

James Rennell and his Scientific World of Observation

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WHO WAS JAMES RENNELL?

In 1791 Fanny Burney (1854 5, 226–7) described Major James Rennell as

full of characteristic intelligence, simply and clearly delivered; and made us all wiser by his matter, if we remembered it, and gayer by his manner, whether we remembered it or not. I hope to meet him often. He is a gay little wizen old man, in appearance, from the eastern climate's dilapidations upon his youth and health; but I believe not old in years, any more than in spirits.

The following year she mentioned that Rennell 'has a plain, unadorned way of giving information, that is both pleasant and masterly' (Burney 1854–5, 300). Mrs Alicia Bryne, in her account of the Thackeray family, described Rennell as being 'of middle height, well proportioned, with a grave yet sweet expression of countenance. He was diffident and unassuming, but ever ready to impart information. His conversation was interesting, and he had a remarkable flow of spirits. In all his discussions he was candid and ingenuous.' (Markham 1895, 171–2)

Major James Rennell FRS (1742–1830) was born near Chudleigh and brought up there by a guardian, the Reverend Gilbert Burrington, his mother having been widowed in 1747 (Vetch 2004). Rennell entered the Royal Navy as a captain's servant in January 1756, just before the Seven Years' War with France. Four years later he volunteered to go with Captain Hyde Parker (1714–82) to the East Indies Station. Between 1760 and 1763 he saw some active service, including the capture of Pondicherry from the French after it capitulated in January 1761. He became such an expert in marine surveying that Parker lent his services to the East India Company. He later transferred and undertook surveys under the highly talented Alexander Dalrymple (1737–1808), who joined the East India Company in 1752 and became its first hydrographer in 1779. Dalrymple produced thousands of

nautical charts and also explored commercial possibilities and routes in South Asia; as part of this mission, Rennell accompanied Dalrymple to Sulu and was even left a prized sextant when Dalrymple died, broken-hearted at his dismissal, in 1808. In 1764, Rennell joined the Bengal Marine Service, commissioned as ensign in the Bengal Engineers, and arrived in Calcutta when Governor Henry Vansittart (1732–70), Robert Clive's successor as Governor of Bengal from 1759 to 1764, was planning a survey of Bengal. Owing to the friendship with Mr Topham, who had served with Rennell in the Navy and who afterwards became a civil servant in the Company, Rennell was appointed surveyor-general of the East India Company's dominions in Bengal from 1764. Over the next 13 years, he surveyed an area of about 300,000 square miles.

In 1772 Rennell married Jane Thackeray (1739–c.1820), great-aunt of the great novelist, William Makepeace Thackeray, who was born in Calcutta whilst his father Richmond was serving there. Jane was a daughter of Dr Thomas Thackeray (d.1760), headmaster of Harrow, who left a widow and 15 children. As a result, Jane was sent to Calcutta to join her brother, William Makepeace Thackeray, the grandfather of the novelist, where he worked in the Bengal Civil Service from 1765. This brother later became Secretary to John Cartier, the Governor of Bengal from 1769 to 1772. Rennell made his headquarters in Dacca (Dhaka) and formed many lasting friendships including Thomas Kelsall, Lady Clive's cousin, who served the East India Company for 18 years in India from 1754, Cartier, and Major-General Claude Martin, an eclectic French Indophile employed by Nawab Asaf-Ud-Daula of Oudh (Markham 1895, 47). Other close lifelong friends were Dr Francis Russell, the station surgeon, and Sir Hugh Inglis, a commission merchant who then traded in Calcutta, where he made a fortune. Inglis was elected East India Company Director in 1784, made a baronet in 1801 and thrice served as Chairman and Deputy Chairman of the East India Company. Inglis warmly supported the accumulation of material on the history and culture of the East. Both Inglis and Francis Russell were, coincidentally, cousins of Dr Patrick Russell MD, formally of Aleppo and editor of the second edition of the *Natural History of Aleppo* (1794), his brother



Figure 1. Major James Rennell F.R.S. 1799. Frontispiece, *James Rennell* (1830).

Alexander's classic book with the same title (1756). Patrick also served in the Carnatic and later became a close friend and neighbour to Rennell in London.

Injured by Sanusi in 1776 in a skirmish on the frontiers of Bhutan, Rennell was brought by open boat 300 miles to Dacca, where he was treated by Dr Francis Russell. He never fully recovered. He retired as a major of the Bengal Engineers in 1776 at the age of 35 and was later granted a pension of £600 per annum by Sir Warren Hastings. From 1777 until his death in 1830, Rennell stayed in London, where he spent most of his time researching, chiefly among the materials and travel narratives in East India House, including the Orme Manuscripts, originally bequeathed in 1801 by the East India Company historiographer, Robert Orme. A prolific writer, Rennell's interests did not lie only in India or in his groundbreaking oceanographic studies but also in travelogues in the Middle East and North Africa. Although he never travelled in the region, Rennell was a scholar who deserves a place in this book for several reasons, as this paper will explain.

HIS LONDON CIRCLE

First, on his return to London, from 1777 Rennell lived at 23 Suffolk Street (later called Nassau Street), which was not far from that of his great friend and mentor, the President of the Royal Society, Sir Joseph Banks (1743–1820), who lived at 32 Soho Square, and both establishments became meeting places for a great network of travellers. In 1809, his talented daughter Jane married Admiral Sir John Tremayne Rodd KCB, and lived in Wimpole Street. His 'old messmate, Topham, lived in Queen Street, Berkeley Square', whilst

[h]is Dacca friends, Kelsall, Hugh Inglis, Dr. Francis Russell, and his brother-in-law Harris, were all in England, and often in London. His wife's connections were numerous ... an intimacy soon sprang up between him and the President, Sir Joseph Banks; Dr. Vincent, the Head Master of Westminster, and the author of the 'Voyage of Nearchus' and the 'Periplus of the Erythraean Sea' [1809]. Among his other intimate friends, who were also neighbours, were Sir Everard Home and Dr. John Hunter the great physicians, Alexander Dalrymple the hydrographer, and William Marsden the historian of Sumatra and editor of 'Marco Polo' [1818]; and Lord Spencer and Lord Mornington (afterwards Marquis Wellesley) in later years. Another very intimate friend was Dr. John Gillies, the Historiographer of Scotland, who, like Sir Joseph Banks, was a neighbour, and nearly of the same age. (Markham 1895, 82)

Rennell became a member of many learned societies and dining clubs, like so many of his circle. In 1781 he was elected Fellow of the Royal Society, and was a member of the select Royal Society Club until his death. In 1791 he received the Copley Medal of the Royal Society, and in 1825 was awarded the Gold Medal of the Royal Society of Literature (founded in 1820) as

one of the first geographers of this or any other age or country, for his various and valuable illustrations and improvements of ancient and modern geography (particularly by his maps and memoir of Hindostan and the neighbouring countries, by his memoir of the geography of the peninsula of Hindostan, by his memoir of the geography of Africa, and by his geographical system of Herodotus). (Brabrook 1897, 14)

COMPARATIVE GEOGRAPHY

Secondly, after Rennell's death in 1830, his daughter Jane Rodd edited his *A Treatise on the Comparative Geography of western Asia: accompanied with an atlas of maps* (1831), complete with an index but no obvious bibliography. The volume was sponsored by Lord Grenville, who helped to obtain support from King William IV (1765–1837), who was also patron of the newly formed Royal Geographical Society. Coincidentally, Lady Jane Rodd was advised by Lieutenant-Colonel Martin Leake FRS, late of the Royal Artillery and an influential figure in the African Association – who is also cited in the *Treatise* (1831) as an authority on Gaza – over any small difficulties that occurred. However, despite its thoroughness and accuracy, the text remains raw and unfinished and a difficult read; as Markham (1895, 121) wrote, it 'is the workshop, showing how the master worked with his geographical materials, and his method of building up the fair edifice which he left unfinished. It was a splendid conception, worthy of the great geographer.' It was compendious and exhaustive.

There were going to be 15 books in Rennell's comparative geography, each dedicated to a specific area (Asia Minor, Armenia, Arabian Desert, etc.). The 1831 volume contains five of these books. Concerned with the proper distribution of space rather than natural or political divisions, the first book, an overview of his model of comparative geography, contains a chapter on the Syrian Desert with lines of distance to various cities including Aleppo, Damascus, Siwah and Jerusalem. Rennell's methodology using these lines of distance was similar to the naval practice that gave rise to the Pontalan charts from the thirteenth century onwards.

The first part of the *Comparative Geography* covers the area between Siwah (then in Libya) and Persepolis in Persia (1600 miles) and between Zaritzin on the Volga and Upper Egypt and the head of the Persian Gulf (1350 miles). Book II deals with modern and ancient divisions of Asia Minor; the second chapter describes lines between Kaswin, Trabazond and the Caspian Sea; the third chapter connects Kaswin and Isfahan; the fourth chapter is on lines from the Sea of Marmara to Smyrna; and the fifth chapter on lines from Adrianople to the Danube, and so on. This compilation and subsequent correction of the ancient and modern geography of Western Asia was a very serious undertaking, requiring Rennell to balance one conflicting authority against another with amazing attention to detail.

Initially Rennell envisaged that the project would complement the compilations by the great French cartographer and geographer Jean Baptiste Bourguignon d'Anville that relied on ancient geographical sources. Like Rennell, d'Anville never visited the Middle East, and as a result, not surprisingly, Rennell found some of d'Anville's topography, especially in relation to the journeys by Alexander the Great and Darius, to be 'almost unintelligible' (1831, xxii) and quite contrary to historical accounts. For example, Rennell suggests that d'Anville must have used Ptolemy's map when he described the course of the Euphrates between Raqqah and Annah (1831, 50). In contrast, Carsten Niebuhr thought d'Anville's distances were pretty accurate along the Mediterranean coast (Rennell 1831, 64).

Geographers of the Enlightenment were concerned with scientific enquiry and precision. Rennell was fascinated with mathematical geography: identifying places and routes mentioned by travellers as 'collectors rather than interpreters of data' (Frantz 1932-3, cited in Damiani 1979, 10), a gap Rennell tried to fill. He not only studied the principal geographical writers of antiquity with the aid of translations, but also read the works of every minor author who travelled in the Middle East on which he could lay his hands. The acquisition of thorough scientific and human information was a heavy burden placed on any serious traveller. Rennell was concerned with accuracy and precise scrutiny of these travel sources. His meticulous approach was supported by myriad observations made by travellers in the region, who often carried with them a range of instruments including compasses, sextants, astrolabes and chronometers and provided useful scientific data on relative and specific locations. First, he took key, well-known locations and then used them to draw travel lines derived from as many reliable sources as possible between them and other places.

For the location of key points such as Jerusalem, Aleppo and Damascus he relied on many early sources including that by the Dutch mathematician and Orientalist, Jacob Golius (1596-1667). For the location of Aleppo and Damascus he also relied on Reverend Henry Maundrell's account in 1697 (1811), supported by information from a journal of 1687 by the French traveller and natural scientist, Jean Thévenot (1633-67). To pinpoint coastal towns, such as Tartus (called Tortosa by Rennell and the Crusaders), and central Syrian towns, such as Hama and Homs (1831, 64-6), Rennell used Thomas Shaw's travelogue (1738) because it described journeys in North Africa, Egypt, and the Middle East between 1731 and 1734. Some of the travelogues used by Rennell have been published by Douglas Carruthers, himself an explorer of the Syrian Desert, as *The Desert Route to India, Being the Journals of Four Travellers by the Great Desert Caravan Route between Aleppo and Basra, 1745-1751* (1929). But even Carruthers was unable to identify all Rennell's sources.

In addition to major classical sources and a wide range of European travelogues, Rennell found Arabic authorities – whom he termed 'Oriental geographers' – valuable in the study of routes and location of places, even though they were

not always readily accessible to him. An authority that Rennell found reliable was Muhammad ibn Muhammad al-Idrisi (1100–62), who produced geographies for Sicily's Norman king, Roger II, and who travelled in North Africa, Turkey, and the Mediterranean. Other 'Oriental' sources he used included the ninth-century Persian astronomer al-Farghani (Alfraganus), the tenth-century Arab geographer Ibn Hawqal (AD 943–88) – author of *Kitab Surat al-ard* [*Depiction of the Earth*], which was based on al-Istakhri's *Kitab Masalik* [*Book of the Routes of the Provinces*] – and the twelfth-century explorer al-Idrisi. In turn, Ibn Hawqal and al-Idrisi were both used as authorities by Abu al-Fida (1273–1331), an Ayyubid prince of Hama (1831, xl). Furthermore, accounts by Pietro Della Valle (1650–63), the Italian traveller whose narrative voyages were written in letter form and divided into three parts (travels in Turkey, in Persia, and in India), and the German explorer, Adam Olearius (1603–71) – who was secretary to the ambassador sent by Frederick III, Duke of Holstein-Gottorp, to the Shah of Persia – were compared with those of Abu al-Fida (1831, 21). Rennell also gleaned information from the writings of Yaqut (1179–1229), author of a compilation of toponyms entitled *Mu'jam al-buldan*. Many of these Arabic authorities probably came from Rennell's study of d'Herbelot's *Bibliothèque orientale* (1776–83), and from discussions with Patrick Russell in London, who used them for his edition on Aleppo (1794). Such authorities included the twelfth-century Jewish adventurer Rabbi Benjamin of Tudela, the fourteenth-century Ibn Battuta's part-fact part-fantasy *rihlah*; and work of the seventeenth-century Arabic and Turkish geographer Hajy Khalifa (1831, 15).

For example, in trying to locate Rahabah on the Euphrates, Rennell quotes the Dutch philologist Albert Schultens' translation of Baha' al-din ibn Shaddad's life of Salah al-din, as well as al-Idrisi; Nasereddin (that is, Nasir al-Din al-Tusi), Timur's grandson *Uleg Beg* (1831, 50), who was a famous astronomer, and Gasparo Balbi, a Venetian jeweller, who travelled to India via Aleppo, Bir, the Euphrates and Baghdad in 1579. By comparing various accounts Rennell concludes that the Rahabah as described by Carmichael and al-Idrisi is not the same place as that recorded by the Frenchman G. A. Olivier in 1797 (Olivier 1801–07). Furthermore, Rennell compares distances given of the Euphrates, including an account by Isadore of Charax along the eastern banks, with that of M. Olivier, who travelled on the Arabian side (1831, 47), as well as journeys made by Edward Ives, a naval surgeon who went from Basra to Aleppo, via Diarbekr and Birejik and published *A Voyage from England to India* in 1773 (see Laughton 2004; Reddy 1968 3/2, 31–44).

On the section between Mesjid Ali and Basrah, Rennell relied on three main accounts: by Carmichael (Carruthers 1929); by an army officer and meteorologist Colonel James Capper, whose *Observations on the passage to India through Egypt* (1783) also contained his journal of the route through the Arabian Desert from Basra via Bagdad and Aleppo to Italy and England in March 1779 to February 1780; and by two explorers who crossed from Aleppo to Basra between 1770 and 1790 – John Griffiths MD (1805, 334), who was in the area in 1786, and Major John

Taylor (1794, 1799) of the Bombay Establishment, who was responsible for exploring communication possibilities between England and India (see Grant 1937 for further details). Other sources included those by Sir Robert Shirley (1599), who went from Aleppo to Baulus, near Tokat, via Bab in 1598, and Dr Leonhart Rauwolff (1693), who in 1674 navigated the Euphrates from Bir. This was about the time that some 'English gentlemen' who visited Palmyra in 1691 returned to Aleppo by way of Rasafah and Baulus. At the time Palmyra and much of the Syrian Desert was almost inaccessible as it was 'beyond the protection' of the Sultan of Turkey (Grant 1937, 102).

Alongside factual accounts of the relict features of the ancient worlds, Rennell gave particular credibility to a range of seventeenth- and eighteenth-century travellers in the Syrian Desert, especially the factual accounts by Maundrell, Carsten Niebuhr (1792), Richard Pococke (1743–5) and consul Alexander Drummond (1754). Rennell greatly respected the accuracy of Maundrell's account, with its careful measurements and plans of major sites such as Baalbek, and that of the Friesian mathematician and mapmaker, Carsten Niebuhr (1733–1815), using his account, for example, to determine the lines between Hillah on the Euphrates to Brusa. Many of Niebuhr's maps and papers about Asia Minor were destroyed in a fire about 1797, but Rennell proudly claimed to own a copy of the map of Niebuhr's route, struck off from the copper before the fire (Leake 1824, xvii). Rennell admired the accuracy of Drummond's account and that of Pococke, considering that the quality of Pococke's observations made him one of the most important Near Eastern travellers. This was despite the fact Pococke did not always visit the places he claimed he had seen, and much of Drummond's account was written by the novelist Tobias Smollett. Even minor authorities, such as Mr C. R. Vaughan – who seemed to have travelled 'very fast' across the Syrian Desert to Persia in 1804 – were meticulously studied for his identification of precise locations along and across travel lines. The accuracy of William G. Browne's lines across Asia Minor, as well as of his descriptions of Siwah from his notes lodged in the East India Company library and later published in 1820 by Robert Walpole, particularly impressed Rennell; Browne was murdered in Persia in 1813 and buried at Miyana, next to the French traveller and natural scientist, Jean Thévenot (1633–67).

Many papers consulted by Rennell were collected by Orme for his *A History of the Military Transactions of the British Nation in Indostan from 1745* (1763–78), which has been described by Macaulay (1841 3, 85) as

inferior to no English historian in style and power of painting [but] is minute even to tediousness In one volume he allots on an average a closely printed quarto page to the events of every forty eight hours The consequence is that his narrative though one of the most authentic and one of the most finely written in our language has never been very popular and is now scarcely ever read.

Ironically, several items in Orme's collection were actually papers that Rennell had originally lent to Orme to help the latter compile his history. They include transcriptions of several manuscripts written by travellers across the Syrian Desert that had been lent to Rennell by Patrick Russell MD (d.1805) or his brother Claud, including those by William Beawes (quoted in Fortenberry and Manley 2009, 51-2) and by Carmichael. Rennell felt exasperated when Orme refused to return these materials. 'It is a provoking circumstance,' he wrote, 'that the Historian O-e keeps up all the Geographical materials in order to extract such particulars only as serve the purpose of illustrating his History: and probably I may either lose my eyesight, or drop into the grave before he has done with them.' (*Survey of India 1945*, 22).

EARLIER PARTS OF THE COMPARATIVE PROJECT

Rennell published two or three parts of his lifelong comparative geographies project before his death in 1830, including a life of Herodotus (1800, revised 1830). It was in the second volume of his 'Geography of Herodotus' that he laid the foundations of his interest in travellers in Egypt and North Africa and, coincidentally, in the rate of travel by camels.

Other parts of his grand project included a topography of the plain of Troy (1814), in which he discussed sources as diverse as Xenophon and Anabasis and tried to rectify the faulty topography presented in the *Tableau de la plaine de Troye* by Jean-Baptiste Le Chevalier. In his identification of Troy, Rennell was criticised by Charles Maclaren (1822), the editor of *The Scotsman*, who argued that Rennell based his identification of its location on Homer, which was actually based on misinterpretations of Homer by Strabo.

Another section of Rennell's comparative geography project was published as *Illustrations (chiefly geographical,) of the history of the expedition of Cyrus, from Sardis to Babylonia* (1816), in which he discussed the location of Babylon using work on Cyrus by the Greek historian, Xenophon, who was sent into exile, served with Greek mercenaries in Kurdistan, Armenia and Asia Minor, and wrote *Anabasis Kyrrou* [*The retreat/expedition of Cyrus*], a personal account of his adventures. Xenophon's descriptions were compared by Rennell with archaeological reports, classical (Strabo, Pliny, Polybius, and others) and Arabic sources (al-Idrisi. Abu al-Fida, Ibn Hawqal, Ibn Battuta and others). Three maps of the routes of Cyrus, and Xenophon, compiled by Rennell in 1809, 1815, and 1816, are now held by the Society of Antiquaries of London (shelfmark B 29e Case).

One of the sources Rennell used in his work on Cyrus in determining the position of the source of Murad river and the location of various villages was Morier's travelogue (1812, 74, 210-13, 311). A British diplomat who grew up in



Figure 2. *The Museum at East India House*. Charles Knight (ed.) (1851).

Smyrna (Izmir), where his father was a merchant of the Levant Company, James Justinian Morier was famous for his delightful *Hajji Baba of Ispahan* novels (1823 onwards), set at the time of the Qajar dynasty in Iran, as Johnson describes (1998). Although Rennell also drew some of Morier's maps, he did not have time to incorporate into his *Comparative Geography* (1831) the material about Armenia and Persia he gleaned from Morier's travelogue. Coincidentally, this was a volume that was edited, in part, by Sir Robert Harry Inglis 2nd Bart (1786–1855), a prominent arch-Tory MP and active evangelist, and son of Rennell's close friend, Sir Hugh Inglis. As a complement, in the introduction to his second travelogue (1818, ix), Morier acknowledges the kind advice and ready help he received from Major Rennell and also cites Rennell's works on Herodotus (1818, 235, 266) and Babylon (1818, 207).

In 1797, Hugh Inglis had written to the Bombay Presidency ordering the Resident at Bassorah to procure some Babylonian bricks from Hillah. The outcome was the arrival of the 'Babylonian Stone', one of the earliest acquisitions of the India Museum, which is now in the British Museum, where it is known as the 'East India House Inscription' (BM registration number 1938,0520.1). Sir Harford Jones-Brydges, a fluent Persian speaker and not a man to be crossed, was the Company Resident at Baghdad from 1798 to 1806, having previously served in Basra (1783–94), and it was he who obtained the stone for East India House in 1801. Whilst he is mentioned in Rennell (1831), it was only after Rennell's death that Jones-Brydges published several accounts of his experiences in Persia (1833, 1834).

The Babylonian stone was rapidly translated by Dr Joseph Hager – *A Dissertation*



Figure 3. Bassorah from the Euphrates. Captain Robert Mignan (1829).

on the newly discovered Babylonian inscriptions (1801) – and continued to stimulate great interest in Babylon. Claudius James Rich, the former Resident of the Honourable East India Company at Baghdad, published *The Ruins of Babylon* (1815). With all the interest in Babylon, in 1816 Rennell compiled *Remarks on the topography of Ancient Babylon* (1816, 1817). This was subsequently criticised by Rich in his *Second Memoir on Babylon* (1818), firmly disagreeing with Rennell’s findings, which were largely based on Rennell’s interpretation of accounts by an Italian nobleman and traveller, Pietro Della Valle: ‘Diffident as I am in opposing my ideas to such an authority, I feel myself called upon to state that I cannot coincide with Major Rennell, either in his interpretation of the ancient writers, or in his deductions from the actual appearance of the ruins.’ (1818, 140) Rich pointed out fiercely that little more could be learned without excavation. His widow Mary Rich continued to publish on this topic after her husband’s death in *Narrative of a journey to the site of Babylon in 1811* (1839), criticising the accuracy of some of Rennell’s archaeological data. She also continued to publish Rich’s travelogues such as *Narrative of a residence in Koordistan* (1836) and a *Journey from Bussora to Bushire, Shirauz, Persepolis, &c.* (1839). (For more on the Rich family travels see Oliphant 2009, 41–52.)

In his *Travels in Mesopotamia* (1827), James Silk Buckingham, who had recovered from sunstroke in Rich’s house in August 1816 (1827, 496), firmly endorsed his host’s findings (1827, 418–19):

On gaining the summit of this large mass, we had the first sight of the Euphrates, flowing majestically along through verdant banks, and its serpentine course apparently losing itself in the palm-groves of Hillah, whose mosques and minarets we could just perceive, about five miles to the southward of us. We had from hence, too, a very commanding view of the ruins around us, which seemed to correspond so perfectly with the Plan accompanying Mr. Rich’s Memoir as to leave nothing to be added to that interesting document.

Whilst acknowledging Rennell as an 'authority ... deservedly so high with regard to ancient geography and local positions', Buckingham supports Rich's authority over that of Della Valle (1827, 423).

There were other smaller papers published as part of Rennell's project, including two articles in *Archaeologia*, one 'On the voyage, and place of shipwreck, of St. Paul, AD 62' (1827 21, 92–106), read before the Society of Antiquaries in 1824 (Markham 1895, 183–7), concluding that this took place in Malta rather than in the Adriatic; and another 'Concerning the identity of the architectural remains at Jerash: and whether they are those of Gerasa, or of Pella' (1827 21, 138–47), an interest stimulated by Dr Seetzen's discovery in 1806, John Lewis Burckhardt's descriptions (1822), and by careful surveys by Captains C. L. Irby and J. Mangles (1823). Rennell identified Jerash with the ancient Gerasa, a conclusion which is now universally accepted (Markham 1895, 180–2).

CAMELS

In the days before satellite imaging and sophisticated cartographical methods, accurate distances between remote locations were hard to assess. Rennell was particularly fascinated by the rate of travel by camels in the desert (1831, xlix–li). He had previously presented a paper to the Royal Society on 17 March 1791 entitled 'On the rate of travelling as performed by camels: and its application, as a scale, to the purposes of geography', later published in their *Philosophical Transactions*, and this is the fourth reason why Rennell deserves to be included in this book.

Rennell provided detailed comparisons of a range of units of distance, including the 'Arabian mile' and 'Persian farsangs', as well as assessments on the rate of travel of camels as reported by a wide range of travellers who crossed the Syrian Desert. Based on careful study of travel accounts, Rennell recorded that 'they were about 19 hours in going from this latter [northern] route to Aleppo; and for which $2\frac{2}{3}$ per hour (by horse) may be allowed' (1831, 35). Other sources included the third-century *Antonini Itinerarium*, a register of the stations and distances along the various roads of the Roman empire, which gives distances in Roman miles (Roman paces were not everywhere the same, and conversion to modern units is imprecise, but one Roman mile equals 1479 metres); and the *Theodosian Table*, a source also used by Burckhardt (1822). Rennell also cites many other authorities who crossed the Syrian Desert, including a 'Journal of the Travellers, in 1702', which was communicated to Rennell by Mr Claud Russell, brother to Dr Patrick Russell (1831, 281–2). Local authority was provided from maps by Ibrahim Effendi, a Hungarian who introduced printing and copperplate engraving to Constantinople.

In particular, Rennell found the account of distances and rates of travel by Carmichael in 1765–6 (whose account was also used by Niebuhr) to be very accurate, and gave him credit ‘for taking incredible pains’ (1831, 24). Setting off from Aleppo, Carmichael made a credible survey of the 520 miles to Basra. His caravan included 50 horses, 30 mules, and 1200 camels, 600 of them laden with merchandise then valued at £300,000. A troublesome character, Carmichael was finally dismissed from service in the East India Company in Bombay and was obliged to take the desert route via Syria from London to India in order to settle his affairs. He subsequently returned to India and worked for various local Indian rulers. but died impoverished in Surat.

AFRICAN ASSOCIATION

A fifth reason for including Rennell in this volume was his involvement in publishing largely posthumous accounts by, and providing maps for, explorers in Egypt and North Africa who had been sponsored by the African Association. The Association for Promoting the Discovery of the Interior Parts of Africa (the African Association) was essentially a dining club founded at a dinner held by the Saturday’s Club (from 1799 the African Club) at St Paul’s Tavern off Pall Mall, London in 1788 (Sinclair 1901 1(1), 145–9; Sattin 2003), by an influential group including William Wilberforce and the banker Thomas Coutts. It was led by Sir Joseph Banks, ‘the great panjandrum of British science in the period’ (Wagstaff 2003), and by the Quaker abolitionist, Henry Beaufoy. By 1791 the Association had 95 members, and sponsored a series of important one-man explorations until 1831.

Rennell was elected as an honorary member in 1792 as the Association’s surveyor and cartographer, but also helped to publish various expedition journals. Indeed, many of the dignitaries of the African Association edited and published these explorers’ posthumous accounts. For a while after Banks’s death in 1820, Rennell attempted to fill the gap as its president; but later the presidency was held by John Barrow, Secretary to the Admiralty (Association for Promoting the Discovery of the Interior Parts of Africa 1964).

Amongst his other projects for the African Association, Russell annotated and published (1802) a journal of an expedition to Siwah and across North Africa by the German explorer Frederick Konrad Hornemann, after the explorer disappeared in 1800. However, a French translation of the English work, made by order of the First Consuls and augmented with notes and a memoir on the Egyptian oases by L. Langlès, was published in Paris in 1803 and is now considered the more valuable version. Rennell provided maps and appendices for the English edition, including ‘Geographical illustrations of Mr. Horneman’s route; and additions to the general



Figure 4. J. Rennell (1790) Sketch of the Northern part of Africa: exhibiting the geographical information collected by the African Association

geography of Africa' (Hornemann 1802, 121–88), alongside an introduction by Sir William Young, who wrote (1802, v):

the writer would refer, as a special instance, to the elucidations of Major Rennell: ... to that most accurate and acute philosopher and geographer, the details have afforded matter of enquiry and deduction of the highest import to science. By analysis, and a comparative view of accounts given of journeys and places, in reference to the plans of D'Anville, and other geographers; to modern travels; to ancient expeditions; to descriptions of ancient writers; and above all, to those of the father of history, Herodotus; Major Rennell hath corrected the map of Africa, with a learning and sagacity which *hath converted conjecture into knowledge.*; and on experience of those who have explored parts of that great continent, given confidence to each future traveller who may visit its remotest regions.

Rennell was also interested in other aspects of Egypt and North Africa through the African Association, and was involved in many of their other projects. The African Association published the communications of, briefly, Mr Ledyard and, chiefly, Mr Lucas, on their journeys in northern Africa, these travels being compiled from papers lodged with the Association (1790). Simon Lucas spoke fluent Arabic, having spent some time in Morocco. He arrived in Tripoli in October 1788, and planned to travel across the Libyan Desert, but he was deserted by his guides during tribal wars and abandoned his expedition. Rennell provided a relevant map, which was published several times between 1790 and 1804 as a

'Sketch of the Northern part of Africa: exhibiting the geographical information collected by the African Association', with manuscript additions and a manuscript memoir. In 1798 he also provided 'A map, shewing the progress of discovery & improvement, in the geography of North Africa' for the Appendix to Mungo Park's *Travels* (1799); it was later revised for Hornemann's travels. In 1790, Rennell provided another map for the travels of the American John Ledyard (1751–89). Ledyard arrived in Cairo in August 1788 but fell ill, and died from an overdose of medication in Cairo.

In 1827 the Raleigh Club, a dining club designed entirely for travellers, was created (Markham 1895, 195) and included Rennell and many of his friends. The navy was very strongly represented, as was the army, and it continued to flourish until 1854, when it was renamed the Geographical Club, and was in close association with the Royal Geographical Society. At a meeting of the Raleigh Club in May 1830, called by Sir John Barrow, the Secretary of the Admiralty, it was unanimously decided that a Geographical Society was needed, with its aims being

to print geographical information for its members, to accumulate a library and a collection of maps and charts, to procure instruments for the information and instruction of travellers, to prepare instructions for explorers and give them pecuniary assistance, to correspond with similar Societies and with geographers in all parts of the world, and to open communication with all philosophical and literary Societies with which geography is connected. (Fitzroy and Raper 1854, 24, 328–58)

In 1831 the African Association was absorbed by the Royal Geographical Society, which, during its formation in 1830, had planned to offer the presidency to Rennell, then aged 88. However, on 29 March 1830, before it was finally constituted, Rennell died. He was interred in the centre of the nave of Westminster Abbey; the explorer David Livingstone (1813–73) was later buried near him.

CONCLUSIONS

There were many more reasons why Major James Rennell deserves a place in a book on Near Eastern travel, not least his network of friends and his family heritage. His grandson, the poet and diplomat James Rennell Rodd (1858–1941), First Baron Rennell of Rodd, helped negotiate a treaty in 1897 with Emperor Menelik II of Ethiopia, served in Egypt and was ambassador to Italy from 1908 to 1919. His great-grandson, Francis Rennell Rodd (1895–1978), 2nd Baron Rennell, was a great friend of the Egyptian explorer Ahmed Hassanein Bey and travelled in the Sahara (Starkey 2010). Either he or his father wrote a biographical note about James Rennell (Rennell Rodd 1930, 289–99). After his death the substantial Rennell collection of over 450 books, including 22 items from the

<p>direct distance subject to error. Mr. Eyles Irwin, who was so eminently successful in estimating the distances across the desert, (having calculated that from Aleppo to Bagdad at 493 British miles by the road, and it actually appears to be about 480), computes the road distance at 106 B. miles. Mr. Drummond, whose distances are often over-rated, allows 110; and Mr. Ives 102. So that Mr. Irwin's is an <i>exact mean</i> between the others. Allowing the error of Mr. Irwin's calculation on the desert, which is scarcely $2\frac{1}{2}$ in 100, the result will be 79 G. miles direct; differing from M. Niebuhr's only one mile. The mean $78\frac{1}{2}$, laid off from Aleppo, to the parallel of $35^{\circ} 31'$, places Latikeah in longitude $35^{\circ} 46'$, or $1^{\circ} 28'$ west of Aleppo.</p>	<table border="1"> <thead> <tr> <th colspan="2" style="text-align: center;"><i>In Rûm-Iti.</i></th> <th style="text-align: center;">Hours.</th> <th style="text-align: center;">G. Miles.</th> </tr> </thead> <tbody> <tr> <td>Mr. Bell, Ismael to Burgos</td> <td style="text-align: right;">97</td> <td style="text-align: right;">2-6</td> <td></td> </tr> <tr> <td>M. Sturmer</td> <td style="text-align: right;">60</td> <td style="text-align: right;">2-6</td> <td></td> </tr> <tr> <td>Captain Hayes</td> <td style="text-align: right;">20</td> <td style="text-align: right;">2-6</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;"><i>In Asia Minor, &c.</i></td> </tr> <tr> <td>Mr. Browne, Brusa to Iconium, through Kuta- hiah, &c.</td> <td style="text-align: right;">81$\frac{1}{2}$</td> <td style="text-align: right;">2-62</td> <td></td> </tr> <tr> <td>----- Smyrna to Libad</td> <td style="text-align: right;">51</td> <td style="text-align: right;">2-39</td> <td></td> </tr> <tr> <td>Mr. Sullivan, Nicomedia to Amasia</td> <td style="text-align: right;">129</td> <td style="text-align: right;">2-2</td> <td></td> </tr> <tr> <td>Dr. Howel, ditto</td> <td style="text-align: right;">123</td> <td style="text-align: right;">2-31</td> <td></td> </tr> <tr> <td>Mr. Drummond, Syria, (horseback)</td> <td style="text-align: right;">179$\frac{1}{2}$</td> <td style="text-align: right;">2-45</td> <td></td> </tr> <tr> <td>Mr. Maundrell, ditto (on foot)</td> <td style="text-align: right;">44</td> <td style="text-align: right;">2-38</td> <td></td> </tr> <tr> <td>Mr. Ives, Bagdad to Mosul</td> <td style="text-align: right;">104$\frac{1}{4}$</td> <td style="text-align: right;">2-12</td> <td></td> </tr> <tr> <td>Dr. Howel, Hillah to Mosul</td> <td style="text-align: right;">115</td> <td style="text-align: right;">2-31</td> <td></td> </tr> <tr> <td>Major Leake, Isnik to Iconium</td> <td style="text-align: right;">93</td> <td style="text-align: right;">2-165</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;"><i>Caravans, in Asia Minor.</i></td> </tr> <tr> <td>Dr. Seetzen, Smyrna to Iconium</td> <td style="text-align: right;">121$\frac{1}{2}$</td> <td style="text-align: right;">2-24</td> <td></td> </tr> <tr> <td>Mr. Browne, Aintab to Nicomedia</td> <td style="text-align: right;">230$\frac{1}{2}$</td> <td style="text-align: right;">1-826</td> <td></td> </tr> </tbody> </table>	<i>In Rûm-Iti.</i>		Hours.	G. Miles.	Mr. Bell, Ismael to Burgos	97	2-6		M. Sturmer	60	2-6		Captain Hayes	20	2-6		<i>In Asia Minor, &c.</i>				Mr. Browne, Brusa to Iconium, through Kuta- hiah, &c.	81 $\frac{1}{2}$	2-62		----- Smyrna to Libad	51	2-39		Mr. Sullivan, Nicomedia to Amasia	129	2-2		Dr. Howel, ditto	123	2-31		Mr. Drummond, Syria, (horseback)	179 $\frac{1}{2}$	2-45		Mr. Maundrell, ditto (on foot)	44	2-38		Mr. Ives, Bagdad to Mosul	104 $\frac{1}{4}$	2-12		Dr. Howel, Hillah to Mosul	115	2-31		Major Leake, Isnik to Iconium	93	2-165		<i>Caravans, in Asia Minor.</i>				Dr. Seetzen, Smyrna to Iconium	121 $\frac{1}{2}$	2-24		Mr. Browne, Aintab to Nicomedia	230 $\frac{1}{2}$	1-826	
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Figure 5. A: An example of intertextuality employed by J. Rennell (1831); B: An example of statistics provided by J. Rennell (1831).

library of James Rennell, were left to the Royal Geographical Society (Johnson 1978 148/1, 38–42).

What is critical to any study of early travellers in the Middle East is Rennell's exhaustive, if exhausting, use of sources written by travellers in the Middle East at a time when

[t]he characteristic travel book of the 18th century is a ponderous quarto or folio, handsomely printed, often beautifully illustrated, and conveying much leisurely information concerning monuments, customs and costumes ... as a rule, these productions have about them little of the personal spirit, little of the lighter literary touch which gives vitality to travel books. (Kirkpatrick 1907 14, 246)

Rennell's cross-fertilisation of travel narratives written by travellers from different backgrounds and training was stimulating, even though the sources of the comparative geographies are a challenge to any modern scholar to disentangle. There is no time here to list all the authorities cited in Rennell's many works, and in the *Comparative Geography* (1831) in particular, but they were amazingly comprehensive. Unfortunately there is no bibliography provided in Rennell (1831), which makes identification of some of the sources difficult. Mohammad Ali Hachicho has compiled a useful and thorough list of travellers in the Levant during the eighteenth century in his excellent essay (Hachicho 1964 NS 9, 1–206), but not all Rennell's sources are listed there.

Rennell's work emphasises the close connections between geography and history. Critically, history

was not possible without location, and what the map provided was a perspective on a bounded space which married well with History's need for 'abstracted

particulars' – where the fact, or the location on the map, could be taken as a representation of itself, as capable of comparison, and as information which itself encapsulated a story. (Rennell 1910, 137–8)

The wide range of travel narratives of the Middle East cited as sources by Rennell reflects the complexity of his approach and his extraordinary attention to the detail. Subsequent to Rennell's work, Markham despaired (1895, 208):

Until this connection is impressed upon the rising generation of travellers, and is present in their minds, we shall continue to be deluged with rubbish in the form of books of travels, and we shall look in vain for the charm which is felt in reading the works of travellers who were also scholars and observers.

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