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Walking with hobbits: an insider's view of the discovery at Liang Bua

Abstract

Startling archaeological and palaeoanthropological discoveries tend to generate a wealth of responses from different social and professional groups. The recent discovery of a 'hobbit' generated a response from academic institutions, the media and the general public that was unexpected, but at the same time very indicative of how human beings perceive themselves. By reviewing how this find has impacted on these three groups, a mixture of emotions is revealed: disbelief, horror, intrigue and fascination. But can science, especially science in Indonesia, benefit from this period of intense scrutiny and interest brought about by the most important, albeit disputed, find of the last 100 years?

Keywords

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Walking with hobbits:

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Startling archaeological and palaeoanthropological discoveries tend to generate a wealth of responses from different social and professional groups. The recent discovery of a 'hobbit' generated a response from academic institutions, the media and the general public that was unexpected, but at the same time very indicative of how human beings perceive themselves. By reviewing how this find has impacted on these three groups, a mixture of emotions is revealed: disbelief, horror, intrigue and fascination. But can science, especially science in Indonesia, benefit from this period of intense scrutiny and interest brought about by the most important, albeit disputed, find of the last 100 years?

Rhizome 1, 9-15 (2005)

The recent discovery of the Indonesian 'hobbit' (*Homo floresiensis*)^{1,2} has shocked the archaeological and scientific communities with the same force as did the unearthing of 'Java man' (*Homo erectus*) 110 years previously.³ The reaction of the general public and the media to these two important discoveries is not only interesting but also very revealing. Dubois's landmark find was met with only mild interest and a great degree of consternation, whereas over 6000 newspapers worldwide covered the *Homo floresiensis* discovery, and it has been classified as the second most important scientific discovery of 2004 (second only to finding water on Mars) according to the US journal, *Science*.⁴ The find produced such a large media impact that the nickname used to represent the little people ('hobbit') now outranks J.R.R. Tolkien's original use of the term on the Internet search engines. Members of the project were prepared for world interest and media coverage, but unprepared for their tales of 'how I caught a hobbit';⁵ predictions of a palaeontological gold rush⁶ and being described as 'hobbit hunters'.⁷ To what extent, therefore, has this discovery caught the imagination of a cynical world, and why has it also invoked harsh consternation and condemnation from opposing groups? Does this discovery mean that we can now expect to see bands of 'hobbit searchers' and an increase in 'sightings' of Yetis, Leprechauns or even Loch Ness's monster as a direct result?

Negative public perceptions of the hobbit or a 'how can we be related to that' attitude has generally been born out of fear, human arrogance and strong religious beliefs. The first announcement of the discovery had creationists reeling and brought to the surface strange fears that in the not so distant past 'we were not alone'. Headlines such as 'Found: our ugly cousins'⁸ seemed to reveal a mixture of amazement and horror, not so dissimilar from the revulsion invoked by Dubois's missing link in 1895. It is strange to comprehend that in this age of complex technology and communications systems that a 'lost island' could have existed, harbouring a human species not so dissimilar from our own. Is it the fear of the unknown in this informed society that fuels scepticism, or an innate human arrogance that suggests that we are the sole conquerors of the globe? If these emotions are related to human arrogance, and a sense of our own uniqueness, then it is understandable that these tiny hobbits, only a metre tall (up to your hip bone) and not known for their athletic prowess, could be seen as a threat to human (*Homo sapiens*) superiority. The hobbits were able to survive throughout the most arduous conditions on earth i.e., the last glaciation,⁹ whilst the more robust Neanderthals, who would have been first choice on anyone's rugby team, had died out by 30-40 ka.¹⁰ Hobbits were all walking, all talking, dwarfed slayers of *Stegodon* (a type of small elephant typical of the Indonesian Pleistocene) that may have given any present-day crocodile hunter a run for his money!

At the opposite end of the spectrum, the discovery also fuelled a kind of 'hobbit mania' and had the general public gripped by the enormity of the find and its corresponding implications. When a scientific discovery can be associated with a term that people not only recognise but also have an affinity for, it conjures up a positive image with which people can identify. It is this type of positive image that was lacking from Dubois's initial discovery, and may explain the force of the public's reproach. The aptly named 'hobbit' allows non-specialists to instantly comprehend the size of the skeleton and the enormity of this amazing discovery, and removes the elitist and unapproachable aspects of science. Has the 'hobbit' discovery made archaeology and palaeoanthropology more accessible to everyone? When nine-year-old boys feel inspired to scrawl hand-written letters to members of the team asking for more information in regards to what the hobbit ate, one must conclude that this discovery has positively impacted on the world of science, and has inspired people to believe that there is still a wealth of potential discoveries to be made.

The discovery of *Homo floresiensis* has illustrated the dynamic and yet unpredictable nature of archaeology. When the team first starting digging in Liang Bua, we were expecting to find a modern human tooth, or maybe something more archaic. The last thing we expected to find was a hobbit, name a new species of human and rewrite human history. If we had carried on with the tradition of digging to only 3-4 metres, as with previous excavators at the site (initially Farther Verhoeven and later Professor Soejono), the hobbit would never have made the headlines and we would never have known about this fascinating new species of human. It begs the question of how many other equally fascinating finds are lying just 6 m below the surface waiting for the next intrepid explorer. Maybe the excitement of the unknown and the unpredictability of archaeology is another reason why the discovery has captured the imagination of the general public, in the same way that the fictional character of the 'hobbit' captured their imagination in the magical world of Middle Earth. Has the discovery given people the scientific backing to believe that small humans may have existed in the recent past? The tales of small hairy humans called Ebu Gogo ('the grandmother who eats everything'), which may have existed in Flores as late as the Dutch arrival (19th Century), certainly gives impetus to such a notion.¹¹

The media reaction to the discovery has been overwhelming: the *Nature* media embargo broke at 6pm on 27th October (G.M.T.) and instantly the internet was flooded with over 40,000 hobbit stories, the dating laboratories at Wollongong were swamped with film crews from around the world, and mobile phones belonging to team members were constantly engaged. The use of language within the media coverage reveals the enormity of the find, with terms such as

'a breathtaking discovery,'¹² 'will shake up theories on human evolution,'¹³ 'has the world agog,'¹⁴ 'adds a new riff to our ancient tune, scientists may have to rework the lyrics too' and 'find turns palaeontology on its head.'¹⁵ Many journalists seemed to pick up on the theme of the 'lost world of little people', or the idea that 'it's a small world after all', and even attempted to delve into what it means to be human. Has this coverage provided an opportunity for the human race to assess its uniqueness and unity as a species, or has it just provided a real-life story with headlines reminiscent of a Hollywood blockbuster? Media claims for a new link in the chain¹⁶ are unfortunately inaccurate; *Homo floresiensis* represents an evolutionary dead end, as the species is thought to have died out some time between 12 ka (remains no longer found in the Liang Bua cave sediments) and the time of the Dutch arrival. However the majority of the media coverage has acted as a vehicle to enlighten the general public of this extraordinary discovery and its wider implications, albeit with a small degree of sensationalism that sadly cannot be avoided with any newsworthy event.

The reaction of the archaeological and palaeoanthropological communities has been overwhelmingly supportive, with only a small minority of sceptics.¹⁷ Many experts are amazed at the capabilities of the species to hunt, make stone tools and use fire, even after their brains had shrunk to the size of a grapefruit.¹⁸ However, proponents of a cynical backlash (led by Professor Jacob from Gadjara Mada University, Indonesia, Professor Henneberg from the University of Adelaide, and Dr. Thorne from the Australian National University), discount the discovery as a new human species, but rather interpret the hobbit skeleton (LB1) as a subspecies of *Homo sapiens* that may represent an individual suffering from secondary microcephaly. This debilitating disease causes the brain and skull to dwarf in a warped fashion, producing short individuals with small braincases and mental retardation. Observed in archaeological material from the Americas, Africa and Europe, it is considered to be a common (1 out of 2000) pathological condition in isolated populations of the Late Pleistocene.¹⁹ However, the source of this claim also states that 'Cases of extreme microcephaly (with cranial capacity below 600cc) are very uncommon and most individuals would die before reaching adulthood.'²⁰ By comparing a 4 ka old microcephalic skull of a young adult male from Crete²¹ with the LB1 skull, they argue that the similarity in dimensions imply that both individuals may have suffered from pathological microcephalia. Despite data to the contrary,²² they insist that this interpretation is consistent with the context of Liang Bua cave, its age and associated artefacts.

The pathogenic interpretation of LB1 may represent a genuine assessment or an attempt to throw pressure off the academics that support a multiregional evolutionary model^{23,24} rather than the more popular 'Out of Africa' theory.^{25,26,27}

It is of no great surprise that the advocates of the microcephaly theory support the former model, as the presence of the hobbit evidence suggests that a dwarf *Homo erectus* co-existed with modern humans. The evidence for this co-existence implies that modern human (*Homo sapiens*) replaced the original *Homo erectus* (and the derivative *Homo floresiensis*) populations, rather than an evolutionary continuity from *Homo erectus* into *Homo sapiens*. The renewed emphasis on replacement calls into question the motives of the multi-regional camp in discounting the original interpretation of the discovery. This point aside, at least seven individuals, with similar proportions, have now been discovered within Liang Bua cave, which tends to counteract any claims that LB1 is a pathological individual.²⁸

Other cynics accept the enormity of the find but point out that a great deal of debate and argument will ensue regarding where the hobbit fits on the family tree.²⁹ Leading anthropologists are unsure from which species of human the hobbits may have descended, either *Homo erectus* found in Java from about 1.2 million years BP, or the more geographically distant African *Homo habilis* as an alternative ancestor.³⁰ Archaeologists are similarly hesitant about the cultural abilities of the hominins, and whether they possessed suitable cognitive capabilities to have made the extensive stone tool assemblage found in association with the remains.³¹ These and other doubts over the interpretation of the Liang Bua skeleton have been addressed in an analysis of the hobbit's brain from three dimensional computer tomography (C.T.) scans of her endocast characteristics.³² Comparisons of a number of endocast scans revealed that the hobbit's brain is most similar to the *Homo erectus* brain and least similar to the microcephalic brain. However, it remains to be seen whether this new data silences the critics, or fuels the debate further.

Whether the public and academic perception of, and reaction to, the find is positive, negative or indifferent, we must accept that this is a startling find in a world becoming more predictable and mundane. How many other parts of the world are left to discover? The world of archaeology suggests that a few metres below the surface there are whole histories and different worlds waiting to be unearthed. Maybe the discovery has given the public a small glimpse into these new worlds, leaving them hungry for more. If this is the case, then only science can be the winner. But what does this find mean for the world of science? Team leader Professor Morwood suggests that this find is one of the most important early hominin discoveries of the last 100 years, whilst the Pulitzer Prize-winning evolutionary biologist, Jared Diamond claims that it is the most amazing discovery in any field of science in at least the last 10 years.³³ Archaeologists and palaeoanthropologists cannot assume that the evolution of humans is

predictable; the discovery of the hobbit has added another twig to the complex human evolutionary tree. If work continues in relatively unexplored areas, such as Southeast Asia, we must be prepared for more surprises. However, only time will tell whether this find has a predominantly positive or negative effect on Indonesia, especially Flores. The constant flow of tourists to the site since the initial discovery has certainly kept happy the guardians of the cave, who now offer 'guided' tours of the infamous cave. But how will Indonesia manage this sudden influx of interest: will access be granted to the most capable teams, or be auctioned off to the highest bidder? These and other concerns can only be answered with time.

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