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ARTICLE

Esoteric Egyptology, Seed Science and the Myth of Mummy Wheat

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'Mummy wheat' allegedly grown from seeds found in the tombs or wrappings of Egyptian mummies became a scientific sensation in 1840s Britain. At a time of considerable popular interest in Ancient Egypt, mummy wheat was exhibited at the Royal Institution and the British Archaeological Association, cultivated by aristocracy and royalty, and discussed by Darwin, Faraday and others. However, the first controlled experiments on mummy wheat in the 1840s were unsuccessful, as were studies by the British Museum, the Royal Botanic Gardens and other scientific bodies in the 1890s and 1930s. Despite this growing scepticism amongst plant biologists and professional Egyptologists, belief in mummy wheat endured well into the twentieth century. This article traces the myth of mummy wheat in Britain in its intellectual and cultural contexts from its early Victorian emergence through to its mid-twentieth century decline. It focuses in particular efforts by British Museum Egyptologist E.A. Wallis Budge to debunk the myth by a variety of means, including crowd-sourcing experimental data.

Introduction

A popular myth emerged in Britain during the 1840s stating that wheat grains taken from Egyptian tombs and the wrappings of mummies could be successfully germinated and cultivated. A century later, in part due to the efforts of the Royal Botanic Gardens and the British Museum, the myth of mummy wheat had been comprehensively debunked. This article traces the story of mummy wheat from its illustrious beginnings to its slow decline into obscurity. Throughout, I refer to mummy wheat as a myth: since the mid-nineteenth century seed scientists have repeatedly shown that wheat stored in dry or desiccating conditions loses its vitality within a few years. The seeds that mummy wheat proponents cultivated, exchanged, exhibited and cherished were, without doubt, not ancient and some were not even from Egypt.

Like many popular myths, the roots of the mummy wheat story are unclear, and it may have multiple points of origin. One strong claim to the authorship of the myth was made by the surgeon and antiquarian Thomas Pettigrew (Dawson, 1931; Moshenska, 2015). In 1848, Pettigrew entertained the delegates at the British Archaeological Association's congress in Worcester by unrolling an Egyptian mummy, beginning with a talk on mummy wheat:

It was an error to suppose that wheat was found in the mummies themselves. The wheat from which this country had been supplied came in a vase which was sent over with some mummies from Egypt, given by sir George Wilkinson¹ to the British nation. They were taken to the British Museum, where he (the lecturer,) sir George Wilkinson, and Mr. Davison,² opened the cases. The vase was hermetically sealed and filled with corn, but in its transit the vase was broken and the corn fell out. He took a handful, and kept it as a specimen for two or three years, after which he gave some of the corn to

¹ The scholar and traveller Sir John Gardner Wilkinson, author of *Manners and Customs of the Ancient Egyptians* (see also Wilkinson [n.d.]).

² Likely John Davidson; physician, traveller and like his friend Pettigrew a scholar of Egyptian mummies. If this is the case, then the events described must have predated Davidson's death in 1836 (Bierbrier, 2012).

his friends, and endeavored to grow some himself. The seed, having been steeped in an acid solution, showed a dispensation to germinate, but was immediately destroyed by small insects; one only succeeded; and he exhibited the ear of wheat which had been produced therefrom. Two ears were produced the next year, and these he also showed, but it took three years before the nature of the plant was fully developed, (specimens of which he likewise exhibited.) ... The lecturer now proceeded to open the mummy, and the most intense excitement prevailed throughout the audience. (Dunkin, 1851: 325–6)

The myth that wheat, peas, bulbs and other plants could germinate after millennia spent sealed in ancient Egyptian tombs was a popular and pervasive one in the nineteenth and early twentieth century in countries including Britain, France, the United States, Canada and Australia where the revitalised grain was claimed to provide extraordinarily rich yields. This fascination with cultivating and studying mummy wheat brought together a curious community including prominent figures in the worlds of science, Egyptology, agricultural improvement and the arts. Mummy wheat became a popular cultural trope; a symbol of resurrection and rebirth seized upon by poets and painters and preached from pulpits. For some unscrupulous entrepreneurs in Egypt and elsewhere, the fascination with mummy wheat created profitable opportunities to swindle tourists, gardeners and farmers.

Yet even as mummy wheat was feted by antiquarians and amateur Egyptologists, a backlash had begun. In the early 1840s, the British Association for the Advancement of Science had begun the first controlled experiments into the vitality of mummy wheat. Without fail these tests, and others over the following decades, were unsuccessful. This marked the beginning of a divide between popular and scholarly approaches to mummy wheat that would grow and harden over the following century, reflecting wider themes of authority and power in the development of British Egyptology within nineteenth-century intellectual culture. Historian Jason Thompson reflected that: 'The history of Egyptology can be uncannily strange at times. All of the threads must be identified and followed. Sometimes they intertwine

to form a rich tapestry, but they also entangle and ensnare' (Thompson, 2015: 12). My aim in this article is to examine the idea of mummy wheat as a colourful thread amongst the fringes of this rich tapestry, but one that interweaves and touches upon numerous prominent figures and themes in the history of Egyptology in Britain and beyond.

Popular Egyptology in Nineteenth-Century Britain

European fascination with Ancient Egypt extends as far back as Classical Greece, when Herodotus, and later Diodorus Siculus, recorded Egyptian histories and traditions. Egyptian architecture and antiquities shaped the landscapes of Ancient Greece and Rome, while the cult of Isis and other elements of Egyptian religion were absorbed into Roman and later Christian pantheons (Curl, 1994). Egyptian antiquities played a part in the intellectual and artistic cultures of the European Renaissance, with scholars such as Athanasius Kircher surveying and recording monuments and making the first attempts to decipher hieroglyphic texts (Curl, 1994; Humbert et al., 1994). Some of these scholars were influenced by the revival of Hermeticism, the study of the purported works of the Egyptian mystic Hermes Trismegistus (Dannenfeldt, 1959; Thompson, 2015). Hermeticism would later encourage the fascination with Ancient Egypt amongst groups such as the Hermetic Order of the Golden Dawn and some branches of freemasonry (Curl, 1994).

British interest in Ancient Egypt emerged most strongly during two periods of military occupation of the country – the first in the early nineteenth century during the Napoleonic Wars and the second following the Anglo-Egyptian war of 1882. Many of the British collectors and traders in Egyptian antiquities during this period were soldiers and civil servants involved in these military occupations, such as Henry Salt (Manley and Réé, 2001). One of the first popularisers of Ancient Egyptian art and antiquities in Britain was one of Salt's agents, the Italian Giovanni Battista Belzoni, a former circus strongman who imported a considerable number of Egyptian antiquities including many of the sculptures now in the British Museum (Mayes, 1959; Moser, 2006). In 1820, Belzoni published an account of his travels in Egypt and displayed a collection of his antiquities in the Egyptian Hall in London's Piccadilly

(Hume, 2011). This exhibition contributed to a fast-growing enthusiasm in Britain for Egyptian design and architecture (Connor, 1983; Curl, 1994; Moser, 2012).

In the years after Belzoni's exhibition, a number of young men travelled to Egypt as travellers, scholars, artists and émigrés. They included John Davidson; John Gardner Wilkinson, later the author of *Manners and Customs of the Ancient Egyptians*; and the team led by Robert Hay, including Edward William Lane and Joseph Bonomi (Thompson, 1992). Like Belzoni's exhibition, the writings, artworks, and collections of these early travellers had a powerful influence on the popular and scholarly understanding of Ancient Egypt, particularly in the years before and just after the decipherment of hieroglyphics by Champollion. Egyptian mummies had been a source of fascination for European scholars since Herodotus, and their unrolling by physicians and antiquarians had begun in Britain in the mid-eighteenth century (Moshenska, 2014). While physicians and surgeons such as John and William Hunter had unrolled mummies in the name of science, Belzoni was one of the first to appreciate and to capitalise upon their popular appeal (Mayes, 1959). The young surgeon Thomas Pettigrew attended and assisted in Belzoni's mummy unrolling, and later became a prolific unroller in his own right (Moshenska, 2014). His *History of Egyptian Mummies* is a landmark work of scholarship published in 1834, the same year that the British Museum's Egyptian Sculpture Gallery was inaugurated, and three years before the publication of Gardner Wilkinson's hugely successful *Manners and Customs of the Ancient Egyptians*. By 1842, the *Gentleman's Magazine* could reflect on the extraordinary penetration of Egyptian motifs into British cultural life:

If we could revive a subject of old Rameses or Sesostris, draw him into life from his bituminous shell, and place him in one or two of the rooms of the British Museum, he would think himself at home, and miss little of the domestic comforts which he enjoyed in his Theban villa; while, in one adjoining vestibule, he might worship a whole synod of his granite divinities, and in another embrace the mummy of his own departed wife ... In his morning stroll he might behold Mr. Sotheby disposing by auction of an ichnuemon [sic] or an ibis ... and in the evening he might ... see Mr. Pettigrew

unrolling the cotton bandages of a priest of Memphis, or discoursing on the aromatic flavour of one of the queens of Egypt. (quoted in Connor, 1983: 97)

This reflects the state of British Egyptology and Egyptomania in the mid-nineteenth century at a time when interest in mummy wheat emerged and peaked. At this point the intellectual core of Egyptology was made up of enthusiastic gentlemen-scholars such as Gardner Wilkinson, while its literature was primarily composed of their travelogues (Thompson, 1992). During the foundation of the British Archaeological Association it was suggested that an Egyptological section be established alongside its medieval, architectural and other chapters, but this was ultimately rejected (Cullimore, 1844). Nevertheless, this enthusiasm led to the foundation of the Syro-Egyptian Society the following year, which would later be absorbed into the Society for Biblical Archaeology (Henderson, 2005: 3).

By the close of the nineteenth century, the intellectual status of British Egyptology had developed considerably from its position half a century earlier. This was driven in part by the ever-growing corpus of translated Ancient Egyptian texts and the resulting growth of philological alongside antiquarian and art-historical scholarship, but equally the period saw a significant growth in archaeological fieldwork in Egypt by Flinders Petrie and others (Thompson, 2015; Wortham, 1971). British tourism in Egypt grew over the course of the nineteenth century through the efforts of Thomas Cook, driven in part by writer Amelia Edwards' hugely popular work *A Thousand Miles up the Nile* (1877). Sales of this book aided the establishment of the Egypt Exploration Fund, which supported the work of Petrie and others and continues today as the Egypt Exploration Society (Spencer, 2007). In 1882, Egypt was once more invaded and colonised by Britain, which gave European and American scholars and collectors easier access to significant sites and a greater ability to remove material from the country. During this period Egyptologist E.A. Wallis Budge made a number of trips to Egypt to acquire materials for the British Museum, including some objects containing alleged mummy wheat: Budge's means and methods of collecting were ethically questionable, even by the standards of the time (Ismail, 2011).

To understand the popularity of Egyptology in nineteenth-century Britain it is important to take into account its close connections to Christianity, as historian David Gange has argued:

The Bible provided the language and analogies through which Egyptologists communicated with their public, and also furnished the characters with which the novelists and artists who helped to popularize study of Egypt populated their reimagined landscapes. (Gange, 2013: 9)

Gange suggests that elements of Egyptology served as a bulwark for religious culture in the face of assaults from prehistoric archaeology, geology, and in particular the higher criticism of the Bible that gathered force in Germany and across Europe during the nineteenth century (Gange, 2013). Many of the approaches and allusions to mummy wheat discussed below have an explicitly biblical slant, and there are references to it being a common theme for sermons: it is possible that the symbolic value of the myth contributed to its endurance in the face of scientific scepticism. The religious dimensions of the mummy wheat myth are discussed in more detail later in this article.

Mummy Wheat Emerges

Pettigrew's account of the arrival of mummy wheat in Britain in his lecture to the British Archaeological Association, quoted in the introduction above, aims to place it firmly within a respectable, scholarly context. The location was the unimpeachable British Museum, at that time still somewhat resistant to Egyptology: as Moser (2006: 220) notes, the Egyptian collections were the result of donations while active acquisitions remained focused on Classical antiquities in the first instance. Those present at the discovery of the wheat were Pettigrew, a surgeon and antiquarian; John Davidson, explorer and mummy unroller; and John Gardner Wilkinson, explorer and antiquarian. All three were known and well-regarded scholars within the small world of British Egyptology. The date of their meeting is not given, but must have occurred between Wilkinson's return to Britain in 1833 and Davidson's death in Egypt in 1836. Around this time the first mention of mummy wheat in botanical literature appeared

in a German journal, describing seeds grown over the winter of 1833–4 in Bohemia by the pioneering palaeobotanist Kaspar Maria von Sternberg (Anon., 1835).

The precise details of the introduction of mummy wheat into Britain remain unclear, with several conflicting accounts that may simply describe multiple points of origin. Day describes an 1843 advertisement for wheat 'bred from a bag of seeds found in the hand of an Egyptian mummy recently unrolled in London' (Day, 2008: 623), as well as wheat brought from Luxor by Sir William Symonds and cultivated in Ireland. Pain (2002) notes that the 1843 advertisement priced the wheat at an astonishing £1 for ten grains: in London at the time a quarter (roughly 480 pounds) of wheat cost 49s 10d (Hansard, 1843). Pettigrew's account was designed in part, as he mentioned at the outset, to dispel the belief that mummy wheat derived from seeds that he himself had found in the winding cloths of a mummy. This belief was widely held, not least by Pettigrew's friends and correspondents. Nathan Davis of Hollywood, Gloucestershire, wrote to Pettigrew in 1852 asking for his account of the discovery:

My dear sir ... The Revd. Mr Montague of this neighborhood gave me last spring two plants of the bearded wheat in question, which were placed in my garden, & produced each of them five ears or spikes, several of which were treble ... My neighbour Mr Miles, M.P. for Somerset, who procured some of the corn, & collected about 1200 grains, which he has drilled carefully, with the expectation of an abundant crop. Both Mr Miles and myself are anxious to acquire all the information in our power respecting the discovery of this corn in a mummy coffin, and as I think I have traced that discovery to yourself, we shall feel particularly obliged by your giving us the circumstances as they occurred. (Davis, 1852: n. pag.)

Davis' account of cultivating the wheat highlights a number of important points. First is the principal mechanism by which mummy wheat was spread, that is, between acquaintances: in this case Davis received his wheat from Montague, and in turn passed a sample on to Miles. Sir William Miles MP is a particularly significant character to have taken an interest in mummy wheat: as a gentleman farmer he was

involved in promoting innovations in agricultural science and was one of the forces behind the foundation of the Royal Agricultural Society in 1838, for which he later served as Vice-President (Miles, 1841). The growing professional interest in mummy wheat came at a time of intense activity in agricultural 'improvement', with a growing interest in scientific approaches to cultivation and animal husbandry, as well as the introduction of new technologies (Tarlow, 2007). This culture of science and experiment is reflected in some of the language used to discuss mummy wheat, as noted in another letter to Pettigrew:

When you were so kind as to shew me the Egyptian wheat Barley – some of which you had succeeded in making vegetate you were so obliging as to offer me a few grains to make trial of – I had as I mentioned, myself not at present the facilities to make the assay but if you will entrust a few of the grains to me, Colonel Northcliffe who has a place in Yorkshire, will give the experiment every attention. (Willich, 1840: n. pag.)

Davis' and Miles' interest in mummy wheat is particularly odd as by the time of Davis' letter to Pettigrew in 1852, mummy wheat had been debunked for more than a decade by a distinguished team from the British Association for the Advancement of Science (discussed below). Somehow this information had failed to reach such a distinguished agriculturalist as Sir William, or had failed to make an impression.

Martin Tupper's Mummy Wheat

Perhaps the most significant and best-known experiments with mummy wheat were those conducted at Albury in Surrey by the writer Martin Farquhar Tupper (see Nightingale [1849] and Trotter [1986] for a longer discussion). Tupper is best remembered for his *Proverbial Philosophy*, a collection of trite aphorisms which appeared in multiple volumes and sold over a million copies worldwide during the mid-nineteenth century. Alongside his writing Tupper was a keen antiquarian who excavated the Roman site at Farley Heath and was a founding member of the Surrey Archaeological Society (Trotter, 1986). His grandson reflected on growing up in a house where 'the

Roman relics ... were there in the Sheraton cabinet and the mummy wheat had its niche on the right of the secretaire' (Tupper, 1949: x).

Tupper's cultivation of mummy wheat at his home in Albury, Surrey, is probably the best attested account of its kind. Tupper received twelve grains of mummy wheat in 1838, 'seeds given to me by Mr. Pettigrew out of an Amenti vase taken from a mummy pit by Sir Gardiner Wilkinson' (Tupper, 1886: 211). In 1840 he planted the wheat in flowerpots, taking care to sift the soil carefully and divide his grains between four pots. Only one of these twelve germinated and Tupper transferred it from his sitting room to a flowerbed where it yielded two ears and a total of twenty-seven grains. In 1841 he replanted the grains yielding more than a hundred ears (Hudson, 1949). Given the close similarities between the accounts it is likely Tupper's experiments that Pettigrew described in his 1848 address to the British Archaeological Association quoted earlier.

Tupper enthusiastically spread the word of his apparent success in cultivating mummy wheat. He wrote a letter to the *Times* and had an account of his experiments privately printed which he sent, together with samples of the mummy wheat, to prominent botanists and members of the aristocracy (Tupper, 1840; 1886). Tupper presented the finest example of his wheat to Prince Albert, the Queen Consort and an avid agricultural experimenter, and was informed that 'The Prince is much obliged for this curious specimen, and proposes to raise more seed from it' (Hudson, 1949: 80). Another recipient was Michael Faraday, Professor at the Royal Institution, who wrote to Tupper to express his appreciation:

MY DEAR SIR, – Your note was a very pleasant event in my day of yesterday, and I thank you heartily for it, and rejoice with you at the success of the crop. It so happened that yesterday evening was the last of our meetings, and I had to speak in the lecture-room. The subject was Lithotint: but I placed the one ear in the library under a glass case, and after my first subject was over read the principal part of your letter – all that related to the wheat: and the information was received with great interest by about 700 persons. Our President, Lord Prudhoe, was in the chair, and greatly desirous of knowing

the age of the wheat. You know he is learned in Egyptian matters, and was anxious about the label or inscription accompanying the corn ... Ever your obliged servant, M. FARADAY. (Quoted in Tupper, 1886: 211–12)

Given the scepticism about mummy wheat both at the time and later, it is worth considering the ways in which Tupper's achievement was received. The authenticity of the wheat rested in part on the reputations of those who had handled it: it had been seen to emerge from a sealed vessel and passed directly from Gardner Wilkinson to Pettigrew, and thence to Tupper. The botanist John Lindley, whose *Gardener's Chronicle* published a number of articles in support of mummy wheat, wrote to Tupper that '[i]t is curious ... that of all the so-called instances of Mummial wheat yours should be the only one to which credence can be safely given. Many are no doubt Arab frauds' (Hudson, 1949: 81). This air of scepticism can also be felt in the description of Tupper's work in a letter from the botanist John Stevens Henslow to his former pupil Charles Darwin:

The only doubt that crosses my mind, is the possibility of Sir. G. Wilkinson having been cheated by the Arabs – A case is on record of a quantity of wheat taken from a Catacomb in Egypt having been eaten by modern rats, which shows it had kept well, as far as the flavor is concerned – There is a picture in Trinity of a man with a bulb of a Scilla in his hand, which he has just taken from a mummy, & the scilla is sprouting – I certain nothing *impossible* in Mr Tupper's statement, but it is precisely one of those cases which need more than one experiment to authenticate the fact – I have no doubt whatever that the seeds grew, but I think it not impossible that Sir. G. W. may have been deceived – If I knew Sir G. W's address I would write to him & beg a few grains (Henslow, 1840: n. pag.).

As a Cambridge professor Henslow was one of the few to receive grain samples from Tupper's trials, and as we will see he quickly became one of the earliest and most authoritative mummy wheat sceptics. His suggestion in the extract above that dishonesty by Egyptians might have played a role in the emergence of the myth

is part of a pattern of anti-Arab racism that emerges repeatedly in discussions of mummy wheat over the following century.

Alongside mummy wheat there are several accounts of the revival of bulbs found with mummies which may have inspired Martin Tupper's poem entitled *On A Bulbous Root (Which Blossomed, After Having Lain For Ages In The Hand Of An Egyptian Mummy)* (Tupper, 1850). This long and dreadful poem extracted below is addressed to the desiccated bulb itself:

Didst ever dream of such a day as this, A day of life and sunshine, when entranced In the cold tomb of yonder shrivell'd hand? Didst ever try to shoot thy fibres forth Through thy close prison-bars, those parchment-fingers, And strive to blossom in a charnel-house? Didst ever struggle to be free, – to leap From that forced wedlock with a clammy corpse, – To burst thy bonds asunder, and spring up A thing of light to commerce with the skies? (Tupper, 1850: 369–73)

Throughout the half-century of lucrative popularity before his well-deserved literary obscurity, Tupper and his works were the butt of innumerable parodies and barbs. In one of the lesser-known passages of *Capital* Karl Marx paused in the midst of a diatribe against Bentham to take aim at Tupper:

[T]he arch-Philistine, Jeremy Bentham, that insipid, pedantic, leather-tongued oracle of the ordinary bourgeois intelligence of the 19th century. Bentham is among philosophers what Martin Tupper is among poets. Both could only have been manufactured in England. (Marx, 1887: 420)

Mummy Peas

Alongside the craze for mummy wheat there was a briefer but still notable popular fascination with so-called mummy peas, and here again we find a connection to Karl Marx, whose admission to the reading room of the British Museum where he wrote *Capital* was supported by a testimonial from William Plate, Honorary Foreign Secretary of the Syro-Egyptian Society. In 1845, Plate delivered a lecture to the Society

on the subject of mummy peas (Henderson, 2005). The origin of mummy peas is identical to the claim for mummy wheat: they were alleged to have emerged from the same vase brought to the British Museum by Sir John Gardner Wilkinson and broken by Thomas Pettigrew, with the peas found amongst the wheat (Henderson, 2005). Pettigrew and his friends attempted to revive the peas without success, but three samples retained by Pettigrew were allegedly passed to the herbalist William Grimstone, an inventor of patent medicines (Henderson, 2005). Grimstone claimed to have successfully revived and cultivated the mummy peas, which he marketed to gardeners and smallholders under the name *Grimstone's Egyptian Peas*. In publicising his miracle peas he sought the help of William Plate whose 1845 lecture was widely publicised to this end in 1848–9 (Henderson, 2005). The pea business could not sustain Grimstone, who was declared bankrupt in 1850 and sent to a debtor's prison. He was described in the court report as 'Cultivator of and Dealer in Grimstone's Egyptian Peas' (*London Gazette*, 1850: 1903).

The publicity surrounding the so-called mummy peas piqued the interest of Sir John Gardner Wilkinson himself, who wrote to Pettigrew asking for some clarification:

Can you give me any account of the Pea which according to an account in one of the newspapers has been grown from one I gave you out of a jar brought by me from an Egyptian tomb at Thebes. They say there are two kinds of Peas, a large one & a dwarf, both from seeds I gave you when unpacking the things I brought to the British Museum in 1833 or 1834.³ The subject has excited ... interest & I am anxious to get the best information from an authentic source. Of course the fact of their growing must rest with the person who planted them the first time, whose name I should like to know also. You can tell me if they are the same I gave you & whether there were two seeds or how many. Do you know of anyone who has grown the wheat from seeds taken from Egyptian jars found in the tombs? (Wilkinson, n.d.: n. pag.)

³ This early date supports the presence of John Davidson (d.1836) alongside Wilkinson and Pettigrew at the unpacking at the British Museum.

The myth of mummy wheat and peas outlived Pettigrew, Tupper and Wilkinson to become what British Museum Keeper Sir E.A. Wallis Budge would call a 'hundred-year-old nonsense' (Budge, 1934: 13).

The British Museum Responds

Many curious Victorians directed their mummy wheat queries to the British Museum, where the renowned Egyptologist and biblical archaeologist Samuel Birch was an Assistant Keeper and later Keeper of Oriental Antiquities from 1836 until his death in 1885 (Bierbrier, 2012). In 1880 one of the many discussions of mummy wheat in the periodical *Notes and Queries* printed Birch's response to these queries:

1. In answer to your inquiries, no grains of wheat have ever, to my knowledge, been found in the bandages of Egyptian mummies.
 2. Mummy wheat is exhibited in the Egyptian Room of the British Museum. It comes from Mr. Sam's collection, but there is no proof that it was found on mummies.
 3. It has been asserted to have germinated, but it is doubtful if it was real mummy wheat; and botanists deny that it could grow, the vital germ being close to the surface, scarcely protected by a film.
- Believe me yours truly, S. BIRCH (Sewell, 1880: 306)

A discussion of mummy wheat in the *Manchester Guardian* in 1885 (and echoed in King-Parks' study of the same year, as discussed below) states that Birch himself found wheat grains inside a 2000-year-old sarcophagus he opened in 1871, and that four of the grains were planted in sifted soil. One of these allegedly grew to a height of four feet and produced twelve grains of oats: a plant unknown to the ancient Egyptians and thus taken as evidence that the sarcophagus had been tampered with (*Manchester Guardian*, 1885: 5). Wallis Budge stated that the British Museum received queries about mummy wheat 'either by letter or by word of mouth, on an average, twice or thrice a week', but that the official line on the matter was that 'Dr. Birch has said: "Ancient Egyptian wheat will not grow", and we gave that as an answer to enquiries' (Knapp, 1932: 64). Given Birch's position as one of the very few professional

Egyptologists of the late nineteenth century, this establishment of a British Museum 'party line' on mummy wheat is significant. It is possible that Birch's intention was to allow his junior colleagues to respond to queries quickly and decisively, but Budge's description also highlights the weight that Birch and the British Museum could now bring to bear on questions of scholarship, stating without explicit evidence that mummy wheat would not grow.

Wallis Budge was to make the debunking of mummy wheat his personal crusade. Born in 1857 to an unmarried mother, Budge began his working life at W.H. Smith the stationer and studied ancient languages in his spare time. After graduating from Cambridge, Budge began working at the British Museum in 1883, and remained in its employ until his retirement (Ismail, 2011). Budge travelled extensively in Egypt and the Middle East on the Museum's behalf, acquiring antiquities by a variety of often questionable means. Like his fellow popular Egyptologist Flinders Petrie (whose thoughts on mummy wheat are discussed below), Budge published a considerable number of popular and scholarly books on Egypt and related topics, including travelogues, textbooks in Ancient Egyptian languages, and most famously a booklet-length obituary of the British Museum cat (Ismail, 2011). As a well-known public figure and authority on Ancient Egypt, Budge was in a strong position to affect the influence of the myth of mummy wheat.

Further Experiments and Critical Reviews

While Tupper and the mummy wheat believers enjoyed apparent success in cultivating mummy wheat, others had begun to conduct more cautious controlled experiments. The mummy wheat myth emerged around the same time that the British Association for the Advancement of Science started to sponsor studies of the vitality of different seeds with the aim of establishing a seed bank at Oxford (Strickland and Daubeny, 1843). A committee was formed to test different storage methods, consisting of Hugh Strickland; Professor Charles Daubeny; Professor John Lindley; and Professor John Stevens Henslow, who corresponded with Darwin on the subject of mummy wheat (see above). The work of the committee focused on both the natural viability periods of different seeds and on ways of extending these periods through

different methods of storage. In 1842 the committee reported on their experimental findings including an addendum on older seeds, including some taken from Egyptian tombs:

in the spring of 1841, having the same object in view which these experiments it is hoped will determine, many seeds of old dates were sown on a gentle hot-bed, principally in the Oxford Botanic Garden. They were ...

IV. One hundred seeds of *Wheat*, *Barley* and *Lentils* respectively, from Egyptian catacombs, given to the Committee by the Trustees of the British Museum, experimented on by Professor Daubeny and H.E. Strickland, Esq. ...

In all of these instances a purely negative result was obtained, no vegetation taking place in any of the cases. (Baxter, 1843: 38)

Henslow reflected on the committee's findings in the *Gardener's Chronicle* of 1843, in which he described his own cultivation of wheat from grains provided by Tupper, resulting in a plant identical to the existing Belle Vue Talavera breed of wheat and not, as some had previously thought, the breed known colloquially as 'Egyptian Wheat'. But Henslow also stated that he had 'long suspected the possibility of a flaw in the testimony upon which this one grain is supposed to have been so old as Mr. Tupper and Sir G. Wilkinson believed it to be' (Henslow, 1843: 758). In the same article Henslow recalled that during the British Association's experiments on seed vitality, a sample of mummy wheat was obtained directly from Gardner Wilkinson and was subsequently found to contain maize (a New World grain) mixed in with the wheat, leading to the conclusion that the sample had been tampered with. On the basis of this and other points, Henslow concluded that Tupper's findings should be treated with a considerable degree of scepticism (Henslow, 1843: 758). However, these opinions and the findings of the British Association's work seem to have made little impact on popular perceptions of mummy wheat, although they were briefly noted in a survey of mummy wheat literature by the Society of Antiquaries of Newcastle upon Tyne in 1887 (Phillipson, 1887: 279).

Egyptomania was an international phenomenon: plants allegedly grown from ancient Egyptian wheat were displayed at a meeting of the Académie des Sciences in France in 1857 by the entomologist Félix Édouard Guérin-Méneville. The samples were derived from a crop first planted in 1849 and later grown experimentally across the country to some success, with a particularly large cultivation in the arrondissement of Morlaix in Brittany (Leisure Hour, 1857: 368). The Italian botanist Antonio Bey Figari, then living in Egypt, carried out experiments on mummy wheat and other grains that were reported in the *Presse Scientifique des Deux Mondes*. He concluded that mummy wheat could not be grown, and that any that did germinate were most likely modern substitutions (Knapp, 1924: 88).

In 1885, the antiquarian Henry King-Parks set out to review the evidence for and against mummy wheat. Like several other studies of mummy wheat that tended towards scepticism, King-Parks blamed Arab forgers and antiquity-dealers for the widespread popularity of the myth, and his text is riddled with abhorrently racist invective. He opens his paper by noting the prudence of making 'some inquiry into the character of the natives', and that 'the Arabs are represented by our popular writers upon Egypt as being a deceitful race' (King-Parks, 1885: 604). He later notes 'the thieving propensities of the Arabs and their untruthfulness', citing evidence 'that the Arabs are not only adepts at lying, but skilful manipulators of ancient sarcophagi' (King-Parks, 1885: 605; 606). The conclusions of King-Parks' review can be summarised by the letter he quotes from Villiers Stuart MP who states that: 'The samples represented as having vegetated are due to the deceitfulness of the Arabs, who put modern wheat into the old vases and sell them to travellers. Nothing but a miracle could make mummy wheat germinate' (quoted in King-Parks, 1885: 607–8).

One of the acknowledged authorities on wheat cited in King-Parks' study was William Carruthers of the Royal Agricultural Society, who discussed mummy wheat in a lecture in 1892:

It was quite certain, as had been clearly established again and again, that no seed which was buried with a mummy at the time it was put into the coffin had ever germinated. It was not only the examination of the seed

that would establish that; experiments had been made to show that this was not the case. He himself had examined a large number of seeds in the British Museum, taken from mummies, and they were all in the same condition that the mummy itself was in (Laughter). (St. Swithin, 1892: 224)

In a subsequent issue of *Notes and Queries* C.A. Ward responded to Carruthers with a defence of mummy wheat, agreeing that '[i]t is immensely reasonable to think that four thousand years would kill any seed' but holding that 'it is poetry, or fiction, to accept that as a rule of universal prevalence'. His choice of analogy to support his point is inspired: 'Nobody can deny the suspended life of a toad in marble. If an organised being can, thus confined, revive, surely a seed might' (Ward, 1892: 363). Thus one (well debunked) popular Victorian myth was invoked in support of another (Bondeson, 1999).

Petrie's Response

In 1914, the prominent Egyptologist Flinders Petrie established a short-lived popular journal of Egyptology entitled *Ancient Egypt*. In its inaugural issue he devoted a brief article to mummy wheat, noting that it formed '[o]ne of the most frequent questions asked about Egypt' (Petrie, 1914: 78). Petrie based his discussion on some of his own practices, experiences and testimonies from his time working in Egypt. This included the discovery of a granary of late-Roman-era corn which he planted and watered experimentally, alongside some grape pips of the same antiquity, all of which rapidly rotted away.

Petrie's reflections on the causes of the mummy wheat myth are distinctive: rather than laying the blame solely on Arab antiquities dealers he considers a range of possibilities, noting that: 'Without knowing every stage of the history of a case it is difficult to see where an error may have crept in' (Petrie, 1914: 78). He notes that some of the coffins opened in England and found to contain grain had previously been stored in a stable in Egypt, where a pile of corn had fallen against them. Petrie also drew on the experiences of the distinguished botanist Joseph Hooker, one of King-Parks' correspondents, who recalled seeing visitors at a display of ancient

raspberry seeds carelessly mixing two trays including a modern sample. The subsequent vitality of these seeds surprised and briefly confused the cultivators. Petrie, like other writers on the topic, also noted the sale of fake mummy wheat to tourists, although without resorting to the prejudicial language of other writers. He noted:

the habit of dealers at Thebes making up little pots of corn to sell to tourists. A common little brown pot – quite worthless – has corn put in it, and a lid plastered over it; to be more attractive, the lid is sometimes a scrap of painted cartonnage. Then, shaking the pot, the dealer tells the tourist to listen to the rattle of mummy wheat. It is soon bought, and taken home to plant. A fresh belief in “real mummy wheat” is the result, as the owner is certain that he took it out of a sealed pot himself. (Petrie, 1914: 78)

Perhaps the most perceptive of Petrie’s theories regarding the mummy wheat myth focused suspicion on ‘the hands that plant them’ suggesting that:

When the master returns with some corn from Egypt, gives an interesting account of the possibilities to his gardener, and hands over the seeds to be planted with the greatest care and every advantage in the greenhouse, it would require a stern moralist to deny him the satisfaction which he fondly anticipates. (Petrie, 1914: 79)

Petrie’s view that the mummy wheat myth remained alive through a combination of dishonest dealers and well-meaning gardeners is, to my mind, one of the most clear-sighted and likely accurate analyses. Like Gardner Wilkinson and Budge before him, Petrie was a prominent and popularly-acclaimed Egyptologist. But though Gardner Wilkinson was often quoted as a primary source of mummy wheat in the UK, he himself expressed some confusion and indecision upon the point, and Petrie’s intervention had little noticeable impact: in contrast Budge, as we shall see, made a series of concerted efforts to annihilate the myth.

Budge's First Attack

Samuel Birch retired from the British Museum and died in 1885, but queries about mummy wheat from members of the public continued unabated during and after his departure, and for some time his colleagues and successors including Wallis Budge continued to deliver Birch's official line on its non-viability. While Birch had conducted his own experiments on mummy wheat, Budge now proposed something altogether more systematic and definitive. In Egypt in 1897 he purchased a wooden model granary from a nineteenth dynasty tomb, which he dated to approximately 1200BC, and which contained a substantial quantity of 'darkish brown grain' (Knapp, 1932: 64). With the permission of the Director of the British Museum, Budge approached Dr William Thistleton-Dyer, Director of the Royal Botanic Garden, Kew to evaluate the wheat under controlled conditions:

He prepared soil and divided the grain into four little heaps, and he planted each heap separately and covered each little plot with glass of a different color – white, yellow, red and blue. The whole of the Kew staff was intensely interested in the experiment, and many botanists joined them in waiting for the grain to germinate. They waited day after day, week after week, but no shoot of any kind appeared. At length, after three months, they turned over the little plots and found that the grain had turned to dust. As a result Thistleton Dyer reported that ancient Egyptian wheat or barley would not grow ... Many others tried the same experiment with the same result. (Budge, quoted in Knapp, 1932: 64)

Writing in 1931, J.H. Turner of the Royal Botanic Gardens reflected on these experiments at Kew, noting that 'although Egyptian wheat and barley often have an exterior appearance of good preservation, the embryo has undergone a marked chemical change and is no longer viable' (Turner, 1931: 266). In this and other botanical articles of the period, it is evident that mummy wheat enthusiasts had plagued the staff at Kew as they had the staff of the British Museum.

Wheat from Mohenjo-daro

In 1933 a new source of ancient wheat emerged when excavators working on the Harappan site of Mohenjo-daro in Sindh, India (now Pakistan) found an ear of wheat inside a tomb. According to an account in *The Times*, the wheat was obtained by the S.P.G. Mission Agricultural School in Umedpur where it was successfully cultivated. The wheat was analysed by the Agricultural Research Institute in Pusa who stated that it was unlike any other known type, as well as being peculiarly prolific. Seeds of the new wheat were sold in Britain for one shilling per ounce by a Miss Underwood of Addison Gardens, West London, for the benefit of the mission school (*The Times*, 1933). These claims were supported by officials from the Society for the Propagation of the Gospel as well as the late Governor of the United Provinces (Biffen, 1934).

This new mummy wheat was generally greeted with weary amusement. The *Manchester Guardian* called it 'this latest version of an oft-exploded myth ... an old, old story, and it never loses in the telling' (*Manchester Guardian*, 1933: 7). The journal *Nature* followed up on the report in *The Times*, having recognised it as yet another iteration of the mummy wheat myth, and discovered that the wheat was selling well. Their report stated that: 'There is no doubt whatever that the story of this so-called mummy wheat from an Indian tomb is based, at the best, on a misunderstanding' (Anon, 1933: 271). The *Nature* report reiterated the established orthodox view of seed longevity and noted that the Indian mummy wheat was not in fact a new type as was claimed, although they provided no evidence for this.

The most comprehensive response to the Mohenjo-daro mummy wheat came from the Cambridge professor and wheat expert Sir Rowland Biffen. He reviewed the evidence, noting both Wallis Budge's general scepticism and the considerable popular interest that the Indian wheat had sparked in Britain:

It is true that grains of wheat were found during the excavation of Mohenjo Daro. The fact is stated in Sir John Marshall's monograph 'Mohenjo Daro and the Indus Civilisation'. But it is also mentioned there that the grain was carbonised ... Its sole resemblance to living grain is in its shape. The shape happened to be a very unusual one. It was round and almost shot-like,

resembling in this respect the somewhat uncommon Indian wheat known botanically as *Triticum sphaerococcum*. If, then, these charcoal pellets could have been persuaded to germinate we know precisely the type of ear and of grain they would have given rise to.

The wheat distributed in 1933 has none of the features characteristic of *T. sphaerococcum*. Those accepting the statement that this ancient wheat from Mohenjo Daro has been resuscitated must then go further and be prepared to admit that in the course of ages it has changed into a totally different race! Neither is it unique. If reference is made to Professor Percival's great monograph 'The Wheat Plant', published in 1921, a full description of it will be found under the name of *T. turgidum Plinianum*. (Biffen, 1934: 5)

The publicity campaign led to a growth in popular interest in mummy wheat. In 1934 the *Vegetarian News* published a detailed survey of previous research entitled 'The alleged germination of mummy seeds' (Johnson, 1934) which noted the results of experimental work in the 1890s:

An experiment on Lord Winchilsea's "Cable" farm has just decided the oft-mooted question of whether or not the mummy wheat found in the Egyptian tombs really possesses the germ of life. A few months ago Lord Sheffield, on his return from Egypt, gave Lord Winchilsea a handful of wheat which he had himself taken from a sarcophagus containing a mummy. One hundred of these grains were carefully planted under a glass frame. The result was awaited with interest by those who knew of the experiment, but after some weeks the seeds were discovered to have rotted away. (quoted in Johnson, 1934: 235)

The paper further quotes William Carruthers whose attempts to germinate mummy wheat were reported in *Nature Notes* in 1895, concluding that: 'It would be no greater wonder to see the hardened and eviscerated mummy, under favourable treatment, rise up and walk, than to see the grains found in its cerements germinate' (quoted in Johnson, 1934: 234). Around the time that Johnson's article was published, Wallis

Budge tried, in the months before his death, to debunk the myth of mummy wheat once and for all.

Budge's Challenge

In September 1934, Budge wrote to *The Times*, outlining the mummy wheat myth which he framed as a fraud inflicted upon tourists. He cited a distinguished group of Egyptologists who had all failed to cultivate mummy wheat, and noted that:

In spite of all this there are many well-informed men who still believe that ancient Egyptian wheat will germinate, and who resent any statement or proof to the contrary as a species of personal discourtesy. It seems to me a pity that this state of things should go on, and my real object in writing this letter is to ask you to make public for me a suggestion that could easily be carried out. If you, Sir, will give the space, it will be seen by your readers all over the world, and some learned body or agricultural authority or private individual seeing it may be induced to try to grow dynastic wheat and record their results in *The Times*.

Here, naturally, the question will be asked, 'Where is the supply of Egyptian dynastic wheat to be obtained?' – wheat about the source of which there is no room for fraud and jest. I am very glad to be able to say that I can supply the wheat, and I am prepared to devote a generous handful for experiment by any responsible authority ... I should be glad to see some of it used by responsible people with the view of settling for everybody once and for all the question, "Will mummy wheat grow?" (Budge, 1934: 13)

As Budge had hoped, the letter sparked immediate and widespread interest, his challenge was reported around the world, and letters and cards flooded into the British Museum requesting samples of the wheat. The *New York Sun* reported Budge's letter and reflected on the longevity of the myth and its driving forces, attributing it to the gullibility of Western tourists in Egypt and the avarice of their tour guides:

Why does the legend persist in the face of all this evidence? Merely because there is unmistakable evidence that wheat brought from modern Egypt and described as ancient has germinated ... One more experiment, even though undertaken with certified ancient wheat from the store of so distinguished an Egyptologist as is Sir ERNEST, is not likely to dissipate a hardy legend. Failure of the experiment would be a pallid negative against the robust affirmative conviction of a tourist taken in by a wily guide. (*New York Sun*, 1934: 24)

Several of the responses, some of which became lengthy correspondences, were from botanists and agricultural scientists around the world, some of whom offered to run controlled tests. From the chemistry laboratory of the Peek Frean & Co. Ltd. biscuit manufacturers, seed scientist A.B. Bradley sent Budge copies of his research papers on the vitality of wheat (Whymper & Bradley, 1934). G.H. Purvis, principal of Monmouthshire County Council's Department for Agricultural Education, had also received extensive enquiries about mummy wheat from the public and was keen to try growing it, although he noted that his scientists agreed with Budge that no success was likely (Purvis, 1934). Requests for samples were also received from the editor of the *Gardener's Year Book*, the Rothamsted Experimental Station of the Lawes Agricultural Trust, the Oxford Institute for Research in Agricultural Engineering, and from Gartons Ltd., one of the largest seed merchant and plant breeders of the time. Perhaps the most authoritative responses came from Smith Brothers (Basingstoke) Ltd., a large seed merchant, and from Wilfred Parker, director of the National Institute of Agricultural Botany at Cambridge, which included the Official Seed Testing Station for England and Wales.

Parker informed Budge that his institution, like Kew and the British Museum, had received numerous credulous queries about mummy wheat that he would be happy to help debunk. He proposed a test in which samples of Budge's wheat would be planted in a laboratory, a greenhouse and a field, under closely controlled test conditions. The results of these tests were, as promised, reported in *The Times* under the title 'An Investigation at Cambridge':

Sir Wallis Budge was good enough to send me a small sample of grain in question. On September 11 it was put into test in accordance with the standard method used by the O.S.T.S. [Official Seed Testing Station] for wheat germination tests; that is, by gently pressing 50 grains into moist sterile sand in an earthenware dish. The dish was then kept at room temperature (about 17 deg. C.) and tap water was added as often as was necessary to keep the sand in a moist condition. It should be mentioned that the above procedure has been shown by long experience to supply the optimum conditions for germination of wheat.

After the fourth day in test the grains had all become slimy. Subsequently rapid rotting took place with development of moulds. At the end of 16 days in test, not only was every grain completely decayed, but a thick growth of mould had spread from them to the surrounding sand.

Inspection of the embryos before planting had indicated that the sample was incapable of germination and this was fully confirmed by the test carried out.

Perhaps it is too much to hope that this evidence will finally dispose of the myth concerning the growth of seed which has lain for centuries in ancient tombs or temples, but if it serves to deter even a limited number of the public from wasting their money and their time (and, incidentally, the time of such institutes as my own) over speculations on or in such seed the investigation will not have been in vain. (Parker, 1934: 10)

Smith Brothers carried out similar controlled tests, the results of which they communicated to Budge, as well as to *The Times*, the *Star* and the *News Chronicle*:

With reference to the sample of "Mummy Wheat" received from you for germination test.

We have had this in test in our Germinators for four days, and there is not the slightest sign of any of the grains Germinating. We have planted 10 grains in garden soil, and 10 grains in silver sand (as used in our own

tests), lightly covered, and also 20 grains were planted in moist sand, just pressed into the sand and not covered, at a temperature ranging from 15° Cent. when planted to 20° Cent., which is to-day's room temperature.

The 20 grains pressed into the sand, are now showing signs of going mouldy, and it is our opinion at present that there is very little hope of any of the grains Germinating.

We shall keep this in test for a further period, and will let you have our observations at the end of seven days, ten days, and fourteen days. (Hall, 1934: n. pag.)

Alongside these sensible and sober responses to his appeal, Budge inevitably received a raft of odd requests for seed samples from members of the public. One C.G. Blake of Maidenhead wrote to Budge (using green ink) to request a seed sample, noting that although he was 'just an ordinary bank clerk' he had 'tried some time ago to form a knowledge of the ancient Egyptian language, from your book "First Steps in Egyptian" – unhappily without much success' (Blake, 1934). Writer John Bond claimed to have a knack with difficult seeds and requested a small sample of the mummy wheat: as an inducement he sent Budge a libretto he had written for a (thus far un-produced) Egyptian comic opera in the style of Gilbert and Sullivan (Bond, 1934). Jessica Cole of Dawn House, Winchester informed Budge that she had successfully cultivated mummy peas for many years, and wished to give mummy wheat a try (Cole, 1934). Emma Gifford of Chard, Somerset tried to reassure Budge of her bona fides, informing him that 'My gardener is a member of the Horticultural Society, my son is a Cambridge M.A., I am M.B.E. so that we are reputable people whose word would be believed.' (Gifford, 1934).

Budge received several letters from Canada that mentioned a thriving trade in alleged mummy wheat. Andrew Gray Scott of Provost, Alberta wrote to Budge:

The idea prevalent among many of the farmers of this province is that "mummy wheat" produces crops of astonishingly high yield. Unscrupulous

salesmen prey upon these misguided individuals accordingly, very often peddling to them, as “mummy wheat”, very inferior varieties of wheat similar to the bearded Russian variety. Naturally, these salesmen demand, and secure, very exorbitant [sic] prices for their wheat. (Gray Scott, 1934: n. pag.)

A similar if more self-interested letter came from H.G.L. Strange of the Searle Grain Company of Winnipeg, Canada:

We are intensely interested in this question in Canada for the reason that every other year or so salesmen seem to appear in this country and attempt to sell farmers – at times with some success – small quantities of so-called Mummy wheat at most extravagant prices per ounce ... Should it be proved that so-called Mummy wheat is a fake, pure and simple, and could the statement of fact be under the name of such a well known authority as your good self, the farmers of Western Canada will no doubt be saved from a considerable amount of useless expenditure. (Strange, 1934: n. pag.)

The popularity of mummy wheat in Canada extended also to mummy peas, with a newspaper report in 1932 of a Danish farmer who paid \$25 for a single pea, which he claimed produced a harvest of 200. A McGill University biologist called the farmer ‘Just another sucker’, and noted that the mummy wheat scam was at least a century old. This report claimed to have traced the mummy wheat myth back to an unnamed professor in Prague who planted it in 1835 and found the wheat that grew to be of a modern breed: this is likely a reference to Kaspar Maria von Sternberg’s study in Bohemia in 1833–4 discussed earlier (Anon., 1835; *Daily Boston Globe*, 1932).

Within two months of his letter in the *Times*, Budge had died at the age of 77. Reports of the experiments and wider debate that he had initiated rumbled on in the press for a few months before fading away. It appears that, while the belief in mummy wheat had by no means been annihilated, Budge’s appeal had at least some success in raising popular awareness of its status as myth. Claims to have cultivated

mummy wheat continued into the 1950s and beyond, although a 1951 study of the germination of old seeds mentions mummy wheat only briefly, and seemed to suggest that it was no longer widely known (Youngman, 1951). It made occasional appearances in the *Miscellany* section of the *Manchester Guardian*, which noted that 'the yarn has got a good start now and will probably turn up every few years' (*Manchester Guardian*, 1952: 5).

Cultural Representations of Mummy Wheat

The endurance of the myth of mummy wheat owed something to its numerous representations in literature and popular culture throughout the period in question. An early and revealing mention of mummy wheat in fiction is found in journalist George Sala's humorous essay *Travels in Cawdor Street*, published in Charles Dickens' *Household Words* in 1852. Sala describes Cawdor Street, a thinly disguised portrait of Soho's Wardour Street, as a den of villainy: 'For in Cawdor Street, be it understood, dwell the great tribe of manufacturers of spurious antiques, of sham moyen-age furniture, of fictitious Dresden china, of delusive Stradivarius violins' (Sala, 1852: 518). There, in the collection of Messrs. Pagoda and Son, Sala notes 'boxes of mummy wheat' amongst the 'Egyptian, Chinese and Indian curiosities' (Sala, 1852: 518). To the less-credulous Victorian, mummy wheat had already become a by-word for fraudulent souvenirs.

Elsewhere in Victorian culture the idea of mummy wheat lying dormant but potentially fertile became a symbol of endurance through time. For Dickens in *My Man. A Sum*, mummy wheat stood for the incomprehensible nature of deep time and antiquity (Dickens, 1853). At the outbreak of the Franco-Prussian War in 1870, a British writer reflecting on the war's impact on the cotton trade noted that 'War is not a sudden outburst at any time. It may come with a surprise at last, but the seeds have been there for a long time, apparently dead, but alive like a grain of mummy wheat in an ancient Egyptian sarcophagus' (Sphinx, 1870: 245). 'Josephine' in the *Sunday at Home* magazine addressed a poem to *The Mummy Wheat*, describing its retrieval by a mummy unroller and subsequent planting:

With careful fingers he removed
The swathings one by one,
And gazed at last upon the form
Of Egypt's swarthy son.

And straight arose the fragrant scent
Of spices, oils, and balm,
And grains of corn went rolling down
From off the blackened palm, -

Grains that perchance were treasured up
In Canaan's time of dearth:
Dry as they were, we planted them,
In hope, beneath the earth.
(‘Josephine’, 1854: 271)

Josephine compares the image of mummy wheat flowering from a dead hand (possibly influenced by Tupper's earlier work) to religious faith instilled in a child by his mother which lies dormant until late in his life. Similarly, for Edith Nesbit in her 1905 poem *Mummy Wheat*, the endurance of life inside the dried grain is compared to the persistence of her love. Ironically and perhaps not coincidentally, one of the less-willing targets of Nesbit's affection was Wallis Budge himself.

Biblical Echoes of Mummy Wheat

Nesbit's poem includes a reference to the 'sevenfold ears' of the wheat grown from a mummy's tomb. This is a common theme in descriptions of mummy wheat, and hints at the religious dimension of the myth. Pharaoh's dream, described in Genesis chapter 41, describes seven fat cows and seven thin cows; and two stalks of wheat, one healthy and one withered, but each with seven ears of grain: 'And he slept and dreamed the second time: and, behold, seven ears of corn came up upon one stalk, rank and good' (Genesis 41: 5). This connection between biblical Egyptian wheat and the wheat found in the tombs of ancient Egypt was vital in sparking popular

enthusiasm for the myth at a time of widespread biblical literacy. The seven-eared mummy wheat featured in Nesbit's poem echoes a report on mummy wheat published in the *Manchester Guardian* in an otherwise sceptical account (Editorial, 1885). *The Plants of the Bible*, also published in 1885, states that: 'In Pharaoh's dream the seven ears on one stalk appear to refer to the variety of wheat commonly cultivated in Egypt, and called *Triticum compositum*'. It goes on to state that: 'Grains of wheat are found in mummy cases in Egypt, but there is no evidence that any of those put in along with the mummy have retained their vitality' (Balfour, 1885: 206–7). Pain (2002) notes that seven-eared mummy wheat was displayed to the Newcastle Farmer's Club in 1846 to great acclaim. As late as 1927, a farmer in New South Wales reported that he had acquired mummy wheat from Egypt which when sown 'grew to exceptional height and developed seven-eared wheat' (*Baltimore Sun*, 1927: 12).

Day's analysis of the myths of mummy plants suggested that 'gullibility and horticultural ignorance' had combined with 'rudimentary Egyptological knowledge and Christian fervour' noting the tensions between Egyptian and Christian notions of resurrection, as well as the biblical account of Pharaoh's dream (Day, 2008: 624). This is supported by one of Pettigrew's correspondents, John Poynder, who enquired about the origins and meaning of mummy wheat:

May I take this opportunity of asking whether you have ever satisfied yourself as to the wheat found in the mummies which you need not be told yet vegetates on being sown – I am growing it this summer. The higher theory, & that which is deeply interesting, is that the Egyptians would have intended (at least the better taught) an emblem of their conviction that the body would rise again, & that the argument of the Apostle 1 Cor. XV. 35 is literally founded upon the custom so commonly observed at Thebes. This is so delightful a theory that I myself am unwilling to adopt the meaner view that this wheat was the supposed provision for the departed as we know the food found in other depositories of the ancients, & even of the moderns was – including the Peter's penny of that foul apostasy – Popery. But what say you? "How readest thou?" (Poynder, 1847: n. pag.)

The bible verses that Poynder noted are as follows:

But some man will say, How are the dead raised up? and with what body do they come? Thou fool, that which thou sowest is not quickened, except it die: and that which thou sowest, thou sowest not that body that shall be, but bare grain, it may chance of wheat, or of some other grain. (1 Corinthians 15: 35–7)

For W.B. Yeats, mummy wheat held a mystical significance, and he used it several times in his writings including in his occult work *A Vision*: 'Should Jupiter and Saturn meet/O what a crop of mummy wheat!' (1962 [1925]: 302). In his poem *On a Picture of a Black Centaur by Edmund Dulac*, he wrote:

... yet I, being driven half insane
Because of some green wing, gathered old mummy wheat
In the mad abstract dark and ground it grain by grain
And after baked it slowly in an oven ... (Yeats, 2005 [1920]: 326)

There are echoes too of Yeats' mummy wheat in the 'mummy truth' of his 1921 poem *All Soul's Night*: Olney (1980) argues that Yeats' mummies and his mummy wheat in particular represented eternal supernatural truths, hidden or buried but un-dead, awaiting revival. Like Tupper, Nesbit and many others before and after him, Yeats made good use of the rich symbolic resonance of mummy wheat. Interestingly, both Yeats and Nesbit were associated with the Hermetic Order of the Golden Dawn mentioned earlier, which drew heavily on ancient Egyptian symbolism in its practices.

These religiously and spiritually-inspired responses to mummy wheat support Gange's (2013) argument for strong links between popular Egyptology and religion in nineteenth-century Britain. However, in other respects mummy wheat contradicts his argument: Gange claims that there were close and mutually-supportive links between popular and scholarly Egyptology throughout this period, but professional Egyptologists from the mid-nineteenth century onwards were critical and dismissive of mummy wheat. Similarly, Gange states that in the last quarter of the nineteenth

century 'ancient Egypt gathered a significance in British culture that few could have foreseen and few have subsequently recognized' (2013: 1) and that within Egyptology 'public and scholarly interests came to coincide much more closely than at any other time in modern history' (2013: 5). If this was the case, then the myth of mummy wheat was going against the grain. If as Gange claims the late nineteenth-century Egyptological community 'began to ... conceive its purpose as a missionary endeavour to shore up public faith in the bible' then on the religiously-laden subject of mummy wheat, at least, it was willing to burst the bubble of popular belief (Gange, 2013: 5).

To understand this apparent contradiction, it is worth noting that Gange's study focuses principally on the mainstream of Egyptological scholarship and its connections to Anglican religious culture. In contrast, the more occult elements of popular Egyptology such as prophecies derived from pyramidology were associated with equally esoteric religious movements such as the British Israelites and the Hermitic Order of the Golden Dawn (Moshenska, 2009). These markedly less respectable associations might explain why professional Egyptologists became outspoken in their disparagement of popular misconceptions of Ancient Egypt. Egyptology in the later nineteenth century was a young discipline struggling for legitimacy and recognition in classically-dominated museums, universities and learned societies. Egyptologists' vocal repudiation of mummy wheat and similar popular delusions was a means of individual, institutional and disciplinary self-fashioning, delineating the boundaries of scholarly and religiously respectable Egyptology through the identification and anathematisation of its esoteric fringes.

In part through these efforts, mummy wheat came to be regarded as a prime example of what Charles Mackay called 'extraordinary popular delusions' (1932), and featured in works such as Ackermann's *Popular Fallacies: A Book of Common Errors* (1950) alongside such old chestnuts as Caligula's horse-consul. A 1910 discussion of animal suicides (scorpions stinging themselves, snakes swallowing their young) listed mummy wheat as a similar 'deep rooted popular belief' alongside the 'toad living in a stone nodule for thousands of years' (*New York Tribune*, 1910: 4). Johnson's 1934 survey of the myth and science of mummy wheat ably summarises the significance of these mythical survivals:

The matter is perhaps not of great practical importance, and it has been long settled so far as the botanical world is concerned; but, though perhaps at the cost of disturbing long-cherished beliefs, it is as well to correct unfounded impressions. If ostriches do not bury their heads in the sand on the approach of danger, and if mummy wheat will not grow, it is better not to draw on them for illustrations, even if speeches and sermons may lose something that is familiar and picturesque by the omission. (Johnson, 1934: 237)

Conclusion

The mummy wheat phenomenon illuminates aspects of the widespread popular fascination with Egypt in nineteenth- and early twentieth-century Britain. Mummy wheat was found in private collections, displayed in museums, passed amongst networks of friends and scholars, and grown in fields, flowerbeds and homes. It was presented by Faraday at the Royal Institution, pondered by Darwin and cultivated by Prince Albert, yet the entire enterprise rested on a mistake: mummy wheat could not have grown. Amongst the cognoscenti, mummy wheat became known as a hoax perpetrated upon credulous tourists by unscrupulous souvenir sellers, and elsewhere by cunning seed merchants upon unsuspecting or desperate farmers. The sheer quantity and variety of mummy wheat suggests more than one point of origin but whatever its source, antiquity or authenticity, the circulation of mummy wheat sheds light on a period of intense popular, religious and scholarly interest in Ancient Egypt.

The experimental study of mummy wheat reflects a shift away from the activities of gentlemen farmers such as Martin Tupper, William Miles and Prince Albert towards a more scientific approach embodied by the professors of chemistry and botany who made up the British Association for the Advancement of Science's committee for the study of seed vitality. While Miles may have been a leading figure in the Royal Agricultural Society, by the end of the century the Royal Botanic Gardens and the universities were the recognised authorities on seed science. By then, no serious botanist considered mummy wheat viable, thanks to advances in the understanding of the principles of seed vitality as well as the accumulation of negative evidence.

An economic perspective on mummy wheat illuminates other aspects of the myth: William Grimstone of 'Grimstone's Egyptian Peas' was one of a legion of shady salesmen spread across the globe extracting often fantastic sums of money from farmers and keen gardeners. The dishonest Egyptian guides so often cited by sceptics who sold samples of alleged mummy wheat to tourists were responding to a demand largely generated by Western Egyptomania (Brier, 2013). Finally, it was the economic imperatives of agricultural improvement that led the British Association for the Advancement of Science to make the study of seed longevity and storage one of their early subjects for funding and study, leading to the first controlled experiments in the cultivation of mummy wheat just as the myth began to emerge.

Mummy wheat rose to prominence in 1840s Britain at a time when the study of Ancient Egypt was still the preserve of gentleman-scholars and seed science was in its infancy. Over the following century, the steadily declining fortunes of the mummy wheat myth trace developments in both of these fields. As gifted amateur scholars of Ancient Egypt such as Wilkinson and Pettigrew gave way to Birch, Budge and other professionals, belief in mummy wheat appears to have become one of a number of signifiers of 'outsider' status, as Birch's scepticism became hardened into the British Museum's official line that mummy wheat would not grow. As Gange (2013) notes, Egyptology was, and remains, a field where the line between amateur and professional can be blurred, and in such circumstances it is not uncommon for the boundaries to be policed with more than usual vigour. Thus Budge's attempts to debunk the myth through collaborative scientific experiments in 1897 and 1934 was likely driven in part by his frustration at incessant public enquiries on the subject, but also as a means of personal and disciplinary self-fashioning by reinforcing the wall separating experts from enthusiasts.

The myth of mummy wheat has endured. In 2002, *New Scientist* magazine reported a new study by John Dickie of Kew's Millennium Seed Bank. Following a brief but illuminating review of the mummy wheat myth, the article entitled 'Pharaoh's Ears' reported Dickie's study based on modelling the temperature and humidity inside the tomb of Nefertari, wife of Ramesses II. Dickie concluded that, given the fluctuations in temperature in even the best-sealed tomb, all of the grain would be dead within 89

years (Pain, 2002). Despite this and other scientific setbacks I am confident that, like the ambulant mummies of popular fiction, the myth of mummy wheat will rise again.

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Competing Interests

The author has no competing interests to declare.

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⁴ See here for the conference paper out of which this article was developed: https://www.ucl.ac.uk/archaeology/research/directory/material_culture_wengrow/Gabriel_Moshenska.pdf (Last accessed 21 December 2016).

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