

Exhibition Critiques:

The Darwin Centre

at the Natural History Museum in London

by Stephen Pizzey, Ian Simmons, and Harry White

Science—Collections—Research: A Critique of the Darwin Centre. by Stephen Pizzey

The publicity describes the Darwin Centre as a state-of-the-art science and collections facility and the most significant expansion at the Natural History Museum in London since it moved to South Kensington in 1881.

The architecture is modern, purposeful and distinctive yet in no way overwhelms the much loved Alfred Waterhouse building of the main museum. It joins the main building abruptly out of the sight of the main entrance. I found the contrasting architecture very attractive and forward looking in a setting which will come into its own once the wooded ground to the west is fully opened as a nature trail and public space for the visitors. The centre itself houses research laboratories, collections, the Attenborough Studio for AV events, and the Angela Marmont Centre offering resources to promote the study of natural history in the U.K.

Within the building an imposing structure called the Cocoon stands sentinel-like in the atrium of the building which houses the 22 million plants and insects of the Museum's collection. When viewed from the upper floors the structure resembles the bulbous form of the nose of a Jumbo jet, and this is where visitors enter the exhibition described as the Cocoon experience. Whatever misfortune besets our capital in the millennia to come, I felt confident that the Cocoon will still be standing with its precious collection intact for posterity, it has such presence.

The Visit: Take One—The Visitor Calls

I have to confess to knowing some of the staff, and I had already been to an event at the Centre, but had never been as a visitor as such. So a bit of method acting was called for. To set the mood, I joined the crowds in the main museum being photographed alongside the giant fossil remains and strolled through the galleries of stuffed animals. There was the dodo seen on a school visit long ago (I am tempted to say before it became extinct). I gradually worked my way towards the Orange Zone which is how the Darwin Centre is indicated on the visitor guide plan. The contrast was extraordinary: light, bright, and very modern. "Science—Collections—Research" proclaimed the graphic on the wall.

I made my way to the ground floor with the immense structure of the Cocoon rising above and was attracted to the sound of activity in a small room to the side where families and friends were busy examining trays of insects with magnifiers and talking to the staff. I was there for half an hour at least and even felt a pang of remorse for the moth I had shot down with a spray of shower cleaner that morning. The staff were enthusiastic, knowledgeable, and there to help. The event was part of National Insect Week and as I learned was supported by an online identification and advisory service through the museum web site. I found the spontaneous enthusiasm and social activity very appealing and familiar and was pleased to find that this modern centre accommodated this kind of informal activity.

I found the elevator to the top floor of the Cocoon where the main exhibition began. Here I picked up a bar coded card with a unique identifier number which could be scanned to

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We asked three seasoned professionals to critique the Darwin Centre, with the following guideline. A critique is an individual viewpoint, shaped by expertise and experience. Its audience is the profession. It involves your analysis of the exhibition, and your assessment of its strengths and weaknesses from your personal and professional viewpoint—as a designer, an educator, an exhibit developer, or whatever your area of expertise. The Editor.



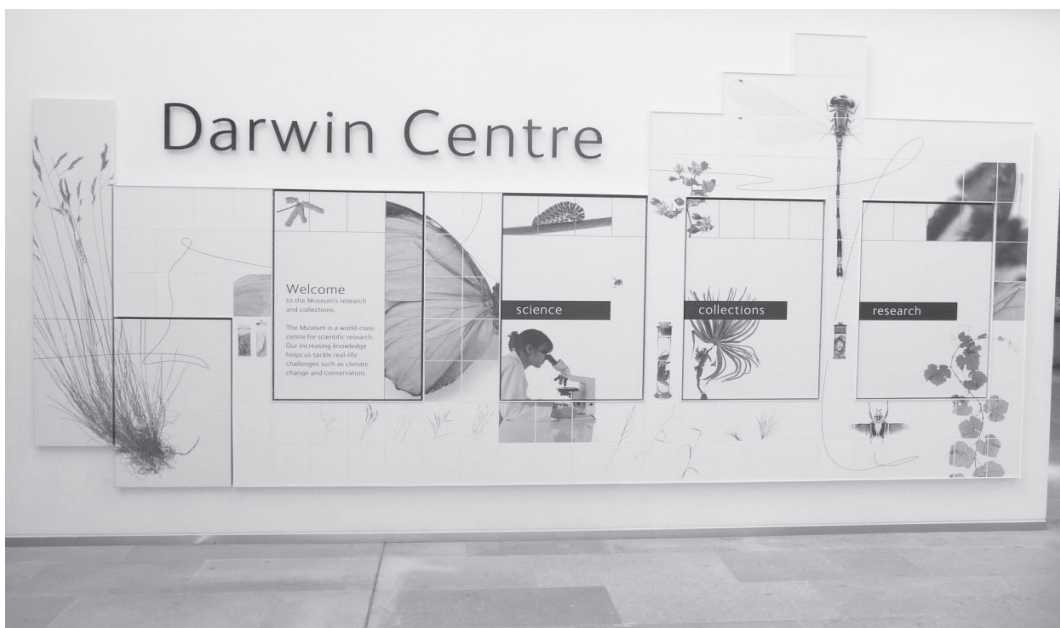
The soaring curve of the Cocoon Building. Courtesy of Stephen Pizzey.

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store information of interest at various points around the exhibition for retrieval back at home via the internet. Touch screens and moving images were the predominant media for conveying information interspersed with real samples from the collection. The contours of the inside of the Cocoon made for a dramatic almost sci-fi backdrop. The general content of the exhibition describes the science which is carried out and the personnel involved in the research at the Centre. As I walked gradually downwards by the inside of Cocoon's shell past various displays I had the opportunity to look through windows into the storage areas and laboratories of the Centre to get a glimpse of the

very latest equipment. The Cocoon protects the collection of over 20 million plant and insect specimens, and the exhibition occupies two floors of the space between the contoured shell and the main storage building.

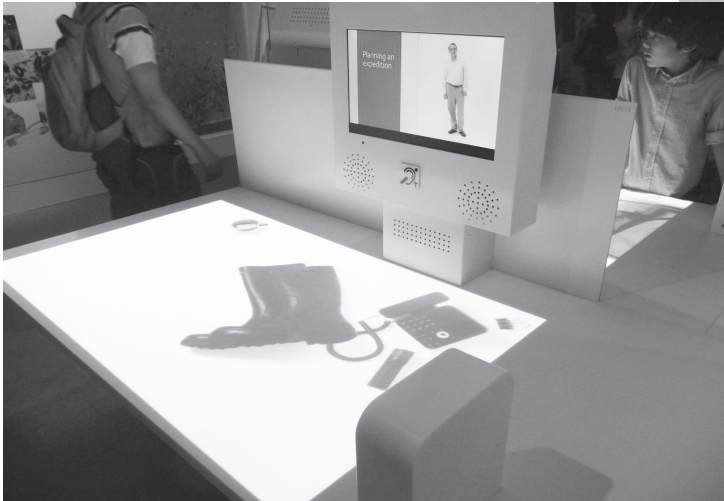
Once inside, moving images of scientists who work in the Centre appear as guides throughout the exhibition. They explain what is inside the Cocoon, how they first got interested in natural history, what their work entails, and why this collection is so important. They come across as likeable people who are really keen on their work. Progressing through the rest of the exhibition along the sloping walkways



The graphic near the entrance of the Museum summarises the work of the Centre. Courtesy of Stephen Pizzey.



Barcode scanners alongside the touch screens enable the visitor to harvest information to study at home. Courtesy of Stephen Pizzey.



Plan an Expedition exhibit. The visitor selects and moves the projected images, and the virtual scientist on the back screen discusses the choice. Sandals or Wellington boots?—a tough decision. Courtesy of Stephen Pizzey.

the visitor finds out more details about the work of the scientists through interacting with touch screens and projected images. Each display in effect tells a story, be it catching bugs, classifying them, or identifying their DNA. Thus an ordinary fly caught in the garden outside achieved immortality by having its genitals revealed to a fascinated public. In one area, visitors were invited by an on-screen scientist to gather items to prepare for an expedition. The items, such as notebooks and boots or sandals were shown as projected images on a table top and could be selected by hand movements. The on-screen scientist, who had genuinely organised an actual expedition, then commented on the choice, such as “Are you sure sandals are appropriate for an expedition to find snakes?” or something along those lines. This contact with an all-be-it virtual scientist throughout the displays is a strength of the exhibition.

Once out of the Cocoon on my way to the wonderfully titled **Spirit Collection** I passed the Angela Marmont Centre and peered through

the windows into the rooms. The facility is a resource for studying biodiversity in the U.K., with meeting rooms, working areas and collections. This seems a wonderful resource and one I must look into or at least spread the word about; meanwhile, on to the **Spirit Collection**. The exhibition associated with this had the more conventional displays of objects in jars alongside viewing windows into the store. The views into the storage area gave some impression of the extent of the collection and effectively linked this prestigious building with the history of the collections at the Museum.

On the way out I passed the **Climate Change Wall** which seemed to respond to my presence by revealing images on touch screens at various positions through the wall’s continuous translucent panels. Despite spending some time answering questions which appeared on the screens and examining graphs and movies, I began to wonder if the program would ever end. The exhibit seemed to work best with a teacher and a group collecting information; they were presumably working on a school project about

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The Angela Marmont Centre, a resource for the study of biodiversity in the U.K. Courtesy of Stephen Pizzey.

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It is a big story
to tell, and they
do it well.

climate change. I headed back to take one last look at the dodo. To be honest, I was beginning to suffer from screen fatigue

Comments on the *NaturePlus* online resource.

The bar code system in the exhibition is a portal into the online world via the exhibition and is an innovative move, but I am clearly not the only visitor who has had difficulty using it. However, but for that card, I would not have ventured into the amazing resource that is the Natural History Museum's website. There are communities which blog on bugs, fossils and plants, and all manner of interesting things, flora and fauna so to speak.

I decided to return and resolve the pressing issue of why I seemed to have embarrassingly failed to download any content with my NaturePlus bar coded card. One reason for some visitors' confusion and initially my own was simply that the bar code readers require the card to be used bar code up, whereas the more familiar supermarket readers require the bar code to be face down; printing the code on both sides of the card should get round that one. My own particular problem was probably that in order for the card to register there were too many actions: touch the image of interest, touch the NaturePlus logo, touch 'ok,' then scan. I was probably missing out the logo or 'ok' or both.

Visit: Take Two—Return of the Professional

I suspect the majority of the millions of visitors to the Natural History Museum do not realise that the Museum is a research centre of world renown. Well they do now with the realisation of the Darwin Centre. There is not a word to properly describe it, Museum, Gallery, Exhibition, Venue in themselves are not appropriate. The Centre is a new kind of institution and one that all research organisations should aspire to, in my view, which turns its face to the public and endeavours to include the visitor in its activities.

I spent more time with displays in the Cocoon on this visit, in order to see how others used the exhibits and the rules of engagement, so to speak for interacting with the digital content. I wondered whether the recent generation of multi touch personal devices such as i-phones and i-pads would gradually make the usual touch-screen displays seem slightly dated. I came to the opinion that content was to fore rather than the technology. On the other hand, I noticed that some visitors had difficulty working out the correct gestures to move the images on the expeditions exhibit, some not realising that any movements were necessary.

Over all, the exhibits in the Cocoon carry messages, convey facts, and tell stories, a tall order for any exhibition. It is a big story to tell,

and they do it well. This time I spent more time looking out of the exhibition into the windows of the laboratories just across from the Cocoon, fabulous equipment and researchers working on topics relevant to the big issues of today in an institution steeped in history. The Darwin Centre really is something new.

Natural History Museum Darwin Centre by Ian Simmons

The Darwin Centre is essentially a substantial new wing to the Natural History Museum, creating state of the art natural history specimen storage, research centres and curatorial work spaces, but with public access. This is a smart move—looking after the massive research collection is not the most audience-friendly job, but it is vital to the museum's function, and with the Darwin Centre they've managed to pull off the classy trick of making the obscure backroom functions attractive to visitors. For a start the building is very different from the rest of the Natural History Museum, a cool limestone and glass space, with a huge curvy cocoon inside it, contrasting effectively with the loopy Victorian gothic of Waterhouse's main building. Visiting on a hot, sunny Friday afternoon, I found the Centre uncrowded, despite a fair amount of tourist pressure on the traditional galleries elsewhere. This was probably just as well as access to the Cocoon was via a couple of conventional-sized lifts that might have caused something of a queue on a busier day.

Navigating the Cocoon

At the top you are delivered to the introductory space where there are touch-table computers



The **Spirit Storage** shelves end in display cases in the public space. Courtesy of Ian Simmons.

that introduce you to the place; they don't appear to be multi-touch, but are very well designed. They felt nice and crisp to use and were fast and responsive. They also linked you to the Museum's **NaturePlus** system that allows you to select data from the tables and save it for later access from a website by means of an individual bar-coded card. This was relatively restrained in use and avoided gimmickry, indicating this kind of technology has now matured beyond its wacky gee-whizz origins. On the other hand it has probably already been superseded by the kind of technology that allows you to Bluetooth information directly to your phone on the spot, rather than having to wait till you get home to pick it up. From here you find your way down a zig-zag series of slopes through the Cocoon, illuminated with projections and subdued lighting. Material from the botany and entomology collections is used to illuminate the scientific functions of the building via cases, AV, well thought out text panels, and more touch screens.

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The one area I feel isn't firing on all cylinders is the human factor: none of the opportunities to interact with staff were available when I was there, and the tour idea, while essentially a good one, needs its logistics sorted out. A minor quibble though.

The ideas the Centre tries to get over are pretty sophisticated, and they do a good job of making them comprehensible to a non-specialist audience. You start with finding out something of the origins of the material, with a section on historic collectors like Banks and Wallace. Then, as you go down, you discover what taxonomy is, and why it should be studied, including some of the arguments that beset the field currently: how you define species, and the apparent conflicts between genetic and morphological approaches. There is a section on the nature of science, and one on publication and peer review, which works an awful lot better than you imagine it might. All these are interpreted by four on-screen curators from the museum, clearly selected to explode the myth of the crusty old pedant. At intervals you also get glimpses into the real storage area and labs. At one point there is a botany workstation with a microphone link so you can speak to the person working there, although it was deserted when I was there, as was the imaging lab you can peer into. Nonetheless, when inhabited this is an excellent way to break down the barriers between museum researchers and the public.

The Spirit Collection

Returning to the lifts to go up and visit the Attenborough Studio, which promised live shows and an opportunity to meet scientists, I was entertained to see that while you waited you got a very sophisticated video projection pitching for donations, accompanied by not only a cash box, but also a machine for credit card transactions: canny. On reaching the Attenborough Studio though, I found it closed; apparently it was having its lightbulbs changed, although I would have thought that could be done out of hours rather than on a busy Friday in the tourist season. Undaunted I headed off

into the older section, which opened a couple of years back and houses the spirit storage areas in optimum fire-proof conditions. The spirit specimens (22 million apparently) are housed on something like 25 kilometres of shelves in the building, and are stacked for floors both above and below the level accessible to visitors; while you cannot go into these, you can look up through the light well, and get a sense of the space. The displays themselves in here are nicely done. Behind glass the shelves recede into the distance, but at the end, they outcrop into the public space as display cases.

These cases contain some appropriate items to illustrate whatever is on those shelves: molluscs, crustaceans, reptiles, birds even. There is information about how they are used in research, about why they are stored as they are (type specimens—the specimens from which a species was first defined—have yellow lids for example) and how this has changed over the years. From the PR I had expected to see more of this side of the Centre, but I found that some of the more spectacular elements, such as the sharks in huge tanks, could only be seen on guided tours. Unfortunately I discovered that the last one had just gone, two hours before the museum closed; and that anyway all the day's tours always book up by mid-morning. Be forewarned if you visit!

The Human Factor

I was pretty impressed by the Darwin Centre; it has tackled a difficult task with panache, wit, and imagination and pulled it off well. The integration of storage and public space is extremely successful. The design is excellent; the communication bold and unpatronising, while not flinching from higher level content; and the money has clearly been concentrated

on the core message rather than extraneous scenography. Perhaps it was the sunny Friday afternoon effect, but the one area I feel isn't firing on all cylinders is the human factor: none of the opportunities to interact with staff were available when I was there, and the tour idea, while essentially a good one, needs its logistics sorted out. A minor quibble though.

The Darwin Centre at the Natural History Museum in London

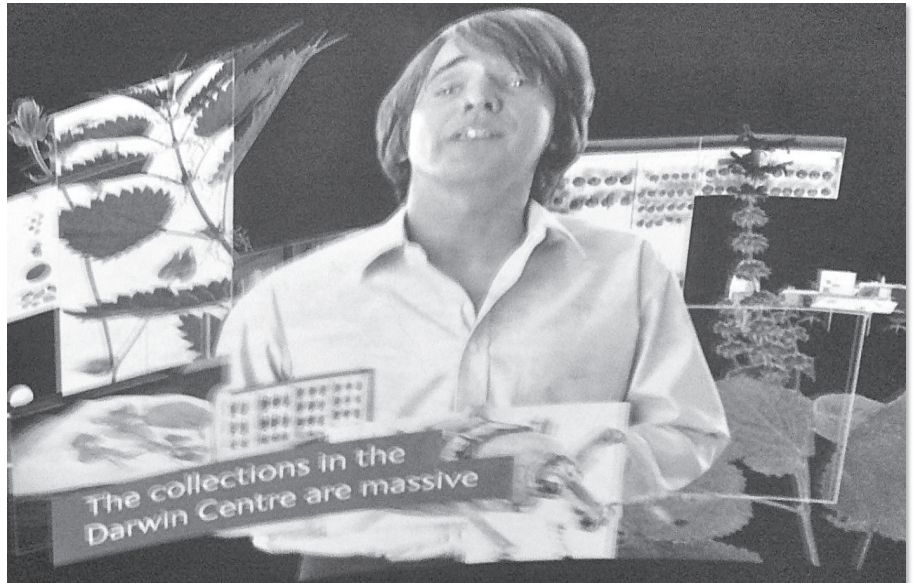
by Harry White

The Natural History Museum in South Kensington, London, is a venerable institution with a long history of curation, research, and education. The new Darwin Centre, including the iconic seven storey high Cocoon, the largest sprayed concrete structure in Europe, is built to support all three of these aims. However, I'm a science centre geek obsessed with motivational exhibits and that's the only criterion on which I can assess the Centre. And so, I may well be critiquing the Centre's developers for not achieving what they didn't set out to achieve in the first place. My apologies.

The Darwin Centre is at the West end of the iconic Natural History Museum building, through the iconic entrance, just past the iconic cast of the Diplodocus. As you can see, this is stepping through revered U.K. museum history.

The Cocoon

The first view of the Cocoon is as you pass a through a small door into an eight storey glass atrium overlooking the west lawn of the museum. As drama the contrast with the foregoing Victoriana works beautifully. Then



Talking Head. A projected video of a staff member introduces the gallery. Courtesy of Harry White.

it's into a small lift for the trip to the seventh floor. This must be useful for breaking up the groups and controlling flow at busy times. In the lift a potted commentary from a staff scientist introduces you to the Darwin Centre. Arriving at the top you are greeted by a large glass topped case, part specimen enclosure, part touch screen with **NaturePlus** barcode scanners which enable you to build your virtual collection to view on-line later.



Throughout the exhibition glimpses can be had of the Darwin Centre researchers at work. Courtesy of Harry White.

For a storage facility with 22 million specimens of "real stuff" there's an unfortunate emphasis on virtual interaction, especially given Reach Advisors recent findings on the unpopularity of computer exhibits (2010). I'm only too

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well aware that nature is bespoke, gnarly, and doesn’t do standard size exhibit components, but I soon wanted to get my hands on some real stuff.

Next station is another introductory talk projected overhead onto the curving concrete wall from a staff scientist introducing the breadth of the NHM’s work. It’s nice to have “real” people talking to you instead of the breathless enthusiasm of a TV science presenter. The 30 or so interactive exhibits tell aspects of the story of the work of the Natural History Museum, a rather introspective perspective. As such they work well, although the touch screen interfaces are clunky and should be more responsive. As motivational experiences they were less effective.

onto the bench as the touch screen. I had hoped to use this to trace objects into my notebook but the software lost patience with me and moved on before I could. The ramp structure, with exhibit stations at the middle and end points, is well suited to the telling of a linear story, but it imposes an imperative to get on and see everything without allowing visitors to easily re-trace their steps. This is a serious flaw in the experience.

In many spaces there were large-scale graphics of plants and false-coloured electron microscope images. These were beautiful but had the effect of turning the similarly presented real specimens into less attractive graphics. In one section there were large-scale models but only small labels to say that these were not actual specimens.



The other half of the Darwin Centre is the **Spirit Collection**. Courtesy of Harry White.

On the downward sloping ramps of the Cocoon images were projected onto the bare concrete surface to give a dynamic to the circulation spaces. Some stations had overhead projections

Instead of adding richness, this could make the experience confusing.

Plan an Expedition was a nicely executed touch



A landmark exhibit at the end of the Cocoon exhibition is the **Climate Change Wall**. Courtesy of Harry White.

screen interactive exhibit about the work that goes into planning a trip to Panama to collect new specimens. Visitors can choose what to take to cut the plant specimens, how to record their location, and how to preserve their collection. At one stage the exhibit takes a picture of the visitor to go into their passport, and then adds permits for export and air tickets. Everyone knows that there is paper work involved in travelling, but how is this intended to enthuse or inform the punters? Mosquito DNA sequencing is another nice interactive with a large touch screen: touch the screen to capture insects with a net, then sort them into test tubes, and sequence their DNA. Next, based on the mix of species, choose a control method for malaria.

Where are the staff?

I was particularly keen to see how the experiences of the public in viewing scientists at work, and the scientists' experience of being viewed at work, worked out in practice. Unfortunately, the "meet the scientist" areas were dark and not in use when I went past: I should have known better than to arrive at lunchtime! I came back 2 hours later, and it was still vacant; however the lights were on. I felt that the working environment on show, intended to be sterile for reasons of preservation, just looked unfriendly. I was reminded of the back stage tour of the animation studios at Disney where you see family photos and typical workplace clutter; of course I know the reasons why, but does this help make science look like an enjoyable career option?

Apart from the lift attendants I only met one staff member on my visit, a lonely volunteer, like an usher at the cinema, with a lighted tray full of beetle specimens in resin. He was waiting to do a beetle classification exercise with the visitors. He said that generally visitors didn't have the attention span to do the activity with him. I felt this was, at least in part, another artefact of the linear structure because it is hard to stop and take time when you are impelled to see it all but can't see the bounds of everything that is on offer. The Cocoon tour ended rather abruptly on the 5th floor with a satisfaction survey and a lift to take you back to the ground. So I found I could easily have spent more time with the beetle man, but to go back you have to struggle up the ramp against the flow of visitors.

The other half of the Darwin Centre is the **Spirit Collection** tours. These were suspended on the day I visited, but some jars of specimens could still be seen. A "Nature Live!" live show at the Attenborough Studio was in full swing with suitable squeals and laughter to show what a good time was being had. The **Climate Change Wall** is a landmark exhibit, a wall of touch screens. Apparently it reacts to the presence of visitors, but it seemed relatively inert when I tried it out.

So, The Darwin Centre is undoubtedly a worthwhile addition to the back stage work of the NHM. It is a striking architectural statement and an exhibition that needs to relax, stop justifying itself, provide more contact with staff and real specimens, and get on with the business of engaging visitors in a story that is good enough to sell itself. ☀

Reference:

Reach Advisors Study. Retrieved August 6, 2010 from <http://blog.orselli.net/search?q=Wilkening>.

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