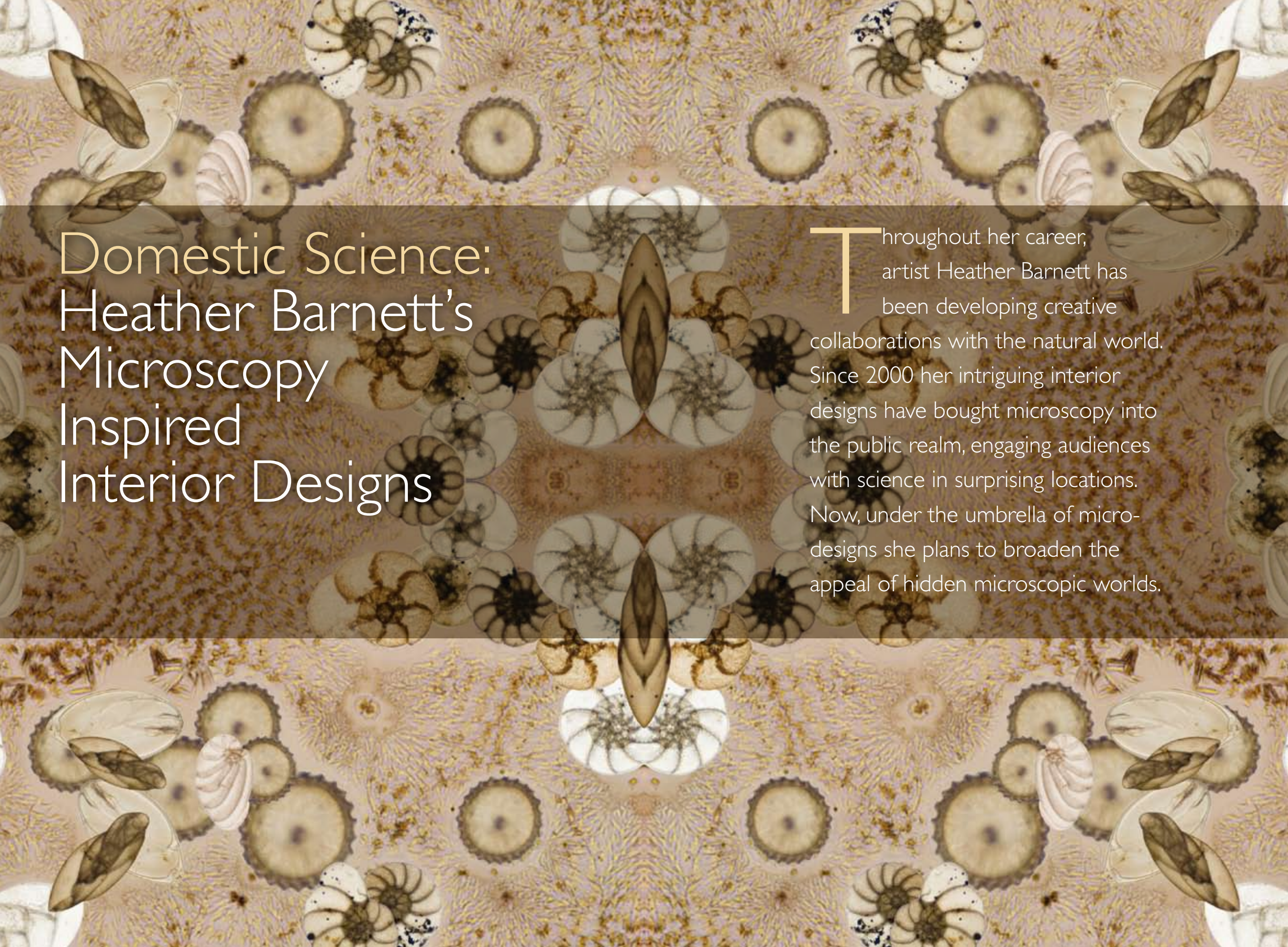




Domestic Science: Heather Barnett's Microscopy Inspired Interior Designs

Throughout her career, artist Heather Barnett has been developing creative collaborations with the natural world. Since 2000 her intriguing interior designs have brought microscopy into the public realm, engaging audiences with science in surprising locations. Now, under the umbrella of micro-designs she plans to broaden the appeal of hidden microscopic worlds.

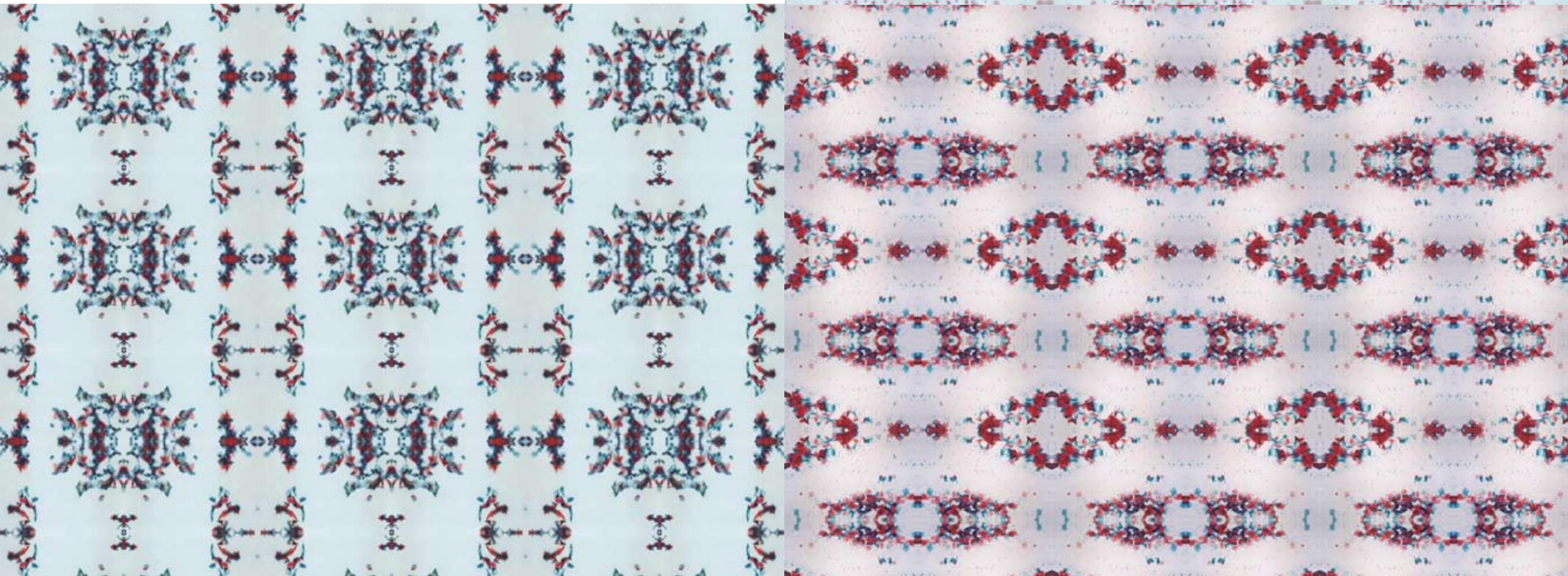
It paints a curious picture: two drosophila geneticists stood facing a corridor wall and quarrelling. The cause of conflict is a repeated horseshoe design formed from images of the wings belonging to genetically modified fruit flies. “Wing Spotting”, as the pastime became known, is one of a number of designs now available from micro-designs – a collection of microscopy inspired wallpapers and textiles created by artist Heather Barnett.

The earliest incarnation of micro-designs began as Barnett took residency in the pathology department of Poole General Hospital. Intrigued by the complex relationship she perceived between pathologist and patient, she embarked upon a collaborative investigation to produce an intelligent body of work that developed awareness of the processes and procedures of the department, whilst examining the

many contradictions occurring in the day-to-day functioning of large medical institutions. The work eased out a number of issues concerning public and private spaces - sterile narratives of swabs and samples, interpreted by anonymous professionals, and the daily dramas of the waiting room. The outcomes of the residency were diverse and it was her response to one wry comment, that all artwork placed within hospitals eventually becomes ‘like wallpaper’, that led her to produce the first of her own interior designs representing her own interior microscopic structures viewable only with the aid of a microscope - the Cellular Wallpaper series (Figure 1).

Glued to televised surgical operations as a child, Barnett’s interest in the sciences developed early and has persisted throughout her artistic career. From her beginnings as a photographic assistant working within a scientific research centre, she

Fig. 1. Cellular Wallpapers, 2000. (Below: Yuletide [Cheek Swab], Top right: Peach Blossom [blood film], Bottom right: Rosebud [cervical smear]).



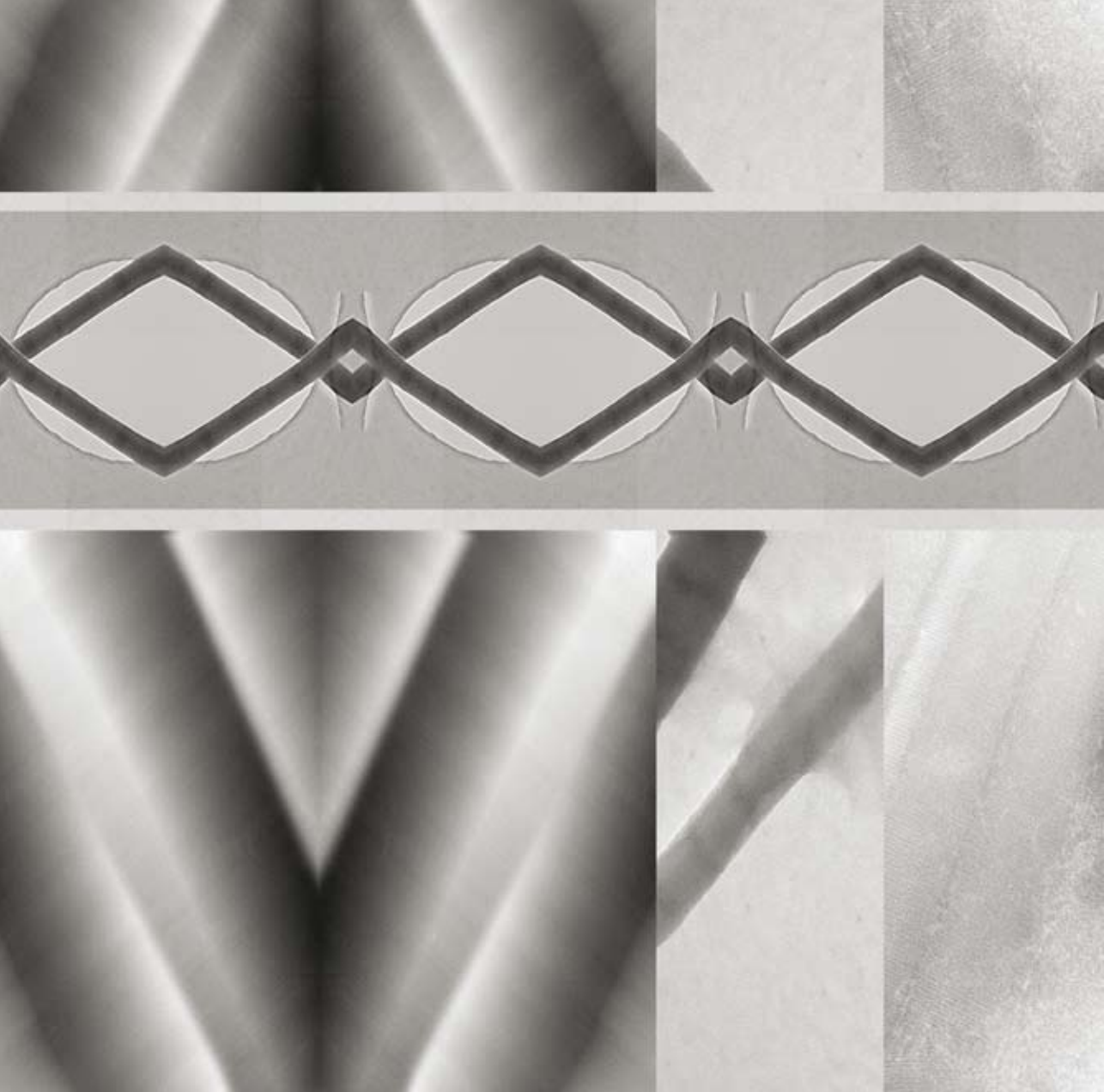


Fig. 2. The Nanofibre Collection (sample pages from the Diamond Group designs).

pursued an education in the arts, beginning to make work informed by scientific methods and the workings of the natural world. Barnett is now one of a number of artists who are currently working within a discipline most commonly referred to as 'sci-art'. The main objectives of this genre have been to locate connections between the sciences and arts through borrowed methods and collaborations. Many of these collaborations have opened up a complex discussion concerning the relationship of the two branches of knowledge,

and have developed an interesting middle ground that is readable within discourses of both science and art. Barnett's own collaborators have included, amongst others, geneticists, microbiologists, clinical physicians and botanists, and she has worked with a diverse range of organisations including hospital pathology departments, satellite mapping companies, public museums and academic research laboratories. She has held Research Fellowships at the University of Sussex and the London School of Economics, and has been involved in research

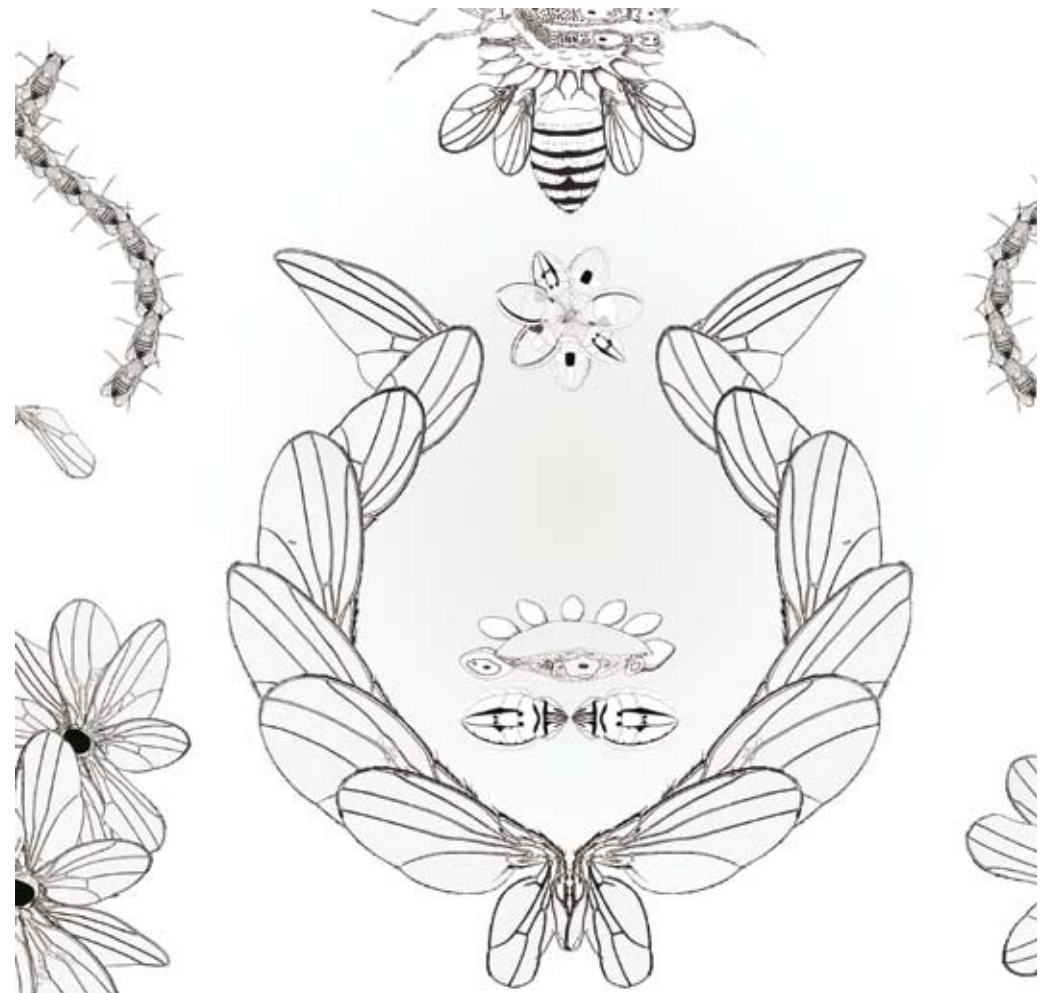


Fig. 3. Metamorphosis & Design – Hybrids, departmental wallpapers.



Fig. 4. *Small Worlds: the art of the invisible*. The Museum of the History of Science, October 2007 – April 2008. More details of the virtual exhibition can be found at www.mhs.ox.ac.uk/smallworlds.

projects for institutions such as the Wellcome Trust, whose public engagement arm fosters dialogue and creative collaboration between the sciences and the arts. Barnett's own work has developed numerous lines of enquiry gracefully linking scientific and artistic practice.

Barnett's wallpapers are created using a range of microscopical specimens, most of which she has photographed herself having been trained to use wide field, confocal and transmission electron microscopes. She reproduces and enlarges these images, manipulating them into repeating patterns and designs. The results are a kaleidoscopic array of

animal, vegetable and mineral in their most detailed representations. In close up, Barnett expands upon a world unknowable to humans without the aid of a microscope, manipulating it into designs that fluctuate from garish through modernist to tongue in cheek chintz.

In 2003 Barnett embarked upon an ambitious collaboration involving four research groups in the School of Life Sciences at the University of Sussex (the aforementioned quarrel over drosophila wing patterns happened here). The research project, entitled *Metamorphosis & Design*, explored aspects of design within biological systems including studies

The wallpapers have been popping up in numerous intriguing locations including at MICROSCIENCE 2008 and the women's wear department of Selfridges

of cuttle fish camouflage, 'designed' nanofibre protein structures, DNA sequencing and the genetic manipulation of fruit flies. Many scientific mechanisms were employed and adapted in the

process of making diverse works for exhibition, including three short films, a sound installation, an interactive projected round table discussion, composite photographic portraits, scientist drawings and designs for wallpaper. These took the form of a large scale sample book of bold monochrome patterns, namely The Nanofibre Collection (Figure 2), produced with the Protein Design Group at Sussex, (lead by Professor Dek Woolfson, now at the University of Bristol), and some alternative departmental wallpapers produced for the School of Life Sciences stairwell, integrating iconic textbook images of cuttlefish & fruit flies, and nanofibres & DNA sequences (Figure 3). The notion of transformation and reconstruction echoes

Barnett's belief in interdisciplinary collaborations and their ability to establish insightful (and often useful) discussions and connections.

Despite the breadth of her investigations, there are certain sustained concerns apparent throughout Barnett's career. Her fascination with what lies beneath the surface, coupled neatly with rigorous enquiry into technologies of vision and how they enable us to see, appears as a driving force for much of her practice. This act of delving beneath the exterior is the very essence of micro-designs, the wallpapers providing an elegant metaphor for those surfaces that Barnett peers inside. In turn micro-designs build upon a rich history of natural forms in interior design, spanning from the wall hangings of the renaissance through wallpapers of the Arts and Crafts Movement synonymous

with William Morris, to the garish patterns of the 60s and 70s. In 1951 the Festival Pattern Group, a group of textile manufacturers bought together by the British government for the Festival of Britain, formed a groundbreaking project creating designs inspired by atomic structures. Their belief in the inherent beauty of natural forms appears apposite to Barnett's own concerns today.

In 2007 the Museum of the History of Science, Oxford, invited Barnett to work with over 10,000 historical microscopical specimens held within the museum's collection. The Victorian and Edwardian slides, some of which belong to the Royal Microscopical Society, provided the basis for a creative collaboration between Barnett, poet Will Holloway and museum staff. Together they selected, extracted, manipulated and created imagery, animation and poetry from the

Fig. 5. Cellular Wallpapers at Selfridges, Oxford Street, London.





Fig. 6. Renal designs from Deben images (not commercially available).



collections, to create an intriguing visual journey of an exhibition that led visitors deep into a world of strange proportions and distorted scales. Unearthing such delights as a microscopic writing machine and a microphotograph of a colonial explorer on the back of an elephant, invisible save for aid of a magnifying glass, the exhibition playfully articulated just some of the cultural, scientific and artistic facets apparent within the history of microscopy. Poet Will Holloway provided the soundtrack for the tour of this fascinating microscopic world, voicing the intricate complexities of even the most single celled of organisms. For the show Barnett transformed the stone walled gallery of the museum into a Victorian parlour befitting of the domestic laboratories of the early microscopists, with a resplendent decor of dark red wallpaper and lush gold curtains, created from images taken from the slide collection of benzoic acid crystals and foraminifera organisms.

The outcome of this collaboration can be most usefully understood as an exciting visual and aural voyage of discovery - making apparent things too often over looked, whether in the context of the museum or within our daily lives (Figure 4).

Since then, the wallpapers have been popping up in numerous intriguing locations including at **MICROSCIENCE 2008** and the women's wear department of Selfridges on Oxford Street in London (Figure 5). With each installation the paper takes on new meaning, in turn investing new meaning into its surroundings. Displayed amongst clothes in a large department store our first experience of the paper is that it provides a scenic background for a shopping expedition. Upon further investigation the designs are revealed, perhaps to our surprise, to be cells from cheek swabs or blood samples. With this knowledge the wallpaper begins to reference

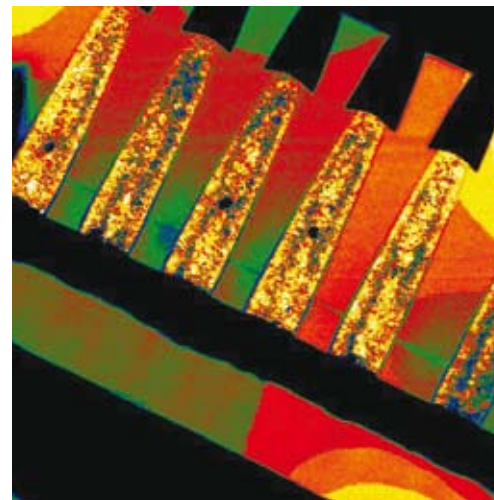


Fig. 7. Gatan Inc. image and wallpaper transformation (not commercially available).

the intricacy of the bodies we are attempting to dress, whilst playfully contrasting designer names with natural designs for life. It is these multiple readings, the many layers of interpretation present within Barnett's work, which serve the 'sci-art' genre so well - the complexities of both practices needing to be necessarily addressed with suitably complex methods. Barnett's preoccupation is with individuals' ever differing perceptions, in the various ways in which we can look at one thing. The boundaries that her work constantly navigate make these differences of opinion accessible and

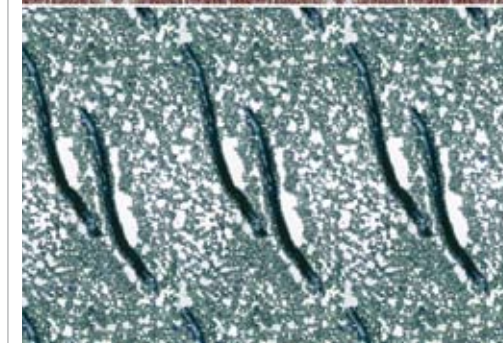
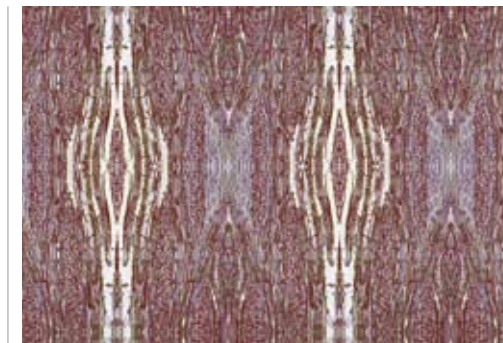


Fig. 8. Moroccan Morning (Plant tissue 'Laburnum'), Meadow Grass (Human cells: blood (reticulate stain)), Fossil Geometry (Californica seeds - From the collection of the Royal Microscopical Society.)

interesting, while extracting for us the similarities. micro-designs question how people engage with scientific representations and, more broadly, with the natural world - Barnett's concerns of visibility and validity are no more apparent than in these absorbing interior designs.

At **MICROSCIENCE 2008**, Barnett spent time talking to microscopical companies presenting their wares (including Gatan Inc. and Deben - Figures 6 & 7) and, having acquired some images on display from the representatives, made some tailored designs



Fig. 9. Broken light - human blood cells, reticulate stain.

from their images and presented them back before the event closed. Whilst some were somewhat bemused at the concept of microscopy inspired wallpaper, many professionals reacted to the work with earnest enthusiasm. For many people who spend their days observing the microscopic world, there was recognition of a shared appreciation of the inherent beauty within natural structures, and a desire to further communicate such biological wonders with others outside of specialist fields. For Barnett, this cross territory dialogue, whether it be a clash of cultures or a meeting of minds, is a vibrant and vital component of the creative and conceptual development of her work, and something she continues to engage with as new collections of designs emerge from fresh and continuing collaborations.

Sadly the wallpapers have yet to be installed in hospitals - one of many applications aching to be realised (some known, others yet to be found). Barnett's work seeks to actively engage with the spaces around us, with a world present but not noticeable on first glance. Her work demands that we look once, and then look again - allowing us to reflect in impromptu locations on her intricate lines of enquiry. Above all else micro-designs appear to direct us beyond their own surface, pointing us to the whole of life... now, how does 'tartaric acid' wallpaper for the lounge sound?



Fig. 10. Cracked Lace - human urine cells.

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Heather Barnett

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Heather Barnett is an artist interested in biological systems and scientific processes. With interests ranging across medicine, psychology, perception and visualisation, projects have included microbial portraiture, cellular wallpapers, performing cuttlefish and edible installations. She has exhibited widely in art galleries, science museums and public spaces, including the V&A, and the Science Museum, and has work in the permanent collection of The Wellcome Trust. She has been Artist in Residence in diverse organisations including hospital pathology departments, satellite mapping companies and museums, and has held Research Fellowships at the University of Sussex (School of Life Sciences, Metamorphosis & Design, 2003-4) and London School of Economics (Institute of Social Psychology, ReCollect, 2006-8). Recently Heather established micro-designs, a commercial arm for her microscopy inspired wallpaper creations, you can see her Cellular Wallpapers now on show in Selfridges in London. She is currently engaged in a creative collaboration with slime mold and leading an interdisciplinary art, science and parkour project exploring fear and urban territory.



Photo by Keith Van Loen