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REPRESENTATIONS OF THE EXTRAORDINARY HUMAN BODY: MAKING SENSE OF THE NUTTALL COLLECTION OF LANTERN SLIDES

Las extraordinarias representaciones del cuerpo humano: dando sentido a la colección de placas de linterna mágica de George Henry Falkiner Nuttall

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ABSTRACT

Taking the slide collection of medical expert professor G.H.F. Nuttall as a starting point, this article investigates the representations of the extraordinary human body in West-Europe lantern history and lantern heritage between 1880 and 1930. To explain the at first sight unfamiliar image repertoire of this collection, the authors place the object, the medium and the aesthetical representations in a historical and cultural frame and compare the material on two levels. Firstly, the authors apply a cross-media visual analysis to describe several modes in which the extraordinary body is represented (*cartes de visite*, early cinema) and secondly, they trace the appearance of extraordinary bodies in other genres within the medium of lantern slides.

After these two comparisons the authors provide a contextualized, more nuanced understanding of the archival objects of the G.H.F. Nuttall slide collection and its visual strategies.

Key words: magic lantern slides; early cinema; medical photography; collection-based research

RESUMEN

Tomando como punto de partida la colección del catedrático en medicina G. H. F. Nuttall, este artículo investiga las extraordinarias representaciones del cuerpo humano en la historia de la linterna mágica del Occidente europeo y su patrimonio entre 1880 y 1930. Con el objeto de explicar el repertorio de imágenes a primera vista desconocidas de esta colección, los autores colocan el objeto, la técnica y las representaciones estéticas en un marco histórico y cultural que se explica en dos niveles. En primer lugar, las autoras aplican un análisis visual cross-media para describir los diferentes modelos desde los cuales son representadas las particularidades del cuerpo humano (*cartes de visite*, cine de los orígenes) y, en segundo lugar, muestran su apariencia desde otros géneros que no utilizan las técnicas de representación de las placas de linterna mágica. Después de estas dos comparaciones, las autoras proporcionan una contextualización que servirá para comprender de una forma más matizada los objetos de archivo de la colección de placas de G. H. F. Nuttall y sus estrategias visuales.

Palabras clave: placas de linterna mágica, cine de los orígenes, fotografía médica, colección-fuente de la investigación.

The magic lantern medium, its heritage and its history are no longer forgotten: recently, and especially in the last five years, new impulses have put this long underestimated medium onto the agenda of both heritage institutions and academic research. The funding of the research project *A Million Pictures* via the European Joint Programming Initiative on Cultural Heritage scheme was a de facto recognition of lantern practise as an important part of European cultural heritage – a status that lantern slides did not formally have until then. Research projects in Germany and Australia also put this medium onto the academic research agenda¹. In the last five years, a number of workshops and publications have shared the fascination for lantern culture with a broader academic world, taking the pioneering work from non-academic researchers and scholars of early cinema studies to other academic disciplines². Lantern heritage and its relevance to various aspects of cultural history are more and more acknowledged, especially, but not exclusively, with respect to nineteenth- and early twentieth-century uses. Lately, lantern slides are an increasingly recognized and accessible corpus for various domains of historical research³.

In spite of expanding activities, much of lantern culture's contextual and performative history is still unexplored and its relevance to other media and cultural histories, though huge, is as yet in its infant shoes. And even though more and more objects are getting digitised, there are still more that remain boxed in vaults of archives and private attics. Due to this situation, research into lantern heritage is still experimenting with methods of study. In this article, we share our trajectory of making sense of this type of images that, we hope, will be of use for other researchers and archivists that work with object- and collection-based research designs.

Ine van Dooren will first present a lantern slide set assembled by bacteriologist G.H.F. Nuttall for the University of Cambridge, now archived at the Wellcome Collection Library in London. The Nuttall lantern slide set is dedicated to infectious diseases and mostly comprises images of the extraordinary human body⁴. In order to explain the visual strategies observed in the historical material, Sarah Dellmann will take a critical visual studies perspective in her cross-media comparison of representations of the extraordinary human body across lantern slides, *cartes de visite* and film. Together, we contextualise the objects through a mixture of considerations based on archival knowledge, insights from cultural history, media history and disability studies as well as personal reflections. The slides and the visual representations of the Nuttall collection, we conclude, are part of a shift in Western culture occurring in the nineteenth century and defined in the early twentieth century, from understanding the extraordinary human body as uncontrollable curiosity towards understanding it as a classified medical case. We conclude with a reflection on the methods and approaches that we adapted in order to understand the historical meaning of this artefact.

¹ Most prominently the research group »Screen 1900« at University of Trier (2000-ongoing); the research projects »A Million Pictures: Magic Lantern Slide Heritage as Artefacts in the Common European History of Learning« (2015-2018), see <<http://www.uu.nl/a-million-pictures>>; Heritage in the Limelight: The Magic Lantern in Australia and the World (2016-2019) <<http://soad.cass.anu.edu.au/research/heritage-limelight>>; as well as smaller projects dealing with academic heritage.

² Relevant pioneering works were Musser (1984) and Robinson, Herbert & Crangle (2001). Among the numerous publications of the last five years, the edited volume *Screen Culture and the Social Question* (Crangle & Vogl-Bienek 2014) as well as the conference proceedings *A Million Pictures. Magic Lantern Slides in the History of Learning* (Dellmann & Kessler 2018) provide a good overview over various facets of lantern research in English language.

³ This is accommodated by slide digitization projects in archives and museums as well as the expanding availability of slide set images and references online. Next to online display of collection and individual research projects, the Lucerna Magic Lantern Web Resource <<https://slides.uni-trier.de/>> functions as reference database with more than 270,200 slides known and 30,000 digital images of lantern slides.

⁴ »Extraordinary body« is a term coined by Rosemarie Garland-Thompson (1997, p. 5). We follow her terminology to refer to a human body of an extraordinary physical shape or surface. This term has the advantage that it functions foremost descriptively and is neither rooted in pejorative expressions nor fixed to semantics of a specific historical discourse, such as »people with disabilities«, »freaks«, »terratas«, »deviant« or »abnormal«. We use the term »extraordinary human bodies« as we do not discuss examples of non-human animals.

1. THE NUTTALL COLLECTION OF LANTERN SLIDES

Professor George Henry Falkiner Nuttall (1863–1937) was an American-British bacteriologist specialising in parasites and their relation to diseases. He moved to England in 1899 and was a lecturer and professor of biology at Cambridge University until his retirement in 1931. In 1904 Nuttall persuaded the University of Cambridge to establish the first diploma in Tropical Medicine and Hygiene, which had already been taught at Edinburgh University since 1899 (Graham-Smith & Keilin, 1939, pp. 492-499). At the University of Cambridge he founded the Molteno Institute of Biology and Parasitology in 1919 and directed it from 1921. Nuttall published widely (the published work of Nuttall is incorporated in almost 200 papers, see Graham-Smith & Keilin, 1939, p. 497) and founded and edited various journals such as the *Journal of Hygiene* (1901) and *Parasitology* (1908). He considered that an editor has an educational function (Nuttall, 1940, p. 2) and was a strong advocate for using media as educational tools. He emphasises his views through a long quote from Smith «...Correctness, clearness and conciseness are ideal qualities of good scientific writing...» (Smith, 1915 cited in Nuttall, 1940, p. 26).

The Wellcome Collection⁵ library holds two wooden lantern boxes, comprising 133 lantern slides, used by Nuttall and possibly others in lectures and teaching for Tropical Medicine and Hygiene at Cambridge from 1903 until 1931. The library has catalogued these artefacts as ‘Parasitic Diseases: patients and pathology. Lantern slides’. The slides were produced between the late 1890s to 1929 and are in the UK standard format of 3/4 inch square. The glass slides are fixed with black binding, masked in various ways, mainly using simply cut squares and rectangles, fixed with white text labels and the images on the slides are mostly black and white photographs. The subject matter of the collection covers a series of diseases and occurring deformities identified as yaws, elephantiasis, schistosomiasis, ankylostomiasis, trypanosomiasis (sleeping sickness), malaria and ‘miscellaneous’.

Figure 1. One box of the Nuttall-Collection



Courtesy: Wellcome Collection Library.

⁵ The Wellcome Collection, founded in 2007, is a free museum and library exploring health, life and the place of humans in the world. The Wellcome Collection explores the connections between science, medicine, life and art. <https://wellcomecollection.org/>.

The black and white photographs were taken during field research by various, mainly British, experts in parasitology and tropical medicine. Though professional in their field of research, they were possibly keen but certainly amateur photographers. Several photographs show signs of technical faults, imposed by difficult lighting conditions and lack of medium control. Most slides were produced from the original photographic negative, taken by the researchers. A small number are based on photographs reproduced in textbooks, which is evidenced by the surrounding printed text as can be seen behind the mask.

Nearly all slides have two types of labels attached, clearly positioned outside the projected frame area. On the top label, we find reference to slide provenance, mostly stating in typeface lettering: «Inst. Of Parasitol, Cambridge Univ.». A few say: «Dr. G.H.F. Nuttall, F.R.S., Cambridge». The label at the bottom of the slide is handwritten and gives detailed information about the category of disease, a short description often including location and the provenance of the image source, naming professionals as well as institutions involved. The information is categorical and precise, for example: «Elephantiasis. Girl. Antigua, W. Indies 1913. Orig. phot. Sambon (who desc. Similar case, 1924. J. Trop. Med & Hyg. XXVII. 148). – Copyrit. W. B. Sci. Res.» Or on another slide, «Yaws Primary Yaws, both canthi; scratched eyelid 2 wks ago with wire in Samoan House Chinese lecturer, born in China. Cured rapidly with N.A.B. Africa Samoa (from P. A. Buxton phot (Nr 2) recd 1926)». Nuttall, when mentioned, is always referred to by name in the third person, so it is likely that the labels were attached by an assistant, a librarian or archivist cataloguing the slides in the 1930s or later. However, it is also possible that the information from the labels was written up by Nuttall on the basis of slide use in lectures, though no lecture notes or indexes are known to be preserved.

The images on the slides are linked to a large number of makers and provenances and it is unclear in which order and in which sub-set they once were presented. A clear indication of a variety of uses and possibly users is the markings of numbers attached to most slides. 92 slides carry numbers and there are four distinctly different types of numbering used across the set. Many slides show more than one number (for example slide eight, topic yaws, in box one labels two numbers: «10» and «Buxton no. 6»).

Figure 2. Slides showing different numbers: one on the top label («25») and one written on the cardboard of the mask («1624 – 44»)



Courtesy: Wellcome Collection Library.

Some numbers appear more than once, for example 'no. 1' appears on four different slides. The slides in the two wooden boxes are organized according to subject matter, i.e. the particular. The first 14 slides give some sense of ordering by number as slides 1 to 14 in box one are numbered, 1+2, 2, 4+1, 5, 6, 9, 7, 10+6, 11, 12+4, 13, 14, 15, 16+5. The further we scan through the collection, the more the randomness and diversity of the slide numbers becomes apparent. One particular sub-set stands out. The label information attributes the slides to P.A. Buxton and shows a distinct numbering system, e.g. no. 1, no. 4 etc. However we find e.g. no. 2 and no. 4 twice showing a different subject in the total set. It also includes Buxton no. 31 and no. 36. This seems to be an indication that there existed lantern slide set(s) produced from Buxton's photographs, independent from the Nuttall set.

The 133 Nuttall slides are thus not from a fixed lecture set but were used over the years in various configurations to illustrate different lectures and classroom activities. Such adaptable slide collections became common at universities and hospital libraries and usually were managed by the respective institutes. They were predominantly used in specialised institutions for training and education and not shared with the general public in places of spectacle and entertainment. This makes the Nuttall slide set though very interesting, certainly not unique⁶.

2. THE NUTTALL SLIDES: PRODUCTION AND IMAGERY

A majority of the Nuttall slides were photographs produced by people considered authorities in their area of research, scientists who published widely and had distinctive appointments. One subset of the collection comprises of five images about malaria and is based on photographs made in 1902 by Professor E. Celli. It documents the habitat of Italian railwaymen. Angelo Celli (1857–1914) was professor of Hygiene at the University of Palermo and a physician, hygienist, parasitologist and philanthropist known for his pioneering works in malarial parasite and control of malaria. He was interested in public health intervention and education – an interest that Nuttall was sure to share.

Other labels name 'experts' such as Patrick Alfred Buxton (medical entomologist and a Fellow of the Royal Society), Dr Louis W. Man Sambon (lecturer on tropical medicine at the Liverpool School of Tropical Medicine, an expert on pellagra in the 1910s), Sir David Bruce (Scottish pathologist and microbiologist – well-known for his sleeping sickness research), Alfred Cort Haddon (British anthropologist and ethnologist, founding father of the School of Anthropology at Cambridge in the late 1890s, a hands-on field researcher), Aldo Castellani (an Italian pathologist and bacteriologist, lecturer on mycology and mycotic diseases at the London School of Hygiene and Tropical Medicine in the 1920s) and Philip Henry Manson-Bahr (English zoologist and physician known for his contributions to tropical medicine, London School of Hygiene and Tropical Medicine. Not surprisingly they are all men.

The photographs these men took were part of their documentation of phenomena during field research, taken in areas of poverty and tropical locations that were mostly under British colonial administration. Locations listed are e.g. Samoa, Ceylon, Kenya, Antigua, Malaya, Mauritius, Sarawak and Algeria (which was then colonised by France). The majority of the photographic slides are monochrome and display a mixture of full body poses and medium or facial close-ups with the disease clearly visible. The images are clinical with many *subjects* staring blankly at the camera in a frontal position. Various portraits show people *in situ* in their environment, either their place of work or habitat.

⁶ A comparable collection of slides is held at the University of Sheffield Library, produced by Sir Arthur John Hall, Professor of Medicine in the Sheffield Medical School from 1915 until 1931 (ref. MS82). The Narath-Laméris collection held at Utrecht University Museum also holds several hundreds of medical slides produced between 1891 and 1940.

Figures 3-6. Types of images and poses: The collection holds images of humans in full portrait, often depicted in their habitat. Fewer images show details of body parts



Courtesy: Wellcome Collection Library.

Several photographs of nature and environment are included, most likely to explain causes of diseases, such as poor drainage and animal carriers, thereby creating a relation between disease and environment/habitat.

Most images do not show a medical expert in the picture. An exception is the photo of a man taking hold of a child in the arms of another child who is held by a startled looking woman. The note on the slide says: «Malaria: spleen examination in native children. Algeria. (From orig. phot. sent by Dr. E. Sergent 1926)».

Figure 7. One of the few slides with a medical expert in the picture



Courtesy: Wellcome Collection Library.

Besides photographic slides, there is one slide of a drawing of an apparatus indicating Nuttall's interest in laboratory research. The handwritten text says: «Aseptic Life: Apparatus of Nuttall + Thierfelder (1895-7) G.f. Physiol. Chem. Vols 21-3»⁷. There are a few unnumbered slides showing measurement statistics and microscopic photographs such as an image of Malaria control, reproduced from a drawn image by the Arkansas State Board of Health. Another slide, number 38, is a reproduction of a postcard sent to Nuttall by W. Rae Sheriffs, professor at the zoological department in Madras, featuring delousing in India in 1918. Only one slide in this set can be identified as a commercially produced and distributed slide, attributed to Newton & Co.'s slide set *Human Physiology* (1895), a lecture set with 165 slides, based on images from various medical textbooks.

3. INTERMISSION: *INTERVENTION OF THE PERSONAL*

Our topic of the extraordinary body and its particular image representation is for many different reasons sensitive and confrontational. (We consciously chose not to use the most confronting images as illustrations to this article). It brings to the fore a relationship between the intellectual and the personal, it testifies to an imbalance in power between the onlooker and the person looked at –conditions which are high on the agenda in intersectional studies, gender studies, disability studies and, more broadly, social justice perspectives in research. As Garland-Thompson recalls (2007, 3) a critical investigation of social power relations –including those in visual culture– needs to «gesture toward the explicit relation that feminism supposes between intellectual work and a commitment to creating a more just, equitable, and integrated society.» Such a perspective cannot but include the personal. For this reason we found it important to add our personal reactions to our object of study.

SD: My reactions to the images of the slides of the Nuttall collection were mixed: at first, the images looked strange and unfamiliar, and I immediately associated them with photos of freak shows⁸, which I knew from my earlier work. It made me feel very uneasy to look at the Nuttall images, to look at the people, let alone imagine them projected onto a large screen, with all details magnified, as if grotesque. But what caused this/my reaction? What made me so upset about seeing these images of humans and human body parts? What made it so hard for me to accept the persons depicted? Maybe, I thought, my reaction is adequate: to look away and not stare at the images outside of a medical professional setting. The longer I worked on this article, the more familiar the images became, and my repulsion vanished. My uneasiness, however, was not gone; it shifted. I understood that I was not upset by the people and their extraordinary body forms (which were often caused by infectious, and I imagine, often quite painful diseases) but in the way in which the camera positioned these people towards me, the looker, identical to the camera position with a front-on view. The medical images had a striking resemblance to freak show photos. I could not help but feel that by taking this perspective on the people, I am taking the position of the camera and former researcher, objectifying the depicted. Quite obviously, the people did not pose in front of the camera according to their own wish to be seen and recognised as a person. Rather, they were reduced to a 'case of disease X' and document the scientists' wish to study the illness, informed by their own agenda – yet hiding behind a scientific claim of objectivity, inscribed by the medium of photography and their place in scientific discourse. That being said, the people on the photos probably have consented to being photographed, maybe in the hope of cure? (But did the depicted people receive cure and access to information, or were the developed treatments intended for a privileged group of colonial rulers?)

⁷ The slide relates to a collaboration between Thierfelder and Nuttall when they carried out the first successful experiments on life under aseptic conditions, which Nuttall published in 1899 (cf. Graham-Smith & Keilin, 1939, pp. 495f).

⁸ I use this term to refer to a historical practice, not descriptively for its actors. As Robert Bogdan writes (1988, p. 10), «Freak? is a way of thinking, of presenting, a set of practices, an institution –not a characteristic of an individual».

IVD: Researching the Nuttall slide collection struck for me a very personal chord. In 2014 my husband, nearly overnight, contracted a nasty and unusual skin disease, the medical explanation nearly as impregnable as its full name was to pronounce (Schenefeldt, 2017). Within eight days his whole outer body changed. He was fiery red from head to toe, he was shedding skin faster than I could vacuum clean and his hands, feet and legs swelled up so he could hardly do anything. Not to speak of the unbearable itching and burning pain. For more than a year he looked extraordinarily different. A hundred years earlier he likely could well have been named a Freak. He felt fragile and in need to protect his outer body, aware of the gaze of others, but there were no showmen eager to exploit his condition. Yet, certainly he became a medical case. Doctors gathered round him, earnest in their scholarly assessment. Dozens of photographs were taken for research, study and instruction purposes. Test after test, cream after cream tried to reverse this 'human anomaly'. It made us on a very personal level re-address what it is to be a human being. Bizarre but true, nearly as suddenly as the disease came on it disappeared as if by magic.

4. THE NUTTALL COLLECTION IN HISTORICAL CONTEXTS

As already stated many experts were involved in the production of slides in the Nuttall collection, but the poses of people in the photographic slides are strikingly homogenous. It is thus likely that these images follow established conventions in visual representation. The Nuttall slides, in fact, depict people conforming with the cultural aesthetics of poses found in many slides of the very popular travel genre, in which people from faraway places and cultures unfamiliar to western researchers are represented as 'exotic others', as we will discuss below.

In 1896, George M. Gould and Walter L. Pyle compiled *Anomalies and Curiosities of Medicine*, a substantial reference work of western medical knowledge. It was reprinted many times and in several editions. The authors describe their effort as follows:

An encyclopaedic collection of rare and extraordinary cases, and of the most striking instances of abnormality in all branches of medicine and surgery, derived from an exhaustive research of medical literature from its origin to the present day, abstracted, classified, annotated and indexed (Gould & Pyle, 1896, title page)

The introduction clearly states its directive: «... it was the anomalous that was largely instrumental in arousing in the savage the attention, thought, and investigation that were finally to develop into the body of organized truth we now call science...». Abstract-classify-annotate-index: these are the activities, according to the authors, that the scientist had to carry out in order to create the «organized truth». Implicitly, this statement contains a demarcation from popular representations of the extraordinary human body that highlighted the unclassified, spectacular and singular.

Scientific methods and consolidated standards of professional practice were instrumental in an increased medicalization of society. In the nineteenth century, a change in perception took hold that shifted attention from regarding the extraordinary human body from the unclassified world of the wondrous to the scientific gaze of a medical case. People with extraordinary human bodies became patients with classified, valorised and authenticated diseases and cures; pathologies were developed (Garland-Thomson, 1996). As Garland-Thomson writes, this change «recasts the Freak from astonishing corporeal extravagance into the pathological specimen of the terata» (Garland-Thomson, 1996, 4).

The institutionalised perception of expert knowledge had a wider social and cultural effect; it changed ideas on normality and deviation, on health and disease – and it had an impact on the understanding and (visual) representational strategies of human difference. Throughout the century this change in perception was solidified and «scientificised». The medical sphere was professionalised and institutionalised. Popular culture and the amusement industry adapted its pursuit of spectacle; still putting the extraordinary body on display, modified and re-packaged to its time and age and they found a different ‘narrative, locale and punter’ e.g. on the fairgrounds and sideshows (Bogdan, 1988; Kember, 2007). Others found ways to capitalize the growing demand to illustrate these tiers of classifications in a new realm of education founded in schools, institutes and museums. An embodiment of wonder and terror consolidated into an embodiment of systematized error (Garland-Thompson, 1996, 3). The gradual medicalization of society was helped by the mass availability of images supported by spoken or written words in books and illustrated lectures. This type of categorising visualization and representation sits neatly in a societal binary system – so constitutive to Western modernity – opposing, among others, normality and deviation, science and amusement, metropole and colonies. That the clear-cut demarcation of the opposing poles only exists in the imaginary has been pointed out by many scholars. This is certainly also the case of the Nuttall collection.

5. CONTEXT: REPRESENTATION OF THE EXTRAORDINARY HUMAN BODY ACROSS VISUAL MEDIA

In order to place the Nuttall collection within contemporary visual strategies for the representation of the extraordinary human body, we will discuss examples found in other lantern slides sets as well as in other visual media. This comparison will allow us to better understand why the images on the slides look as they do: is the image repertoire even typical for the medial form of photographic lantern slides? How did media practices of *cartes de visite*, cabinet cards, postcards, lantern slides and early cinema contribute to the «shift to medicalization»? We clustered our observations into three modes of the representation of the extraordinary human body.

The first mode is *fantastic exaggeration*. In the tradition of the grotesque, human difference is comically exaggerated. Such representations do not present the image of the human body as ‘real’ and, as one would expect, appear mostly in drawings and paintings. We will pay less attention to this mode because it is not part of a discourse on the human body of a real existing person.

In the second mode, people with extraordinary bodies are presented as an *attraction*. In this mode, wonder, amazement and spectacular difference are seen in the person with an extraordinary body. Often we see this mode in settings that exploit the extraordinary human body for profit and amusement. Although photographs might be staged and use exaggeration to heighten a sensational effect, yet the images are still presented as documenting something «real».

In the third mode, people with extraordinary bodies are presented *as medical cases*: classified into pathologies of diseases with the aim to cure the extraordinary body, inspired by the wish to gain control over difference.

We note a tendency to use certain media for certain modes of representation.

Figures 8 and 9. *Cartes de visite* of Fanny Mills circa 1880s. The perspective in the left and the comparison with another woman's foot strengthens the contrast



Images from the Charles Eisenman Collection, online available via <<http://gallery-naruyama.com/english/collection-eng.html>>.

People with extraordinary bodies in *cartes de visite* and cabinet cards are displayed exclusively in the mode of *attraction*. Building on visual strategies of Victorian portrait photography, *cartes de visite* stage humans with an extraordinary body as a star: the props, perspective and lighting are carefully selected, and often used to highlight the extraordinary features. Clothing, setting, props and backdrops invoke ideas of higher classes, sometimes mixed with exotic difference (see below). Still, the images suggest documentation of parts of the 'real': the indexical relationship between analogue photography and the things of the world documented refer to a real existing person. The rhetoric of the medial forms plays with the ambivalence between respectable form and titillating content. *Cartes de visite*, cabinet cards and postcards closely associated with the promotion of the 'Freak' as a souvenir practice were very popular, but gradually declined after 1900 with the waning of the 'freak' show for middle class entertainment.

Figure 10. Film still taken at 0:56 from Georges Méliès. *The Magician* (1898) showing a trick in which a woman appears as statue without legs.



Video version available at <<https://www.youtube.com/watch?v=uRKcoD-th0Y>>.

In films of early cinema, we observed a variety of modes in which the extraordinary body appears. It seems that the medium of film cuts across discourses – however the media practices were separated fairly rigorously.

In early trick and fantasy films of Georges Méliès, one could argue, we see extraordinary bodies both as *fantastic exaggerations* and as *attraction*. Pretty obviously, these human bodies are not meant to be understood as ‘real’ people. In *The Magician* (1898), the appeal rather lies in the trick and the transformation than in the extraordinary shape of the human body.

Figure 11. Nicolai Kobelkoff is painting with his limbless body



Film Still from *Kobelkoff* (1900) taken at 1:28 from video version available at https://www.youtube.com/watch?v=L1A_Yln13D8.

Early cinema also produced films that document fairground acts. In the case of the film *Nicolai Kobelkoff at the Wiener Prater* from 1900, the limbless performer Nicolai Kobelkoff shoots, paints, dances and demonstrates what he can do without arms and legs. Although clearly staged and edited, we consider this film a documentary of a fairground attraction; the name of the performer and the place and time of the acts are given.

The case is different in the 1913 fiction film *Atlantis*. Here the actor Carl Unthan performs both his off-stage and on-stage persona: the actor Carl Unthan plays the role of the armless artist Arthur Stöss who happens to be on the ship for his tour in the U.S. The film shows Arthur Stöss ‘off-stage’ getting on with his daily life (e.g. while dining in the ship’s restaurant) and ‘on-stage’ during his act in a variety show. Neither scene advances the narrative; on the contrary, they even interrupt it. As such, *Atlantis* is a good example of early cinema’s transitional period in which aesthetics of the cinema of attraction (Gunning 1990) were still part of the film, while the role of the narrative increased. In contrast to Méliès films, *Atlantis* establishes an indexical relation to the pro-filmic world. And just as for ‘freak’ shows, slides and film were presented with an oral commentary by show people and lecturers. This type of imagery thrived on excess most certainly enhanced by the presenter’s ability to tell the story, move, shock and mock (cf. Kember, 2007, p. 27).

These three examples of films are part of popular culture in an amusement setting, with the aim to entertain rather than to educate. They show the spectacular and stage the filmed persons as (visual) attraction ready for the consumption by a paying audience.

Early cinema also produced medical films. As Scott Curtis (2015, pp. 92 and 96-97) points out, a medical film could fulfil various functions in a medical environment: exploring a phenomenon related to movement, as a tool in diagnostics, in education or training. Most of those medical films did not leave the professional medical circuit – just like the Nuttall slides.

Figure 12. «Dr. Doyen Separating Hindoo Twins»



Production photo of an early medical film by Doyen.
Image taken from Curtis (2016).

There are exceptions, such as the famous films by Eugène-Louis Doyen, a surgeon who made dozens of films, among others about his operation on conjoined Siamese twins in 1902. His cameraman sold copies of his films for exploitation at the fairground, much to the dislike of his colleagues. Curtis writes (2016): «The cinematic image documents, but it also moves, lending a touch of carnival to even the most boring research film, so film has always crossed that imaginary line between the purely scientific and the spectacular».

In spite of all efforts, it seems, there was no clear aesthetic barrier that separated science and amusement.

6. CONTEXT: REPRESENTATION OF THE EXTRAORDINARY HUMAN BODY IN LANTERN SLIDES

Representations of the extraordinary body are found in lantern slides predominantly in the two modes of *fantastic exaggeration* and *the medical case*, packaged in two distinctive traditions. Slides of *fantastic exaggeration* are often mechanical slides, either enabling a quick change of the image or a slow-paced movement (such as can be achieved with the projection of slipping slides and panoramic slides). The content of the fast switch slides plays on an unexpected change, for example from a pretty curly-haired girl to a duck's beaked head, the monstrous growth of a belly in a happy drinker, the explosion of a body into a scattering of limbs and other parts, or the lengthening of a nose to unhuman proportions.

Figure 13. Comical slide with long-nosed people



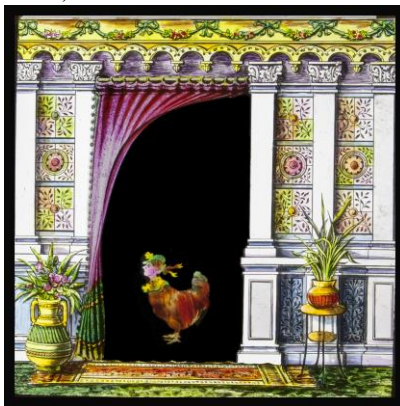
Courtesy: Screen Archive South East.

There are also comical slides (many are found as multiple-image long slides) showing extraordinary bodies such as extremely short or fat people or bodies missing limbs. This lantern tradition goes back to the seventeenth and eighteenth centuries and fits within that era's conventions for the representation of wonder, mockery and terror. This type of slide as spectacle stayed popular throughout the nineteenth and the twentieth centuries, yet most slides we have found so far were manufactured before the 1890s. The majority of lantern slides that portray the human body in the mode of *fantastic exaggeration* are based on drawings and paintings. The extraordinary body is presented as fantasy, attraction and ridicule and not presented as actual human bodies.

Staring at the extraordinary for pleasure or out of fascination became less acceptable within the growing bourgeoisie's values regulated by education, taste and (self-)control. The changing social and cultural climate in the twentieth century started to ask questions about the practice of exhibiting people for profit and amusement (Bogdan, 1988, p. 62). Bogdan observes: «How we view people with disabilities has less to do with what they are physiologically than with who we are culturally» (Bogdan, 1988, p. 146). It thus makes sense that we hardly find images in the aesthetics of the sideshow in lantern slides produced after the 1890s and explains why lantern slide sets with an instructional mode of address were produced in higher numbers. When it comes to the bourgeois-inacceptable, the continuous production of effect and stirring the nerves, film could probably achieve this effect better: the fascination about a freak show performer who can do things with their feet that people with ordinary bodies do with their hands, after all, is connected to movement.

Intervention of the Personal: Seeing Images of the Extraordinary Body Today

Figure 14. Magic and the Muse, lantern show at the Barnfield Theatre in Exeter, 12 January 2018.



Courtesy: Jeremy Brooker.

IVD: Lantern slide performances did not stop, either at the birth of cinema, or soon after. The medium was thriving into the 1950s when it changed yet again its technology; appearance and use into a booming 35mm slide production and projection. At the same time and up to the present contemporary lanternists and showpeople have kept the 'older' medium alive. The imagery of fantastic exaggeration is not avoided as politically incorrect but incorporated by many in their historical re-enactments and modern creative shows.

I was bemused and somewhat taken aback by a magic lantern slide set projected as part of the show Magic and the Muse (2017). The set conjured up a procession of 'fantastical creatures', half human half beast. Their slow progression was set within a fixed projected theatrical curtained proscenium. The slides fitted perfectly in the category of 'fantastic exaggeration'.

Placing the series firmly within the context of spectacle, Jeremy Brooker, a lantern historian (Brooker 2013) as well as a showman, plays with his contemporary audience and raises an eyebrow at ethical awareness. Audience reaction in this context of a fairy tale landscape of wonderment and nostalgia is readily amused, its imagery permissible, even to be applauded. Yet, without the historical framing enhanced by the presence of the antique lantern apparatus and the 'Victorian' performative style of the showman, this set could easily be perceived with unease, its images uncomfortable and even unethical.

For me one particular slide pointed to a specific cultural and historical context. The slide shows a painted extraordinary body; half chicken, half woman. It echoes the still controversial, subversive and provocative 1932 film *Freaks* by Tod Browning. Browning's representation of the circus and references to another beyday in extraordinary body displays in fairground and side shows is another reminder that the 'freak show' did not disappear from the amusement industry scene after 1900 but was flourishing into the 1930s, just as the 'spectacle' type of 'extraordinary body' slide has stayed popular, till the present day.

It is noteworthy that though skills, practices and audiences overlapped between freak shows and lantern presentations, actual people with extraordinary bodies are rarely found in photographic slides that advertise or promote them or illustrate their corporal participations in shows (such as was popular through *cartes de visite*, cabinet cards, stereo cards and postcards). The lantern medium was popular with a widespread reach already before the decline of the freak show, yet it was not used for this purpose. So why is there hardly any evidence of *photographic* slides in this mode of *attraction*? Maybe the amusement industry was happy with its distinct and individualized forms of representations and reception, or the show people were keen to protect the distinctions between the various popular entertainment practices. Or maybe such slides were not considered «interesting» by collectors and thrown in to the skip? This will need further research.

Figure 15. Lantern Slide Nr 12 from the set *Human physiology popularly explained: or, the house we live in.* c. 1888. York & Son. Image from Royal Albert Memorial Museum Collection



Digital image © 2015 Royal Albert Memorial Museum and Art Gallery, Exeter.

Image available online via *Lucerna Magic Lantern Web Resource*, <www.slides.uni.trier.de/slide/index.php?id=5042519>. Accessed 29 March 2018.

The tradition of education and edification was well developed in nineteenth-century lantern history and in the latter part the practice of using the lantern medium for instruction became increasingly dominant (Buddingh, 2005, p. 123). Various commercially produced slide sets that popularize medical knowledge present the human body (considered ordinary or extraordinary, healthy or with a disease), but not by means of photography. Such sets made use of drawings and diagrams that illustrated the principle of e.g. digestion, the nervous system or blood circulation. If photographs appear in such sets, they often document topics of slum dwelling, temperance and cleanliness. The same themes also appear in narrative life model slide sets (see below) on poverty and the evils of drink⁹. Annemarie McAllister (2014) convincingly argues that these sets were mostly meant to educate the masses about measures to increase public health (temperance), hygiene and social welfare. From our investigation of lantern slide catalogues¹⁰; we can say that the beginning of the twentieth century clearly saw an increase in slides related to medical topics in commercial slide production. For example, the 1925 catalogue of Newton & Co., one of the largest British producers and international distributors of slide sets, contains an entire volume titled «Health, comprising medical science, hygiene and social welfare». This discourse does not build on the fascination with the extraordinary but aims at formalised education and/or self-improvement, not least with the imperative to prevent deviations from the norm instead of celebrating them.

It is in the instructional setting that we find the evidence for the use of lantern slide sets in the mode of *the medical case*. However, it is relevant to note that a photographic depiction of the extraordinary human body can also be found in fictional slide sets and stories. Characters with a disability occur in life model slide sets¹¹, but this type of imagery is mostly connected to poverty and used to evoke pity, benevolence and moral attitude in the audiences. Furthermore, the disability of characters in life model slides is often «faked» by the actors seen in the slide and hence is not a feature of the real-existing human body of the actor/model documented on the photograph. Such characters are not presented in the mode of *exaggeration* or *attraction*; they are to be pitied and not provoke awe, wonder or spectacular difference¹².

Maybe these types of disability, such as missing limbs, crooked body shapes or blindness, were too common an occurrence in society before WWI. Still, Bogdan's description of the common mode of exhibiting people as 'freaks' strikes a strong resemblance: «They posed in front of one of various painted backdrops depicting scenes that ranged from jungle terrain to Victorian parlours. Props were selected, costumes worn and a pose struck...» (Bogdan, 1988, p. 13). This description could just as well be written about the production of life model slides in lantern practice. Models posed against painted backdrops to illustrate various scenes of the story, ballad, song or recital, often melodramatic, romantic or moral in nature: «Props were placed, tableaux set and poses struck» –but now in the name of fiction, not for fascination with «the real».

⁹ The Lucerna Magic Lantern Web Resource lists 80 life model sets with the subject keyword poverty / illness and 119 life model sets with the subject keyword temperance / alcohol.

¹⁰ See Media History Digital Library (<<http://mediahistoryproject.org/magiclantern/index.html>>).

¹¹ Life model slide sets are a specific type of imagery in lantern slides, defined by a photo featuring posed models in a fictional situation. Cf. Robinson, Herbert & Crangle (2001, p. 172).

¹² This is based on my experience of seeing lots of life model sets over the last 30 years. The Lucerna Magic Lantern Web Resource (as at March 2018) identifies 26 life model slides showing a blind person and at least three life model stories centring around a disabled person (referred to as 'cripple'). See: <<https://www.slides.uni-trier.de/set/set-search.php>> and limit your search to «Main type of image: life model».

Besides life model slide sets, our research found photographic slides of people with extraordinary bodies presented in aesthetics known from the travel genre. The magic lantern was used abundantly in the travel genre, which was very popular across all visual media during the period under investigation (Peterson, 2013; Musser, 1990). In the travel genre of that period, images of people do not present people and bodies as «anomalies» (which is the case in medical discourse) but as «exotic», especially in lectures on people and places unfamiliar to western audiences. This representational strategy is called «Othering» as it fleshes out difference instead of resemblance, and the differences are hierarchised. Not surprisingly, the producers of lantern travel accounts, belonging themselves to white and West-European ethnic groups, presented everyone else as inferior or different to themselves.

As we concentrate on extraordinary human bodies we will not address this area of research in detail. We wish to note here, though, that even though the Nuttall slides were produced and viewed by an *expert* audience in a medical institute, with corresponding visual strategies complying with what we call the *mode of the medical case*, the aesthetics from the travel genre are not eclipsed (see Figs. 3, 5 and 6). Rather, the exotic inscribed itself into the medical. This should not be surprising: after all, it would be naïve to expect that colonial ideas of people were *not* part of how the western medical experts encountered local people during their field work in colonised countries. Likewise, it would also be a mistake to overlook that sideshow photography and medical photography have a shared tradition in portrait photography (cf. Moeschen 2005) –a resemblance that becomes even more obvious when we consider medium practices to disseminate this knowledge.

7. CONCLUSION: MAKING SENSE OF THE NUTTALL SLIDE COLLECTION

From the examples discussed above we see two developments taking place. Instead of attraction and instruction closely being intertwined there is a growing division between amusement shows and scientific lectures in the time we are investigating. This split between entertainment and education into different presentational domains was accompanied with many efforts to distinguish amusement and arts on one side and education and science on the other. Yet, we find overlaps of image composition, aesthetics and representational strategies from amusement and science, rather than neat distinctions along the line of medium, type of image and discourse.

Lantern slide production and use (at least that from the 1880s to the 1930s) clearly show an increase in instructional use which was for learning, training and self-improvement purposes. Slide sets containing photographic images of the extraordinary human body are predominantly in the mode of the *medical case*. They are divided into «slide library sets» used within the specialized medical profession and pre-composed lecture sets for the benefit of the general public.

In 1922, Nuttall advocated research into infectious diseases as follow:

The foundation of an Institute for Research in Parasitology in Cambridge is an achievement worthy of being recorded in some detail since it affords a recognition of the value of a branch of biological science that cannot but gratify all who have gained an insight into the deep significance of the many problems which parasitology presents when viewed from the standpoint of pure science (Nuttall 1922, pp. 97-98)

Unfamiliar infections and exotic diseases, in particular parasitic infections, were in spite of Nuttall's claim, not just an endeavour of «pure science» (whatever that may be) but considered a threat for

a country at the height of its colonial powers. The extraordinary body was no longer part of speculative debates, it was read to show signs of classified ‘anomalies’ and its photographic record was demonstrated as categorized evidence in research and scientific progress. The ‘Quick’ laboratory and the medical museum at Cambridge were both used in an educational realm as well as in a pursuit of experimenting and documenting diseases and their cures. Both establishments did show their nineteenth-century history of understanding the ‘extraordinary’ body but they were looking forward to a twentieth-century scientific approach. Nuttall and his slides then fit neatly in this general shift to the ‘extraordinary’ body as medical case.

Our case shows that the comparative approach was very useful to explain aesthetics in the shift from spectacle to medical case, and this is relevant for understanding the meaning of the Nuttall collection: the different modes of representation of the extraordinary human body across different visual media allowed us to better understand what the slides in front of us meant to show. Historical writings of medical experts claim to be neatly distinguished from popular amusement practices –our investigation of the Nuttall collection, however, demonstrated that this claim belongs rather to the domain of the imaginary than to the domain of factual evidence: the Nuttall slide collection was used for medical teaching and training of experts, but even in the domain of «pure science» the visual repertoire produced by the (all-male, all-white) scientific experts was not as purely scientific and delineated from spectacle as these experts believed. The slides still show evidence of an uncomfortable representation of the extraordinary body, especially witnessed in the weary gazes of the actual people in the photographs, as well as in the aesthetics of travel photography.

In an obituary of Fellows of the Royal Society, Nuttall is noted as an «acute observer, naturalist and experimental scientist with a passion for classification, widely travelled and with a love for teaching and discoursing with his class» (Graham-Smith & Keilin, 1939, p. 497). In his legacy we detect Nuttall as a keen collector, with an encyclopaedic ambition. The Molteno Institute holds over 300 photographic portraits collected by Nuttall of his fellow parasitologists and biologists.

All of the above contextualizes not only his position in contemporary scientific progress and its location within a changing landscape of social, cultural and historical values but it also sheds light on the series of lantern slides attributed to him.

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