of both organizations. His own optimism and obvious dedication to the idea of an inclusive and, thereby, unified science led him almost inevitably to that position.

As a result, while many others were already willing to fully dismiss Hunt and his cronies, Fox continued to take a more positive approach, and, writing to Hunt on the subject of prehistoric archaeology, he suggested that the subject be regularly included in the agenda of regular meetings of the Anthropological Society, arguing that it should also form a

¹²⁶ Fox, 'Further Remarks', p. 71.

¹²⁷ Fox, 'Flint Implements, found associated with Roman Remains in Oxfordshire', JESL, NS 1 (1869), pp. 1-12.

more important part in British Association meetings as well¹²⁸. Hunt saw nothing new in the idea and, apparently to Fox's annoyance, claimed to have offered the same suggestion himself at least two years before¹²⁹. The response surely did little to enlist Fox's support.

On 19 May, matters finally came to a head. The immediate cause was the death of the previous month of John Crawfurd, who for many years had been the figurative and effective head of the Ethnological Society, despite the opposition of many within. It was obviously an opportunity that many of the more progressive members felt should not be allowed to slip away, and within a few days a turnover of leadership had been engineered, chiefly through the efforts of John Lubbock, who was then serving as one of two vice-presidents¹³⁰. Huxley, to the annoyance of Hunt, was asked to accept the office of President, which he said he would do only if efforts towards amalgamation were undertaken with greater seriousness. The condition was obviously little more than a gesture of appeasement, however, for it was already apparent that lines had been drawn for a final confrontation. Most of the anthropological faction resigned from the Council of the Ethnological Society, to be replaced by such well-known moderates as Hyde Clarke and Richard King, and such relative newcomers as E.B. Tylor, George Busk, H.H. Howarth and Fox¹³¹. Along with Thomas Wright, by then the veritable doyen of the British antiquarian community, Fox was also appointed to the office of Honorary Secretary. If he had managed to avoid taking sides before that time, it was clear by now that his lot had been cast.

6. The Stone Age; Fox's Second Paper on Primitive Warfare

Only a few days after the changeover in leadership within the ethnological community, Fox was asked to present a second paper on primitive warfare at the United Services Institution. In truth, it had probably been arranged for some time before. Indeed, there is much to suggest that all three of his warfare lectures, each delivered in June of succeeding years, were conceived of from the first as a unified series. There is, for example, remarkably little in his second lecture which could not have been written prior to the date of his first one and, as pointed out before, it is suspected that both, and possibly all three, lectures were drafted as early as 1866, or soon after his return from Ireland, and possibly even sooner¹³². References to more recent excavations are few in number, and the materials and observations resulting from his efforts in Sussex and Oxfordshire appear to have been only superficially grafted onto his original Irish series. The evidence from Yorkshire, however, was more integrated, suggesting at least minor revisions since the time of his work with Greenwell¹³³. Nonetheless, the main theme was one of continuity, and Fox makes it clear that much of his second lecture was essentially an extension of the first.

¹²⁸ T. H. Huxley, 'Presidential Address to the Ethnological Society', *JESL*, NS 1 (1870), p. xvi.

¹²⁹ See RAI, Council Minutes, ASL, 22 Jan 1868, A3:1.

¹³⁰ Stocking, 'What's in a Name?', p. 382.

¹³¹ RAI, Council Minutes, ESL 19 May, 9 Jun, 15 Jun 1868, A1. For the Anthropological response: RAI, Council Minutes, ASL, 19 May, 2 Jun, 16 Jun and 19 Jun 1868, A3:1.

¹³² Thompson, Notes, PRP, p. 148.

¹³³ Fox, 'Primitive Warfare II', p. 417.

Fox began his paper with a brief synopsis of his previous one on the same subject. Again he addressed the theory of knowledge or, rather, what he considered the intellectual foundations of technological change. While still relying on the general concept of mental advancement as an index of development in other spheres, in his second lecture it was treated as a basic mechanism of change as well. Modifications were effected, therefore, through a process of selection, once again comparable to Darwin's concept. New shapes and new tools and, most importantly, new weapons were chosen by each succeeding generation because their users sensed a greater or lesser utility, reminding us once again of Mill's influence on Fox¹³⁴. The result was, in his terms, a developmental process, comparable to the organic growth of forms in the natural world, or even more accurately, to the growth and development of language. As he argued, just as language could be traced by means of comparison to a kind of original prototype, so too could human arts be shown to extend 'in unbroken continuity towards their source'¹³⁵.

The key to the process Fox was describing was the recognition of former resemblances of other kinds of traits or criteria. Organization according to materials, as in the case of Stone, Bronze and Iron Ages was forsaken, therefore, in favour of a new emphasis on 'the development of forms'. Again, the imitation of natural forms by man at 'all stages of development', as he put it, provided justification for his choice, and indeed it could be shown, Fox argued, that nature continued to serve as a source of inspiration both for decorative work and for more practical devices. Natural shapes and materials had, as well, an important influence on design, in a less conscious sense. The shape of a boomerang, for instance, was determined by the shape of tree limbs from which it was made. Another cause of 'variation' was essentially arbitrary or, as he put it, a result of 'errors in successive copies'. In the latter instance Evans' work on British Coins with its emphasis on a gradual transition from representation to 'meaningless hieroglyphics', as Fox described the process, served to illustrate his point¹³⁶. Finally, there was the continuing proof derived from the example of modern savages, tied as they were to repetitive processes from which no radical advances were possible. Each new advance was the result of countless unconscious adaptations. Each new form, therefore, could be shown to have developed from that which preceded it, as well as from other similar forms still in use. To attempt to organize materials according to a preconceived system, therefore, simply distorted the truth of the matter: 'Classification defines the margin of our ignorance; continuity results from the extension of knowledge by bridging over the distinction of classes', suggesting at the same time that his own system had successfully made the transition¹³⁷.

The second section of Fox's paper was historical in nature. Referring to examples from his own and the United Services Institution's collections, Fox undertook to trace the history of technological development from 'the earliest stages of man kind' to more recent

¹³⁴ Fox, 'Primitive Warfare II', pp. 400 and 405.

¹³⁵ Ibid., p. 403.

¹³⁶ Fox, 'Primitive Warfare II', pp. 404-05. Evans' work included by that date his completed The Coins of the Ancient Britons (London: J. Russell Smith, 1864).

¹³⁷ Fox, 'Primitive Warfare II', p. 406.

times. Just as there was no division of labour among early man, there was also no division of technology according to use or function. Tools used for agricultural purposes were just as likely to be used for warfare. Similarly, many more specialized implements could be shown to have been derived from objects connected with war, 'a condition of life so consistent and universal as to embrace within its sphere all other arts'. Plows and spades could be shown to have derived from axes; 'scythes and flails, from knives and spears'. The same understanding could be transferred, then, to man's earliest tools, and to illustrate the point Fox drew upon examples from both St. Acheul and Madres. As he case of his Cissbury materials, tools which in one sense preceded others could at the same time be shown to be coterminous. Broad axes, therefore, merged with narrower and axes, then with knives, the wide end of the celt providing the prototype for the axe, the narrow end that of the piercing tool or knife. Again, to make his point clearer, examples made by the 'savages of our own, or of comparatively modern times' were brought forward for comparison, as well as to illustrate missing elements. Eskimo and other North American spears and arrows were used to illustrate conventional ways of manufacture and use. Also, the fact that a modern savage usually had a variety of spear or arrow points or axes available for his use was given as further support for his Cissbury argument. Finally, a Japanese series, taken from Siebold's Atlas of Japanese Weapons, was introduced for another kind of comparison. Originally arranged together as part of a native Japanese collection, the latter series, Fox explained, clearly demonstrated 'that this remote country not only passed through the same stone period as ourselves, but that, as their culture improved and expanded, they, like ourselves, have at last begun to make collections of objects to illustrate the arts of remote antiquity'¹³⁸. Collections in themselves had become elements in the developmental process.

For a final example in his paper, Fox turned from the transition of weapons to other, what he considered closely allied forms. A second set of charts were brought forward for demonstration purposes. The first of those was essentially a treatment of what Fox referred to as the 'Transition from Celt to Paddle, Spear, and Sword Forms'. Beginning with the simplest polished celts, Fox pointed to what he saw as the close resemblance between those and the often ornate paddles found throughout the South Pacific. His argument was that the latter represented the end of a single line of development. Referring to contemporary accounts, he suggested what might be called a confusion of function, the paddle was used both to propel canoes and as a striking weapon—the latter case, in turn, was seen as further evidence in support of his theory. The same reasoning was applied in greater detail to the boomerang, throwing stick, and parrying shield, each of which was seen as having derived from a common form or prototype. The fact that those basic weapons were found throughout the same area, or the lands bordering on the Indian Ocean, including South India, East Africa and Australia, added yet another dimension to his argument. Not only did those implements suggest and validate his fundamental principle of continuity, but, in another sense, they pointed to a connection of a different order—that is, an identity of race as well as technique. The model, as Fox emphasized, was that provided by archaeology:

¹³⁸ Fox, 'Primitive Warfare II', pp. 416-20. Siebold's work on Japanese material arts was a frequent reference for Fox. Siebold, Archiv zur Beschreibung, vol. 3.

the archaeologist traces back the arts and institutions of his own people and country until he finds that they once existed in a condition as low or lower than that of existing savages, having the same arts, and using precisely the same implements and weapons; and he arrives at the conclusion that the differences observable between the existing races is one of divergence and not of origin;...¹³⁹

That the same was true of modern savages could be proven, therefore, through their arts and weapons.

Fox's second paper on primitive warfare perhaps the most complete picture of his ambitions up to that time, as well as of the characteristics of his collection. The chart illustrating the transition from leaf-shaped to lozenge-shaped arrowheads corresponded to a series in his own collection, as did diagrams illustrating the relationship among simpler stone tools. The series on boomerangs, throwing sticks and parrying shields also grew out of one in his own house, and we can assume that his arrangement on paper at least approximated that on his walls. Other details, however, including the full extent of the collection remain largely a matter of conjecture. Those objects referred to during the course of it, as well as during course of other lectures and discussions of around the same time, provide on an outline of the full contents of his collection at the time. Even then, it is difficult to tell which objects were his and which were merely illustrations or diagrams added to his collection in lieu of the actual objects. What is clear, however, is the general theme of his collection and his ambitions for it. The series on boomerangs again best illustrates the argument. No longer content to simply illustrate what he understood as a fundamental truth, Fox was by now equally concerned to use his collection in a more constructive or, more accurately, reconstructive way. In effect, his collection was becoming an historical tool, and it was obvious that he was increasingly coming to value it as such.

7. Growing Administrative Involvement

Shortly after delivering his second paper on primitive warfare, Fox again was involved in organizational work for the then upcoming British Association meeting to be held that year in Norwich. Unusually that year, a second meeting, that of the *Congres International d'Anthropologie et Archaeologie Prehistoriques* (the International Congress of Prehistoric Archaeology, as Fox and other British participants referred to it) was to be held at the same time¹⁴⁰. Fox was eventually involved in both. It is probable that Huxley and Lubbock enlisted him to the task, mostly as a result of his recent involvement on the Councils of both the Ethnological and Anthropological Societies and because of his own

¹³⁹ Fox, 'Primitive Warfare II', p. 437.

¹⁴⁰ Earlier congresses were held at Neuchatel in 1868 and Paris in 1867. One at Spezzia in 1865 was never considered officially part of the sequence.

well-known interests in prehistory¹⁴¹. While his letter to Hunt proposing a prehistoric section within anthropology implies that he had been involved at least since early spring¹⁴², it was only in July that he was selected by the organizing committee for the dual proceedings that summer. In August, however, he was appointed as the secretary to that committee and was soon afterward appointed General Secretary and Chairman of the Publications Committee as well¹⁴³. Most of his summer, therefore, was taken up with organizational functions, and outside of two short presentations at the Society of Antiquaries¹⁴⁴, there is no indication that he took part in any archaeological field work during those usually productive months.

The 'science of man', as Huxley and others had termed it, had entered into the British Association's programme only by slow stages. In 1846, it was a subsection of Section G, or Mechanics. Shortly afterward it was moved to Geography where, as Hunt complained, papers on ethnological subjects contended with those on canals or steam travel. With the establishment of the Anthropological Society, an effort had been made to establish a separate Section E for Anthropology, but that effort (mostly Hunt's) was thwarted, largely through the determination of Lubbock and Huxley, both of whom were determined that neither anthropology or the anthropologists should be allowed to receive the Association's blessing. Defeated again at Birmingham in 1866 by what Hunt referred to as 'one of the most disgraceful pieces of cliquism ever known, [in the British Association]¹⁴⁵, and at Dundee in 1867, Hunt and his colleagues were determined to gain recognition in the summer of Fox's first active involvement at the Association, no doubt expecting that the concurrent prehistoric congress would help lend a certain credibility to their cause. In the end 25 papers were entered under the heading of Anatomy and Physiology, making it perhaps the closest that the anthropologists had ever come to the official recognition that they sought¹⁴⁶. By the following year, at least in part through Fox's efforts, their Victory had been substantially reversed.

As Fox must have realized, the British Association meetings had long been the most popular forum for anthropological and ethnological discussion (and debate) and it was probably in that regard that Fox really understood its purpose and, in a sense, its value for the advancement of the subject. Characterized by Max Müller and others as an occasion

¹⁴¹ Letter, A.L. Fox to John Lubbock, 1 Jun 1868. BL, LP, Add. MS49643. Lubbock was charged with organizing the meeting. 'Report on the Paris International Congress for Anthropology and Prehistoric Archaeology', *Archiv. Fur Anthropologie*, 3 (1868), 351.

¹⁴² See above, p. 293.

¹⁴³ *Trans. 3rd Session Internatl. Congress of Prehist. Arch.*, p. xvi.

¹⁴⁴ Fox, Exhibition of a 'silver Penannular Brooch, known as the Galway Brooch'; and 'On an Anglo-Saxon Sword from Battersea', *PSAL*, 2dS 4 (1868), 141-43 and 148.

¹⁴⁵ James Hunt, 'On the Prospects of Anthropological Science at the British Association, 1865', *AR*, 3 (1865), 224-29; 'Anthropology and the British Association', *AR*, 3 (1865), p. 54-71. Anthropology's history at the British Association is discussed in detail in Henry Balfour, 'Address to Section H, Anthropology', *RBAAS* (1904), 689-700; Penniman, *A Hundred Years*, p. 91; and Stocking, 'What's in a Name?', pp. 381-82.

¹⁴⁶ *RBASS*, (1868).

for gossip and casual exchange among amateur scientists¹⁴⁷ (or in the case of ethnology and anthropology a battleground on which to entertain their grievances), the British Association was also the means by which most members of the general public, or for that matter scientists in other areas, came to know of the issues at hand and of each others' work. The implications of the Darwinian hypothesis for the investigation of man's antiquity had been first broached at the British Association meetings, principally at Oxford in 1860 and at Cambridge in 1861, and the somewhat misleading issue of 'evolution' versus 'degeneration' had been the subject of a widely publicized debate between Lubbock and Archbishop Whateley at Dundee in 1867, as many were aware¹⁴⁸. The main topics for discussion that summer were the findings of prehistorians in France, Germany, Britain and elsewhere, and the growing evidence of man's antiquity were further amplified in the separate proceedings of the International Congress. In all, papers ranged from W. Boyd Dawkins' theories on Portuguese antiquities to Huxley's speculations on primeval races¹⁴⁹. Again, it was probably the first time most people had even considered either subject. The British Association meetings were, then, in many ways, an ideal forum for Fox, concerned as he was with the popularization of the subject, and it is hardly surprising that in subsequent years many of his own efforts were to be channeled through the Association's annual summer meetings.

The joint conference of 1868 offered Fox ample opportunity for personal aggrandizement as well. Many of the leading figures in the field, including Worsaae from Denmark, Bastian from Germany, Jomard and Mortillet from France, were present at the proceedings, and, as Secretary, Fox had an opportunity to meet and work with most of them. His association with Lubbock and Huxley was strengthened as well, and throughout much of the summer and early autumn he and Lubbock were in almost daily contact over the editing of papers and other matters.¹⁵⁰ His own contributions, essentially joining in the discussion on such subjects as the use of iron in Africa and of Ogham inscriptions, were minimal¹⁵¹, but he must have been well-known to other members, at least by the close of the summer's session. By autumn he was considered one of the leading lights in the field.

¹⁴⁷ F. Max Müller, My Autobiography: A Fragment (London: Longmans, Green, 1901), p. 204. Also see BAAS, Report of the Centenary Meeting (London: BASS, 1931); and O.J.R. Howarth, The BAAS (London: BAAS, 1931).

¹⁴⁸ John Lubbock, 'On the Origin of Civilization and the Early Condition of Man', RBAAS (1867), 118-24, and 137-50; rpt. TESL, 6 (1867), 328-41. See also Lubbock, 'The Early Condition of Man', AR, 6 (1868), 1-21. Whately's argument is put forward in his Introduction to Political Economy (London: B. Fellowes, 1837), and was later supported by J. Hannah, 'Primeval Man', The Contemporary Review, 11 (1869), 160-77.

¹⁴⁹ W. Boyd Dawkins, 'Early Antiquities in Portugal', Trans. of the 3rd Session, pp. 82-83; T.H. Huxley, 'On the Distribution of the Races of Mankind and its bearing on the Antiquities of Men', Trans. of the 3rd Session, pp. 92-96; etc.

¹⁵⁰ They were also both frequently at Council meetings of the Ethnological Society. RAI, Council Minutes, ESL, 15 Jun 1868, 23 Jun 1868, 10 Nov 1868, A3. See also PRP, P85 and P85b; and BL, LP, Add. MS49643.

¹⁵¹ Discussion following G. Busk, Exhibition of 'Stone Implements from the Cape of Good Hope', Trans. of the 3rd Session, pp. 71-78; and following R.R. Brash, Ogham Monuments of the Gaedhal (Gael)', Trans. of the 3rd Session, pp. 312-18.

Another topic of interest at that summer's meeting was the question of the preservation of ancient field remains, and in that area Fox was already well informed. His own address touched upon his work in Ireland and the need for state intervention there. He also suggested that some legal protection was necessary in England and Wales, joining Lubbock and the Rev. W. C. Lukis in their pleas for protection¹⁵². As a result of the summer's activities, a new committee was formed, charged primarily with establishing guidelines for the prevention of future destruction of megalithic monuments. Fox was again appointed chairman, with Lubbock, Evans and Flower serving on the committee, and was charged with reporting on their findings later that autumn and at the general meeting of the Association the following summer¹⁵³.

For the last few months of 1868, Fox's time was increasingly taken up with his administrative work. Most of his work involved the editing of papers from the summer's conference and establishing the groundwork for what became known as the Ancient Monuments Committee. He also remained Secretary of the Ethnological Society and continued to serve on the Council of the Anthropological Society, although his involvement there had broken off considerably by that time¹⁵⁴. His routine was broken, however, for a short time during late September, when he went on a short field expedition to East Kent and the Isle of Thanet. As with his trip to Oxfordshire the previous spring, it was as much a foraging effort as a recording one and Fox managed to gather what he identified as at least ten different types of flints, ranging from simple unworked tools through drills ('not good specimens'), chisels and axes¹⁵⁵. Excavations initiated by a building contractor at St. Peter's, Reading Street, London, of which Fox was notified due to his work on behalf of the special committee of the Anthropological Society as well as the newer Ancient Monuments Committee, the next month produced an unexpected trove of flints, much as had his Thames-side excavation near Acton nearly two years before¹⁵⁶. At St. Peter's the evidence was in the form of filled pits, compared at the time to those seen earlier at Yorkshire and Cissbury. William Davies (1814-1891), at the British Museum, helped to identify the animal remains.

Fox exhibited his materials in a number of contexts: first at the Society of Antiquaries in December and at the Archaeological Institute shortly afterward. Some mention of the find was also made at the Anthropological Society¹⁵⁷. Short explanations and demonstrations of that kind had become for Fox a standard procedure. On 26 November, at the Society of Antiquaries he also exhibited two rush sticks, one from Surrey and the other from Sussex,

¹⁵² Trans. of the 3rd Session, p. 417. John Lubbock, 'President's Address', pp. 1-10; W. C. Lukis 'On the Various Forms of Monuments, Commonly called Dolmens, in Brittany pointing out a Progress in their Architectural Construction', Trans. of the 3rd Session, pp. 218-21.

¹⁵³ 'Appointment of a Committee on the Destruction of Megalithic Monuments', Trans. of the 3rd Session, p. 417.

¹⁵⁴ Fox only attended one meeting between June and December 1868. RAI, Council Minutes, ASL, A3:1.

¹⁵⁵ Fox, 'Flint Implements'.

¹⁵⁶ RAI, Council Minutes, ASL, 19 Mar 1867, A3:1.

¹⁵⁷ PSAL, 2dS 4 (1868), 143; AR, 7 (1868), 422.

which he and his friend Arthur Tupper had come across in the course of a recent walking expedition¹⁵⁸. The latter was the first indication that Fox had become involved in the collection of what later would be known as 'folk materials' as well as exotic ones, unless we take into account several of his earlier discoveries in Ireland.

By the end of November, Fox was again embroiled in the continuing controversy over the proposed amalgamation of the Ethnological and Anthropological Societies. Huxley's efforts in June and July had proved largely ineffectual, and despite that fact that Hunt and Huxley had agreed upon a new joint name, 'The Society for the Promotion of the Science [of] Man', few others in either society had joined them on that point¹⁵⁹. For once, it appears that Hunt had lost some of his control, although it is possible that his own decision was more in the way of a tactical measure than an actual concession. During much of the autumn the quarrel between the two leading factions reached a new level of intensity, with angry and recriminating letters printed regularly in both the Athenaeum and the Pall Mall Gazette. One unidentified member of both societies, who was also acting as a negotiator, accused the Anthropological Society of 'charlatanism, puffery and jobbery', challenging them to accept what he considered as the self-evident righteousness of the Ethnological cause¹⁶⁰. Faced as the Anthropological Society was with debts and the loss of subscribing Fellows (Hunt had apparently padded out the membership list with non-paying members), it was also evident to most, including Fox, who by this time had given up his own position on the Anthropological Council, that the Society itself was threatened with dissolution despite the leadership's protestations to the contrary¹⁶¹.

Huxley, in the meant time decided to ignore the continuing altercation and to concentrate his efforts on providing a new footing for the Ethnological Society itself¹⁶². He soon solicited Fox's help in doing so, and by December, Fox had become the new General (Honorary) Secretary, a position which combined the secretariats previously held by himself and Thomas Wright. Together with Lubbock, Hyde Clarke and George Busk, he also became a member of the newly reorganized Editorial Committee, no doubt in recognition of his efforts on behalf of the International Congress over the past few months as well as his earlier work on the Publications Committee of the Anthropological Society¹⁶³. As a result, Fox was soon involved in drafting the Society's new constitution, of which he was to become one of the principal architects. The final structure suggests his own organizational proclivities. New secretaries were to be created for philology,

¹⁵⁸ A.C. Tupper and A.H. Lane Fox, 'Exhibition of "Two Rush-sticks, the first from Shere in the County of Surrey; the Second from Brombe, Sussex', PSAL, 2dS 4 (1868), 158-59.

¹⁵⁹ T.H. Huxley, 'Anniversary Address', JESL, NS 2 (1870), xxiv; ICS, HP, Letter, Huxley to Joseph Hooker, 24 Oct 1868. Also see Letter, Fox to Huxley, 4 May 1869; and RAI, Council Minutes, 15 Jun 1868, A:1 Resolution, ASL, loose with A:1.

¹⁶⁰ Letters between Hyde Clarks, James Hunt, H. Brookes, E. Brabrook, C. Harding, August – December 1868: 210, 39-40, Athenaeum No. 681 (July-December 1868), 302, 334, 368, 402-09, 432-33, 681-82. Pall Mall Gazette, 13 Oct 1868.

¹⁶¹ James Hunt, 'Anniversary Address', (1869), civ.

¹⁶² ICS, HP, Letter, Fox to Huxley, 3 Sep 1868.

¹⁶³ RAI, Council Minutes, ASL, 24 Nov 1868, A3:1. List of Officers, TESL, 7 (1869), List of Officers, JESL, NS 1 (1869).

archaeology, biology and comparative psychology, as well as for the newly instituted local chapters. There was also to be a treasurer, two paid officers, a foreign secretary, the latter answerable to Fox as General Secretary, and a Deputy Secretary for India. It was also decided that the Society's Transactions should be replaced by a regular quarterly Journal and that meetings in the future should be divided into two distinct types: ordinary meetings, at which subjects of a 'scientific' character could be discussed freely; and special meetings, to which the general public, including the 'ladies', might be admitted. Soon afterward arrangements were made with Sir Robert Murchison, Fox's one-time sponsor at the Geographical Society and then Director of the School of Mines, to hold special meetings in the lecture theatre of the school's associated Museum of Practical Geology¹⁶⁴.

Fox's paper on 'Flint Implements, Found Associated with Roman Remains in Oxfordshire and the Isle of Thanet' delivered on 8 December 1868, was the first article published in the new Journal when it finally appeared the following spring¹⁶⁵. He also appears to have spent at least part of the next few weeks in framing the resolutions of the Settle Cave Exploration Committee, one of the Society's first attempts to design a methodology for excavating and recording archaeological remains¹⁶⁶. On 26 January 1869, he exhibited a marble amulet recently obtained from Warren Edwards, H.M. Consul of Lukoja, West Africa, and a bronze spearhead 'with a gold ferule and shaft of bog oak' from Longh Gur, County Limerick purchased at Sotheby's the month before. Originally part of the collection of Rev. Dr. John Neligan, whom Fox had known in Ireland several years before, it was also exhibited by Fox at the Society of Antiquaries¹⁶⁷.

In early February 1869, Fox returned to his interest in ancient field remains, a subject with which he was particularly concerned through his capacity as a chairman of the special committee appointed the previous summer. The immediate occasion for his interest, however, was a paper delivered by his long-time associate, and sometimes rival, Hodder Westropp, entitled 'On Cromlechs and Megalithic Structures' which Fox had been asked to read at a regular meeting of the Ethnological Society on 9 February 1869. Westropp's paper was, strictly speaking, a theoretical one, concerned with tracing the distribution and describing the character of megalithic monuments, rather than offering suggestions for how they might be best protected. But even in that regard, it tended to redirect the attention of ethnologists towards the questions at hand and, in Fox's case, acted as a catalyst for his own interests.

The question which primarily concerned Westropp, as it did other ethnologists and archaeologists, was why did monuments and structures of such a similar nature occur in such a wide variety of places. Cromlechs in Britain or Spain were strikingly similar to ones in India or even the islands of Polynesia. There was, as Westropp explained, no

¹⁶⁴ RAI, Report of the Council, ESL, JESL, NS 1 (1869), 1x; Council Minutes, JESL, 9 Feb 1869.

¹⁶⁵ Report of the Council, JESL, NS 1 (1869), ix.

¹⁶⁶ Report, Settle Cave Exploration Committee, JESL NS 1 (1869), 388; W. Boyd Dawkins, 'On the Exploration of the Victoria Cave, Settle, Yorkshire', RBAAS (1870) 148-49.

¹⁶⁷ Fox, 'Note on a Bronze Spear, with a gold ferrule and a shaft of bog oak, Rim Lough Gur, Co. Limerick', JESL, NS 1 (1869), 35-36; PSAL, 2dS, 4 (1869), 195-96; BL, SSC.

apparent connection among the populations themselves, comparable to that suggested by Huxley at the International Congress the previous summer. Yet even down to the smallest details of material and arrangement the comparison was so striking as to almost require an explanation of that order. The answer, Westropp suggested, was not unlike that offered several years before by him to account for similarities among stone tools, namely that 'common instincts implanted by nature on all the varieties of the human race ... lead mankind in certain climates and at a certain stage of civilisation, to do the same thing in the same way, or nearly so, even without teaching, or previous communication with those who have done so before'¹⁶⁸.

Fox disagreed entirely and took the opportunity to offer a counter-explanation, in the form of a lengthy commentary, of his own. Illustrating his talk with a map demonstrating the distribution of such monuments, Fox argued that similarities of form were often deceptive and that rather than forming a single class of remains, as Westropp assumed, there were a number of distinct varieties, and even sub-varieties, of megalithic monuments distinguished not only in points of detail but often in terms of their basic configuration. Also, he pointed out, there was no evidence to suggest that every monument was intended for the same purpose or had the same significance for those who had constructed them. Finally, he stressed the evidence of race could not be overlooked entirely, and indeed the presence of certain types of megalithic monuments among peoples who appeared to share a racial connection was one of the more important facts to emerge from the analysis. 'The more we examine into the culture of the primitive inhabitants of the globe, the more we perceive it to have expanded and developed upon a plan analogous to that which has been observed in the development of species, and the more evident it becomes that the method of investigating these memorials should be the same systematic method which we employ for investigating the phenomena of the animal and vegetable kingdoms'¹⁶⁹. What he was seeking, then, was less a further substantiation of the laws of evolution, than a description of specific variations.

Fox's paper on cromlechs marked the beginning of one of his more comprehensive schemes for the organization of ethnology. Much of his earlier work had hinted at what he considered the need for a more systematic approach to the investigation of the races of man. His work on the Society's new constitution itself conveys some idea of the scope of his ideas and the general nature of his tentative programme. It was only with his remarks on Westropp's however, that his ambitions become fully revealed: 'As the Society increases in vitality and numbers, it ought not to remain a merely passive body, listening to papers, but should take an active part in the collection and systematisation of evidence'. Overall, he suggested the Society would serve best as a clearing house for information. Members should be appointed in each province of knowledge, to sort through the materials and accounts as they filtered in. A general classification committee would, in turn, oversee the whole effort, as he explained in a second paper two weeks later, 'dividing each branch of evidence into classes, subclasses, varieties and

¹⁶⁸ Westropp, 'On Cromlechs and Megalithic Structures'.

¹⁶⁹ Fox, 'Distribution of Cromlechs and Megalithic Monuments being remarks on Mr. Hodder Westropp's paper on the subject', *JESL*, NS 1 (1869), 65.

subvarieties' and subsequently plotting their distribution on a series of large and small-scale maps. The best way to collect the information, he suggested, was through the expansion of the 'Notes and Queries' section of the Society's Journal and through a more concerted and 'systematic review of incoming reports'.

I feel convinced that some such arrangement as this would be the best means of enabling us to extricate ourselves from the empirical stage through which the Science of Man is at present struggling; and that it would lead us by degrees to what must be the ultimate object of this and all other allied societies, viz., a knowledge of the laws of nature which have influenced the growth and development of the human race¹⁷⁰.

The plan was approved in principle and once again Fox was charged with overseeing its implementation. No one else obviously fit the bill so well.

Fox's scheme for the systematic collection of information was not a new one. Questionnaires had long played a part in the ethnological programme—indeed, they could be said to have even preceded its formal recognition as a science. As early as 1839, a committee of the British Association had been established to design such a questionnaire for travellers and others coming into contact with native peoples¹⁷¹. The results had been used by the members of the Aborigines Protection Society to support their cause and to provide the factual groundwork for the Ethnological Society. In 1843, or a few months after the Society's foundation, a new edition of the questionnaire was published by the British Association¹⁷², along with other similar lists pertaining to subjects as diverse as geology, botany or biology. The 'Notes and Queries' section had become, in turn, a regular feature of the British Association's annual Reports ever since that date¹⁷³. Fox, then, was in essence merely adding to the process.

As he must have realized, however, many of the questions, and perhaps the whole format of the series, were by this period clearly out of date. Also, few questions, as Fox in particular must have realized, addressed the range of the material productions of the peoples it considered. Instead, most questions had concentrated on problems of language or religious belief, obviously of primary concern to an organization devoted to the cause of protection and based upon moral and religious concerns, but of less interest to archaeologists and anthropologists who dominated the anthropological and ethnological communities of the 1860s. Fox's aim, then, was to bring 'Notes and Queries' more into line with what he considered as the important questions at hand and to simplify and refine

¹⁷⁰ Ibid. p. 66 and 67.

¹⁷¹ Third Annual Report...Aborigines Protection Society, (London: W. Ball, 1840); RBAAS, (1839).

¹⁷² 'Varieties of the Human Race. Queries...addressed to travelers and others'. RBAAS, (1841), 332-39 and separately by the BAAS. See Penniman, A Hundred Years, p. 53; and James Urry, 'Notes and Queries on Anthropology and the Development of Field Methods in British Anthropology, 1870-1920', pp. 46-57.

¹⁷³ See RBAAS (1843).

the format of the questionnaire itself.

Toward the end of February 1869, it was formally resolved 'on the proposal of Col. A. Lane Fox Hon. Sec. to institute a permanent Committee under the auspices of the Society for the purpose of examining, classifying, and registering all branches of ethnological evidence'¹⁷⁴. Discussed at length by Lubbock, George Busk and Huxley, the final programme suggests the overriding influence of Fox. In the end, the commission was specifically charged with seven functions: (1) to examine the validity of all evidence submitted; (2) to agree upon a fixed terminology; (3) to classify 'all facts submitted as evidence'; (4) to establish a regular network of correspondents; (5) to maintain a permanent register of facts associated with each of the designated areas; (6) to provide a full set of distribution maps; and (7) to report regularly to the Society on their findings. The committee was also given the power to appoint new members, either from the fellows of the Society or non-fellows to establish relevant sub-committees, to elect its own officials and, generally, to revise the plan whenever circumstances made it desirable. The overall scheme, however, was well set-out and again reveals Fox's influence. In all there were six levels of classification: classes, subclasses, varieties, subvarieties, sections and subsections. In addition, and in a sense supplementing those were what were referred to as the six 'primary' divisions: races, languages, religions, folklore and superstitions, laws, customs and, finally, works of art and industry—overall, similar to those represented in Fox's collection. The Society was, for Fox, becoming a reflection of his museum.

Fox's work at the Ethnological Society left little time for field work, although in many ways, that was still one of his major interests. Sometime in late January or early February of 1869, however, he made a short excursion up the Thames to the area around Acton in order to examine several gravel terraces recently exposed in the course of construction as they were cleared¹⁷⁵. As with his earlier Thames-side work, and that of St. Peter's, the effort was essentially a recording operation. How long he was actually at the site remains unclear, although in all probability it was no more than a few days. A number of field drawings were made at the time and a number of artefacts, principally flint tools, were collected. The results were later brought together in two papers, one delivered before the British Association meeting the following summer and a second, more detailed one, presented to the Geological Society over two years later¹⁷⁶.

In all Fox identified three terraces: the uppermost one containing artefacts, but no faunal remains; a middle one with faunal remains only; and a lower one with a combination of fauna and artefacts. The sequence, Fox remarked, appeared to conform to that of the Somme Valley as recorded by de Perthes and others. That fact was something to which

¹⁷⁴ 'Classification Committee', *JESL*, NS 1 (1869), 333.

¹⁷⁵ See Thompson, *General Pitt-Rivers*.

¹⁷⁶ Fox, 'On the Discovery of Flint Implements of Palaeolithic Type in the Gravel of the Thames Valley at Acton and Ealing', *RBAAS* (1869), 130-32; 'On the discovery of Palaeolithic Implements in connection with *Elephas primigenius* in the gravels of the Thames Valley at Acton.', *JGSL*, 28 (1872), 449-66. See also report of 'Flint Implements in the Valley of the Thames near Acton Middlesex', *AR*, 7 (1869), 422.

he attached considerable importance: 'Although not the discoverer of palaeolithic implements in the Thames Valley, as they had previously been found by Mr. Leech, Mr. Prestwich, and Dr. Evans on the seashore near Reculver, I believe I may claim priority for the part of the river near London'¹⁷⁷. George Busk, with whom Fox was then working on the Classification Committee at the Ethnological Society, was called in to help identify the faunal remains, much as Owen and Davies had done several years before. Busk's evidence Fox considered of particular importance, suggesting in his paper at the Society of Antiquaries that it was the association or non-association with faunal remains which was the most fruitful line of investigation open to the scientific archaeologist. To better illustrate his theory and observations, his field drawings were synthesized and several large-scale sectional drawings, several of which were colour-keyed for presentation purposes, were prepared¹⁷⁸. As he explained at a regular meeting of the Anthropological Society in late February: 'If the science of anthropology was to be based upon facts, there was no source from which so much valuable evidence could be derived as to the origin and early history of man as from prehistoric archaeology...',¹⁷⁹. It was evident, too, that the stratigraphic record was beginning to assume a more prominent part in Fox's own understanding of this evidence. His earlier 'series' system, while obviously still important, was beginning to take second place.

In early March or soon after completion of his work at Acton, Fox became involved in organizing several of the new, special meetings of the Ethnological Society. Those meetings were held, as the Council had earlier arranged, at the Museum of Practical Geology at Jermyn Street. The latter institution was a particularly appropriate location for the Society's more public meetings. First established in 1835, largely through the efforts of Sir Henry De la beche, the museum itself, especially after its relocation and reinstallation in 1850, had become a virtual repository of Victorian educational ideas, as earlier suggested. Edward Forbes had lectured in the attached lecture room during the early fifties at the peak of his promising, and short-lived, scientific career. Robert Hunt, best known to the public for his work on the Exhibitions of 1851 and 1862, had also used the Museum of Practical Geology as a forum as had Thomas Huxley, who, even after accepting the position of Hunterian Professor, was still tied to Jermyn Street, where he held a curatorial position and maintained his well-known and cramped office. The Museum was, in short, the centrepiece of progressive scientific advancement, as Fox clearly realized¹⁸⁰.

In all, the Society held four special meetings at the Museum that spring. The first two, held in March, covered 'Indian Ethnology and Archaeology'; the third, held in April, was on the 'North American Indian Tribes'; and the fourth, also held in April, was on the 'Races of New Zealand and Polynesia'¹⁸¹. Huxley's lecture of the previous year provided the central theme, and his map illustrating the distribution of the principal races of

¹⁷⁷ Pitt-Rivers, 'Inaugural Address, Salisbury', p. 274.

¹⁷⁸ Fox, 'On the Discovery of Palaeolithic Implements'.

¹⁷⁹ Discussion, *AR* 7 (1869), cxix.

¹⁸⁰ Descriptions of the Museum are found in Thornbury, IV, 204-06; Fry, 112; Farrington, pp. 776-77; Hobhouse, p. 128. Also see Huxley, *Life and Letters*, I, 143-50.

¹⁸¹ *JESL*, NS 1 (1869), 89-93, 157-77, 218-21.

mankind was the central exhibit. Fox was closely involved with all four meetings, helping to organize the collections and arrange for the loan of specimens. At the meeting on 'Indian Archaeology', he also contributed a number of stone tools from his own collection obtained principally, it would appear, through the generosity of his acquaintance, Walter Elliot (1803-1887), previously of the Indian Survey¹⁸².

Fox's involvement at the Museum of Practical Geology marks a striking anticipation of his own hopes for his own museum and for its eventual establishment, as the core of an educational institution. As both Forbes and Huxley had stressed, the Museum of Practical Geology's aim was twofold, much as Fox's would be: one, to provide a specialist education for students in the School of Mines and, two, provide general instruction for the public. Lectures were delivered from October to June in the Museum's impressive lecture theatre, itself designed by James Penetown, an architect well-known for projects of this kind. Again, as with Fox's collection at a later date, museum specimens were typically incorporated into the lectures as well. In marked contrast to the British Museum, the Museum of Practical Geology's emphasis, in terms of arrangement in particular, was clearly on self-education rather than upon what Huxley had earlier characterized as the 'multiplicity of unexplained objects' typically encountered within the national collections. Entering the hall, the visitor first encountered an ornamental arrangement of local stones, many forming architectural elements, such as columns, pedestals or busts. Actual specimens, in turn, were displayed in the main hall, a two-galleried and, therefore, three-tiered expanse of glass cases and cabinets. The main theme of the collection was the practical application of geology, continuing a theme first established by the Great Exhibition and again, obviously paralleling that of Fox.

There were more direct parallels as well. One exhibit concentrated on the manufacture of earthenware vessels, the main examples being from Staffordshire, Derbyshire and Worcestershire. 'In addition to that series', an early guidebook explained, 'will be found specimens of the earthenware of the ancients, the ceramic manufactures of Italy, Germany, France, and of the Orientals, for the purpose of showing to what extent our potters have been indebted to the works of other times and nations for their success'¹⁸³. Another exhibit illustrated the history of glass; another the history of smelting—a subject which had become of particular interest to Fox during this period. Eventually too, several of the same series would be incorporated within his own collection. Overall, then, the Museum of Practical Geology provided not only a means for rehearsal for his later work, but a source of immediate inspiration as well.

8. The Bronze Age; Fox's Third Paper on Primitive Warfare

On 18 June 1869, or shortly after the last of the special exhibits on Jermyn Street, Fox delivered the last of his series of lectures on primitive warfare, again at the United Services Institution. In large part, his third lecture can be seen as an extension of those which preceded it, tracing the history of weapons, from the late Stone through the Bronze

¹⁸² 'Ethnology and Archaeology of India', JESL, NS 1 (1869), 89.

¹⁸³ Bohn, p. 577.

Ages, just as his earlier ones had concentrated on developments prior to that. Nonetheless, there were a number of important differences between the third and earlier papers. First of all, rather than treating the subject of technological development alone, he also discussed two side issues: one, the distribution of the boomerang, discussed earlier as we have seen, but only in outline form; and two, the association of the boomerang with specific races, something hinted at before, but never developed in detail as it would be now. As a result, his third lecture was really divided into two main parts, the boomerang and the races with which it was associated; and the origin of metal tools. It is clear as well that they were written at different times, the first probably just prior to the lecture itself, the second possibly as early as his return from Ireland. In overall emphasis, however, both topics still had much in common.

Fox's basic argument concerning the boomerang was that it represented a primeval weapon, so simple in its use and manufacture to require no 'feat of imagination of inventiveness'¹⁸⁴. A central point of Fox's argument, and one which underlined his understanding of the significance of the weapon, was that the throwing sticks of Australia and those of South India and Africa were really no different. The boomerang's unusual and effective shape was not the outcome of any greater understanding of the principles of thermodynamics on the part of those who made them, but simply an unintended response to the materials at hand. Accepting that, it was easy to perceive that the simpler throwing sticks of South India and East Africa derived from the same basic prototype, moreover, as Fox further hypothesized, that those who constructed them shared a common origin.

Fox's argument had been given further support over the course of the last year by an important paper of Huxley's, first delivered at the International Congress of Prehistoric Archaeology and later presented at a special meeting of the Ethnological Society¹⁸⁵. Huxley's premise was that the races of the world could be divided into four major groups, referred to by Huxley, as they would be by Fox and others, as 'primordial' or 'primary' races. Those included: the Xanthochroid, 'or fair-skinned and blonde-haired people of Europe'; the Mongoloid, 'or yellow-skinned and dark straight-haired people of Asia'; the Negroid, 'or dark-skinned curly-haired peoples of Sub-Sahara Africa and parts of the Pacific'; and, finally, the Australoid race of Australia and other regions bordering on the Indian Ocean. While a similar division of races had been suggested many times—most recently by C.S. Wake and Dean Farrar of the Anthropological Society and by H.H. Howarth at the Ethnological Society¹⁸⁶—Huxley's division differed significantly in that he relied less on the 'hard facts' of craniological or osteological evidence than on the 'soft', or external, features of peoples, including such factors as skin colour or hair types. In part, Huxley's paper marked the return to the kind of evidence of interest to early ethnologists such as Prichard or Latham, and there is no doubt that Huxley recognized that fact and the implication of such a revival of approach in the light of the current

¹⁸⁴ From 'Primitive Warfare II', p. 436.

¹⁸⁵ Trans. of the 3rd Session; and Huxley, 'On the Geographical Distribution of the Chief Modifications of Man', JESL, NS 2 (1870), 408-12.

¹⁸⁶ Wake, 'Antiquity of Man'; Farrar, 'Aptitudes of Races'; H.H. Howarth 'On the Frontier-Line of Ethnology and Geology', JESL, NS 2 (1870), 131-37. Also see John Crawford, 'On the Classification of the Race of Man according to the form of the Skull', TESL, 6 (1868), 127-34.

factionalism within the ethnological and anthropological communities. Still, many of the assumptions of a later ethnology and anthropology remained unassailed. Not only, for example, did Huxley's division suggest an early branching of the present races of the world, but it also represented a kind of hierarchy of moral and intellectual development, descending from the presumably far superior Xanthocroids to the most primitive Australoid. What differed was Huxley's theory of the distribution of those races.

In his own paper that June, Fox was quick to point out the priority of his own speculations, allowing, however, that his own 'reference to the geographical distribution of the boomerang has since had some light thrown upon it by the researches of one of our most eminent men of science'¹⁸⁷. What struck Fox in particular was the almost perfect fit of his evidence and that put forward by Huxley. As typifying the most primitive race, in several senses, the Australoids could be expected to possess what were, in effect, the most primitive weapons. Explicitly comparing his evidence to that upon which comparative philologists based their arguments, he suggested that the throwing stick could be considered as the equivalent to a 'root form,' a key which could be used to establish the point of separation among those races with which it was associated. Rather than migrating from an original source, however, he suggested that the original separation among the Australoids had been the result of gradual changes in the earth's geology. Subsequent admixture with other races had, in turn, altered the Australoid populations of East Africa and to a lesser extent those of the Deccan. But in Australia, where the race had been cut off from the influence of other races, the original race had been left in a relatively pristine state. So too had his tools. Even then, the Australian race could not be said to represent the very earliest condition of man. 'According to the view I hold, we must ask for more time and still further geological changes to bring them together in the primeval cradle of the human race'¹⁸⁸. Nonetheless, it was theoretically possible, by means of further excavations and further comparison, to reconstruct many of the specific changes which had occurred since the original dispersion.

The same argument, Fox suggested, could be applied to more recent shifts in population, as well as to more recent changes in technology. To illustrate his point he centred on the problem of 'the origin and development of metal tools'¹⁸⁹, something, Fox suggested, which had been of interest to archaeologists since the earliest days in much the same way that the problem of human origins had preoccupied ethnologists. The main question was whether the knowledge and use of bronze and other metals had occurred independently, as Lubbock and a number of other prehistorians had recently argued, or whether the knowledge of metalworking, or even the tools themselves, had diffused from a single centre, as many of the more traditional antiquarians, ranging from J.A. Worsaae to Thomas Wright, had held¹⁹⁰. Fox was eager to suggest a compromise. Like Lubbock, he

¹⁸⁷ Fox, 'Primitive Warfare III', p. 509. Notes on Huxley's earlier article among Pitt-Rivers' papers at Salisbury. SSW, PRP, P 85a.

¹⁸⁸ 'Primitive Warfare III', p. 516.

¹⁸⁹ Ibid.

¹⁹⁰ John Lubbock, 'Answer to Wright on the Bronze Age', *TESL*, 5 (1867), 105-14; J.J.A. Worsaae, 'Antiquities of South Jutland'; Thomas Wright, 'On the True Assignment of the Bronze weapons, etc., supposed to indicate a Bronze Age in Western and Northern Europe', *TESL*, 4

agreed that the use of bronze and other metal tools had been introduced only gradually. The process of copper-smelting, he suggested, was an almost natural one, consisting merely of the recognition of the intrinsic utility of metal tools over stone ones. The transition to bronze was also easily explained, zinc, the central alloy, often forming a part of the copper ore. The only problem, as Fox recognized, was the striking degree of uniformity, particularly in the relative proportion of tin and copper among bronzes from different parts of the world. Following Daniel Wilson, he suggested that recognition of utility again helped explain that fact, each nation simply settling upon the most advantageous proportionate mix. But that was, in many ways, too simple and could hardly explain the uses among peoples living where zinc was not in fact a natural ore. Some explanation in terms of communication was obviously necessary.

In the end, Fox suggested that the knowledge of metal production may have been established independently but that more refined techniques of admixture were passed from one nation to another, either through conquest or through the intervention, of some casual wanderer or shipwrecked cast-away'. Slight variations were only to be expected—'It is a fault we have many of us to complain almost daily in our cooks'—and did not in itself suggest any impediment to the acceptance of his theory¹⁹¹. The tendency of each country, then, to manufacture tools of their own design only helped support his argument. The association of bronze and spiral ornaments did not contradict his point either, the spiral ornaments deriving from a natural form and not from specific geographical or cultural source. The continuity among forms through the ages remained constant, therefore, but the specific derivation of material and techniques was, in a sense, more parochial.

The striking thing about Fox's paper is the way in which he avoids many of the evolutionist assumptions. The progression from stone to bronze and then to iron is accepted only in a tentative way. In Europe or even America the use of copper, and then its alloy bronze, was the established sequence, as proven by the stratigraphic records. Elsewhere, however, where copper was perhaps less available, the Bronze Age appeared to have been passed over entirely. In Asia and South Africa, for example, it could be shown that the transition was from stone to iron and not from stone to bronze as in other parts of the world. Moreover, he emphasized, the introduction of metal did not in itself preclude the continued use of earlier tools, 'in the same way that smoothbores and rifle barrels, row boats, sailing-vessels, and steam-packets, continue to be used simultaneously in our own time'.¹⁹² Again, it was a question of survivals. The resultant picture, in Fox's terms, was, therefore, not one of continuity and process, as Lubbock and others had long argued, but one of widely different sequence. Forms tended to accede to other forms, new

(1866), 176-96. BAAS (1865), 131. See Rev. of Wright of Bronze Weapons, AR, 4 (1866), 72; and Rev. of John Lubbock's Prehistoric Times, AR, 3 (1865), 336-41. Also see George V. du Noyer, 'On the Classification of Bronze Celts', AJ, 7 (1850), 281-83; and John Crawford, 'On the Supposed Stone, Bronze and iron Ages of Society', TESL, 4 (1866), 1-12; 'On the Sources of the Supply of Tin for the Bronze Tools and Weapons of Antiquities', TESL, 3 (1864), 350-55; RBAAS (1864), 147.

¹⁹¹ Fox, 'Primitive Warfare III', p. 525.

¹⁹² *Ibid*, p. 532.

inventions to older ones, but in each case there was an element of chance or the often arbitrary influence of connections or migrations, as the earlier opponents of the Three Age System such as Wright and Crawfurd had long before argued. Overall, it was less a question of evolution than of historical change.

Another interesting feature of Fox's paper was its emphasis on the close association between the problem of human origins and that of the origins of human technology. In discussing the Bronze Age he drew the parallel explicitly: 'Hence we find archaeologists as much divided in their opinions upon what I may call the monogenesis or polygenesis of bronze as biologists and anatomists are upon the monogenesis or polygenesis of the human race'¹⁹³. Overall, the same order of explanation held as well. The origins of specific weapons or other tools could be traced to specific points of disjuncture among the races with which they were associated. In some instances, the two could be fully equated, as in the case of the Australoid race. In other instances, including the origin of bronze, the development was of a more minute order. While the final product was one of process and sequence, the causes were rooted in specific and often recognizable events. Overall, the latter seemed to take precedent.

With his last paper on primitive warfare, Fox had more or less established himself as a leading archaeological and ethnological name. He had demonstrated his organizational abilities, both at the Ethnological and Anthropological Societies. He had been an instrumental figure at the International Congress of Prehistoric Archaeology, the previous year, and had played a major part in the organization of papers and publications for that occasion. His excavations in Sussex and Oxfordshire, as well as his most recent ones in the Thames Valley, had confirmed his earlier promise as a field archaeologist, and, as he himself noted, had brought him into line with other leading field workers of the day. His efforts on behalf of the Ethnological Society, particularly at its special meetings that spring, had demonstrated his commitment to the popularization of the subject. His discussions and demonstrations at the United Service Institution, in turn, had shown how far his own museum efforts had proceeded. In effect, he had become a figure worth considering and, together with Lubbock and Huxley, a figure upon whom other members of the anthropological and ethnological communities were coming increasingly to depend.

Yet while Fox was obviously closely connected with the new leadership, he stood somewhat outside their ranks as well. For one, his own involvement as a field archaeologist was anything but typical. Lubbock, although best known at the time for his Prehistoric Times, was essentially a synthesizer of archaeological evidence, not an archaeologist in his own right. Huxley also never participated in field work, his own role being more that of a popular spokesman than a plodding investigator like Fox. Among the archaeological community itself, the story tended to be the same. Franks only rarely went into the field, his own efforts concentrating almost exclusively on auction houses not field excavations. Frederick Ouvry, Lord Stanhope's successor at the Society of Antiquaries, generally confined his attentions to the accessible materials in libraries and

¹⁹³ Ibid, pp. 520-21.

ecclesiastical records, as had countless antiquarians before him. This is not to say that there were not a active field workers—the well-publicized efforts of Greenwell alone attest to such activities—but, rather, that field work in itself was playing far from a central role in either the anthropological or ethnological spheres than it had earlier in the decade. Only Evans, among all three communities, approached Fox in his commitment to the field, but then, unlike Fox, he had little time to devote to administrative tasks, particularly within the rapidly changing Ethnological Society.

Fox also differed from many of his contemporaries in his understanding of the basic tenets of evolutionism. The evolutionist argument had become, as we have seen, the common ground or, more accurately, 'the foundation stone' (in Prideaux's terms) of the new more progressive ethnologists¹⁹⁴. Lubbock again was the key spokesman with his persistent emphasis on gradualism, the uniformity of development and the essentially progressive nature of mental, social and technological change. Lubbock's basic principle was that each race of man, however backward they might appear, merely represented mankind at a different step in his development or, as one skeptical reviewer of Prehistoric Times had suggested, 'at very different stages of progression from the original state'¹⁹⁵. Others, ranging from W.R. Grove, President of the British Archaeological Association for a number of years, to Sir Roderick Murchison, the well-known President of the Geographical Society, tended to take a similar position¹⁹⁶. For them, the evolutionist argument was becoming a means of explaining, or even justifying cultural and racial diversity. It provided the answers to the dilemma of ten years before.

Fox, on the other hand, while he shared many of the evolutionist assumptions, including the notion of gradualism, did not altogether accept the universal application of the theory. His reticence to do so becomes most clear in his approach to the idea of 'invention'. Most evolutionists tended to see invention as simply one aspect of the overall process. For Hodder Westropp, the concept of invention had been central to his thesis, the assumption being that common forms produced in diverse parts of the world were that way because of the requirements, or intentions of their makers¹⁹⁷. Fox did to a point accept the fact that 'like modes of procedure under similar circumstances' would produce comparable results, but he remained steadfastly opposed to the idea that any new forms were ever 'invented' as Westropp had suggested. 'It is a maxim capable of wide demonstration that what we recognize under the term invention is absolutely unknown to savages in a very early condition of art'¹⁹⁸. For Fox, a more satisfactory answer lay in the possibility of past connections, and he insisted that that order of evidence be considered before any question of independent origin even be considered.

¹⁹⁴ See above, p. 204.

¹⁹⁵ Rev. of John Lubbock's Prehistoric Times, AR, 3 (1865), 45. Markham, 'On Crystal Quartz Instruments', ix; W.R. Grove 'Address of the President of the British Association', AR, 4 (1866), 387-90.

¹⁹⁶ *No footnote [number obviously missed in error]*.

¹⁹⁷ Hodder M. Westropp, 'On the Earliest Phases of Civilisation', JESL, NS 2 (1870), 324-25; 'Analogue Forms'.

¹⁹⁸ Fox, 'Roovesmore Fort', p. 135; 'Primitive Warfare II', p. 436.

Fox's position marked him as something of a maverick among the more progressive ethnologists and newer evolutionists. His divergence from convention is perhaps best illustrated by contrasting his approach to that of his long-time associate, Edward Burnett Tylor. Tylor, as we have seen, was himself concerned with the archaeological record in his first major work. Anahuac (1863) was essentially an investigation of the concept of the diffusion of cultural traits from one area to another¹⁹⁹. While critical from the beginning of Von Humbolt's assumption that the 'civilisation' of Middle America was simply an outgrowth of that of East Asia, he nonetheless tended to couch his arguments in what could be understood as essentially diffusionist terms. By the time of his second book, Researches Into the Early History of Man of 1865, however, he was more prone to present his argument in evolutionist terms²⁰⁰. By 1871, he had made the transition entirely, assigning similarities of cultural traits to the fact that 'the mind of uncultured man works in much the same way at all times everywhere'²⁰¹. Such a point of view was broadly acceptable to Fox as a means of explaining the general theme of cultural change and development, but when applied to specific areas of change, particularly material change, such a position tended to undermine the strengths of his own, more diffusionist evidence. If similar objects or tools could be attributed to identical mental processes, such cultural traits as boomerangs, flint tools or different types of ornaments could not be used to trace an actual connection among peoples, as Fox had attempted to demonstrate among the so-called Australoid race of East Africa, India and Australia. By accepting Tylor's argument, the importance of his collection was diminished, becoming less an historical tool than simply a means of substantiating a widely accepted and generalized premise. While not entirely opposed to the use of his collection for demonstrating the wide topic of 'the evolution of man', he recognized the potential threat to its research potential such a position represented. The only option available to Fox was to move away from the more radical evolutionist suggestions, returning to a more traditional form of explanation. The consequences of his decision, would, in turn, have a profound effect upon his future approach to the newly founded science.

¹⁹⁹ Tylor's transition from 'diffusionist' to 'evolutionist' has been stressed by Burrows, Evolution, pp. 249-50; Penniman, A Hundred Years, pp. 132-33; Lowie, pp. 27-28; Irving Goldman, 'Evolution and Anthropology', Victorian Studies, 3 (1959), 55-57.

²⁰⁰ E.B. Tylor, Researches into the Early History of Mankind and the Development of Civilisation (London: John Murray, 1865).

²⁰¹ E.B. Tylor, Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art and Customs, 2 vols. (London: John Murray, 1871).

