

An Eighteenth-Century Ecology of Knowledge: Patronage and Natural History

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Abstract

This article analyses the construction and dissemination of natural-history knowledge in the eighteenth century. It takes the mapping and narration of Orkney as a case study, focusing on the local minister and amateur natural-historian George Low and his network of patron-client relationships with such prominent natural historians as Joseph Banks and Thomas Pennant. It focuses too on Low's network of informants and assistants among local island farmers, and argues that canonical natural-history texts were the products of collaborative and interdependent processes that included a large number of actors from all strata of society. To conceptualise how natural-history knowledge was created in this period, the article applies the metaphoric description 'an ecology of knowledge'. This approach enables a focus on a large number of actors, their collaboration and influence on each other, while also paying attention to asymmetrical power relationships in which competition and appropriation took place.

Keywords: Ecology of Knowledge, Patronage, Natural History, Scotland, George Low, Concurrent Narratives

Introduction

In 1772 a ship stopped in Orkney on its return to Britain after an expedition to Iceland. On board were the prominent English botanist Joseph Banks and his companions – the Linnaean disciple Daniel Solander, the Scottish physician James Lind and the Swedish student Uno von Troil.¹ Banks and Solander were veterans of the first Cook expedition to the South Pacific in 1768-71, and these well-travelled natural historians now turned their gaze to the far North Atlantic, which they considered to be an unknown region worthy of exploration. To help them survey the Orkney archipelago the explorers enlisted a young local man, George Low (1747-1795), to be their guide. Low impressed Banks, who later recommended him to other prominent British natural-historians and antiquarians such as Thomas Pennant and George Paton, with whom Low entered into patron-client relationships and with whom he exchanged a large number of letters. The encounter between Banks and Low not only impacted greatly on the latter's life but also had a decisive bearing on how knowledge about Orkney, and its northerly neighbour Shetland, circulated in eighteenth and nineteenth-century texts – creating a cultural legacy that remains in operation today.

In this article I will analyse why eighteenth-century natural historians turned their gaze to regions within Britain such as Orkney, which were perceived as domestic hinterlands, and how natural-history knowledge about such places was constructed and disseminated. I will argue, using Low as a case study, that canonical eighteenth-century natural-history publications were the result of dynamic collaborative and interdependent processes that depended on a range of individuals and agencies rather than the independent and unaided observations of a small number of elite natural historians whose names have graced the library shelves. Eighteenth-Century Britain had, as Roy Porter and John Gascoigne have demonstrated, a decentralised natural-history tradition (Porter 1977; Gascoigne 2003). Unlike in continental Europe or Scandinavia, there was no formal training for scientists and natural history was therefore the domain of a large number of people. British natural history was, however, not unique in drawing on a multitude of voices. Natural historians from across Europe utilised local informants from all strata of society.

To conceptualise how knowledge about peripheral regions was collected, narrated and mediated in the eighteenth century, I will apply the metaphoric description of 'an ecology of knowledge'.² Used in biology to denote the relationships between 'living organisms and their environment', in the social sciences and the humanities the term 'ecology' has been applied to analyse interdependent, dynamic and hybrid relationships between people, groups and the environments in which they operate (Oxford English Dictionary 2008). An ecological approach permits us to move the focus of our enquiry beyond a prominent individual towards the wider system in which they function; a system where 'each factor and organism

has influence on the others, and many complex interrelationships are required to sustain [it]' (Weaver-Hightower 2008:155).

Low's close contact with members of the British natural-history elite provided him not only with intellectual mentors but also with powerful patrons who aided, or at least promised to aid, his career. By locating Low and these men within an 'ecosystem' of eighteenth-century knowledge production, I will also investigate the function of patrons and clients within that system. I will pay particular attention to the key role such patron-client relations played in bringing together people of different social strata, and in thereby facilitating the production and circulation of scientific knowledge. An important aspect of this system is the extent to which its 'organisms' adapted or evolved in order to work together. Originating in a farming family before becoming a minister residing on outlying Orkney, yet then discovered and supported by a pan-British aristocracy while still collaborating with local farmers and ministers, Low's case illustrates that during the eighteenth century the boundaries of social status and geographical location could be significantly transcended within the 'ecology of knowledge'. Although I focus on a domestic British context in this article, the ecology approach can also be applied when analysing European natural-history texts about overseas colonies in order to move away from a binary view of the European naturalist narrating the colonised subject's landscape.³

The usage of this metaphor does come with some caveats. It should not be interpreted as meaning that the relationships between people in the 'ecology' were either *natural* or preordained. The agency of individual actors was dependent on historically created conditions and relationships such as economy, traditions, ethnicity, status, religion and gender. Another point of caution is that although we can potentially imbue a large number of people with agency it is important not to deny the asymmetry of power that existed within the ecology, where some actors possessed more resources than others whether these were located within Britain or in overseas colonies. Patronage relationships, for example, were built on the principle of a powerful and influential patron collaborating with a client of lower social status. These actors could nevertheless work in symbiosis and co-operation, as Low did – initially – with his more powerful patrons. Yet, relationships in an ecology can also result in competition, appropriation or even elimination (Weaver-Hightower 2008:155-157). Through an analysis of Low's career I will discuss how conflicts often occurred when patronage relationships broke down or had run their course. Throughout the article, I will pay attention to competing claims of knowledge which came together but did not always concur.

Exploring the Highlands and Islands: Developing an Ecology of Knowledge

In the second half of the eighteenth century, British intellectual activities revolved around the study of the natural world not only in the expanding overseas colonial territories but also domestically. The Highlands and Islands of northwest Scotland in particular attracted a growing number of naturalists who were keen to map and study a region that had up to that time often been imagined as a *terra incognita* by both Lowland Scots and Englishmen. Perceived from the fourteenth century onwards as a cultural and geographic region increasingly distinct from the rest of Scotland, the Highlands and Islands came to be imagined as a dangerous and savage place that early modern travellers often avoided unless they had to go there for political or religious reasons (Brown 1891; Rackwitz 2007). Although a tiny handful of earlier naturalists had started to map this region, such as the Gaelic-speaking islander Martin Martin (c. 1660-1719), who surveyed the Western Isles of Scotland and the physician and botanist Robert Sibbald (1641-1722), who collected questionnaires about flora, fauna, topography, and ethnographic data from local informants in his attempt to create a comprehensive natural history of Scotland, the Highlands and Islands was not really considered an attractive arena for natural-history exploration until the 1750s (Martin 1698 and 1703; Withers 2001: 80). This shift came about after the Jacobite followers of the exiled Scottish Stewart dynasty were defeated in their final attempt to restore the Stuarts to the British throne, from which they had been ejected in 1688-89. Although the Jacobites had come quite close to their ultimate objective of taking London, they were forced to retreat to their Highland heartlands and were destroyed in a showdown battle against the Hanoverian British army of George II at Culloden, north east of Inverness, in 1746. After Culloden, the Highlands and Islands region experienced severe reprisals for its support of Jacobitism, including military subjugation, the confiscation of land and the enforcement of acts banning traditional Highland weaponry and costume (unless worn by conscripts to the British army). With the eradication of Jacobitism heralding the break-up of the Highlands' often war-like traditional society and the region's subsequent depopulation, its threat to the British state was deemed to have been neutralised. It was now considered safe to be explored and exploited (Andersson Burnett 2012: 57).

Adhering to a discourse of utility and national improvement, British natural historians depicted the Highlands and Islands as a largely untapped larder of natural resources that could provide the growing English and Lowland towns with products such as kelp, wool, hemp, slate and fish, many of which could serve as substitutes for expensive foreign imports (Andersson Burnett 2012: 55).⁴ They also proposed different schemes with regard to how best to exploit these resources, since the local population was deemed too ignorant or lazy to utilise them properly. Local people were also the object of natural-history travellers' inventories. In

an age before disciplinary demarcation the naturalist not only collected, studied and classified plants, animals and minerals but also studied antiquities and collected ethnological information about human society. Natural historians' surveys of the Highlands and Islands therefore functioned not only as inventories of potential economic resources that could be exploited but also provided a new positive narrative of a region that had previously been imagined in negative terms as threatening and violent (Andersson Burnett 2012).

A considerable influence on British natural historians' expeditions and writing, and therefore another key actor in the knowledge ecosystem, was the Swedish botanist Carl Linnaeus. Linnaeus was admired by British natural historians not only for his taxonomies that introduced order and consistency to the natural world but also for his northern expedition to Lapland in 1732. In *Flora Lapponica* (1737), and in his published Uppsala University lecture on travel, Linnaeus emphasised the importance of domestic exploration and he directed the attention of naturalists across Europe to 'hinterlands' in which the educated naturalist could produce inventories of regions and their inhabitants previously relatively unmapped by the state (Andersson Burnett 2012; see also Withers 1995; Eddy 2008; Albritton Jonsson 2013).⁵ Having their 'own' northern and mountainous hinterland to explore, several of the British naturalists who surveyed Scotland corresponded with Linnaeus and informed him about their expeditions. Walker told Linnaeus that little of Scotland had been 'surveyed' but that he was now rectifying that. Linnaeus instructed him to: 'Continue, as you have begun, and enter the hidden places of Nature, and conquer new kingdoms there' (Linnaeus, 1762La III, 352/1).

This wave of British natural historians extolled the uniqueness of their Scottish expeditions and the hardships they endured. Walker, who carried out a total of six tours of Scotland between 1760 and 1786, wrote in a letter to the influential lawyer and scholar Lord Kames in 1764 that the Highland landscape was 'as inanimate & unfrequented as any in the Terra australis' (in Withers 1995: 137). In his autobiography *The Literary Life of the Late Thomas Pennant*, published in 1793, Pennant likewise emphasised how unusual his trip to the Highlands in 1769 had been and the endeavour it involved: 'This year was a very active one with me; I had the hardiness to venture on a journey to the remotest part of *North Britain*, a country almost as little known to its southern brethren as *Kamtschatka*' (Pennant 1793: 11; Andersson Burnett 2012: 58): Such reminiscences echoed Linnaeus, who likewise loved to dwell on the hardships and dangers he had endured during his Lapland expedition and who compared Lapland with Asia and Africa (Linnaeus, 1811 vol.1: 283).

Writing about natural-history travel, Pär Eliasson has emphasised this trend among eighteenth-century and nineteenth-century natural historians for extolling their own importance in surveying allegedly solitary and unknown landscapes:

Natural historians seem to walk about in a landscape empty of people and unknown to anyone until it was seen and analyzed by themselves, cast in the role of perceptive

scientists. The landscape and its constituent parts are somewhat created anew in the descriptive process, the region becomes possible to comprehend as it is articulated or narrated. (Eliasson 2002:127)

Mary Louise Pratt, likewise, has noted that eighteenth-century scientific systems of knowing, which Linnaeus pioneered, not only silenced indigenous narratives outside Europe - by re-labelling plants with Latin names for example - but also had the same effect on local and rural narratives and repositories of knowledge in Europe (Pratt 2008: 12). British natural historians did, as discussed, elevate their own knowledge and scientific gaze. Although they often looked down at local knowledge, while having no qualms about utilising local people as guides and carriers, they also actively sought the knowledge of local and stationary amateur natural historians who tended to be ministers or local lairds and whose knowledge they often trusted and which therefore also became a part of the ecology.

In contrast to the situation in Enlightenment France, there was a firm alliance between the Church and Science in both Scotland and in England during this period and there was a particularly close relationship between the moderate wing of the Scottish Kirk (Church) – which included such prominent thinkers as Adam Ferguson, William Robertson and Hugh Blair – and the Enlightenment (Sher 1985). However, the Kirk’s scientific influence extended beyond the university cities and should not be viewed solely in terms of its relationship to the big names of the Enlightenment. The Kirk sponsored several ‘Enlightened’ schemes, such as Walker’s tours and surveys of the Scottish Highlands and Islands and they also ran the *Scottish Society for Propagating Christian Knowledge* (SSPCK) which operated under the principle that the ‘primitive’ Highlander needed help from Presbyterian outsiders in order to progress (e.g. Withers: 1988).⁶ Another example is Sir John Sinclair’s *Statistical Account of Scotland* in the 1790s, in which the Scottish clergy wrote lengthy reports in answer to a long list of questions concerning their local environment, the parish’s history, and the beliefs, occupations, and health of the parishioners. The church as an institution was therefore also part of the natural-history ecology of knowledge.

The prominence of the parish minister as a natural historian amounted also to more than merely organising and providing information; rather, it often entailed enthusiastic and hands-on involvement in natural-history studies. Ministers were not only university educated, they tended to have time on their hands and a regular income, which meant they could devote themselves to the social and scientific study of their parishes (Rendall 2009:125). Natural-history studies, which often included antiquarian studies, also provided ministers with stimulation and a relief from boredom in what could often be isolated and solitary rural locations. The same applied in rural Scandinavia. Linnaeus had, for example, recommended that students studying theology at Uppsala also attend his lectures on natural history. One of them was Eric J Grape who experimented with improvement schemes on his land and wrote about his parish Enontekiö (Andersson Burnett 2012:187-188;

Koerner 1999: 78). In Norway, likewise, regional ministers such as Hans Strøm narrated the natural history of their localities (Løvlie 2008).

In Britain, these stationary, well-educated and often eager observers were frequently used as informants by leading metropolitan natural historians such as Banks and Pennant who incorporated the ministers' local observations into their national and international natural-history accounts. The English minister and natural historian Gilbert White noted in 1770 the merits of local observers, commenting: 'no man can alone investigate all the works of nature, these partial interests may, each in their departments be more accurate in their discoveries, and freer from error than more general writers' (White 1850: 91-92). Metropolitan natural historians accessed the knowledge possessed by ministers both remotely, through letters and questionnaires, and in the field, where ministers pointed the visiting natural historians to places of interests, lodged with them, and shared their knowledge with them. Although questionnaires were also sent to gentlemen and nobility, ministers often provided, as Rosemary Sweet has argued, the most detailed responses (Sweet 2004: 51). The information provided by ministers was, however, treated with ambivalence; it was accepted as valuable, and yet could be ridiculed as quaint, parochial and inferior to metropolitan scientific knowledge (Withers 1995: 154; Fielding 2008: 9; Andersson Burnett 2012: 129). The minister also risked having his work appropriated by the more established natural historian.

Working frequently in conjunction with the clergy in the attempt to map natural resources and 'civilize' the region were the Highland and Island lairds, who discussed issues of agricultural improvement and implemented them on their estates. A large number of these increasingly metropolitan lairds, who were educated in the Lowlands or in England and who spent large parts of the year away from the Highlands, , experimented with the planting of new crops, introduced the enclosure and drainage of land, and were even involved with town planning. Their motivation came from a desire to expand both their personal purses and the wealth of the nation (Gascoigne 2003:18). One of the most influential and popular texts on improvement was Lord Kames's *The Gentleman Farmer; being an Attempt to Improve Agriculture by Subjecting it to the Test of Rational Principle*. Kames also served as one of the many aristocratic patrons of John Walker and there was a 'symbiotic relationship' between improvement-minded aristocratic patrons and naturalists (Eddy 2002: 432). Whereas the landed elite took interest in the works of naturalists in order to improve their estates and earnings, the naturalists gained access to lands where they could examine points of scientific interest such as rock formations and received patronage to further their careers. The appointment of Walker as professor of natural history at the University of Edinburgh in 1779, for instance, was secured through his connections with the elite (ibid).

The ‘Director’ of Banks’s Orkney Tour: Introducing George Low

George Low was one of the many ministers who compiled and circulated natural-history information in the eighteenth century. He was born and grew up in Edzell, Angus, where his parents were tenant farmers and his father a church officer. At the age of 15, two years after his father died, he began a university education in the faculty of arts at Marischal College in Aberdeen. He spent one year there before enrolling at the University of St Andrews in 1763 where he studied philosophy for three years and divinity for a further one year. Low’s university studies reflect the relatively democratic eighteenth-century Scottish education system in which boys from modest rural backgrounds had access to university degrees (Anderson 2001: 612-613).

Having completed his studies Low moved in late 1767 or early 1768 to Orkney, where he remained for the rest of his life. He worked there initially as a tutor to the children of the merchant Ballie Robert Graham of Stromness (Anderson 1879: xiv-xiv; Cuthbert 1995: 25-26). The Orkney into which Low arrived was not merely on the periphery of Britain, it was also on the northernmost fringe of Scotland. Orkney, and to an even greater extent Shetland, remained outside the burgeoning tourist circuit of the Highlands, which took off in the late eighteenth century. This exclusion was due in part to the islands’ distance from the mainland and the lack of regular ferries (Cuthbert 1995: 28; Fielding 2008: 131-132). It was also due to complex cultural factors. Having belonged to the Danish-Norwegian crown until the 1460s, the Orkney archipelago retained a much stronger Scandinavian cultural orientation than the Western Isles or northwest Highland seaboard, which were ceded by the Norse to Scotland almost two centuries earlier. In addition to its lingering Nordic identity, moreover, Orkney was paradoxically set apart from the rest of Scotland and Britain precisely because its recent past was otherwise much less contested and controversial than the Highlands and Western Isles. The latter areas’ strong Catholicism and Jacobitism, which for generations had put them beyond the pale of the British establishment, became after the defeat of Culloden a benign source of fascination. There followed an explosion of metropolitan interest in the Highlands, yet this process of cultural conciliation did not extend to Orkney and Shetland. By the 1760s the Northern Isles therefore remained a remote and ambiguous hinterland that was not yet fully incorporated into the nation. Orkney and Shetland offered instead an alternative or even binary cultural narrative, in which their Scandinavian heritage was celebrated (Fielding 2008: 131, 136). As with the Highlands and islands, though, Orkney society was slowly changing and modernity making inroads into island life. This applied especially to Stromness, which was turning into a lucrative trading port where ships stopped for a last time before setting off to Britain’s overseas colonial territories in Canada. Indeed, Low’s employer Graham was one of an increasing number of wealthy merchants who were modernising the islands (Cuthbert 1995: 28).

Having settled into island life, Low came to express a strong dislike for the tutoring job that had brought him there and repeatedly referred to his work as cumbersome and laborious (see Low, NLS, Adv.MS. 29.5.8. Vol.III ff. 59-60).⁷ His real passion was the study of natural history. Writing in 1772, he expressed this love: ‘I think there is no study more rational at the same time that it is amusing, than that of the works of Nature, I confess it fills up many a dreary hour to me with pleasure’ (Low f. 53). With his teaching taking up a large amount of his time, Low resorted to studying natural history late at night and early in the morning, and he constructed his own microscope in order to study marine life. He was also a very skilled ink drawer, and made copies of the plants that featured in Linnaeus’s *Flora Lapponica* (Anderson 1879: xv; Cuthbert 1995: 19). Around 1770 he started researching and writing what was to become his major work, a *History of Orkney*. In line with the ethos of the broad church of natural history the book contained historical, antiquarian, ethnographic, and natural history information.

Banks’s arrival in Orkney, who had already placed Linnaean natural history at the centre of British intellectual and imperial activities, would have been an exciting event for this budding natural historian who was appointed as Banks’s guide (Low f.54). The arrival of Banks and his entourage also illustrates the shift that had occurred in the mental mapping of the northern isles of Scotland, which now were deemed worthy of investigation. Low, writing in his *History of Orkney*, noted this change: ‘Till of late years these islands have been little known or frequented, by many they were thought barbarous and a very insignificant part of the kingdom’ (*History of Orkney*: 431). Banks expressed his gratitude to Low by providing him with both books, including Linnaeus’s *Species Plantarum*, and by recommending Low to his influential friends, Thomas Pennant and George Paton, with whom Low was going to correspond with over the next twenty years. Low, writing to Banks, responded that he would do whatever it took to contribute to ‘the Advancement of Science’ (Qtd in Gascoigne 2003: 65).

Correspondence, Patronage and Knowledge Circulation in the Ecology of Knowledge

Considering the informal nature of the natural-history discipline in Britain, correspondence networks between keen amateurs who exchanged knowledge, specimens, artefacts, books and manuscripts were of key importance. This was not unique to Britain: the exchange of letters between scholars – such as Linnaeus, Buffon and Banks, for example – was *the* vehicle for the dissemination of knowledge across Europe in the eighteenth century. Naturalists shared their observations, asked each other for information and promoted their work. It was not unusual, as the case of Low illustrates, that people from different social strata corresponded with each other. The gentlemanly code was that this had to be a reciprocal relationship – in other words, both partners had to benefit from the corre-

spondence and both had to have something to offer. In the case of Low, it was his great knowledge of the Orkney Isles that allowed him entry into the Republic of Letters. Social status was not forgotten – at the heart of patron-client relationships in these correspondence networks was an asymmetry of power between the powerful patron and his/her client – but as long as conversations focused on the shared interest in natural history and antiquarian studies, relationships across strata could be sustained (Sweet 2004: 60-61).

One of Low's most important correspondents was the antiquarian, natural historian and book seller George Paton (1721-1807) who lived in Edinburgh. Paton was not as wealthy as Banks or Pennant, but he had an impressive library and was known as someone who promoted and aided the careers of other natural historians (Sweet 2004: 57-58). Many English natural historians and antiquarians viewed Paton as their first port of call for Scottish queries and he functioned as an agent who facilitated contact between natural historians on either side of the border (Sweet 2004: 62). In his first letter to Paton, in August 1772, Low showed his deference to this well-established antiquarian by playing down his capabilities while at the same time offering his knowledge:

I am very much obliged to my kind friends who have recommended me to you as capable of giving information anent the Natural History of the Orknies. I should be sorry if they have overrated my very small abilities by a mistaken kindness; however I should think myself very unworthy of their favour, and that I paid a very ill compliment to their recommendation, if I did not everything in my power to advance your plan, tho' I am afraid I can be but of little service as I have not studied natural History in too systematic a manner, to serve your present purposes; what comes in my way I shall be sure to communicate. If on this or any other occasion you want any particular specimens of Birds, etc, etc, I shall do my utmost endeavour to procure them for you.

(Low f. 52).

In a letter sent the following month, Low also asked Paton to inform him if he made any mistakes since he was not an experienced natural historian (Low f. 53). Low's claims of inadequacy were, however, carefully balanced and mitigated with assertions of knowledge and hard work, as a letter sent in November shows: 'My list of Plants is always coming nearer perfection [...] I think I have a much larger Catalogue than has been given by any Orkney genius Before' (Low f. 54).

To maintain their relationship Low also sent Paton local gifts such as butter, smoked geese and eggs, the latter being collected by local men who specialised in rock climbing (Low f. 60). In return for Low's observations; his natural-history specimens and local gifts, Paton lent Low books that the latter could not get hold of on Orkney such as Pennant's *British Zoology*, Percy's *Northern Antiquities*, Pontoppidan's *Natural History of Norway*, Linnaeus's *Flora Suecica* and *Systema Naturae*, and Olaus Magnus's *History of the Northern People*. Low also requested Sibbald's work, which contained a seventeenth-century account of Orkney by the minister James Wallace. Having read it, however, Low deemed Wallace not to be

a reliable source, thus asserting the need for his own studies to his patron (Low ff. 58-60 and 66).

Through receiving a large number of natural-history books from Paton, but also Banks, which influenced his thinking and writing, Low's knowledge continued to expand. His observations on Orkney, appreciated for their local quality, were therefore at the same time both local and global in their concerns and nature. By adopting a Linnaean taxonomy, for instance, Low placed his regional observations in an imperial ecology that set out to organise nature in accordance to a global system. The influential eighteenth-century naturalist Gilbert White, whose parochial outlook in his descriptions of Selborne in England has been praised by recent scholars, also participated in this global ecology of natural history-knowledge, as Menely has argued (Allen 1976; Worster 1977; Menely 2004). As with Low, White did this through being a Linnaean scholar who read and participated in international debates while at the same time extolling the merits of detailed local observations.

Another of Low's key epistolary relationships was with Pennant, whose prestigious international network of natural historians included Linnaeus, Comte de Buffon and Peter Simon Pallas. Pennant was, however, equally interested in gaining information from local Scottish informants. Before his tours of the Highlands Pennant had sent out, for instance, questionnaires to local ministers, and the landed elite, in order to get 'LOCAL HISTORIES' and to get 'fuller and more satisfactory Account of their Country' (Pennant 1772:302).

In a letter from Low to Pennant in November 1772 it is clear Low was very excited to be corresponding with such an esteemed natural historian, and he expressed his eagerness to help with improving British knowledge about the islands. Low also sent Pennant lists of the fauna, insects and plants he had identified on Orkney (Cuthbert 1995: 37-38). In return, Pennant sent Low books and asked Low to do a paid tour of Orkney and Shetland, where Pennant had not been himself, in order to include it in a second edition of his *Tour in Scotland*. Pennant compiled a list of requests for Low which included some of the following instructions about how to conduct his research: 'visit personally every Orkney and Shetland Isle' and 'keep a regular journal'. Low was also asked to make drawings and write down his observations about minerals, language use and manufacture (Low Memorandums). Pennant further promised that he would arrange for a report of that tour to be published (Anderson 1879: xxxviii). Low duly brimmed with enthusiasm. Writing to Paton in November 1773 about the proposed 'jaunt' he stated that he would 'go to the end of the world to serve the men who are so obliging' (Low f. 65).

The tour unfortunately could not happen until the summer of 1774 because of Low's tutorial work. Low, who had been licensed to be a minister by the presbytery of Cairnston in 1771, was anxiously waiting for a parish to become vacant since ministers not only had time for scientific studies, but also had life-time ten-

ure, their own houses and good salaries (Low f. 60; Goodfellow 1903: 72). To secure his own parish he had to be noticed by the feudal superior of Orkney; namely Sir Laurence Dundas (1710-1781), the owner of the Earldom of Orkney, who had the right of patronage, which meant that it entitled him to appoint ministers of his liking to vacant churches (Rendall 2009: 244).⁸ Dundas had made an immense fortune from his career as a contractor to the Hanoverian army. With his wealth he purchased a baronetcy, a parliamentary seat and land in Scotland, England and Ireland. His portfolio also included two slave estates in the West Indies (Fereday 2008). Despite being an absentee owner and rarely visiting Orkney, Dundas wielded great power. He was not only in charge of church patronage but he also opened doors for lairds and their families to posts on the islands such as clerks or administrators of justice, as well as jobs in the legal profession in Edinburgh and posts in the British army and navy, or posts with the East India Company (Thomson 1987: 231-3). Dundas's patronage therefore operated in regional, national, and imperial arenas.

Low was hopeful that his new and influential natural-history patrons would aid his selection, with Banks, for instance, being a friend of the Dundas family. Low therefore started a 'campaign' for patronage before he set out on his tour. Writing to Paton on the 30th of April 1773, he expressed that he hoped 'thro influence in our great man Sir Laurence to be placed in a situation' where he had more time for natural history, an existence 'so consonant to the life of a Clergyman' (Low f. 59). Still a tutor, but full of hopes for the future, Low finally set off on his tour in May 1774.

Low's Great Tour

Armed with letters of introduction from his prominent patrons and books by Linnaeus (*Flora Suecica* and *Systema Naturae*) and Pennant (*British Zoology*) among others, Low visited the many islands of Orkney and Shetland (Cuthbert 1995: 59). Due to bad weather, he could not visit northern Shetland but eventually went there in 1778 to complete his inventory. During his tours Low carried out geological, ethnographic, antiquarian, zoological and botanical observations.

Low's observations and his collecting and recording of local knowledge were only made possible through the participation of Orkney and Shetland people, who should therefore also be read as important actors in the ecology of knowledge about the isles. Low expressed, in his writing, most gratitude for the help and information that he received from educated informers, who came primarily from the clergy and the landed elite and whose opinions he trusted and respected (Low *Tour*:193-194). This is illustrated by him tending to name only those informants who belonged to these higher strata of society. Low wrote, for instance, that he had received instructions, reports and papers from the following people: Mr Sangster (Dundas factor); Mr Jack (minister); Gideon Gifford (Esquire); Mr William

Archibald (minister) and Andrew Bruce (Esquire). Writing to Paton from Walls on Shetland, Low also informed his patron that the local clergy and gentry had been very willing to help and assist him with his queries (Low f. 76; *Low Tour*: 29). Low did not always think highly of his fellow ministers, however. He complained, in several letters, about local ministers being ‘lazy’ and lacking an interest in answering the scholarly queries that he circulated to them on behalf of Paton (Low ff. 58-59).

Low’s knowledge gathering depended equally on his collaboration with people further down the social ladder such as local farmers and fishermen, though these people are not imbued with the same significance. Low informed Paton before his 1774 trip, for instance, about his plans for utilising local people, which included hiring a ‘Lad’ (young boy) to carry his belongings. He further noted that he would then hire people when he required them: ‘When I need to employ Rockmen [for the collection of birds or eggs], or others to examine any Grave, or other antiquity these must be employed where they are to be found’ (Low f. 71). The people who helped Low would have done so because of a number of reasons such as being paid, which, in the case of the lad was, in Low’s words, ‘a trifle [sic]’; out of kindness, or simply because their landowners ordered them to help (Low f. 71; *Low Tour*: 193-94).

The hired Orkney ‘lad’ is absent from Low’s narrative – he is a silent facilitator of the trip rather than someone who is imbued with agency and a voice. The rockmen who climbed the islands’ steep rocks for eggs and birds, likewise, remain anonymous in Low’s letters and manuscript. Low did, however, name one farmer informant, whose knowledge he recorded and discussed in detail. This was William Henry, an old farmer whom Low encountered on Foula, the most westerly island of Shetland, in 1774. Henry taught Low some Norn words (an old Scandinavian language which was by the eighteenth century becoming extinct in Shetland) and recited a long ballad (Low f. 81).⁹ At this time it was only farming people on Shetland who still knew some Norn. Low would not have gained any knowledge about Norn from the ministers or lairds to whom he normally turned for information. By naming the man Low, moreover, added veracity to the old Norn ballad. Low would no doubt have been aware of the controversy surrounding the authenticity of the alleged ancient Ossianic poems that James Macpherson collected in the late 1750s and 1760s and he would therefore probably be keen to include a detailed narrative of how he came across this old ballad in order to verify it.

Low’s co-operation with Henry should not merely be read through a utilitarian lens, however. The two men clearly enjoyed talking to each other and it was a reciprocal encounter in which their interests happily concurred. In return for Henry’s knowledge, Low provided the old man with gin and he was a receptive and appreciative audience. This can be seen in Low’s description of the man as:

an honest country man... who could neither read nor write but [who] had the most retentive memory I ever heard of... when I saw him he was so much pleased with my curiosity and now and then a dram of Gin that he repeated [and] sung the whole day’.

(Low f. 81; Low *Tour*: 107)

Although Low primarily socialised with the local elites during his tour, the episode with Henry illustrated that he also enjoyed and praised the warm hospitality that he received from farmers. In return for the hospitality he was shown in general on Foula, Low preached twice on the island to ‘a most attentive audience’ (Low *Tour*: 96, 117). Low’s own rural background is likely to have helped him communicating with people from more modest social backgrounds.

Low also exhibited a revealing degree of deference towards local knowledge. Although he did ascribe scientific and Linnaean names to local plants and animals, recording that he had for example ‘observed the *Alchemilla alpina*, FL. Suec. 142 [and] *Polygonum viviparum*, FL. Suec. 340’, he also paid respect to local names by recording them too. Discussing the bird the ‘white and dusky Grebe’, for example, Low noted both its description in Pennant’s *British Zoology*, and that its local island name was the ‘Little footy arse’ (Low *Tour*: 139, 28). There is no doubt that clear power relationships were at work in the creation of natural-history knowledge, in which ‘educated’ knowledge and observations by ministers and lairds carried the greatest clout, yet Low’s writing about his tours shows the entangled relationships that existed between people of different strata in the eighteenth century – relationships that did not always overwrite the knowledge of common people but instead could take on board and disseminate it.

This can also be detected in Low’s ethnographic observations. Low’s collaborators were not only his informants: they were also his objects of study. Low collected ethnological observations such as descriptions of the islanders’ health, physiognomy, clothing, their work ethos and beliefs. Low, unsurprisingly considering his intended career path, paid close attention to and described local beliefs in superstition and witchcraft, which although declining were still prevalent on both Orkney and Shetland. The islanders on Hoy, for instance, were described as ‘much given to superstition’ and Low dwelled on the continuing beliefs in fairies (Low *Tour*: 7, 81-82). Here Low’s world view clashed with another epistemic community and its concurrent beliefs, which Low perceived and depicted as unenlightened. Albeit condemning their practices, by recording and narrating them Low included traditional peasant beliefs and customs into the ecology of knowledge about the isles.

Low was, in addition, dependent on the willingness of the islanders to share their knowledge and artefacts with him. In a discussion of the local belief that fairies could kill cattle through the use of flint weapons (‘Elfshots’ or ‘Elfarrows’), Low recounted how he tried in vain to acquire one of these alleged weapons. The farmers refused to part with these since they believed that as long as they

possessed them, the fairies could not attack them or their cattle (Low, *Tour*: 7-8, 17). In this incident Low therefore had to accept epistemological diversity and the locals' wishes and concerns.

The Minister's Quest for Publication

Low firmly believed that his career as a local natural historian was dependent on him getting his own parish, and worked assiduously to achieve this goal. During the early stages of his first tour, having travelled only as far as Holm, one of the south isles of Orkney, Low found out that Mr Sutherland – the minister of Birsay and Harray, an inland parish 14 km north of Stromness – had passed away. Low wasted no time in drumming up support for his candidature. In a letter to Pennant from Holm in May 1774, he asked for 'assistance' with Laurence Dundas (Cuthbert 1995: 60-61). Low also wrote to Paton that he had 'never stood more in need of an extreme effort of your experienced friendship than now' (Low f. 75). Paton, who had a strong network on Orkney, helped Low by contacting Andrew Ross, for instance, a factor to Sir Laurence and the Chamberlain of Orkney. Low's campaign to be noticed by Dundas paid off. Staying with his friend James Alison, he received news that he was to be put in charge of the parish of Birsay and Harray through the patronage of Dundas (Doig 1955:342).

After Low finished his tour he was ordained minister of Birsay in December 1774. There is no recorded opposition to Low's appointment. Although resentment of aristocratic patronage would eventually split the Scottish church in 1843, when many left the Church of Scotland to set up the Free Church of Scotland, there were no great schisms on Orkney in the eighteenth century (Goodfellow 1903: 71; Anderson 1879: xlix). This is not to say that the local population meekly accepted the ministers that were presented to them by their feudal superior. In fact, the islanders had something of a tradition of expressing their strong dislike of any imposed ministers they regarded as unsuitable.¹⁰ Considering the feisty tradition of the Orkney congregations, Low must have been regarded as acceptable since his appointment seems to have passed without incident.

Settled in his manse, Low started composing and editing the manuscript of his tour travelogue, for which Pennant was going to secure a publisher. Low also continued to write his *History* and other manuscripts including a *Fauna Orcadensis* and a *Flora Orcadensis*, that he hoped Pennant would also help him publish. During this time it was essential for him to continue to have a thriving relationship with his natural-history patrons in order to make sure that his manuscripts were published. Despite the rise in publishing houses and a commercial printing culture, the patronage of the aristocracy and the cultural elite still mattered and patron-client and commercial cultures existed concurrently throughout the eighteenth century (Sher 2008: 203; Griffin 1996: 10). Low was therefore dependent on the clout and willingness of his powerful patron Pennant, which is reflected by

the large number of letters exchanged during the period 1775-1783 between Low, Pennant and Paton – the latter often working as a mediating middle man – about the publication of Low's *Tour* manuscript. This was also, however, a period of growing tension between Low and Pennant.

Initially the discontent between the two men revolved around Low's remote location, with Pennant showing little understanding of Low's geographical distance from mainland Britain. Pennant complained, for example, when Low's letter took a long time to appear. This delay was often caused by gales which prevented the sailing of ferries carrying the letters (Thomson 1987: 238; Cuthbert 1995: 65). The same lack of understanding was shown when Low was going through personal difficulties. In 1776 Low was seriously ill and whereas Paton was genuinely concerned, Pennant seemed more concerned about the 'loss the public will sustain' by Low not working on his manuscript (qtd. Anderson 1879: liv). Likewise, when Low's wife Helen, whom he had married in 1776, died after giving birth to a stillborn child in December that year, Pennant sent his condolences but again seemed to be more worried about the effect this would have on Low completing his manuscript of the *Tour* (Cuthbert 1995: 77). Pennant's relationship with Low, as these episodes illustrates, was always instrumental and centred on him receiving information that Pennant himself could not access.

Whereas Low's relationship with Pennant gradually broke down, his connection with Paton thrived and developed beyond flattery into a genuine life-long friendship. Paton and Low met for the first time in Edinburgh in 1775 when Low attended the Church of Scotland's General Assembly and they subsequently met up on other occasions too. Their friendship was, however, primarily maintained through their frequent correspondence. Although much of it continued to deal with their shared interest in books and in natural history, they also wrote about their personal feelings and their language became increasingly familiar and less formulaic. Their letters now started, for example, with 'My dear friend' rather than 'My dear Sir' (Low f. 78). Another important indicator of their increasing intimacy was that they wrote to each other partly in Scots using terms like 'ye ken' (you know) rather than formal English (Low f. 86; see also Doig 1955: 343). Paton, unlike Pennant, showed great compassion when Low's wife died. Their friendship illustrates that there was at least a potential for genuine friendships to emerge from distant patron and client relationships.

Low sent his *Tour* manuscript and sketches to Pennant in September 1777. Pennant informed Low that he would offer the manuscript to his friend the bookseller Benjamin White. At around the same time, a new man entered the Low-Paton-Pennant network. This was Richard Gough, a wealthy antiquarian, leading reviewer of *The Gentleman's Magazine*, and the director of the Society of Antiquaries. Gough frequently asked Paton for information about Scottish antiquaries and also requested his help to locate books and manuscripts (Sweet 2004: 62). One of the manuscripts Gough wanted access to while he was writing his

Anecdotes of British Topography was Low's tour manuscript. Pennant, who wanted exclusive use of the manuscript, did his best to prevent this from happening. Although Pennant referred to it as Low's property, he also expressed that he had special rights to it since he had initiated and funded Low's tour. Pennant, however, gave in and Gough was allowed to see the manuscript in March 1778 (Anderson 1879: lx-lxi; Doig, 1955: 359, 381).

When Gough published his *British Topography* two years later he referred to Low's manuscript and stated that it was going to be published under Pennant's patronage which signalled the beginning of a campaign by Gough to make sure Pennant honoured his commitment to Low (Doig 1955: 362). Writing several times in the *Gentleman's Magazine*, Gough provoked Pennant by calling on him to fulfil his promise and to explain why he had apparently 'deserted this deserving man' (Qtd *ibid*: 386). Pennant and Gough ended up falling out over their interests in Low's manuscript and each accused the other of using it in order to boost their own careers rather than that of Low. Amid the turmoil, the manuscript went missing for a few years. Low, unfortunately, had not transcribed it and therefore did not have a copy of his own.

The manuscript remained unpublished. Pennant did make some attempts, which he emphasised in his defence, but these did not lead to anything. One publisher, Mr Benjamin White & Son, complained that the text contained errors, which probably were Scotticisms and some poor grammar, something that Paton had urged Pennant to revise (Doig 1955: 377). Pennant also pushed for the manuscript to be published by subscription, but Low rejected this since he did not believe, considering his location in Orkney and his status as a minister, that he had a powerful enough network to make subscription a viable option. Low was also reluctant to dedicate the work to Lawrence Dundas, which Pennant suggested, since Low feared he might be 'unknown' to Dundas despite having received the latter's patronage – thus underlining that his patron-client relationship with Dundas, who did not live on Orkney, had been the result of his powerful friends' efforts rather than a personal relationship. Low had no savings of his own that he could use to invest in the publication either (*Ibid*: 365, 369, 372). In the end, it appeared that the manuscript could only be published if Pennant was prepared to invest in it himself, a financial risk he refused to take despite his promise to Low and his great wealth (see also Anderson 1879: lxxvii; Doig 354). Meanwhile, Paton's attempts to come up with new solutions as to how the manuscript could be published came to no avail, and despite Low's membership of scientific societies, where his observations were discussed, Low's location on Orkney meant that he could neither find suitable new patrons nor build up personal relationships with publishers and was therefore dependent on his existing network.

Here it is interesting to compare Low with the English minister Gilbert White, who also corresponded with Pennant and whose epistolary work *The Natural History and Antiquities of Selborne*, which consisted of letters exchanged between

White, Pennant and the naturalist Daines Barrington, was a great success. White, who resided in Hampshire, not only actively participated in London's scientific circles, but his brother was Benjamin White, the influential publisher of natural history works who Pennant had approached about Low's manuscript. In addition to White's very close and personal access to publishers and scientific communities, he was also a better writer than Low, whose manuscript required more intensive efforts of an editor. White intermingled his systematic and detailed observations with charming and evocative accounts of his locality that have enthralled readers since the work was first published in 1789 and would therefore have been an easier product to sell than that of Low (Mabey 1986; Menely 2004).

While Pennant's enthusiasm for getting Low's manuscript published was evaporating, he still found it useful for his personal career development. He informed Low in 1783 that parts of Low's manuscript were going to appear in the introduction to his completed *Arctic Zoology* that also used much of Low's work on the Orkney fauna and several of Low's illustrations. Pennant argued that this inclusion would in fact publicise Low's works and help him secure a publisher:

Your MS is of great use to an Introduction I am forming to my Arctic Zoology: but I shall rob you of nothing that can hurt, indeed as my work will appear first I shall serve you, by referring to it, and mentioning your design if it is to take place.

(Qtd in Cuthbert: 1995: 19)

Low had had high expectations from his patron and client relationship with Pennant, which got off to such a good start, but he ended up feeling very let down by Pennant's futile attempt to get his *Tour* in print and he did not accept Pennant's version of why the manuscript was not published. Writing to Paton in March 1783 Low expressed his thoughts about Pennant: 'as to Monsieur Pennant I have given up all thought of his patronage' (Low f. 92). In a later letter to Paton sent in February 1788, Low wrote that Pennant years back had 'promised mighty things' but that these had come to nothing (Low f. 96). He further rubbished Pennant's claim that the inclusion of Low's material in *Arctic Zoology* would help him find a publisher in this powerful statement: '[W]hat is to be published? not all published already? One has taken a leg, another an arm; some a toe; some a finger; [and] Mr. P. the very Heart's Blood out of it' (Ibid). Low was correct. Pennant had used in *Arctic Zoology* not only Low's excellent illustrations but had also included, without references to Low, a large amount of Low's observations on the isles. In the eyes of any prospective publishers, therefore, a large amount of Low's material had already been published which would make it a less attractive text to publish.

Pennant had created an image for himself as someone who supported the careers of young naturalists while also advancing scientific knowledge. His fall-out with Low suggests that Pennant promised too much too readily and he had, in this case, failed to live up to his promise. To Pennant, Low was a remote figure on Orkney he did not need to worry too much about once Low had provided Pennant with his surveys of Orkney and Shetland. However, Pennant, to some extent,

showed a similar disregard to people from the higher echelons of society as can be seen in his argument with Joseph Banks. Banks's career had initially benefited from Pennant's patronage, which introduced the young Banks to natural historians across the world, and Banks in turn had supplied Pennant with data on, for example, his expeditions to the Scottish island of Staffa, Newfoundland and Iceland. The two men fell out after Pennant in his *Arctic Zoology* published, without Banks's consent, drawings that Banks had commissioned of Iceland. Pennant had defended this act by referring to himself as a 'public man' who wanted to disseminate knowledge (Gascoigne 2003: 98). Banks replied angrily that it did not entitle Pennant to publish other people's property without their consent. He also referred to Pennant as 'an indefatigable searcher after other men's Observations' (ibid). By the 1780s, moreover, Banks, who had become the President of the Royal Society in 1778, no longer needed Pennant's patronage and could therefore afford to fall out with him, illustrating the strategic aspects that were at the heart of many patron and client relations in the ecology of knowledge (Ibid: 94-98).

To add to Low's anguish, his mental and physical health worsened from the 1780s onwards. Writing to Paton in March 1781 he informed his friend about his poor mental health: 'I have been tormented with a nervous disease shall I call it, which has kept me almost entirely from sleep even for weeks together, except a mere dose which is every moment interrupted by stark & foolish fancies which frights me even to set pen to paper' (Low f. 91). Low also suffered from pleurisy, rheumatism and failing eyesight, which left him almost blind. Yet, he managed to provide, with the assistance of a clerk, a lengthy entry on his parish for Sinclair's *Statistical Accounts*, thereby continuing his contribution to the dissemination of knowledge about Orkney.

Despite his failing health, Low also spent the last decade of his life focusing on his parish – an area of responsibility he had to some degree neglected earlier. He had, for instance, celebrated communion only three times during his 21-year-ministry despite the General Assembly's recommendation that it be celebrated once a year. Low's preaching supposedly improved once his eyesight went and the people in his parish are said to have grown fonder of him (Goodfellow 1903: 75; Rendall 2009:129). Alongside caring for his parishioners, Low continued to maintain his friendship with Paton. In his last letter to Paton, sent on 15 January 1795, Low lamented that bad weather had prevented him from travelling and meeting his friend (Low f. 100). Low passed away less than two months later, on the 13th of March.

Low's work was never published in his name during his lifetime. Instead it was partly appropriated by others or published posthumously. After Low's death most of his manuscripts ended up with Paton in Edinburgh. When the latter died in 1807 they were sold off at auction and continued to be used by other writers. The Rev. George Barry, Minister of Shapinsay on Orkney, for example, published in 1805 his *History of the Orkney Islands*, which used much of Low's writings with-

out any references to Low. Later nineteenth century writers such as William Elford Leach and Samuel Hibbert also used Low's manuscripts but did not acknowledge and reference Low. The *Tour of Orkney and Shetland* was finally published in Low's name in 1879. The text was edited by Joseph Anderson, who also included in his introduction a large number of Low's letters (Doig 1955: 386-88). For contemporary scholars interested in Orkney and Shetland, and the discipline of natural history, Low's original manuscripts, correspondence, and revised editions with commentaries are available. When historical accounts discuss eighteenth-century Orkney, in particular, Low is almost always used as a reliable—and much quoted—source and he has now received the recognition he so longed for.

At a time of intense mapping of regions perceived as British hinterlands, Low came into contact with leading eighteenth-century British natural historians and antiquarians through his initial encounter with Joseph Banks. His subsequent forays into patronised natural-history studies has been used in this article as an illustration of both the continuing importance of allegiance, or patronage, networks in the eighteenth-century ecology of natural-history knowledge and to highlight the participation of people from all strata of society in the production of natural-history surveys. A close reading of Low's *Tour* manuscript has shown the collaborative efforts that underpinned natural-history expeditions with local farmers, ministers, and landowners helping Low. This was not always a smooth process but at times involved precarious negotiation. Beliefs held by farmers, in particular about the supernatural, came into conflict with 'scientific' beliefs and the informant's social status and standing in the community played an important role in the value attached to observations and beliefs. Yet, even when there were clear epistemic clashes, knowledge labelled as quaint or even deviant was included in the ecology of knowledge by being recorded. Although not imbued with the same significance, different ways of knowing and approaching the natural world were incorporated into the ecology.

Through his patron-client relationships, Low's knowledge and observations circulated widely during his lifetime in books by Pennant and Gough, in debates in scientific societies and in newspaper articles, and through these outlets Low's work shaped how people perceived the northern isles of Scotland, their geography, nature and people. He was therefore an important actor in the expanding natural-history ecology of Scotland and illustrates how knowledge was requested, produced and shared. Yet, this came at a personal cost since Low's knowledge was mediated and appropriated by other writers, rather than being published in his own name as he had dearly hoped. While his geographical location on Orkney made him a valuable commodity as a natural historian and therefore provided him with an 'entry ticket' into an elite scientific network, his remoteness also limited his ability to form new patron-client relationships and to find a publisher on his own. Despite the ecology of natural history knowledge containing openings for people of different strata, one of this ecology's defining characteristics, shared

with the society in which it functioned, was an uneven distribution of power. This hierarchy applied whether knowledge was recorded and disseminated within the British Isles or by naturalists in the British Empire. Low's enduring and flourishing friendship with Paton does demonstrate, however, that the knowledge ecosystem could sustain genuine feelings and respect alongside the utilitarian hunt for knowledge.

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Notes

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- ² My application of the metaphor draws in particular on an essay by Marcus B Weaver-Hightower (2008) who has used it to analyse educational policy.
- ³ Boaventura de Sousa Santos has for example successfully applied the metaphor to his post-colonial studies (Santos 2007).
- ⁴ Among the canonical natural-history travellers who narrated the Highlands and Islands in the second half of the eighteenth century, making them key actors in the ecology of knowledge about Scottish natural history, were men such as John Walker, Thomas Lightfoot, Joseph Banks and Thomas Pennant
- ⁵ The British public could read Linnaeus's lecture in Benjamin Stillingfleet's *Miscellaneous Tracts relating to Natural History* (1762).
- ⁶ The SSPCK had been founded by a Royal Charter in 1709 to further promote the Protestant faith, particularly in the Highlands and Islands, where superstitious beliefs were believed to be particularly strong. This was to be achieved by building schools and sending missionaries.
- ⁷ The Low letters are in the Paton Manuscript collection at the National Library of Scotland in Edinburgh: Adv.MS. 29.5.8. Vol. III, f. 52-100. These will be from here on shortened in the text as Low, f.
- ⁸ Dundas had purchased the Earldom in 1766 from the 14th Earl of Morton for £ 60.000 and in return for purchasing Orkney he got a parliamentary seat (Rendall 2009: p. 231; Goodfellow 1903: 223, Thomson 1987:232).
- ⁹ For a discussion of Norn, see Rendboe 1987.
- ¹⁰ In the case of James Tyrie in the 1740s they destroyed peat banks, barricaded the minister out of his own church and heckled him. Similarly, in 1745, a new minister called Mr Reid was welcomed with a riot since the islanders did not understand 'his tongue' (accent) (Rendall, 2009: 99-101, 118).

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Ecology, History of Ecology descended from a tradition of natural history beginning in antiquity. Ecology, History of. gale. views updated. Ecology, History of. Historians have debated the origins of ecology for decades. But there is no particular person or precise date or definite occurrence that marks the beginning of the science. In this book, Haeckel provided the first definition of ecology: "By ecology we mean the body of knowledge concerning the economy of nature—the total relations of the animal to both to its inorganic and organic environment." Thanks to Haeckel, ecology finally had a name. But for almost two decades no one seemed to notice. In the 1880s and 1890s, however, ecology experienced an explosion of interest.