Antennae

Issue 3 Autumn 2007 – Volume 2

Insect Poetics

Volume 2

EDITORIAL

ANTENNAE ISSUE 3 – Volume 2

Volume 2 of our Insect Poetics Issue continues the ethos of its predecessor presenting a combination of new and original work along with texts especially re-written for Antennae by some of the writers included in Insect Poetic, the book edited by Eric Brown and published by Minnesota Press.

But Before introducing the content of Volume 2 I'd like to take the opportunity to thank all the readers who manifested their appreciation for our first Volume. In terms of both, feedback and copies downloaded, the September Insect Poetic issue is to date our most successful.

Volume 2 opens with an interview to Poul Beckmann, the photographer responsible for the fascinating 'Living Jewels 1&2', the books picturing beetles in an unusual way, standing with one foot in the future of close-up photography and one in the past of the entomology display cabinet. By now you may have realised that here at Antennae we have a soft spot for entomology cabinets, so we decided to indulge further looking at the singular case of the Marquis Collection brought to surface by Lane Hall who is also responsible for the current front cover.

We subsequently abandon the muted realm of entomology cabinets to explores the themes of insects and sound with the works of Amy Youngs and Jennifer Angus. For this issue we also had the privilege to interview the legendary Catherine Chalmers to discuss one of her most influential photographic works to date involving the ubiquitous cockroach. Nicky Coutts takes us back to Middle Ages to track the history of a less than holy insect whilst Lars Chittka explores bumblebees' taste in art.

For London the summer of 2007 will be remembered for a long time as a very wet, relatively cold and uneventful one. For Chicago the summer of 2007 will be remembered as the summer of emergence for the 'mythical 17 years cicada.' This unique event sees millions of cicadas emerging at unison from the ground in the attempt to reproduce. Chris Hunter, our reporter from Chicago tells us how the media waited for and then captured the entomological event of 2007.

In a savoury finale, our Volume 2 literally brings to your table a selection of recipes involving insects accompanied by the thoughts of Sarah Gordon.

We sincerely hope that you will enjoy this issue and look forward to receiving your feedback, critiques and ideas. We wish once again to thank Eric Brown and Minnesota Press for making this project possible. A warm thank you also goes to all the contributors who worked on this issue.

Giovanni Aloi
Editor of Antennae Project

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Front Cover Image: *Lane Hall and Lisa Moline, Entomology case from the Marquis Brothers collection. ©*

A NEW ENTOMOLOGY DISPLAY CABINET?

Poul Beckmann's Living Jewels series has been hailed as the perfect marriage of art and science. With its obsessively detailed close-up photography and a highly distinctive compositional style, Living Jewels may represent an alternative to the traditional entomology display cabinet.
Text and Questions by ***Giovanni Aloi***

Poul Beckmann
Euchroea Flavoguttata ©

In Autumn 2001 Poul Beckmann released *Living Jewels,* a photographic book giving evidence of the amazing diversity of shapes and colours offered by beetles. With its 192 crispy clear images the book quickly acquired popularity as one of those volumes that everyone should take a look at.

In May 2007 Poul Backmann is back with *Living Jewels 2,* a second attempt to cover more of the incredibly vast world of beetles. It has to be mentioned that unlike other publishing offerings, *Living Jewels (1 and 2)* is not the usual type of project where good quality images of the natural world printed on a large

size are perfect ingredients for the season's coffee table. Surely the quality of the images plays a big role in the appeal of the book, but we also believe that the systematic approach employed in the taking if the photographs is what really makes these volumes special. Both present beetles in a pseudo-entomological way. Subjects are not contextualised neither dramatised. Exception made for the absence of the traditional pin transfixing elytrae, the simplicity of composition and consistency of approach clearly echo the pragmatic rhythms and parameters of the entomology display cabinet. Although this is evident, Ruth Kaspin, writer of the introduction to the first volume explains that: "With 350,000 identified species within 166 families, beetles represent one in five living species on earth, and one in four of all animal species. Any attempt to show them all would be an impossible task. This collection cannot come close to being a true representative sampling of all beetles, or all beetle families; it is merely a showcase of a few of the most beautiful and most readily available to collectors. Nor is this book an entomology text. Given that the subject is so enormous and diverse, scientific treatments are necessarily very specific, with volumes devoted to data concerning a single genus or species." Whilst we understand the necessity to stress that *Jewels* is not an entomological text in the way that it does not share the aims and methods of the academic sample, it is difficult to ignore the fact that the images offer an experience which is more similar to the viewing of entomology display cabinets than that offered by the traditional wildlife illustrate book.

We interviewed Poul Beckmann to understand if this is just a coincidence.

Can the photographs in Living Jewels 1 and 2 be seen as a substitute to the traditional display cabinets of Natural History Museums?

Our books remove the glass barrier of the display case and add the dimension of magnification, but we don't see them as an alternative to natural history museums. The natural history museum presents animal specimens within the frame of reference of their place on earth; their function in the grand scheme of things as predator or prey, pollinator or parasite, how they interact with other species, and how they harm or benefit our human enterprises.

Conversely, we have chosen to take the order Coleoptera, the beetles, and present them outside their context, concentrating on their visual appeal and the amazing diversity of their forms, colours and patterns. In the mode of the ancient cabinet of curiosities, we're going for the wow factor, the sense of awe and wonder that may be the catalyst for further study and investigation.

We are avid museum goers and we must give credit to museums for igniting our initial fascination with beetles. It is our hope that these books may generate a few sparks of interest for our readers.

Could you describe your approach to documenting beetles as scientific?

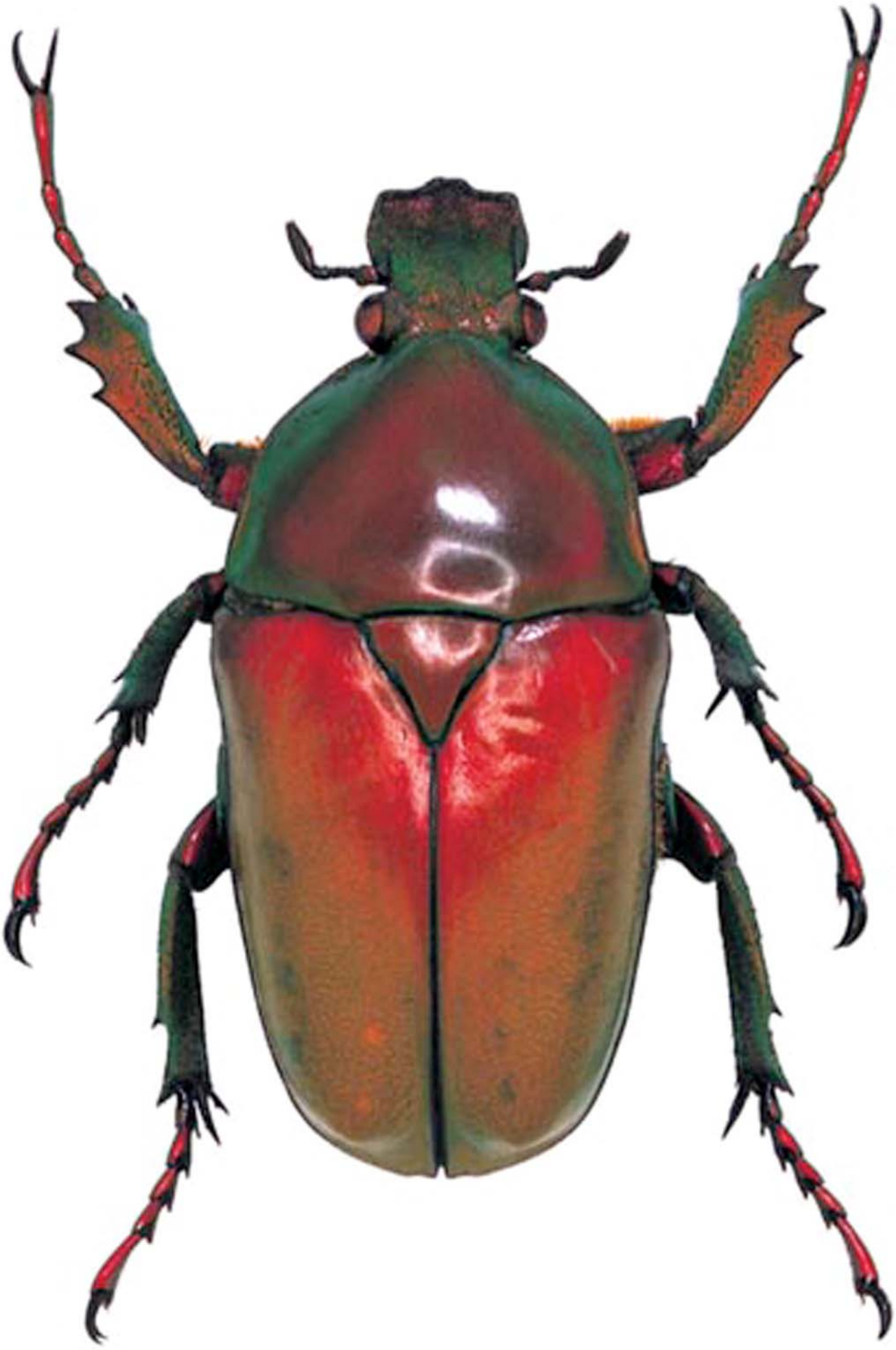
We attempt to present these animals as they are, as accurately as possible. There is no manipulation of their own natural appearance, no heightening of color or contrast. None is necessary. Their beauty requires no enhancement.

Our approach is primarily aesthetic; that is, we are interested in the most intricate patterns, the most various surface qualities - metallic, or iridescent, or matte and velvet-like, and the most grotesque forms of horns, antennae, and body shapes.

Are the beetles you have photographed dry specimens or alive insects?

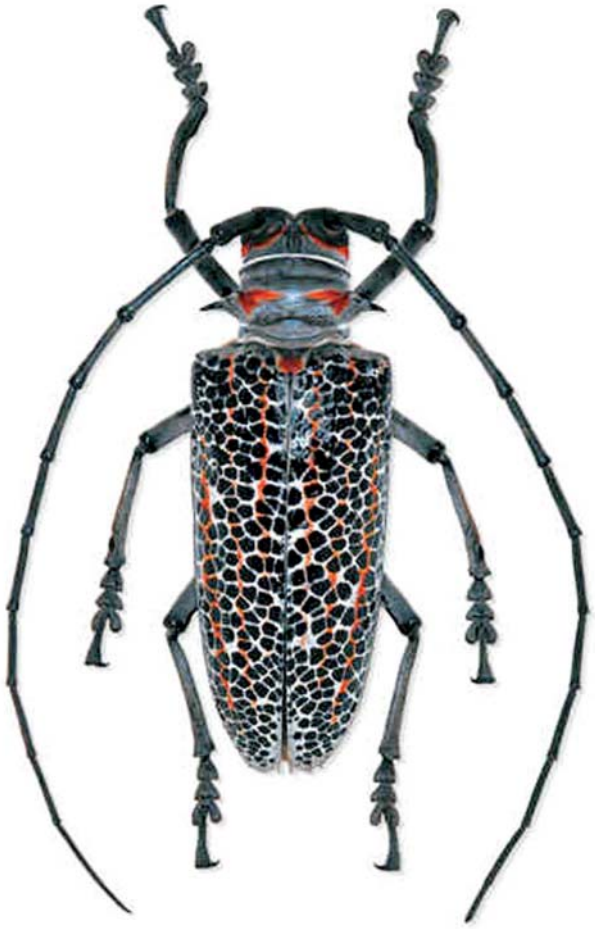
They are all dried specimens. What remains of a beetle, post mortem, is exoskeleton and wing sheaths do not fade or change color. Our collection includes beetle species from all over the world. Most exotic species are not available to us as live specimens as there are stringent restrictions against importing live insects into California and there are also a great many nations that restrict the exportation of their native species.

Poul Beckmann
Euchroea auripiment ©



Poul Beckmann
Neptunides stanleyi ignite ©

Poul Beckmann
Deliathis flavis ©



Poul Beckmann
Rosenbergia straussi ©

Poul Beckmann
Unidentified ©

What challenges do you face in taking these photographs?
In order to accurately capture colour, especially metallic or iridescent shades, lighting is critical and rather difficult and involves the use of anywhere from three to six flash units. Also depth of field is a serious problem and requires a lot of forethought and visualization even before shooting begins.

How are the photographs technically produced?
Our equipment includes a Hasselblad 503CW, Zeiss Makro-Planar 120mm lens with automatic bellows and Carl Zeiss Luminar 63mm and 100mm lenses. Fuji Velvia is our film of choice. We scan the transparencies on our Heidelberg Tango scanner. The digitized image often requires a bit of cleanup to remove any bits of dirt or debris that escape notice during the preparation of the specimen.

The specimens photographed in Living Jewels 1 and 2 have been collected by you. Where does you interest in beetles come from?
Our initial interest in beetles as photographic subjects comes from their visual qualities; brilliant color, metallic or iridescent surfaces, and a seemingly infinite variety of intricate patterning and structure.

Among our primary influences were botanical and zoological illustrations of the seventeenth and eighteenth centuries, and on through the Victorian era. Drawn to represent species with as much accuracy as possible, they were also beautiful works of art. Likewise, macro photography reveals exotic hidden worlds not easily seen owing to their diminutive size.

Are you planning to produce books about other insects using a similar format to Living Jewels?
We are still quite preoccupied with beetles. There are more than 350,000 species. This amazing number represents one fourth of the total number of animal species on earth. We don't anticipate becoming bored with the order Coleoptera in the foreseeable future.

Was it difficult to find a publisher for an original and innovative project like this?
Our concept was to present these images in the context of art and design, rather than biology, consequently we targeted publishers of art and design

books. The notion of nature as art is nothing new or original, however we were a bit concerned that beetles presented in an art context might be a bit of a stretch. Beetles are generally thought of as "creepy crawlies" and do not, as a rule, enjoy the same general perception of beauty or "niceness" as, say, butterflies. Happily, the people at Prestel Verlag were willing to take a chance on the project. Their editorial and design people were instrumental in helping us refine the concept and look of the books.

The first volume presents fonts and styles of a classical kind whilst the second one uses a much more modern and young approach. Who in your opinion is the readership of Jewels?

Living Jewels was a sort of introduction aimed at a general audience, but also intended to appeal to artists and designers as a presentation of beetle forms and patterns as visual resource material. Living Jewels 2 goes beyond, not only in terms of more magnification, but in utilising composition and staging to bring the reader face to face and eye to eye with beetles. It's more of a magical mystery tour. Judging by responses we've received, our audience is quite broad and diverse. We've gotten enthusiastic feedback from people in all age groups and various fields of endeavour. A number of artists and designers have communicated to us that they have used our images to inform their insect oriented projects. Not surprisingly, we count quite a few school kids (and teachers) as enthusiastic beetle fans. Most gratifying is the positive response and encouragement we've gotten from a number of entomologists and entomology curators.

A review of Living Jewels said: 'If you're like me, your immediate reaction to seeing a bug on the floor involves impromptu flamenco dancing and a sound too repulsive to mention. But if those bugs resembled the ones in "Living Jewels" you might start thinking about them more as fashion accessories than something to step on". Beetles are not particularly well known to audiences as attractive insects, they in fact fall in the infamous 'creepy crawlies' category. Do you think Living Jewels may change the public perception of beetles?

It's doubtful that we'll change that instinctive reaction to the unexpected 3 a.m. kitchen floor encounter, however the typical reaction to the books has been one of surprise and delight at the beauty of these creatures. As to the suggestion that beetles could be thought of as fashion accessories, jewel beetles were quite the hip accessory in Victorian England. Ladies on the cutting edge of fashion wore live jewel beetles tethered by tiny gold chains.

Poul Beckmann was interviewed by Antennae in the summer of 2007©

Living Jewels, The Natural Design of Beetles and Living Jewels 2, The Magical Design of Beetles are both published by Preste Verlag. Please visit www.prestel.com

Anennae would like to thank Prestel Verlag for the support shown and for giving permission to re-print of images.

THE MARQUIS COLLECTION: AMATEUR OBSESSIONS AND JUNK SCIENCE

Lane Hall investigates the boundaries separating serious science, junk science, obsessive entomology collecting and professional collecting.
Text by ***Lane Hall***

Lane Hall and Lisa Moline
Entomology case from the Marquis Brothers collection.

In 2003, I was commissioned to create a large art installation for the California Academy of Sciences in San Francisco. The Academy was interested in having a broader discussion between their scientists and artists, and the resulting work was to be integrated into a celebratory milestone exhibition. The exhibition was going to be the last at the museum, before undergoing a renovation designed by Renzo Piano. The entire collection was to be moved to a temporary location, so things were in a state of flux, and many of the scientists were quite anxious about the change confronting them. I spent a lot of time speaking with the scientists who worked within various disciplines, as well as a number of weeks pouring through their vast array (over 16 million!) of specimens - photographing, digitizing and scanning what I could, always with an understanding that, at best, I would be able to reveal only a minute fraction of the holdings.

The entomology department was particularly fascinating. It was a very large room, dimly lit, and it contained cabinetry from floor to ceiling, box upon box and drawer upon drawer of carefully mounted, labelled and classified insects. One of their field scientists had just returned from Madagascar and was unloading many small ziplock bags full of tiny insects. Two interns, sitting at counters that rimmed the room,

Lane Hall and Lisa Moline
Entomology case from the Marquis Brothers collection. (Detail)

were hunched over magnifying lenses, and beginning to sort the specimens from one of the bags. I looked over the shoulder of one as she methodically tweezed a bug and glued it onto a paper "point" which would then be pinned, labelled and filed. I asked her how much work her one small bag represented, and she replied "about four months of daily labour, if I was able to do it for forty hours a week, which I am not!" I silently noted that dozens and dozens of similar bags were coming out of field-storage boxes.

I was drawn to some anomalies within the generally well-ordered room. Languishing in a dark corner was a stack of lovely little handcrafted boxes. These, I was told, had no scientific value, but had been bequeathed to the museum by the families of two amateur collectors, the Marquis Brothers, who had passed away a few years before, and who spent their lives in pursuit of their obsession. Such amateur collections often find their way to Natural History museums, and some (such as the Natural History Museum in London's "Lord Walter Rothschild Collection" comprising over 2 million specimens) have significant cultural and scientific value. However, the Director of Entomology at the Cal Academy suggested that these donations were generally considered a burden. He noted that the bequeathing families often feel both a sentimental attachment to the objects, and an inflated sense of their scientific utility. The institution, in turn, can't immediately relegate them to the dustbin out of respect for the context of the donation, and out of a slight possibility that there might be "gold among the dust."

Generally, such collections reside in old cigar boxes or in black display boxes purchased through specialty stores. However, these particular boxes looked like old books stacked one upon the other. The bibliophile in me couldn't resist the mix of fanatical attention to detail and "Do-It-Yourself" casualness of construction materials. Pressboard covers were held onto the handmade frames with bits of leather tacked in place and acting as hinges. Masking tape patches and shellac had been added at various times, creating palimpsest layering akin to the aesthetics apparent in Joseph Cornell's assemblage art-boxes. Notes and labels written in tightly controlled penmanship added a textual element, itemizing insect common and Latin names, their own classification decisions, and geographical as well as seasonal information.

The Marquis Brothers often used aesthetic rather than scientific methods of taxonomy, with disparate species of insects put together because they were iridescent blue, or because they had long antennae, or because they were all found in the hills outside of Sacramento, in the summer of 1958... One box had long-horned beetles inexplicably composed in a circle, facing each other as if performing a square dance. Other boxes had tissue paper dividers between stacked layers, or strings, thread and dental floss used to separate different categories. The methodology was very disciplined and deliberate, though such poetics of display clearly undermined scientific credibility. I interviewed a number of the professional entomologists on staff. The scientists generally commented that the boxes were "junk," though some did concede respect regarding the doggedness of the Brother's conviction as collectors. They seemed unanimously bewildered by my interest in the boxes. I questioned the idea of "junk-science:" what made a collection useful, what made it valuable to the public, what made it valuable to scientific discourse. The very things that had attracted me to the boxes undermined their utility within scientific discourse. However, the scientists were loath to donate them for artistic purposes, in that the collection spanned four decades, and there was a feeling that they might potentially offer some useful insights regarding changes over time, should anyone ever have the time to conduct such a study. Given the Herculean task of preparing, itemizing, sorting and filing the constant influx of active fieldwork, that seemed a highly unlikely prospect.

In spite of their careful fabrication, the collections were turning to dust. Dermestid beetles and other insects had invaded and eaten through the traces of the Marquis Brothers' life work. Most of the insects, upon close inspection, were riddled with holes, chitin turning to dust, traces of brown powder limning each specimen, sifted upon the cotton-sheeting of the boxes, circumscribing the pathos of decay. These containers were 'memento mori', reliquary artefacts that telescoped the scale between the individual labour of the amateur collectors, and the vast, collective, institutionalized labours of science. I understood that within the move the Academy was about to undergo, the boxes would be lost. I also understood the general anxiety of the scientists, expressed upon numerous occasions: within the shifting paradigm of the contemporary Natural History museum, similar losses would, and will, continually occur.

Lane Hall *is an artist whose work often focuses upon animal subjects that occupy ambivalent places in culture: insects, reptiles, micro-life and vermin. His installations (done in collaboration with artist Lisa Moline) have been exhibited at the Brooklyn Museum, The Milwaukee Art Museum, the Block Museum at Northwestern University, Carnegie Mellon's Miller Gallery, where he curated "Animal Nature," and the California Academy of Sciences in San Francisco. He currently teaches digital art and culture within the English Department at University of Wisconsin-Milwaukee. His work can be seen at www.badscience.org and www.criminalanimal*

SILVER WINGS AND GOLDEN SCALES

An installation by Jennifer Angus and Alistar MacDonald at the Chazen Museum of Art focuses on the 'musical qualities' of insects and explores the subject through the use of textiles patterns.
*Questions by **Eric Frank**, Text by **Jennifer Angus***

Jennifer Angus
Chiyogami (detail), 2004, Installation at Artcite, Windsor, Ontario, in.
Photo by Walter Manzig

Children's literature is populated with wonderful six-legged characters like the insect companions in *James and the Giant Peach* and the fabulously glamorous cockroach in *La Cuchuracha Martina*. In the Victorian era, adults and children were introduced to the natural world through educational publications that anthropomorphized insects to make them more appealing. Voracious collecting of plants and wildlife was extremely popular, and for the insatiable Victorian nothing was sacrosanct; there was enormous prestige granted to a large collection with the finest, most unusual specimens. While men of science did fieldwork, the wealthy sponsored expeditions and accumulated the bounty. Their specimens were often presented in "cabinets of curiosity" in arrangements that had little to do with genus but everything with aesthetic presentation. This installation channels that quirky spirit of collection and display, which embraces both science and fantasy.

Anyone who spends time outdoors listening to the surroundings will gradually become aware of the many layers of sound. Once the ears attune to the environment—be it a garden or a dense jungle—they begin to distinguish, follow, and even fantasize about the sounds at their ear tips. The sound-scape you hear in the gallery attempts to re-create that state of awareness or memory, and it, too, is made up of separate layers.

The foundation comprises recordings made from dawn to dusk in the rain forest of Sarawak, East Malaysia, then "pleated" in time to make a repeating cycle that lasts just over two hours. The sound slowly changes and moves through the room as each creature takes its turn in the daily cycle. Superimposed on this layer are strands extracted from original recordings of single sounds made by birds and insects. These notes, like the colourful insects upon the wall, spin in interlocking circles through the space.

Additional sound elements come not from the forest but from human literary and musical realms, yet they share with the visual elements references to the nineteenth-century fascination with exploration and collection, the flourishing of entomology, and the resulting children's stories and rhymes. The English naturalist and evolutionist Alfred Russel Wallace extensively explored the rain forests of South East Asia in the mid-nineteenth century; we hear extracts from his account *The Malay Archipelago*. There are the nonsense poems of Edward Lear and others, including William Roscoe's "The Butterfly's Ball and the Grasshopper's Feast" (1808), considered to be the first English-language children's story that was not a moral tale or fable. Next a little train of fantasy leads us, in musical boxes, from the tune for a setting of "The Butterfly's Ball" to the old Morris dance tune "An English Country Garden" and then "Brahms' Lullaby."

Other layers result from sound transformations: Wallace's grandfather clock, the voices of children calling out names of insects like tongue-twisters, and the musical boxes all dissolve into the clicking and hissing of the insect chorus and join them in circling around the gallery. Like the forest itself, the soundscape is ever changing and will never sound exactly the same from day to day.

Silver Wings and Golden Scales highlights the intrinsic relationship between insects and sound, drawing parallels between animal-sounds and human-understanding of sounds. Is the work referencing the primordial nature of music?

Alistar MacDonald: From the perspective of my music/soundscape the work it not consciously referencing the primordial nature of music - I think that all of my electroacoustic music taps into our natural-world listening mode as much as it does formal musical listening. I think I'm asking the listener to hear the music in the sounds, but directing her/him to particular qualities by my intervention.

In Silver Wings there are recordings of the forest; recordings of speaking voices then there are versions of the above treated so that one becomes the other.

The recordings of the forest are filtered to separate out individual insects - highlighting especially the rhythmic aspects of the insects (I had niche theory in mind). I also transform some of the voices, again filtering, so that we don't hear words, but repeated sibilants which become insect-like; these transformed layers of sound are then spatialised - they move around you in the space in circles echoing Jenny's circular visual patterns the installation becomes a re-orchestration of the forest.

There's also a grandfather clock - a 19th century reference, heard when we hear Wallace, as if in his drawing room, but also transformed so that it's rhythmic ticking seems to originate in the insects how was it made. I recorded the forest in Sarawak from dawn through beyond dusk. I also recorded children chanting rhymes (19th century rhymes about insects) and the names of insects, and spoken text from Alfred Russel Wallace's accounts of exploring and collecting in 'The Malay Archipelago' (where my recordings came from) one layer of the soundscape is a compressed (about 2 hours) version of the whole day in the forest which is always there in the room so we hear the soundscape change gradually, different birds and insects appearing at different times of day.

Along with this there are 12 other layers of sound, but these are not constant, they start and stop and are timed so that sometimes we hear no extra sounds, sometimes one, and occasionally up to 5 layers are heard simultaneously moving separately around the room. Each layer is made up of between 2 and 20 sound files and the order is always changing so that the resulting sound in the room will (probably) never be the same twice.

How did the idea for this project come about?

Jennifer Angus: The collaboration between Alistair and I came about in a very roundabout way. Alistair's wife, Juliet was billeted with my parents when she came to Toronto, Canada for a conference. They kept in touch over the years and about 3 years ago my father visited Glasgow and met Juliet and Alistair. My father mentioned my work with insects and patterns and Alistair expressed an interest in perhaps working with me on a collaborative project at some point. Alistair is a composer and Director of the Electroacoustic Music Studios at the Royal Scottish Academy of Music and Drama. Transforming sounds and playing with ambiguities of recognizability and reference are hallmarks of his compositions. In addition, MacDonald is particularly concerned with the spatialization of sounds, spatial location and behavior. My father forwarded Alistair's e-mail address to me and we began a conversation and eventually came of with a proposal for commission competition. Our project was not selected but we kept the idea alive and finally the opportunity presented it self when I was invited to show at the Chazen Museum of Art.

It was Alistair who saw the potential of combining my visual patterns created with insects and the repeated insect calls he had recorded in Borneo a few years earlier. Our initial ideas focused on pattern – visual and auditory. We believe in pattern's narrative potential and its use as a tool of communication. The patterns of sight and sound could be combined to create the suggestion of a life cycle – birth, life and death. A visual impression might be wave-like, that is, a growing and then receding of the pattern. A viewer might walk the length of the wall taking in the wave like activity of the pattern and at the same time hears a sound piece swell and then fade. The viewer would be challenged to consider not only the natural world and

Jennifer Angus and Alistar MacDonald
Silver Wings and golden Scales (gallery view), 2007, Installation at Chazen Museum of Art, Madison, WI

environment, but also our man's relationship to it, both positive and negative. Later on this developed into the ebb and flow of activity in a single day from dawn until dusk – the lifespan of a mayfly.

Preserved insect specimens have become popular through the entomology exhibits of natural history museums. Does this work compensate for the 'silent-nature' of these traditional exhibits?

Walking through the forest it is unlikely that beyond a butterfly or ant one might see any insects. They are so well camouflaged. Museums present the treasures of nature for all to see. We marvel at the colour of a morpho butterfly or the incredible adaptation of the so called "moving leaf". It is plain to see where so much inspiration in art and design is derived. To me it feels like secrets revealed yet something is always missing because what a conventional exhibit cannot show is the way a creature moved (I find that this is the thing that people find the most disturbing) or the way it sounded. It is easy to forget that these were once living creatures in the silence. The incorporation of sound brings the insects back to the forest or jungle. They are not "just" a collection. One of my favourite quotes is by Toni Morrison. She writes, "Birth, life, death - each took place on the hidden side of a leaf." The sound reminds us of that.

How was the work assembled on the museum's walls?

This exhibition involved two types of visual patterns. First, I screen printed a wallpaper. I teach textile design and so I drew on the skills I use every day in my teaching to design and print the wallpaper. Upon that I placed circular formations of real, though dead, insects that suggest flowers, fireworks or a dance circle. The wallpaper has a repeating pattern of bees but also there are 6 different border prints. The images are appropriated from children's insect books of the Victorian era. I draw heavily upon this time period for inspiration. In the Victorian era, adults and children were introduced to the natural world through educational publications that anthropomorphized insects to make them more appealing. Voracious collecting of plants and wildlife was extremely popular, and for the insatiable Victorian nothing was sacrosanct; there was enormous prestige granted to a large collection with the finest, most unusual specimens. Specimens were often presented in "cabinets of curiosity" in arrangements that had little to do with genus but everything with aesthetic presentation. Silver Wings and Golden Scales channels that quirky spirit of collection and display, which embraces both science and fantasy.

Physically the wallpaper was applied to the wall surface and then using taped paper circles the insects

were positioned around the template. They are attached using the single entomology pin that is through their body. The pattern of insects in this exhibition is much more organic than I usually create. Normally I would have done all sorts of measuring and set up thread guidelines so that I would have a perfectly symmetrical pattern.

How important is it to use ethically sourced insects in a work of art like Silver Wings and Golden Scales?

I need to sleep at night. It is very important to me that none of the insects I use are on the endangered species list. They may be exotic and unfamiliar to a majority of people but they come from thriving populations that are both farmed and collected in the wild. When I began working with insects I was purely interested in using them to create patterns but many years later I know that people's initial engagement with the work is on a gut level. They are either repelled or fascinated. They want to know about the insects. My work is very much about collecting and suggests the possibility of collecting to death. It is natural that when viewers are presented with an exhibition composed of hundreds if not thousands of insects they wonder about the impact on the environment. I think that one of the most important things people should now is that nearly all of the insects on the endangered species list are there not because of over collection but loss of habitat. We need to consider the ramifications of industrialization and urban sprawl.

How did museum visitors react to the exhibit?

I am interested in the "Wow" factor. I hope that people will come to see one of my exhibitions and be amazed. As children we learn and find something fascinating every single day. We grow up and we think we know it all or if we don't information is at our finger tips … just "Google" it. We become jaded and cease to be amazed. Most people do walk into the exhibition and say "Wow! I've never seen anything like this before." That's great.

Jennifer Angus and Alistar Mac Donald
Silver Wings and golden Scales (detail), 2007,
Installation at Chazen Museum of Art, Madison, WI

Jennifer Angus *is an associate professor in the art department and School of Human Ecology at UW–Madison. She received her M.F.A. in 1991 from the School of the Art Institute of Chicago after earning her B.F.A. from Nova Scotia College of Art and Design, Halifax, Nova Scotia, in 1984. She has exhibited her work internationally and received numerous awards, including Canada Council and Ontario Arts Council grants. Three of her pieces are in the permanent collection of the Canadian Embassy in Bangkok, Thailand. Please visit jenniferangus.com for the artist's statement as well as additional information on her work and past exhibitions.*

Alistair MacDonald *is a composer and performer of electroacoustic music. His work has won a Creative Scotland Award, and it is performed and broadcast throughout the United Kingdom and abroad. He teaches composition and regularly directs workshops in schools, colleges, and arts centers. He is also the director of the Electroacoustic Studios at the Royal Scottish Academy of Music and Drama in Glasgow.*

Antennae interviewed Jennifer Angus and Alistar MacDonald in the summer of 2007 ©

Antennae would like to thank the artists for their kind cooperation and also wishes to thank Susan Day and Mary Ann Fitzgerald at Chazen Musem of Art for their help.

CRICKET CALL – COMMUNICATION BETWEEN INSECTS AND HUMANS?

Amy Young's technologically-enhanced nature experience attempts to facilitate communication between crickets and humans.
Questions by ***Giovanni Aloi,*** *Thext by* ***Amy Youngs***

In Cricket Call the cricket participants live in a glass-walled, human-like environment which, when a human participant is present, includes a televised human on their own scale. For the human, there is a telephone interface which receives the amplified chirping sounds of the actual crickets and sends voice-activated electronic chirping sounds to the crickets.

In my other project involving crickets, Holodeck, I explore the subject from a different angle. If they could choose, where would domesticated crickets choose to be? Living outdoors in the Midwest winters is not a survivable option for Acheta domesticus (house crickets), but perhaps they still yearn for the pastoral grasslands and woodlands experienced by their wild relatives. Actual nature would be a bit harsh for these crickets, who are raised in climate-controlled tanks as food for reptiles, so I have constructed a safe bubble for them. This enclosure provides an artificial landscape and provides a simulation of motion through it. Through the use of a computer interface, the crickets are able to "interact" with their projected environment by chirping. Each chirp advances the panoramic, cricket-eye-view video footage of outdoor scenery.

Cricket Call is a technologically-enhanced nature experience attempting to facilitate communication between crickets and humans. Why did you set out to work with live house crickets?

Amy Young: I kept crickets as pets when I lived in an industrial loft in Chicago. Their sounds were comforting and their behaviours quite fascinating to me so I spent some with them, observing their stages of life from eggs to adults. When I would show them to my friends they did not see the crickets as interesting at all, in fact, they would often make rude comments about how they were ugly and looked like cockroaches. I could not convince anyone to look closer, so this became an artistic challenge for me; to make a piece that displays the crickets in such a way as to help humans appreciate them.

Amy Young
Cricket Call 1998 (65" x 26" x 24")
Live crickets, plant, custom electronics, amplifier, telephone, video camera, copper, glass, fabric and wood. ©

I decided to "technologically-enhance" this

Amy Young
Cricket Call 1998, detail ©

piece because I felt it would attract people, seduce them to spend some more time with it and help put them into a mindset to experience something new. Technology is an arena in which we are accustomed to confronting the new and improved. Though crickets themselves are not new, the technology in the piece provides a frame for asking questions and considering the possibility for improved communications between humans and insects.

This work involves the use of a telephone interface receiving and sending sound information. Do you believe that interspecies communication could effectively be established through technology?

Yes, I believe that technology can be used as a tool to facilitate communication between different species. It has been used a kind of language translator that has allowed humans to communicate with a Bonobo chimpanzee named Kanzi. Researchers developed an iconographic keyboard that Kanzi presses to communicate 348 words, each of which are electronically vocalized in English. He is able to understand thousands of spoken words and he can respond and converse in basic sentences by using the keyboard. Knowing this is possible – and the confirmation that some creatures do have a desire to communicate with humans – means we can also imagine developing technologies that would allow us to decode what they are saying to us in their "native tongue".

This idea of a techno-translator, is something I was building on with the *Cricket Call* piece, though it is meant more as speculative device than as a scientific tool. The telephone definitely amplifies the sounds of the crickets into the earpiece for human listener and an electronic chirp is emitted into the cricket house when the mouthpiece is spoken into, but I do not believe that a real vocal translation is occurring. Ultimately, my tool is much too crude. One can imagine however, refining the electronic chirp to match the particular species of cricket and even using computers to "watch" and "listen" to crickets with the

Amy Young
Holodeck, 2007, Live crickets, glass, sand, microphone, video projection and computer running a custom MaxMSP/Jitter patch ©

goal of reproducing meaningful gestures and/or vocalizations that could be activated by human communicators. The tiny television in the cricket house serves as a possible method for communicating human body language to crickets by shrinking the live, closed-circuit video image of the human participant to cricket size. I think it is most effective as a tool to help the human participant "see" themselves at cricket scale and in the same room with them. The technology used in the piece works to seduce humans into watching themselves watch, listen and speak to crickets. I have noticed that people enjoy seeing themselves reflected in technology.

Did you create the interior environment for Cricket Call?

Yes. My overall goal for the design of the cricket house was to create an environment focused on helping human viewers relate to them.

Why this specific design?

Instead of making a "natural-looking" home with dirt and leaves, I created a cricket-sized, ostentatious living room with furniture and plush amenities such as velvet rug and a metallic grand piano. I chose the colors of the interior items based on how the crickets would look to us. We are used to seeing them on brown dirt and leaves, but they certainly present themselves more nicely, and visibly, on a royal purple rug.

Originally, I thought I would be able to purchase dollhouse furnishings for the cricket house, but I found them to be too large in scale for the crickets, so I fabricated the furniture objects in wax and then used the technique of copper electroplating to give them a shiny copper shell.

How difficult is to maintain the piece 'alive' in a gallery environment?

The maintenance is fairly simple, but most galleries not accustomed to nurturing artwork. A dozen crickets take about as much maintenance as a guinea pig; water every couple of days, fill the food bowl every week and clean the droppings up. In *Cricket Call*, the food bowl is

Amy Young
Holodeck, 2007, detail ©

hidden inside the crickets' grand piano and the water is inside the pot containing the tiny houseplant. A piece of sticky tape works well to vacuum up the cricket droppings and dead crickets every few weeks. Living crickets can be purchased at most local pet supply stores, as they are a staple food for pet lizards and snakes. When I purchase the crickets I try to select mostly males because they chirp, while the females are silent. I've also noticed that the females tend to chew on the furniture, which might be because they are in search of moist places to lay eggs.

How did people react to the piece?

People really seemed to enjoy saying hello to the crickets and they often giggled. They also asked me many questions about crickets, concerning their care, lifespan and behaviour, which made me feel that the project was successful. Some of the criticism I received was that I had anthropomorphized the crickets. I certainly can't argue with that, in fact, I have decided to embrace it. Attributing human characteristics to crickets might not be scientifically accurate, but it can help us relate to them, empathize and even consider the possibilities of what has not been discovered yet by science. It was once thought that language and tool use were uniquely human characteristics, but that notion has certainly been challenged by research being done with animals such as Kanzi the Bonobo chimp.

Holodeck for House Crickets moves the insects back to a less-humanised dimension enabling the crickets to have control over their surroundings.

This newer project presents crickets in an artificial natural environment, which includes a chirp-activated video projection. It began with a desire to construct an experience for crickets that would be exciting and interactive for them; kind of like a Disney-land vacation. I considered that the pet store cricket variety, the common house cricket (*Acheta Domesticus*), is adapted to living indoors. It is possible that they would enjoy a trip to the outdoors, but they might also not survive such a dangerous adventure. So the video projected into their environment is designed to simulate the feeling of travelling through a prairie grassland.

Human viewers of this scene can watch, but cannot participate in the interactive element. The sensor is tuned to listen activate the video only when it detects audio frequencies between 4,000 and 5,000 hertz, which are impossible for us to produce with our voices.

Do you think the crickets developed an awareness of their interaction with the projection?

I really wish I knew. I don't see any indication that they understand their chirping has an effect on the video. However, I do see the crickets attempting to leap onto specific blades of grass in the video, so they are seeing *something* in it.

Ultimately, the environment I constructed may not be an ideal one for these crickets and I am very interested in this quandary. Wouldn't House Crickets prefer to be left alone? This would mean leaving them to their fate of being purchased from pet stores to be fed to lizards. In the installation of this art piece I included several products that relate to the typical "care" of this variety of crickets, such as food that is designed to make crickets more nutritious for the pets who eat them and a "Kricket Keeper" house designed for easy dispensing into the aquariums of hungry reptiles. Perhaps House Crickets would rather be let out into their natural environment of people's houses?

This might also lead to their rapid death - either by poisons or by a well-meaning human who captures them and releases them to the outdoors, where they will freeze. Living in a warm glass bubble with artificial rocks, plants and water, an ever-changing video projection and plenty of food and water might a happy medium for them.

Amy M. Youngs *has exhibited her works nationally and internationally at venues such as Springfield Museum of Art (Springfield, OH), Pace Digital Gallery (New York, NY), the Biennale of Electronic Arts (Perth, Australia), John Michael Kohler Arts Center (Sheboygan, Wisconsin), Circulo de Bellas Artes (Madrid, Spain), the Visual Arts Museum (New York, NY) the Art Institute of Chicago's Betty Rymer Gallery, Vedanta Gallery, (Chicago, IL), the San Francisco Public Library, Blasthaus, (San Francisco, CA) and Works (San Jose, CA). Her artwork has been reviewed in publications such as, The Chicago Sun Times, The Chicago Reader, San Francisco Bay Guardian, RealTime and Artweek. Youngs has published several essays, including one on genetic art in the journal Leonardo and another on art, technology and ecology in the international art publication Nouvel Objet in 2001. She has lectured on her work widely, including at the California State University, Long Beach, the Massachusetts Institute of Technology (Boston, Massachusetts), the Australian Center For the Moving Image (Melbourne, Australia) and the Perth Institute for Contemporary Art (Perth, Australia) and has participated in panels at conferences such as the Women's Caucus for the Arts, the College Arts Association and the Biennale for Electronic Arts in Australia. Youngs was an Artist-in-Residence at the Pilchuck Glass School in 2005 and was awarded an Individual Artist Fellowship Grant from the Ohio Arts Council in 2001. She received a BA from San Francisco State University, graduating Summa Cum Laude and Art Student Honoree of her class. She was awarded a full Merit Scholarship to study at The School of the Art Institute of Chicago, where she completed her MFA in 1999. Youngs currently lives in Columbus, Ohio, where she works as an Assistant Professor in the Department of Art at The Ohio State University. She was born in 1968 in Chico, California.*

Amy Young
Cricket Call, 1998 ©

Please visit ***www.hypernatural.com***
Antennae interviewed Amy Young in the summer of 2007 ©

THE ROACH IS US IS NOT US

Catherine Chalmers's American Cockroach photographic work invites us to meditate on the pleasures and terrors of the common domestic pest, Periplaneta americana, also known as the American Cockroach. In three different series of photographs titled, "Infestations," "Imposters," and "Executions," Chalmers challenges us to reconsider how we distinguish between creepy infestation and acceptable nature.
Text by ***Tan Lin***

Catherine Chalmers
Hanging, Gelatin Silver Print
30" x 45" ©

Many insects have fluttered through the art world over the centuries, usually relegated to the margins. Flies hover over cut melons and moths flutter past candle flames in Dutch sixteenth century vanitas still lifes. More recently, strange forms of fowl and fauna have taken up residence in the paintings of Alexis Rockman, and Damien Hirst unveiled his glass box containing flies, a cow's head, and a bug zapper. But for the most part, the world of sex, death, and feeding among insects like hornworms and praying mantises and among animals like tarantulas, cornsnakes, and Argentine horned toads has been largely ignored by the art world. Until Catherine Chalmers came along.

In her first book *Food Chain*, Chalmers meticulously documented a rarely looked at cycle of eat and be eaten. As Chalmers notes, "Today, people tend to deny the obvious fact of death and violence in their world." And this is especially true with regard to animals, which tend to fall into the category of either pests or
pets. Our connection to nature and the animal world has been domesticated. "In the past, animals had a much higher value in peoples' understandings of themselves." With her first book, Chalmers set out to change that. Using a strobe light and camera, Chalmers clinically orchestrated and then documented

the ballet-like encounters between predator and prey. Shot against a pristine white backdrop, Chalmers' mini-Olympiad of feasting begins inauspiciously enough with a group of very green hornworm caterpillars encircling and then voraciously eating their way through a plump tomato-turning it into a watery pile of pulp and seeds in the process. In the next photo, an engorged hornworm is punctured by the mandibles of a praying mantis, who will in turn be snacked on by a tarantula, and so on up the food chain. The ferocious ballet of death ends with a White's tree frog lapping up a preying mantis perched innocently on the frog's head. The immaculateness of her stop-motion choreography of degustation isn't all that surprising, since Chalmers, besides being trained as a painter at London's Royal College of Art, is also an award-winning figure skater.

And now Catherine Chalmers has embarked on a series about what must rank among the least loved insect in the animal world: the American cockroach. Chalmers' new series is entitled *American Cockroach* and her project stars the despised visitant to worldwide households: the American cockroach, a.k.a. the Periplaneta americana, also known as the water bug. Like her earlier photographic work, Chalmers' new series theatrically dissects the life of the prehistoric cockroach and the sometimes-surreal operations of nature that deposited the creature plunk in the middle of modern kitchens and bathrooms. But whereas her earlier work was confined to photography, her new project encompasses video, sculpture, drawing, and still photography as well.

From a phylogenetic standpoint, the cockroach is not a mystery: it is an insect of the suborder Blattaria, having six-legs and a chitinous body. To reproduce, the females lay eggs in an ootheca, a bean-shaped sac from which nymphs are hatched. There are more than 3,500 species. Of these, only ten are officially deemed pests by the World Health Organization. The roach is a scavenger and is remarkably like and unlike its human hosts. Though there are many species of roaches that live in the wild, Chalmers' roaches find their natural habitat in our domestic habitats: under kitchen sinks, in ventilation ducts, under baseboards, in the woodwork between walls, in bathrooms and dens-anywhere that provides the roach with the necessary food, water, and shelter it needs to survive. Like us, the roach is a relatively recent immigrant to America, arriving from western Africa to America in the early years of the slave trade. The American cockroach is remarkably similar to the human hosts it thrives among: it is an omnivore; it scavenges food; it eats a lot of things that surround humans-everything from leftover food scraps to the glue in wallpaper and books. The roach has adapted almost perfectly to live among humans. It is also reviled by the people who make its life possible. When not actively the subject of extermination, the American cockroach is relegated to oblivion and repression. The lowly roach would seem to be an unlikely subject for high art.

In her *American Cockroach* project, Chalmers records the half-imaginary life of the domestic pest known as the cockroach. The roaches are and aren't exactly your kitchen sink generic water bugs-Chalmers orders them from a biological supply company, tends and feeds the creatures, and then gives them roles in a series of elaborately constructed theatrical set pieces which she films and photographs with the solemnity and precision of a family portrait photographer. The results are sentimental and horrific and deeply unsettling. The photographs are not exercises in entomological verite. On the contrary, they suggest the various illusions and dissimulations that plague human beings when they try to picture nature to themselves. Chalmers' photographs, sculptures, and videos transform roaches into a surreal projection of the human psyche, a kind of mythos of the insect that is part curiosity and part revulsion. This is not altogether surprising-Chalmers' earlier series was also about things most humans don't want to see and yet can't take their eyes off of: the cycles of eat and be eaten that rule the natural world and are repressed by humans who, as Chalmers notes, generally like to pretend that the food they eat is not killed.

Where her earlier series located itself on that surreal line between the story of eating breakfast and the story of being eaten for breakfast, Chalmers' new project American Cockroach offers up an ecosystem where the laws of roach life and survival become strange and distorted human manifestations, not so much a biology but a mythology of the common house roach. Her eco-system is at once natural and exquisitely overwrought, seen schizophrenically from behind the lens of a camera as well as shot from the one-on-one perspective of the roach itself. When is a roach not a roach? When it enters the human imagination and becomes the subject of a photograph or a drawing-comprised of roach parts. This is particularly true of Chalmers' spatially and emotionally disorienting videos, most notably Squish, which was shot at roach level and in roach perspective, and is accompanied by a drumbeat soundtrack to the insects rapid scrambling past the camera lens with gravity-defying speed. In this video, along with another video, Burning at the Stake, which features the mock burning of a roach, the viewer comes unnaturally close to empathy: experiencing the uncanny and unreal life-and-death travel times of the roach itself. In a third video, Chamber, Chalmers uses carbon dioxide to incapacitate a cluster of roaches and then waits for the carbon dioxide to wear off. The camera pans back, color slowly infiltrates the film (which began in black and white), and slowly the roaches wriggle their antennae, flip themselves over, and stage their own b-movie resurrection version of The Thing That Wouldn't Die.

In a very large cast from resin, Hanging, Chalmers presents a roach magnified to nearly six feet

Catherine Chalmers
Drinking, C-Print
45" x 30" ©

Catherine Chalmers
Hiding, C-Print
45" x 30" ©

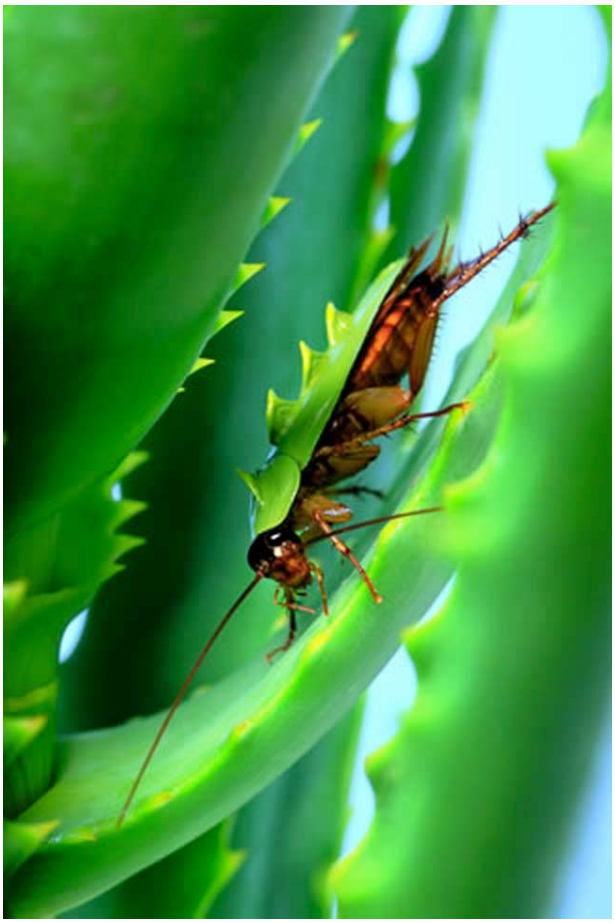
Catherine Chalmers
Sex, C-Print
45" x 30" ©

high-a morphed-up sculptural installation piece that is as much about the mock artificiality of roach disgust as it is about the roach. In another large scale installation piece entitled *Legs*, Chalmers has fabricated four foot long cockroach legs and piled them high on the gallery floor, making the idea of roach eradication a visceral collection of dismembered body parts.

Chalmers' new roach case study photos, shot up close with a 60 millimeter macro lens, subject the roach to some very contemporary fantasias: home décor/gardening á la Martha Stewart; tabloid TV style death-penalty executions; and one new form of sport: extreme pest control. The project is comprised of three different sections - Executions, Impostors, and Infestations - which contains work in a number of different media including drawing, sculpture, photography, and video. The Executions series depicts roaches being electrocuted, hung from miniature nooses, and burned at the stake. None of the roaches in the photographs however was actually burned or executed or hung-in fact, the roaches were already dead by the time they were photographed. In the case of the gas chamber photos, the cockroaches were immobilized with carbon dioxide and woke up a few minutes later. In one photograph from the series entitled *Infestations*, Chalmers photographs 4 or 5 roaches perched around a miniature bathtub sipping sweet banana water in what looks like a still from a kind of dollhouse horror film. What William Wegman did with dogs, Chalmers does with her cockroaches, only her photographs aren't about loved creatures dressed up to look like granny. The photos of roaches invading cute, chintz laden, wallpapered dollhouses and roaches subjected to electroshock style executions are queasy, disquieting, and mordant. They blur the line between human and animal worlds. They suggest psychotropic bug rituals á la William Burroughs. Like the videos, the photos make us see the roach eye to eye. The roaches themselves exude a pseudo solemnity. In the series entitled *Impostors*, insects are given a makeover, embellished with paint and feathers to look like bumblebees, lady bugs, and even fantasy bird-like creatures in photographs that resemble twisted House & Garden photo spreads-designer biogenetic engineering for roaches.

All three series map out a perverse natural phylogeny of the common house roach, a social tableux vivant in which the roaches' milieu is also our milieu, a strange household world where the roach and nature are disguised to look like half-human aesthetic creations. Part of the *Infestations* series includes

Catherine Chalmers
Peacockroaches, C-Print
45" x 30" ©



Catherine Chalmers
Aloesaurus, C-Print
45" x 30" ©

drawings made not with pencil markings but with roach parts glued on paper to resemble inscriptions, mutating biomolecular cell structures, as well as decorative wallpaper patterns. Here home décor, roach extermination, and ritualistic drawing practices come together in unsettling ways that blur the line between insect mortality and human handicraft. In drawings generally devoted to a single cockroach part, Chalmers glues cockroach wings, antennae, and legs respectively to create a hypnotic, cascading pattern on the drawing paper. These body parts, all taken from dead roaches that Chalmers has raised for her projects, appear photographic in their detailing and veining so that once again mimicry rules: only here insect parts mimic photographs as well as lines drawn on paper. In Trophy, Chalmers has mounted the head of a roach so that it appears to be floating supernaturally over the paper, complete with long looping antennae-thus creating a mordant, haunting 3-D trophy piece on the perils of small game extermination. In series of four drawings that Chalmers refers to as Pesticide drawings, Chalmers pastes various roach parts into the molecular structure for Chlorpyrifos, the chemical compound used in a number of roach insecticides, immortalizing the eternal chemical substances used to eradicate the common cockroach.

The photographic nature shots carry something of the eternal and the taboo about them. Chalmers' immediate precursors are the surrealists: Max Ernst, who depicted humans with insect heads in his collage novels, as well as André Breton and Roger Caillois. In an essay entitled "Mimicry and Legendary Psychathenia," Caillois described the psychotic ability of the praying mantis to mimic its surroundings perfectly, thereby losing all sense of boundary between self and other, between animal and surroundings, between figure and ground. Likewise, in his essays on convulsive beauty, Breton focused on the mimicry of coral reefs and also moths, which looked to Breton like, respectively, classical statuary and a predator's eyes. Chalmers' works are no less surreal in their mimicry; they conflate human desire with the ravenous but no less desiring world of insects and animals. Her photographs are close-ups of the place where human and insect desires become one. Not surprisingly, the photos subject the common roach to acts of violence, decorousness, and sublimation that would make most people wince. The photos are allegories rehearsed in the insect kingdom: each series tells a story-the systematic extermination of a species and hence references of a historical nature such as lynchings in the American south and the Holocaust. In other photographs, the elaborate staging and Day-Glo colors suggest a kind of perverted insect version of a David

LaChapelle fashion spread. Other photos tell a story too-of how humans see roaches as highly unfashionable pests but regard insects such as ladybugs, bumblebees with something that borders, just as perversely, on affection. In a photo where a roach has had bits of peacock feathers pasted to its back, mimicry, a tactic used by insects to both hide from predators and capture prey, is rendered as a kind of repressed nightmare wherein something ugly is transformed to look like something beautiful. Enter the strange, mythological ecosystem of the roach were ugliness and beauty are hard to tell apart.

Chalmers' photographs straddle two worlds. In her photos, roaches become almost affectively human and almost beautiful. The photographs are at once natural and antiseptic; they offer up hyper-realist depictions and time-lapse photo narratives along with brutal stage props such as mock electric chairs or nooses, and a lush color scheme (in Impostors and Infestations) that would make your average interior decorator blush. In this manner Chalmers' work unveils the varying and contradictory aesthetic responses of human beings to the natural world.

By 2003 it should be clear that nature is an aesthetic construct and that nothing, especially nature, is natural. Humans see what they want to see and the things they don't, they aestheticize into things quite unnatural. Chalmers' new photographs are exercises not so much in the surrealism of nature but in the surrealism of human beings' desires for and repulsion by the natural. The elaborate and kitschy staginess suggests just how hard it is to see nature straight. As Chalmers noted, "the photographs stage sentimentality and horror." Nature photographed becomes nature perverted, nature sentimentalized, nature repressed, or nature re-told. The photographs are minor miracles of biogenetic engineering achieved by marrying stagecraft with photography, video, and drawing. Together, these works cumulatively suggest the artifice and theatricality of still-life photography and art in general-and in that way they suggest how unnatural the human relation to nature actually is.

Catherine Chalmers
Bumble Beetle, C-Print
45" x 30" ©

Tan Lin *is a writer, artist, and critic. He has written Lotion Bullwhip Giraffe (published by Sun & Moon Press). His visual and video work has been exhibited at the Yale Art Museum (New Haven), the Sophienholm (Copenhagen), and the Marianne Boesky Gallery (New York City). His writing has appeared in a variety of contemporary literary and cultural journals, including Conjunctions, Purple, Black Book, and Cabinet. He is a professor of English and creative writing at New Jersey City University.*

AN INTERVIEW WITH CATHERINE CHALMERS

Antennae interviewed Catherine Chalmers to understand how we determine some creatures to be lovable and others best squashed under a shoe.
Questions by ***Chris Hunter*** *and* ***Giovanni Aloi***

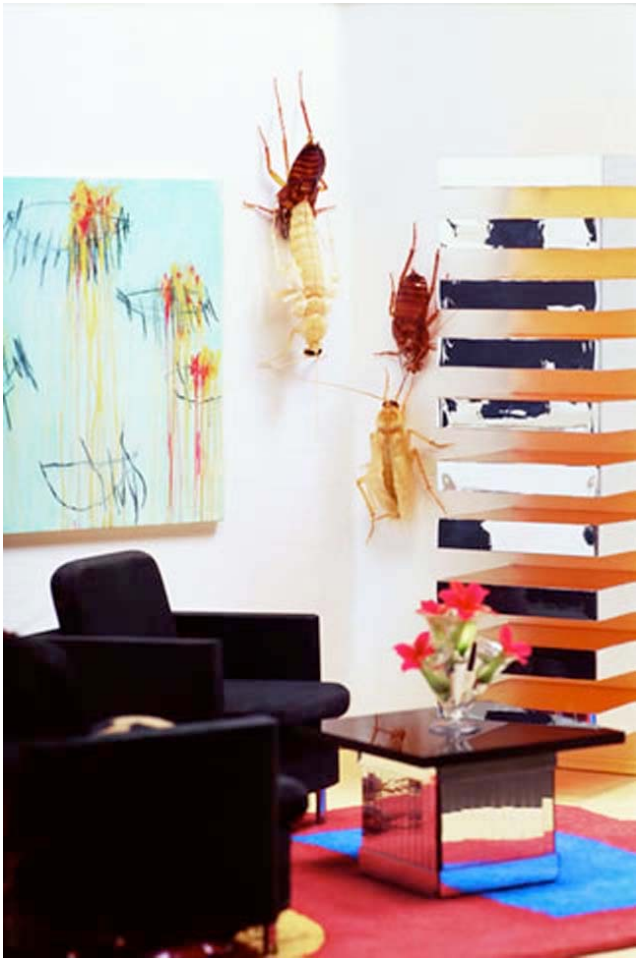
The rat; the pigeon; the cockroach. Some urban animals seem to be stigmatized whilst others, say, the squirrel, the sparrow and the ant have much better PR. Why such selective demonization of certain species?
We build dwellings to separate and protect ourselves from nature and we don't really like uninvited guests to cross the threshold. Roaches run around at will and challenge our belief that we can control our environment. In general we tend to abhor animals that scavenge around us.
Yet, our preferences are fluid and often shift considerably. The wolf, long a symbol of the devil with a hefty bounty on its head, is being reintroduced to the western U.S. at a cost of nearly one million dollars per animal. The wolf hasn't changed, but our aesthetics of what we want nature to be has.

Is the cockroach's image problem a matter of aesthetics? The 'Impostors' section of the work presents beautified cockroaches. If cockroaches were 'cuter' do you think people would be less apt to see them as a symbol of literal and moral decay?
I think so. And conversely, if ladybugs, for example, looked like roaches, we might even despise the one insect we actually like. Unfortunate for the roach, it embodies some of our least-favored characteristics. They're spiny, crunchy, and twitchy, they out number us and they don't share our values.

In the film Blue Velvet a large black insect is used to represent the violence and deviancy that bubbled just beneath the surface of quaint, small town America. In the end David Lynch underscored the triumph of good over evil in a scene in which the 'ugly bug' is devoured by a bird. In your own work, cockroaches invade perfect scenes and are oversize in rich upscale settings.

Catherine Chalmers
New Adult, C-Print
45" x 30" ©

Are these, too, being used a critique of the middle class and wealthy in the US?
Absolutely not. The Resident series is a behavioral study of the cockroach illuminating key aspects of its life cycle, such as birth, eating, molting, and mating, that we rarely see even though they take place in our own homes. The American cockroach, a.k.a. water bug, is



Catherine Chalmers
Molting, C-Print
45" x 30" ©

Catherine Chalmers
Hanging
Resin, Rubber, Rope, 6' High ©

no longer found in the wild – where we live is now its natural habitat.
The rooms I built for them reflect the behavior I was trying to capture. Eating in the kitchen, sex in the bedroom, and molting in an art collector's living room. Molting is a surprisingly beautiful, yet eerie process, transforming the roach from a dreaded, uncomely brown bug, to a delicate, translucent white one. It is nature meets art and performance.

In 'American Cockroach' is the insect in question meant to portray Americans themselves? Are you representing stereotypical American lifestyle with the roles played by oversized insects? Or are these meant to be more like invaders swarming an ideal?
There is nothing inherently American about the American cockroach. Periplaneta americana was misnamed by Linnaeus and is believed to have come from Africa like us. As we colonized the globe, the American cockroach has followed in our wake.
Maybe the question is – who is swarming what ideal?

We couldn't help but notice that one of Donald Judd's pieces is featured in one of your images. Is there a meaning to the inclusion of this specific work?
The artwork in the living room photographs has a visual relationship to the roach and/or the molting process. There is also a Robert Motherwell, Brice Marden, Ellsworth Kelly, and Cy Twombly.
Underneath its dark brown wings, the roach is a beautiful translucent amber, similar in color to the Judd stack. Motherwell's "Elegy to the Spanish Republic" is a repetition of roach shapes, as if a room is infested with bugs. The scurrying lines of the Marden painting look like trails of running roaches. Kelly's two elemental shapes of a circle and square remind me of the transformation between two fundamental states of life - juvenile to adult. And the paint splatters dripping from roach shapes in Twombly's Lepanto painting look like a roaches dropping out of their skins.

Scale is obviously a theme in your work, from the giant roaches drinking from the bathtub to the monstrous, and dare we say beautiful, sculpture. What are you trying to convey through the size of your subjects?
Size is significant in nature. If an animal is large enough to eat you, you tend to give it more credence. If it's small enough to step on, one usually does with

impunity. The usual predator prey relationship can easily reverse itself depending on which animal is larger.

Have you ever had cockroaches invading your own living space?
Invade, no. Fortunately.

How did you technically realize the sets for your images?
I'm a fan of Elmer's Glue, and so are the roaches.
The garden sets are more fun, but tricky to keep alive.

The showbiz adage is 'never work with children or animals'. Any stories regarding cockroach wrangling?
Advice for roach wranglers - have lots of Vaseline on hand (they can't climb vertical surfaces slimed with Vaseline) and make sure never to build a set larger than the refrigerator if you have any desire to get the bugs back out. Ten minutes in the cold slows them down enough to give a human the upper hand. If the set is open, keep them calm. If one roach panics, they all panic. And if you don't give them adequate cover, they will fly off the set, which is really disturbing.
Besides that, it takes nerves of steel, and the ability to suffer through weeks of unsettling dreams.

One of the three parts of the project is titled 'Execution' and features images of cockroaches hanging from gallows and dying in electric chairs. Are you implying that capital punishment is a way of equating human life to that of a lowly insect?
No. The Execution series is not about the suffering humans have endured at the hands of humans, but what other species have endured at the hands of humans.

Are you impressed that we made it through this interview without any reference to Kafka?
But he's so much fun…

Catherine Chalmers
Lady Bugs,
C-Print, 45"x30" ©

Catherine Chalmers *was born in San Mateo, California, in 1957. Before she received an MFA degree in painting from the Royal College of Art, London, Chalmers earned her BS in engineering from Stanford University. Chalmers's photographs have recently been exhibited at the Ansel Adams Center for Photography, San Francisco; New Museum of Contemporary Art, New York; Reykjavik Municipal Art Museum, Iceland; White Columns, New York; and the Yukon Arts Center, Whitehorse, Canada, among others. In 1999 her work was featured in the exhibition The New Natural History at the National Museum of Photography and Film, Bradford, England.*

Catherine Chalmers was interviewed by Antennae in August 2007©
Tan Lin's essay 'The Roach in Us is Not Us' is here re-printed by permission of the author.

THE UNHOLY INSECT

Nicky Coutts takes us back to the Middle Ages to discover a range of insects whose presence was very closely associated with death

Text by ***Nicky Coutts***

During the Black Death, mass open graves or dumping grounds were a common feature of the medieval landscape. Simon Schama notes that 'the borders between backyards and boneyards had collapsed'.[1] Everywhere were unburied bodies that relatives and friends were either too afraid to bury, due to risk of contagion, or were physically unable to attend to being afflicted themselves. With up to one third of the European population wiped out by the plague, the physical appearance of those affected, dead and dying undoubtedly heightened familiarity with the varying stages of human decay and the central role of insects in this process. Although the sight of a rotting cadaver was more familiar in the medieval era than today, the scale of the tragedy encouraged a revision of how the corpse and, therefore, the parasitic insect was accommodated within the religious and social structures that prevailed.

The burial of victims of the plague in Tournai, fourteenth century

The frenzied activity depicted in The burial of victims of the plague in Tournai dates back to an early stage of the Black Death when attempts were still being made to bury the dead. However, the loss of this simple comfort and accompanying blessings inevitably troubled perceptions of the reliability of the Church and all it represented.[2] The priesthood was hit particularly hard because of their frequent contact with the dying when delivering blessings. The fact that a disproportionate number of the 'good' were dying in droves must have been confusing for the faithful, contradicting predicted rewards and reprisals for repentance and sin. They felt let down by a Church that appeared to surrender everyone to their fate, powerless to help or ultimately to comfort afflicted individuals, as disease continued mysteriously to spread and consume.

Anxieties and conflicts of the time were reflected in controversies over how the plague was caused. Although it was eventually understood that the disease was contagious and easily passed from one human being to another, its source was widely disputed. In England explanations ranged from collisions of hostile planets to a sudden accumulation of the sins of men. A popular idea, combining religious, pagan and superstitious beliefs, was that the Black Death was caused by the 'miasma'. The 'fatal miasma' was believed to be the muck of man: vaporised offal and sewage, rising from ditches and swamps to form a dank curtain which hung over the earth breeding contagion. It was thought first to rise towards the Heavens only to be returned to earth later with interest. In the mid-fourteenth century fear of the miasma often resulted in the belief that to remain healthy areas of stagnated air should be avoided. Brothels and butchers were regarded with suspicion because it was believed that the pungent fumes and dangerous odours they emitted caused disease. Protection from the miasma was often sought in the form of small packets of herbs and potions. However,

despite the additional presence of pagan belief and remedy, it was generally held that, if it were God's will, no concoction would be of any use whatsoever in warding off the ravages of the plague.[3]

Characteristic of the belief system during the Plague years, therefore, was a melting pot of influences that began to infringe on the dominance of an all-powerful Church. This gradual erosion created anxieties which paralleled and fed into tensions resulting from the ever present threat of war in medieval society. In a definition of the Crusades, or Holy Wars, that raged throughout this period and beyond, it is stated that

Medieval churchmen knew that it was impossible to stop the violence of medieval society; instead, they tried to harness it to Christian ends.[4]

However, accommodating violence in the heart of a religious system inevitably gave rise to further conflicts within the Church. This pressure needed to be vented somewhere and the human body became a site where some of these anxieties were contested. The Cathars, for example, were a minor, yet highly influential sect opposed to a central doctrine of the Catholic Church: namely, the belief in the whole and incorrupt nature of the Body after death. Conversly, an image of rotting and festering flesh was central for the Cathars. They further believed that, not only the Body, but all physicality was an abomination and, for them, the plague tended to confirm what they already believed. All visible things in the Cathar's world were thought to be created by the power of evil emanating from the Devil. After the soul had departed, the Body was thought to revert to pure diabolical matter. From the perspective of the Cathars, therefore,

The creation of humankind was a disaster, in which angels who were pure spirit fell from Heaven and were trapped in bodies.[5]

Even the institution of marriage was thought to be damnable because procreation only perpetuated the cruel imprisonment of spirit in flesh.

This rift between the Catholic Church and the Cathars is apparent in a series of events that took place in the small Italian town of Orvieto dating back to the end of the twelfth century. The town was thought to be under the influence of the Cathars, so a young Catholic, Pietro Parenzo was sent in to eradicate heresy. He was promptly murdered and the Cathars were blamed. The Catholic Church displayed his body in the cathedral and were delighted when it gave off a faint, but sweet, odour. Shortly afterwards, a pilgrimage to see Parenzo's body, which, according to the Catholics was not decaying at all, was interrupted by a joint of rotting meat being hurled at the passing procession. This act could be interpreted as an engagement, on the part of the Cathars, with what they perceived to be the corrupt inter-relations of ecclesiastical and secular power with the Body Politic as the zone of contention. The Cathars' attack was mounted deploying a symbol of disappearance and fragmentation. The airborne 'body part' – reputedly crawling with maggots and worms – represented an attack on the cohesion of Catholic belief and its supporting systems. The heresy of the Cathars was itself perceived as a disease eroding the Body of the Church from within. They categorically dismissed the idea of goodness being qualified by solidity and wholeness of form, believing that the just fate of man was disintegration.[6] The Cathars, embraced the idea of the miasma. A fog of human detritus rising up only to rain down from Heaven on top of the fallen angels was a fitting end to the imprisonment of the spirit in what they considered to be its disgusting human form.

By the mid-1300s, however, the Catholic Church was forced to acknowledge that the human body, pious or otherwise, rots after death in an unsightly manner. Ubiquitous piles of rotting corpses served as evidence that could no longer be ignored. However, not only were the dead seen to be invading the spaces of the living during the Plague years, but the living were also seen to be invading the spaces of the dead. Insects in their seemingly infinite varieties of form were witnessed writhing, teeming and feasting on decaying human remains, threatening not only the external but also the eternal wholeness and integrity of the human body. The horrific sight of insects at work on the infectious dead inevitably undermined the Catholic Church's distinction between life and afterlife. Mind could no longer prevail over matter. The cohesion of the Body in the afterlife, as an ideal, could no longer be sustained.

Historians of the period have recognised the importance of this transition. Describing the period of 1000 - 1300, when the Catholic Church was immensely strong, Anthony Alcock states:

"Never in the whole history of the world did so many believe so firmly in so many things the authority for which they could not test"[7]

However, Katherine Cohen goes on to state of the period that directly followed:

"This was a time of anxious dualities, hair shirts were worn beneath gorgeous brocades and cut velvets. Lavish feasts and debaucheries were followed by excesses of piety."[8]

Whereas Alcock suggests that there could be danger in a system that endorses unsubstantiated belief, for Cohen, clearly, oppositions could be acknowledged but remained unresolved.

There are two consecutive forms of imagery during this period in which insects feature prominently, paralleling the transition from the world Alcock describes to that of Cohen. First came memento mori imagery. Statues such as The World Tempter or Prince of the World and his female counterpart Frau Welt, relay the stringent demands on moral behaviour tha

(left & right) The World Tempter or Prince of the World, Nuremberg. c. 1310

were being made by the Church in order to fend off or deny anxious cracks in the belief system. Second came the Transi tombs, where these breaches were more evidently exposed.

The theme of the Tempter statues was the conflict between good and evil; between the temptations of the world, which could lead away from the Church and pious obedience to God. The World Tempter (fig. 2) was depicted as a handsome prince, usually crowned, holding an apple or a flower, symbolising the transient joys of the living world. His association with the Devil is only apparent when viewed from behind; his back is riddled with stylised and generic insects and also worms, frogs and snakes.[9] Carved and placed at the Cathedral of Worms, Frau Welt, similarly, symbolises the deception of the world. Again, she is beautiful from the front, but is found to be infested with devouring creatures when viewed from behind. Associated with the figure of death, Frau Welt is described by a twelfth century preacher 'Weltdienst ist Teufelsdienst' – whoever serves the world will receive as payment her daughter who is eternal death, damnation.[10]

The Tempter figures conflate insects and reptiles with the Devil, deceit, worldly desire and eternal death. The agent which, paradoxically, keeps death 'alive' is typically represented as the writhing image of the insect. The statues echo the words of Ecclesiasticus 10

…when a man dies, he comes into an inheritance of maggots, vermin and worms.[11]

The warning evoked by them is clear: those who display the potential for deserting God pose a contagious threat to the pious. In a single statue, two faces are represented, one good and the other evil, allowing the statue as a whole to be interpreted from two oppositional, potentially misleading perspectives. The Devil could be borrowing the face of God to deceive the onlooker, or God could be displaying the trappings of the Devil in order to instil fear in those who doubt his power. The two vantage points work towards a similar end. It may be, in fact, because the trespass of Heaven into Hell and vice versa constituted no real threat to the central message of the image that these overlaps, this masking and borrowing, was so rife and was set to augment and continue.

Following the Black Death, representations of the insect began to evoke a conflation of the presence of the Devil as a consequences of human sin with a secular understanding of what physically happens to the Body after death. The Cathars' beliefs were apparently endorsed by the insect's association with the Devil and the visual world.

Matthias Grünewald painted Dead Lovers after he witnessed the advanced effects of physical decay and disease at the monastery of Isenheim, which was a hospital during the artist's lifetime. The graphic depiction, in minute detail, of flies, snakes, frogs and beetles devouring the bodies of the seemingly 'undead' lovers demonstrates Grünewald's complex vision of nightmare and euphoria.[12] His portrayal of insects contributed to a sense that they were both real horrors – live monsters of this world – and messengers, symbolic of the Devil's designs, indicating the agonies and the ecstasies of sinful liaisons.

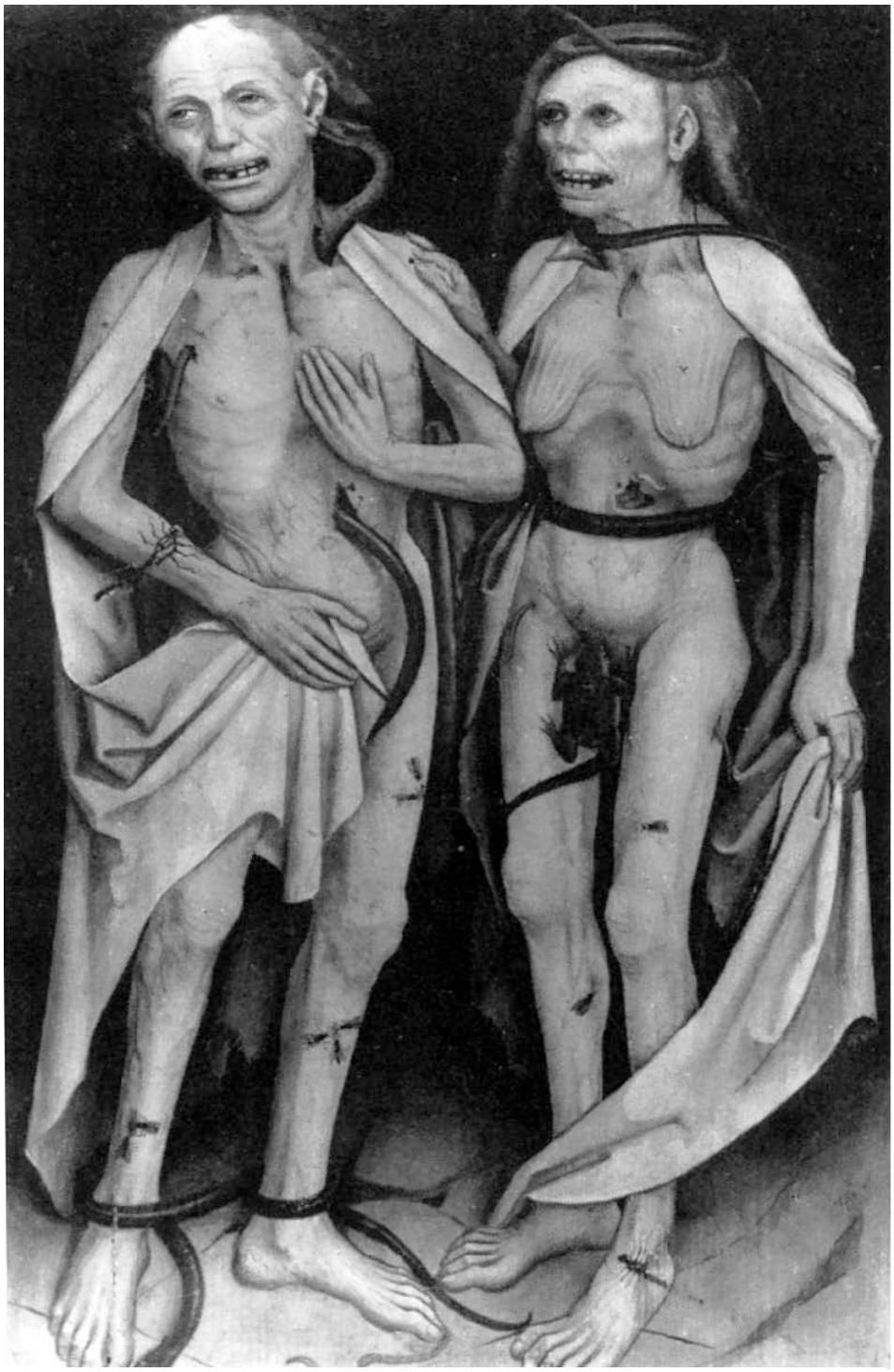
In his collection of writings,Visions of Excess, Georges Bataille, who admired the work of Grünewald, describes 'the sacred' in the following terms: Christianity has made the sacred 'substantial', but the nature of the sacred, in which today we recognise the burning existence of religion, is perhaps the most ungraspable thing that has been produced between men: the sacred is only a privileged moment of communal unity, a moment of the convulsive communication of what is ordinarily stifled.[13]

For Emile Durkheim the sacred is the object of community worship. It can be recognised by rules expressing its essentially contagious character.[14]

The anthropologist Mary Douglas adds that

… the sacred is essentially fluid and needs to be hedged in by prohibition …it must be treated as contagious.[15]

For all three, the sacred has the potential to infect what surrounds it and can only be accessed during a



Matthias Grünewald, Dead Lovers, c. 1480

fleeting moment of consent. The viewer is aware of seeing what should not be seen in Grünewald's image, but the danger implicit in this moment of recognition simultaneously threatens to deny access to what is desired. The sacred is, therefore, defined both by its elusivity and also by the desire of a collective audience to unmask it. In a similar way to violence finding sanctuary at the heart of religion, a contagious substance can be glimpsed at the heart of 'holiness'.

The urge to preserve Heaven and Hell as separate realms was at the core of Catholic teaching in Medieval Europe. The Bible Peter 1:16 states, 'Be ye holy for I am holy', meaning 'be ye separate'.[16] The scriptures of Leviticus 11:2-42 and Deuteronomy 14:3-20 sought to preserve these separations through the prescription of classification, ceremony and ritual. Boundaries were defined beyond which there should be no trespass. For instance, the Old Testament maintains that cows must not be interbred, fields must not be sewn with two kinds of seed and garments must not be made from more than one type of cloth. 'Holiness' derives literally from 'wholeness'; completeness, segregation. Classifications were not to be confused. All who came into contact with hybridity would become unclean, contagious and be met with rejection from the prevailing social and religious

system. Mary Douglas maintains that holiness should not be confused with morality, as it is concerned more with

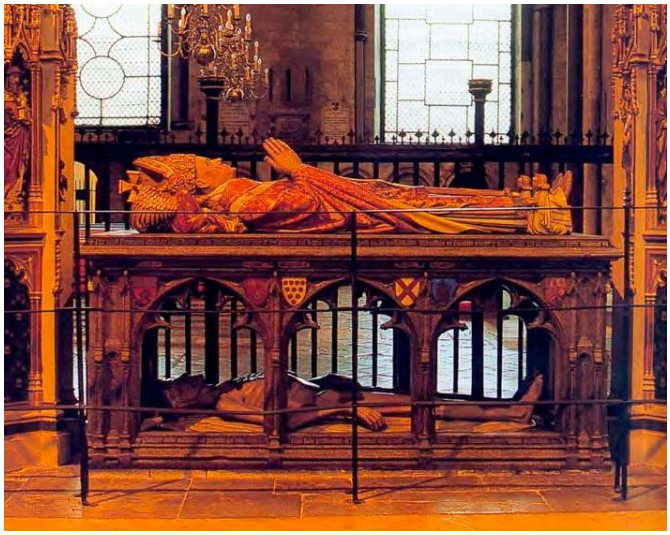
…that which should be separated than of protecting the rights of husbands and brothers.[17]

She infers that holiness has no direct relationship with the moment, with social change or with individual need. In fact, it has no intrinsic relationship with change or adaptation at all. Indeed, as Douglas claims, purity – which is advocated by holiness – is 'the enemy of change, of ambiguity and compromise'.[18] It follows that human perception of the insect places it in clear opposition to the idea of holiness. The insects', association with transformation, ambiguity and compromise during the Plague years, subsequently could only be perceived in a negative opposition to clarity, separation and purity.

The difficulty of fitting the insect into systems of classification is apparent in the Bible. Having first appeared in the book of Genesis, the scheme for a three-fold classification system is adopted in Leviticus . The insect was at a clear disadvantage in a system that sought clarity and definition: its many-legged, multiple-eyed appearance offered little to simple designation. In addition, its means of locomotion was found to be particularly offensive to these requirements. Leviticus states that any class of creature that was not properly equipped for movement in its element was deemed unholy and therefore unclean to eat or even to touch. For example, winged insects were subject to a similar fate as unwinged birds, because their means of movement was 'wrong' for their kind. Deuteronomy. 14:19, the New Revised Standard version reads, 'And all winged insects are unclean for you; they shall not be eaten.' In the 1611 translation of the Bible this is made even clearer as the same verse refers more specifically to the insect's inappropriate and unappealing means of movement: 'And every creeping thing that flieth is unclean unto you: they shall not be eaten'.[19]

During the early years of the medieval period, these Old Testament values of holiness and purity were pitched against more immediate concerns and experiences of disease and worldly temptation. The premise that aberrations of type were an abomination and would be met with exclusion or even harsh punishment inevitably influenced perception during the period to follow. During the Black Death, the indeterminate movement of parasitic insects, creeping, crawling and swarming amongst the dead, would have been experienced as a profound and abominable offence against deeply held principles of separation, clarity and holiness: their appearance a portent of an apocalyptic breakdown of the realms of the sacred and profane.

Dangerous passage, the insect and the Transi tomb



The Transi tomb of the Archbishop Henry Chichele in Canterbury Cathedral, 1443

Transi tombs depicted a separation of the fair from the diabolic appearance of the corpse, previously conjoined in the Tempter statues. Transi tombs generally combine an idealised depiction of the cadaver just after death together with a secondary representation of the same body after it has been buried for some time and has been partially devoured by insects and worms.

The certainty of an afterlife was challenged by the familiar appearance of decaying flesh during the Plague years. Insects on Transi tombs represented a scurrying army of evil, worldly soldiers blocking the path to salvation. They were both from and of the earth, believed to be both spontaneously generated and yet sent from the Devil. The dangers of passage from one world to another were there for all to see. Movement, transience and transformation from one state to another, from life through to the afterlife, appeared to be promising not eternal life, but the possibility, and indeed probability, of eternal death.

In Purity and Danger, Douglas explores the dangers of passage with reference to Van Gennep's sociological study of transitory states in Rites de Passage (1909). He saw society as a house with rooms and corridors in which passage from one to another is dangerous. Danger lies in transitional states, simply because transition is neither one state nor the next, it is undefinable.[20] The word 'Transi' literally derives from the Latin verb, 'transire', 'ire': 'to go'[21]. It indicates unresolved passage, or purgatory, focusing not on destination or arrival, but the indefinable state or place of transition proposed by Douglas. In Simon Schama's account of the Black Death, he quotes a monk's reminiscences that allude to a frustration of categories upon which he feels he can no longer

depend. He emphasises the breakdown of cause and effect, the passage between one dependable state and another:

There was in those days death without sorrow, marriage without affection, want without poverty, flight without escape.[22]

Schama adds,

…everything that had been taken for granted became suddenly questionable.[23]

The first function of the Transi tomb, therefore, may have been to question how the decay and disintegration of the Body after death could be reconciled with the idea of eternal life and salvation, requiring as it did the continued wholeness of the Body. Previously, when the Tempter statues were made, memento mori imagery was of greater significance. The story of The Quick and the Dead was a popular tale and source of imagery at this time, reminding the beholder of death and urging him to behave morally.[24] It is implied within the tale that the hideousness of decay and disintegration could be avoided or lessened by good behaviour whilst living. For observers of the Transi tomb, by contrast, there was no such available recompense. Closer to a lament for the safe passage of the deceased through to the afterlife than a moral lecture intended to inspire more pious ways amongst the living, the Transi tomb evoked doubtful hope, harnessing the contradictions of its time into a clear yet confrontational form. Onlookers were merely witness to a plea for preservation on this journey away from life, for mind to still prevail over diabolic matter. The Transi tomb represented an erosion of belief. Protection was sought from the insect parasites that threatened to bar the way to heaven, tearing all symbolic vestiges of wholeness into fragments.

[1] Schama, S, A History of Britain, at the Edge of the World? 3000 B.C. – A.D. 1603, London: BBC World-wide Ltd., 2000, p. 240
[2] Minor roles that had previously always been performed by priests began to be undertaken by the laity. Sects such as the Lolards also began to mumble the Bible in English, rather than Latin, for the first time. The Bible was, therefore, available to more people; religious order was finding itself subject to an enforced 'democracy'.
[3] Schama, pp. 230-235
[4] Wuthnow, R, (ed.), The Encyclopaedia of Politics and Religion, Vol. 1, London: Routledge, 1998, p. 203
[5] Lansing, C, Power and Purity, Cathar Heresy in Medieval Italy, New York, Oxford: Oxford University Press, 1998, p. 4
[6] Ibid., pp. 3-5
[7] Alcock, A, A Short History of Europe, 'The High Middle Ages: The power of the papacy 1000-1300 AD', London: Macmillan Press Ltd, 1998, p. 76, quoting Crump, C G, The Legacy of the Middle Ages, Oxford: Claredon, 1926, p. 25
[8] Cohen, K, Metamorphosis of a Death Symbol, The Transi Tomb in the Late Middle Ages and the Renaissance, Berkeley, Los Angeles, London: University of California Press, 1973, p. 58
[9] Insects, snakes and worms, in effect all creatures that fed on cadavers, were to a large extent conflated in medieval perception. In the case of the Tempter statues, similarly, all parasitic creatures were considered abominable vermin. Cohen p.12
[10] Ibid., p. 81 A further reference for this quotation: Schönback, A. F., Alt Deutsche Predigten, Graz: I, 52, 1886-1891, which shows another representation of Frau Welt, as a beautiful woman whose lifted skirt shows her withered legs ringed with snakes.
[11] The Apocrypha, New English Bible, Cambridge: Oxford University Press, 1995
[12] This aspect of his work was later to be of great influence to the Surrealists, reconstituted in imagery produced by artists such as Salvador Dali and Luis Buñuel.
[13] Bataille, G, Visions of Excess, Selected writings 1927-1939, 'The Sacred', Manchester: Manchester University Press, 1985, p. 242
[14] Douglas, M, Purity and Danger, An Analysis of Pollution and Taboo, London, New York: Routledge, 1966, p. 21
[15] Ibid., p. 22
[16] Ibid., p. 51. The Bible, New Revised Standard version, Anglicised edition. This remains used unless otherwise stated.
[17] Douglas, p.54
[18] Ibid., p. 55
[19] The Bible, Authorised version
[20] Douglas, p. 97
[21] The word 'Gisant' is sometimes used in place of 'Transi', meaning any recumbent sepulchral figure, living or dead. 'Transi' is more specific, see main text.
[22] Schama, p. 230
[23] Ibid.
[24] Originating in Northern France in the late thirteenth century, the story of The Quick and the Dead tells of three corpses who address three young men reminding them of what they will become. The most severe warning comes from the corpse who is most decayed: 'I was like you, and you will be like me'. The story was translated into most European languages and regional versions developed, which were likely to have influenced visual works throughout the Middle Ages. Schama, p. 238

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'The Unholy Insect' *is a 'departure' from* ***'Portraits of the Nonhuman – Visualisations of the Malevolent Insect'*** *originally included in* ***'Insect Poetics'*** *published by Minnesota Press*

INSECTS AS ART LOVERS: BEES FOR VAN GOGH

The visual aesthetics of animals, and the ways they perceive the world, often differ fundamentally from those of humans. A biologist's view is that these differences have, at least in part, evolutionary roots. In an attempt to provoke thinking about the subjectiveness of visual appearance, and its biological relevance, a biologist and an installation artist got together to launch a Sci-Art project in which bees were confronted with a series of paintings highly appreciated in Western society, such as Van Gogh's Sunflowers.
Text by ***Lars Chittka & Julian Walker***

"Where the bee sucks, there suck I …"

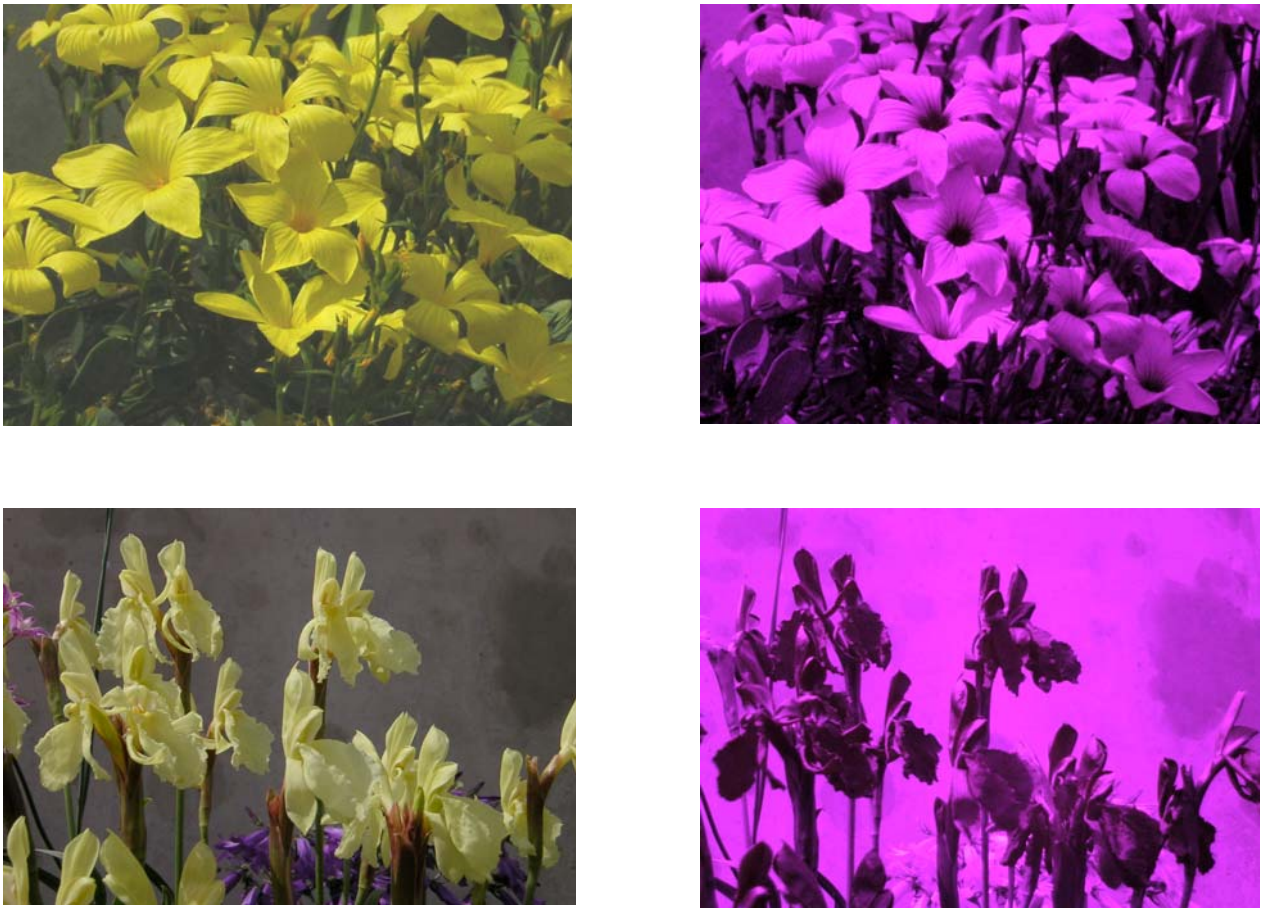
William Shakespeare 1564–1616 (From: The Tempest)

A "Colour and Design" symposium of the Linnean Society in 2003 was dominated by physicists and artists. Yet, colour is neither purely physics nor a domain of the arts: it is, to a large extent, biology. The coloured world we see is not the real or the physical world – instead, the colours we perceive are filtered through the specific sense organs that we have acquired in evolutionary history. Colour vision systems differ widely between different animal species, and the reason is that different aspects of the coloured world are biologically relevant for different species. Our goal was to raise appreciation of this fact in an audience not specifically trained in the biology of vision, and to use live bees' attraction to a series of paintings as a vehicle towards this goal.

The insight that flowers (and their colours) have not been created solely to please us humans dates back to the 18th century. The history of that discovery is a healthy lesson for those who think that science in the olden days was less riddled by competition and strife. The idea that flowers are in fact sex organs, designed to attract the services of pollinators, is commonly attributed to Sprengel 1793, who entitled his book "The uncovered mystery of nature...". When Goethe heard of Sprengel's progress with that book, he forged ahead at full speed to publish his own botanical work. Goethe won the race, and published his book in 1790. His work ended up with a strongly different focus, and what Goethe offers on flower colouration (e.g. that floral colours are caused by the contaminating influence of male seed in the petals) shows he would have done better to leave the field to Sprengel. However, Sprengel himself was no little innocent: more than 30 years before him, Kölreuters noted that "... anyone who had made these observations, would have much earlier discovered them [the causes of pollination in the activities of insects], and would have ... *removed the curtain from this mystery of nature*" – which shows that Sprengel did not only borrow a key idea from Kölreuters, but that in fact the very title of Sprengel's volume stems in part from Kölreuters' original wording.

Flower colours are clearly important signals to bees, since flowers provide bees with nectar and pollen. But how do insect pollinators see colours? In 1874, Lord Rayleigh pointed out that 'The assumed attractiveness of bright colours to insects would appear to involve the supposition that the colour vision of insects is approximately the same as our own. Surely this is a good deal to take for granted'. Lord Rayleigh was right: in 1924, Kühn discovered that bees see ultraviolet light, and in subsequent decades a wealth of information has been collected on how bees process colour information. Bees (including the familiar bumblebees and honeybees) have three colour receptor types, with maximum sensitivities in the ultraviolet (UV), blue, and green. Brightness, a parameter so fundamental to our own visual experience, has a relatively minor role in bee colour discrimination. But bees use a single colour receptor, the green receptor, for detection of flowers from a longer distance.

Old world primates, including humans, have three colour receptor types (typically called blue, green and red receptors). The light sensitive pigment of human photoreceptors has some sensitivity to UV



David Pye & Lars Chittka
A series of flower species as seen in the visible light (left) and in the ultraviolet (right) which bees but not humans can perceive. ©

light, but such radiation never reaches the retina because it is absorbed by the lens. C. Monet (1840-1926), an avid painter of flowers, had the lens removed from his right eye in 1923 due to cataract, and would therefore have been able to see UV patterns of flowers.

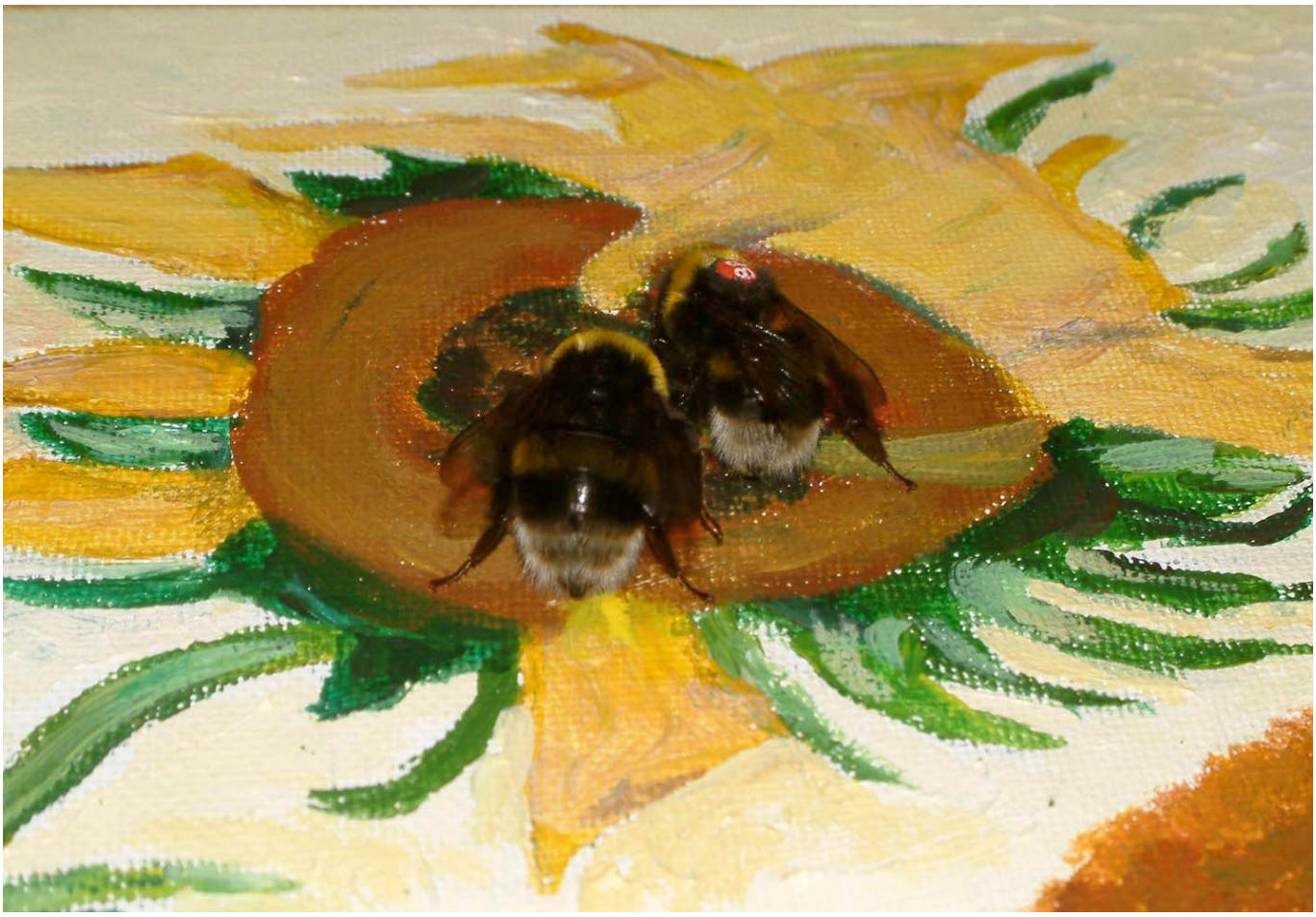
It is thought that the mammalian ancestors of primates had only blue and green receptors, and that the red receptor is an adaptation to frugivory. Flowers do not play a major role in the diet of humans and other primates; the biological significance of human attraction to flowers is discussed later. It is clear from the above, however, that there will be differences both in perception and in meaning for human and bee observers of floral colours – and that perceptual differences have evolved alongside the biological significance of the objects in question.

The authors of the current article, a biologist and an installation artist, were drawn to each other's work by the fact that bees and people obviously are both drawn to flowers, and that one of the most obvious ways that humans express this in western culture is by creating and appreciating paintings of flowers. By presenting such paintings to bees, we hope to address people with an interest in colour (but not necessarily a training in the biology of colour vision). We hope to stimulate thinking about the fundamental philosophical issue of whether perception reflects reality, about the nature of the image as object, and about the biological meaning of colour for different receivers.

What are bees favourite paintings?

We chose reproductions of two paintings that contained flowers, and two that didn't. These were: Vincent Van Gogh "Sunflowers" ((c) The National Gallery, London), Paul Gauguin "A Vase of Flowers" ((c) The National Gallery, London), Patrick Caulfield's "Pottery" (Tate Gallery, London; (c) Patrick Caulfied 2004. All rights reserved, DACS) and Fernand Leger's "Still Life with Beer Mug" (Tate Gallery, London; (c) ADAGP, Paris and DACS, London 2004). Bumblebee nest boxes were connected to a flight arena. These bees had never seen natural flowers prior to or during the experiments. We placed the paintings onto the floor of the flight arena and bees' responses to objects in the paintings were filmed using a digital video camera.

Van Gogh's *Sunflowers* proved to be the most popular: of 146 approach flights by bees to the painting, 99 were to flowers. Bees mostly approached the high



Two bumblebee workers attempting to imbibe nectar from one of *Vincent Van Gogh* 's(1853-1890) Sunflowers (1888). The original is in the National Gallery, London. The copy was painted by J. Walker (acrylic on canvas-board 45.5 x 35.5cm). ©

contrast margins of flowers, or the contrast between periphery and centre. Interestingly, 17 approaches were to the blue-on-yellow *Vincent* signature. 15 landings were recorded in total, of which 13 were on flowers. Caulfield's *Pottery* came second in terms of approach flights (138) but only 4 landings were observed. Gauguin's *A Vase of Flowers* attracted only 81 approaches, of which 25 were to blue flowers. Two landings occurred on the blue flowers in the upper right, 9 were distributed over other flowers of the painting. On Leger's *Still Life with Beer Mug*, a light blue square was frequented most strongly (24 out of 117 total approaches). In summary, the fraction of approach flights that terminated in landing was substantially higher in the paintings with flowers (11%) than it was in the paintings without flowers (4%). Thus, there is evidence that the flower paintings have captured the essence of floral features from the viewpoint of a bee, and that these features are recognised by bees that have never been exposed to flowers before.

What do bees aesthetic preferences tell us?

In more standard, controlled laboratory measurements of visual pattern attractiveness for flower-naive bees, we had previously found that bees will prefer blue and especially violet over other colours, which is what was also found in this study. The evolutionary explanation is that flowers with these colours offer high nectar rewards in nature. Hence, "favourite colours" (in bees) have biological significance; we assume that selection has favoured individuals which prefer colours associated with nutritional desirability.

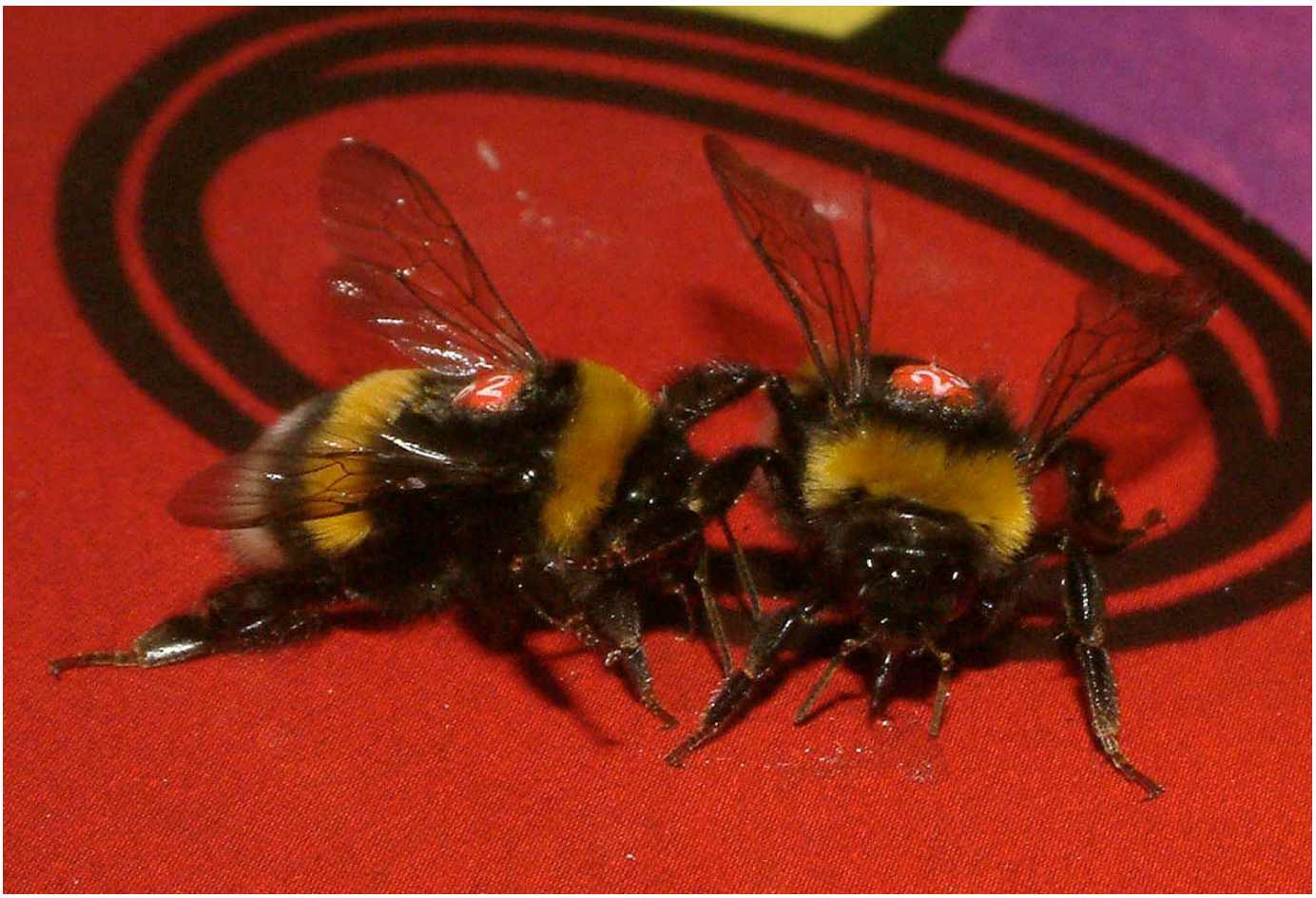
How do human observers react to presentations of bees visiting flowers in paintings? When our study was first published online in 2005, press reaction was more interpretative than we had expected, the research being described as "important" (Discovery Channel), "cutting edge" (Art Monthly), and even meriting a cartoon in the Sydney Morning Herald. The study was covered on BBC and ABC television news, Science, New Scientist, The Times, and multiple radio stations). We were excited by the readiness with which reviewers proposed that the bees' response to the picture proved its value, as if the biological "rightness" of the image confirmed its aesthetic value. Such willingness to delegate aesthetic judgement to bees raised the possibility that our responses could be linked to a wider biological visual reaction based on survival and the assessment of resources. Some viewers commented on the absurdity and surrealism of seeing live bees in an out-of-place context (paintings), yet in another sense the bees do seem to belong (since the paintings contain flowers). In some cases there was an assumption that the fact that the bees were

A bumblebee inspecting the signature of Van Gogh's Sunflowers ©

attracted to the centres of the flowers in Van Gogh's painting indicated that the artist had "unwittingly" captured some essence of the flower, which rendered the painted flower attractive to bees. Elsewhere, scepticism that the bees were attracted merely by the choice and distribution of colours was mixed with some concern at the possibility of applying biological determinism to visual art. Some artists, however, also felt that bees were mistaken, or were indeed "invading" the painting, whereas biologists felt that the intimate signal-receiver relationship between flower and bees had been strangely thwarted. Inherent in all these interpretations is the implication that flowers in paintings are not really meant for bees. They are created by humans for human observers. This raises an interesting question: why is it obvious that flowers rendered by painters should be different from those which have evolved to attract bees?

Indeed, for thousands of years, humans have reshaped flowers to their liking, either through horticulture or through pictorial representation. Flowers play a major role in most cultures, and the flower trade is a global multibillion dollar enterprise. For example, the Netherlands alone exported cut flowers for more than 2 billion dollars in 1992. Could there be an evolutionary explanation for human attraction to flowers, and the fact that humans obviously prefer different floral features than those which selection has acted on to address bees?

In our evolutionary history, paying close attention to flowers might have conferred strong selective advantages. Even if flowers may play only a minor role as food for primates, they can be indicators of resource availability: they might correlate with the presence of water, and indicate future availability of fruits, nuts and honey, and they can be used to identify plants for medicinal purposes. Is human aesthetic appreciation of flowers in part based on a primordial interpretation of a landscape with flowers as one that could support human foraging? If flowers carry different information for humans than for bees, then human horticultural selection and pictorial representation is expected to emphasize the traits that indicate relevant resources for humans. One floral feature that has been clearly exaggerated by humans is flower size, and the number of floral petals and sepals. It remains to be determined whether these floral traits are indicative of future fruit set or water availability.



Two images of bumblebees (bearing individual number tags) that have landed on of Patrick Caulfield's (1936-2005) Pottery 1969; oil on canvas 213.4 x 152.4 cm. Original at Tate Gallery, London ©

What about flower colour? It is clear that human colour selection on flowers would have excluded the ultraviolet, but even within the human visual range, qualitative inspection of any flower store indicates that flower colours have been strongly altered to match human preference. Blue flowers seem underrepresented, whereas red and orange colours are common, despite being rare in natural flowers in European temperate habitats. Curiously, however, these are the typical colours of primate-eaten fruits. Could human flower colour preference be a result of our primordial lifestyle as frugivorous mammals, a lifestyle which has shaped the way we see colours? Clearly, a SciArt project such as this one cannot provide scientific answers to these questions. For that, we will have to employ conventional scientific practise. But we hope that our collaboration will stimulate thinking about the evolutionary roots of the connotations and perception of natural objects, and their representation in the arts.

Sci-art projects pose a recurrent and often uncomfortable question – what's in it for science? Projects using the methodology, tools, imagery, or language of science have produced art of undoubted aesthetic value; but the limited benefit for science, on its own terms, other than merely in terms of illustration or publicity leaves science as the senior partner in the equation, aloof and unchanged. On this occasion the scientifically unconventional approach allowed the possibility of raising awareness for between-species differences in visual perception, and provoking thinking about the implications of biology in human aesthetics and the relationship between object, representation and its (biological) connotations.

All of this begs the question what is the nature of the artwork? Despite the physicality of the bees' responses, the answer for us is that it is conceptual: the range of questions arising from the presentation of the data. These are of value to both art and science, and arise from the rather discomforting inference that at some level art may depend on biological evolution, hardwired into our minds, and therefore beyond our will.

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Bibliography

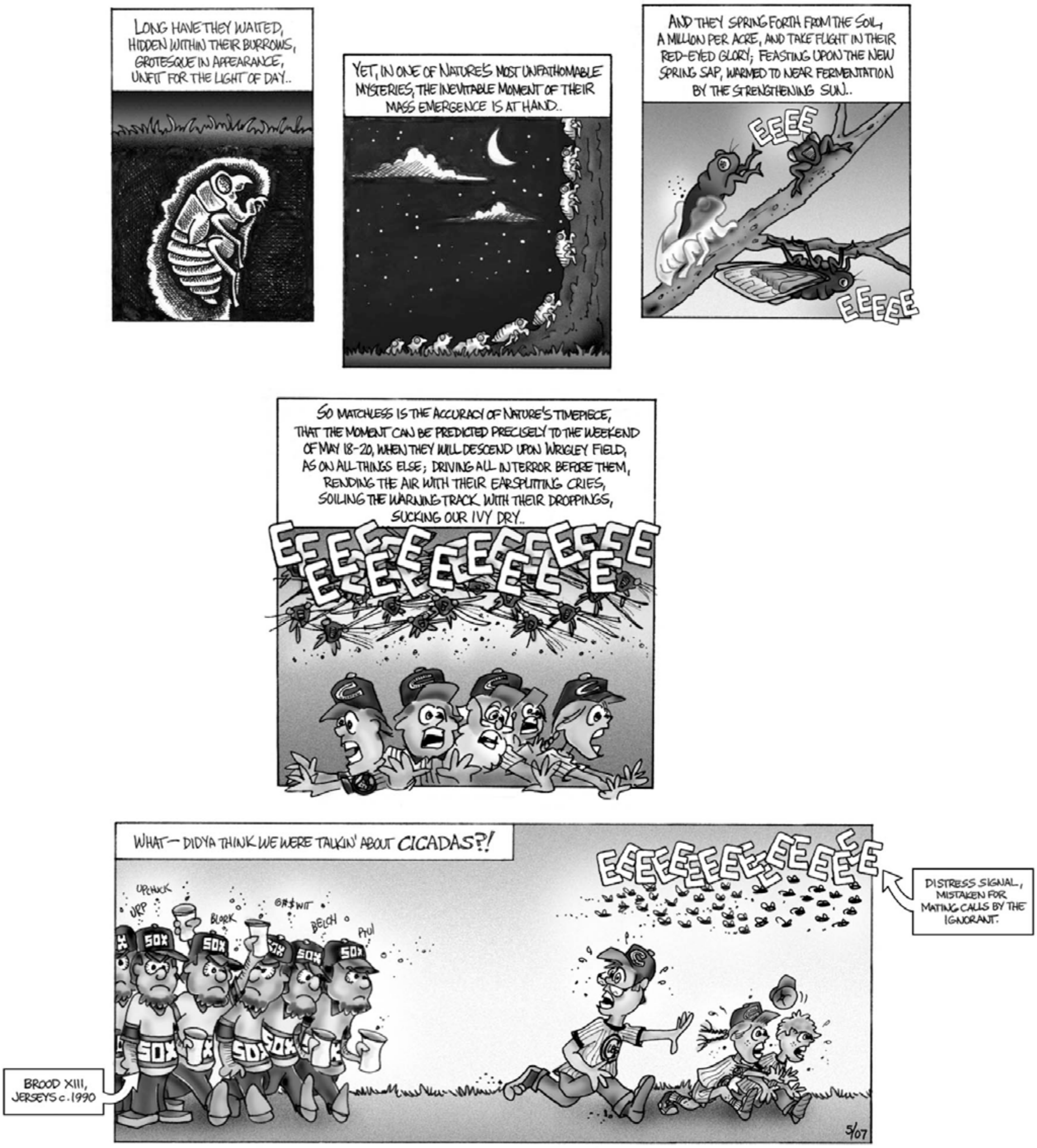
- *Chittka L & Raine NE (2006) Recognition of flowers by pollinators. Current Opinion in Plant Science, 9: 428-435*
- *Chittka L & Walker J (2006) Do bees like Van Gogh's Sunflowers? Optics and Laser Technology, Raine NE & Chittka L (2007)*

YOU ~~DON'T~~ NEED TO EMERGE

This summer Chicago was bracing for the mass emergence of the famous '17 year cicadas'. Our reporter from Chicago tells us how the city prepared for a very noisy visit.
Text by ***Chris Hunter***

It's late June in Clarendon Hills, Illinois and if the smell of fresh-cut grass and barbeques aren't proof enough that summer is about to start, you need only cock an ear to the distant lawnmower engines and the 'hisk-hisk-hisk' of sprinkler systems that are the warm-weather soundtrack of America's Midwest. Yet the peace of this agreeable suburb west of Chicago will, in a matter of days, be shattered by an army of grim invaders hatched from the manicured lawns and toy-strewn backyards beneath the very feet of its unsuspecting children. With bulging eyes and wriggling bodies the hidden hordes will claw their way from the darkness below. They intend to overwhelm Clarendon Hills, dominate the countryside as they increase their numbers. It is a destiny they are driven toward with an unrelenting sense of purpose, one they will either fulfil or die trying.

Far-fetched as it may sound, this very scenario truly did play out this spring, though the protagonists were not alien invaders or zombies from the center of the earth. In truth Clarendon Hills along with towns from Michigan to Wisconsin were host to one of the most rare and fascinating insect-phenomenon on earth: the periodical cicada emergence. If it all sounds a bit like a bad science fiction plot, that is in fact the point. Descriptions like the one above are proof of how easy it is for the media, including this publication, to skew the public's impression of natural events and though



the subtleties of language factor greatly into how the public forms its perception of animals it is surprising to see how the local media — and the public — responded to the sudden appearance of millions upon millions of bugs on its doorstep.

The overall tone was one of restraint and respect. Commendable, given the tendency for cicadas to be misunderstood. In the past they have been wrongly accused of being locusts (they're not) and associated with the wrath of God (given that they're harmless to humans and crops, doubtful). According to L.L. Hyche, Associate Professor of Auburn University's Department of Entomology, "The benign creatures have been getting bad press as early as the 1600s, when tales made the rounds in Europe of New England colonists who were creped out by the "unholy" swarms.

"...there was a numerous company of Flies, which were like for bigness unto Wasps or Bumble-Bees, they came out of little holes in the ground, and did eat up the green things, and made such a constant yelling noise as made all the woods ring of them, and ready to deaf the hearers;"

"...there was such a swarm of a certain sort of

Jen Holiday
Emerging nymph

Jen Holidya
Adult

insects in that English colony, that for the space of 200 miles they poyson'd and destroyed all the trees of that country. There being found innumerable little holes in the ground, out of which those insects broke forth in the form of maggots, which turned into flyes that had a kind of taile or sting, which they struck into the tree, and thereby envenomed and killed it."

When the above descriptions were recorded back in 1634, says Hyche, 17-year periodicals definitely acquired a negative image that has been hard to shake. To this day people need to be reminded that they have no stingers and don't bite. As Jeremy Biles reminds us, "Cicadas enjoy a rich mythological history, saturated with religious meanings and implications. Aside from the divinely ordained plague of "locusts," cicadas have also appeared as sacred manifestations in other myths and cultures. For example, in ancient Greece, the cicadas were emblems of immortality and, as in Plato's Phaedrus, considered divine intercessors, relating human activity to the Muses. In Chinese folklore cicadas are "sacred animal symbols" of resurrection". (Jeremy Biles, The Cicada Complex, on the Martin MartyCentrewebsite,http://martycenter.uchicago.edu/sightings/archive_2004/0722.shtml, as accessed on 12/10/07).

Today, news articles about the cicadas portray a less dramatic image of the species. But that's not to say that they are free from misleading imagery or derogatory skew. To some degree this is understandable. Until one experiences an event like this firsthand the concept of a cicada-emergence is hard to wrap one's head around. And once witnessed, hyperbole is hard to avoid.

First, one must consider the time span involved. Between emergences many of North America's cicada broods stay dormant for 17 years. In other words, they disappear just long enough for the average person to forget all about them, breeding new opportunity for misconception with each generation. Living hidden beneath the earth for so long has also given cicadas an undeserved aura of being 'sneaky' and 'plotting' suggesting that their arrival is premeditated or calculated. Craig Vetter, writing in Chicago Wilderness Magazine this year described the awakening as follows:

"As the ground warms toward 64 degrees Fahrenheit in the spring of the 17th year, the nymphs begin to dig tunnels about a half-inch in diameter. Then, like something out of "Night of the Living Dead," the billions emerge in one evening. By morning they have begun to shed their skins; their exoskeletons harden within hours."

Then there are the sheer numbers. Given that within the span of two days the ground disgorges upwards of five billion insects measuring 2.5 to 5 centimeters, fables of suburbanites picturing the use of snow shovels to clear the creatures from driveways begin to sound somewhat feasible. Counts of over one million cicadas per acre were reported in high-density areas this year with populations in the hundreds of thousands per acre being not at all uncommon. The word 'biblical' becomes irresistible to reporters when confronted with describing such legions. Alexander Mikheyev, writing in the Daily Texan went so far as to quote Exodus 10:13

"And when it was morning, the east wind brought the locusts ... very grievous were they; before them there were no such locusts as they, neither after them shall be such."

He went on to clarify that locusts and cicadas are unrelated, but that information was buried further down in the article, perhaps because biblical parallel makes for a much better lead. Rather than an Old

Testament God, however, it's the trance-like determination to mate and lay eggs coupled with a clumsy disregard for their own safety that make the cicadas staggering numbers a biological necessity. The sheer quantity of these insects is a natural protection meant to overwhelm predators. There are simply too many cicadas to be eaten, and they appear too infrequently for specialized predators to evolve in response. But while this 'predator satiation' explains their biological strategy — and highlights an evolutionary success story which begun 125 million years ago — it doesn't stop the press from wrongly referring to the emergence cycle as an 'invasion' or 'onslaught'. Some preoccupation also seem to have occurred on the scientific side: ``We're really covering entire trees and making sure there's no way the cicada can go inward to do its damage," said Tom Tiddens, plant health-care supervisor for the 385-acre (155-hectare) Chicago Botanic Garden in suburban Glencoe. The 1,700- acre Morton Arboretum in Lisle took similar steps.

By the last week of May the Internet was abuzz with hour-by-hour updates of the uprising. Drowsy from their Rip van Winkle slumber and swooning after nearly two decades of abstinence, armies of cicadas were described moving with unwavering purpose over driveways, across alluminum siding and up tree trunks. In their quest to reproduce they were crushed beneath the wheels of automobiles, stepped on by children, sucked into lawnmowers, splattered on windshields, and picked off by snack-happy dogs, squirrels and birds, all chronicled in real-time by legions of fans. Suddenly cicadas had become the Paris Hiltons and Victoria Beckhams of the entomological world due to a new element that made this year's emergence different from any preceding it: the technological advancements which makes all of us reporters or paparazzi. For their 1990 media debut there were photographers and television cameras to be sure. But no Internet access, no digital cameras and no blogs existed then. In 2007, however, excited cicada fans gave the insects not a moment's peace, stalking them as they rose from the earth, documenting them shedding their skins, digitally recording their song, even splashing their most intimate moments across the internet.

What comes across in these self-reported documentaries and commentaries is affection for these mysterious creatures and an enthusiastic curiosity about their habits. The Internet, it seems, has helped make the appearance of billions of insects something akin to the build-up preceding a blockbuster film. And the rush to provide the first documentation of a mature adult became highly competitive among cicada watchers much in the way Hollywood photographers compete for the first photograph of, say, Lindsay Lohan leaving rehab. Likewise, the local media in Chicago and surrounding areas treated this year's arrival with great anticipation and not a small dose of local pride. This enthusiasm, exemplified when Chicago television station WGN showcased a cicada rap song on its morning news show, can also be read in the 'story arc' of local news headlines leading up to the big payoff:

APRIL 10	**Chicago Sun-Times: "Periodical Cicada to make rare appearance"**
APRIL 12	Lake County Journal "They're On Their Way"

APRIL 16	Pioneer Press "Here they come!"
APRIL 26	Jiji Press (Japan) "17 year Mass Emergence Soon"
MAY 4	News Sun "Cicadas Expected May 22"
MAY 8	Fox News Chicago "The Cicadas are Coming! Chicago Prepares for Invasion"
	Chicago Tribune "Cicada Nymphs Can Wait No Longer"
MAY 21	NBC 5 Chicago "Cicada Mania hits Chicago"
	Associated Press "Cicada Invasion: Coming to a City Near You?"
MAY 24	Chicago Tribune "Cicadas' arrival not on the nose"
MAY 27	Daily Herald "Appreciating the ugly, loud and rude cicada"
MAY 30	WGN TV News at Nine "Where are the cicadas?"
MAY 30	News-Sun "Cicadas finally here: foresters"
MAY 30	Daily Herald "Cicadas emerge in Lake County"

Yet it has to be recognised that increased level of information does not necessarily equate to accuracy and precision of it and it is also worth remembering that the modern media still gets it wrong from time to time. In 2004 an article in USA Today referred to the arrival of cicadas as "A Plague of Locusts" which was described as "one of the largest and most dramatic insect outbreaks on Earth."

If the use of 'outbreak', with its suggestion of contamination and uncontrolled epidemic sounds familiar perhaps it's because in some ways the perception of cicadas in 2004 in some ways isn't so different from that of 1634.

We will have to wait another 17 years for this extraordinary event to repeat itself. In the past 17 years, ``Friends" came and went on television, another George Bush was elected president and the Hubble telescope was launched. Seven billion cicadas missed it all! What will the cicadas find when they'll crawl out of the soil again? Will our technological advancements enable us to understand and portray their sudden arrival and short but intense presence in a difference?

Whilst we cannot answer this question we can in the meantime entertain ourselves with a range of delicious recipes involving fresh cicadas. This is a very small selection from a recipe book created by Jenna Jadin for the University of Maryland.

Shanghai Cicadas

Ingredients:
30 newly-emerged cicadas
2 tbps anise seeds
1 tsp salt
2 cups sherry
1tbsp soy sauce
additional water and sherry or rice wine
10 cloves mashed garlic
celery to garnish
turnip greens to garnish

Directions:
1. Boil the cicadas and anise in salted sherry for five minutes, then remove the cicadas.
2. Saute the mashed garlic and soy sauce, adding enough of equal parts water and sherry to make a thick paste.
3. Deep-fry the cicadas, then skewer them with bamboo picks. Arrange them on a plate with the turnip greens, celery, and garlic paste to look like cicadas climbing out of a mud pie into green foliage.

Yield:
4 appetizer-sized servings

Cicada Dumplings

Ingredients:

20 Chinese black mushrooms, soaked and destemmed 6 egg whites 4 oz cicadas, wings removed and pre-boiled for 5 minutes 1/2 oz cooked Chinese ham, cut into 1"-long, 1/16"-thickstrips 1/2 tsp cornstarch 1 tsp salt 3/4 tsp MSG (optional) 2 cups chicken broth

Directions:
1. Mince 2 oz cicadas and 1 oz fat pork separately, then mix in bowl. Add 1/8 tsp salt and 1/4 tsp MSG. Stir until firm. Divide into 10 portions for mushroom stuffing.
2. Squeeze excess water from mushrooms. Put in bowl, add a little broth and steam for 30 minutes. Remove and squeeze out excess liquid. Place in dish, stem sides up, and sprinkle with cornstarch. Place one portion cicada stuffing in middle of a mushroom and cover with another mushroom, black side up, to make a stuffed mushroom pouch. Repeat until 10 pouches are done.
3. Mince remaining pork and cicadas separately, then mix in a bowl. Add 1/4 tsp salt and 1/2 tsp MSG. Stir until firm. Make 20 balls in the shape of a cicada. Beat egg whites. Grease pan. Make a thin small round pancake with one tbsp egg white. Place a cicada ball in the middle and wrap pancake around. Pinch ball to form head and body of the cicada. Fry for 1/2 minute and remove. Put two strips ham in head. Repeat until 20 "cicadas" are made. Put mushroom pouches and shrimp cicadas on plate. Steam for one minute over high heat. Remove and place separately in fureen. Bring stock to boil and add remaining salt. Pour stock slowly into fureen and serve.

Yield:
Serve 4 to 6.

For more information please visit:
http://www.newsdesk.umd.edu/pdf/cicada%20recipes.PDF
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Cica-Delicious Pizza*

Ingredients:
3 cloves garlic, pressed
3 tbsp. extra virgin olive oil
2 tbsp. chopped fresh oregano
2 tbsp. chopped fresh basil
2 tbsp. chopped fresh Italian parsley
4 cups chopped tomatoes, including juice and seeds

1 1/2 cup coarsely chopped shittake mushrooms
3/4 cup coarsely chopped red onion
3/4 cup kalamata olives, chopped
1 1/2 cups blanched cicadas

1 cup feta cheese
1 cup mozzarella cheese

1 recipe of your favorite pizza dough (for a 12" pizza)

Directions:
1. Heat oil in sautŽ pan over medium low heat. Add the garlic and sautŽ for 2 minutes, or until just beginning to turn golden.
2. Add the herbs and cook for another minute, until wilted.
3. Add the tomatoes and juice, turn the heat to low, and gently cook, covered, for 10-15 minutes until the tomatoes are soft and the liquid had been absorbed and the sauce has thickened. Remove from heat.
4. Meanwhile, prepare the dough by rolling it out to desired thickness and shaping it into a 12" circle. Using a shallow wooden spoon, spread the tomato sauce over the pizza dough to the desired thickness. 5. Distribute the rest of the ingredients evenly over the top of the pizza.
6. Place pizza in a 375F oven for 15 minutes, or until the top is bubbling and the crust is golden brown.

Yield:
Enough for 2-3 hungry cicada-maniacs

**change any of the ingredients to suit your personal taste*

WHY NOT EAT INSECTS?

Entomophagy seem to be back in fashion, or at least it seems to be once again surfacing to mainstream culture. The reprinting of a Victorian book titled 'Why Not Eat Insects' proves that the fashion of eating insects is not a new matter at all…at least for the UK.
Text by ***Eric Frank***

When in 1885 Vincent M Holt wrote his book 'Why Not Eat Insects?' he opened the preface saying that "In entering upon this work I am fully conscious of the difficulty of battling against a long-existing and deep-rooted public prejudice. I only ask of my readers a fair hearing, an impartial consideration of my arguments, and an unbiassed judgment. If these be granted, I feel sure that many will be persuaded to make practical proof of the expediency of using insects as food. There are insects and insects. My insects are all vegetable feeders, clean, palatable, wholesome, and decidedly more particular in their feeding than ourselves. While I am confident that they will never condescend to eat us, I am equally confident that, on finding out how good they are, we shall some day right gladly cook and eat them."[1]

This curious Victorian invitation to drop any prejudice regarding the edibility of insects presents its 'modern' reader with a number of interesting considerations on the subject. On page 14 and 15 Holt suggests 'the poor' to be fed grasshoppers. what a pleasant change from the labourer's unvarying meal of bread, lard, and bacon, or bread and lard without bacon, or bread without lard or bacon, would be a good dish of fried cockchafers or grasshoppers. "How the poor live!" Badly, I know; but they neglect wholesome foods, from a foolish prejudice which it should be the task of their betters, by their example, to overcome. One of the constant questions of the day is, How can the farmer most successfully battle with the insect devourers of his crops? I suggest that these insect devourers should be collected by the poor as food. Why not? I do not mean to pretend that the poor could live upon insects; but I do say that they might thus pleasantly and wholesomely vary their present diet while, at the same time, conferring a great benefit upon the agricultural world. Not only would their children then be rewarded by the farmers for hand-picking the destructive insects, but they would be doubly rewarded by partaking of toothsome and nourishing insect dishes at home."

The reader who is unfamiliar with the text by Holt may upon reading this that the author is expressing ideas of questionable taste, yet, should you want to further your reading of the small volume you will realise that Holt is sincerely fond of his entomophagy and that he really considers fried insects (especially those fried in butter) a real delicacy.

Although charged with an involuntary humorous aura acquired through the passing of time over these pages, Holt's solution to food sourcing for poorer populations alerts us to the fact that some of the edible resources available on this planet may be untapped. Whether tapping into these sources could really represent a solution to world famine is not certain, yet this and other 'original' ideas included in this book are definitely food for thought.

Referencing Cabbage White's caterpillar's, Holt makes us notice that insects are simply what they eat; as they feed on food we eat, then they are indeed very close to the food we eat. He also support his theory by looking at sacred and philosophical texts.

"Speaking to the people of Israel, at Lev. xi. 22, Moses directly encourages them to eat clean-feeding insects: "These ye may eat, the locust after his kind, and the bald locust after his kind, and the beetle after his kind, and the grasshopper after his kind." Again, John the Baptist is recorded to have lived in the desert upon locusts and wild honey. Some critics, however, apparently considering locusts unnatural food, and ignorant of how they are relished in the East, have gone out of their way to produce long arguments to prove that the word which has been translated "locusts" ought to have been rendered as the name of a species of cassia-pod. This is not so. Almost every traveller of note has given us an account of how the Eastern nations enjoy these insects. Pliny records the

[1] V M Holt, Why Not Eat Insects?, Pryor Publications Whitstable and Walsall, 1885, pp 3-4

fact that in his day they were much eaten by the Parthians. Herodotus describes the mode adopted by the Nasamones of powdering locusts for the purpose of baking them into cakes."[2]

Interestingly, Holt does not only cover the theoretical side of entomophagy in Victorian times but also moves into the kitchen in his 'Part III' of the volume and gives us some rare and inviting recipes featuring insects.

By his descriptions of these delicacies it appears clear that Holt is not trying to fool anyone and that he thoroughly enjoys his fired insects, especially, female cicadas and moths fried in butter.

We have selected one of the recipes suggested by Holt and invite our readers to try it out at home and to let us know if it is as delicious as our author suggests.

Grasshoppers au gratin

"Having plucked off their heads, legs, and wings, sprinkle them with pepper and salt and chopped parsley, fry in butter, and add some vinegar." He found them excellent. From personal experiment I can fully endorse his opinion; and there are few who would not, if they would but try this dish. I have eaten them raw, and I have eaten them cooked. Raw, they are pleasant to the taste; cooked, they are delicious.

Grasshoppers au Gratin

[2] V M Holt, Why Not Eat Insects?, Pryor Publications Whitstable and Walsall, 1885, 34-35

Why Not Eat Insects by V M Holt is published by Pryor Publications. Extract re-printed with permission.

BUG EATING: IMAGES OF ENTOMOPHAGY IN MASS MEDIA

"Swallow; don't chew." 'Fear Factor' and other reality TV shows around the world have consistently introduced entomophagy as integral part of their games and tasks. Sarah Gordon, an expert in entomophagy explains why .
Text by ***Sarah Gordon***

> *Every winged swarming thing that walks on all fours is detestable to you. However, this you may eat from all the winged swarming things that walk on all fours, which have jointed legs to hop with on the land. These you may eat from them: the locust of any kind, the bald locust of any kind, the cricket of any kind, the grasshopper of any kind. But any other winged swarming thing that has four legs is detestable to you. –Leviticu- 11*

"Waiter, there's a fly in my soup!" is a fearful cry rooted in the disgust associated with insect ingestion in western culture. Insects have since ancient times been associated with pests, plagues, diseases, infestations, bites, stings, and dirt, considered unclean and "detestable" by Old Testament dietary law and other cultural influences. Many cultures have preferred to stomp insects on the floor rather than toss them in a pan and sauté them in butter.[i] Insects represent the "other," the unknown, and the unclean and eating many types of insects has long been taboo.[ii] They have been condemned as the carriers of disease from the Black Plague in the Middle Ages, to malaria starting with colonial times, to recent outbreaks of the West Nile Virus. Though very real disease threats and irrational insect phobias remain common today, twentieth and early twenty-first century film and television have witnessed the transformation of the image of insects and insect eating. Whereas in many cultures entomophagy is an accepted and frequent dietary necessity or ritual, in mass media entomophagy remains taboo and exotic.[iii] Bug eating has gone from necessity to forbidden taboo to titillating spectacle in North American and British film and television, transgressing boundaries to provide entertainment.

Around the world, people engage in

entomophagy for survival or for spectacle. In instances where insect eating is attached to survival, or the idea of "food as fuel" (Curtin 12-13). A protein-rich staple for many or even a life-saving resource for soldiers in the *US Army Survival Guide*, insects provide vital nutrients in survival situations. The two functions of entomophagy survival and spectacle may be combined, as for instance in Aztec culture, where insect eating was for centuries both a protein source and an entertaining and exotic delicacy.[iv] Insects provide a viable source of protein in harsh climates or in periods of famine. But when is plentiful, or even overabundant as it is in the United States, exotic foods may be transformed into spectacle, as is the case with public hot dog eating contests or *Iron Chef* competitions based on exotic foods. Insects may represent exotic tastes and unusual novelty entertainment for cultures that have generally abundant food and watching others eat insects can provide a vicarious thrill. Still others may engage unknowingly in entomophagy according to agricultural regulations.[v]

If you are what you eat (as French culinary philosopher Brillat-Savarin's adage goes), then the act of eating insects is charged with derogatory meaning. Moreover, we are not only identified with what we eat physically, "we are what we eat socially and politically . . . symbolically and spiritually" (Curtin 11-12). The examples explored below demonstrate a range of culturally relative attitudes surrounding entomophagy.[vi] Entomophagy, more so than consumption of other foods, can serve to embody social transgression, symbolic taboo, or even spiritual sin.

Entomophagy has become such a popular means of entertainment in mass media today because it transgresses dietary laws and cultural perceptions. Certain insects, several types of locusts, are suggested as edible fare in the Bible. The Koran also mentions edible locusts. The central insect-related section of the Bible in Leviticus provides images of edible and non-edible insects and practical details. All insects with knees that hop are edible, including every kind of large, long-headed, green, and desert locust; others are considered inedible and contaminating. John the Baptist's diet includes locusts and wild honey in Mark 1:6.[vii] In addition, insects have been linked to "Manna from Heaven" (Hoyt and Schultz 31). The biblical sky is swarming with locusts, flies, maggots, hoppers, scorpions, moths, and ants. Though many types are edible, the overwhelming amount of references in the Bible to locusts and insects show them as harbingers of doom and destruction.

Playful and perverse, Reality TV appropriates and transforms rituals from different global cultural practices rendering them sensational, repugnant, or exotic. These spectacular diversions provide the audience with opportunities for culinary transgression, aimed at provoking emotional response in spectators. Pauline Adema has explored the current vogue of cooking shows and the visual pleasures of watching others prepare and eat food on television. Viewers at home also experience vicarious thrills and excitement in watching the spectacle of entomophagy on the small screen since "television offers safe and economical ways to experience familiar and exotic pleasures" (Adema 119). In television and cinema, the prying eye of the camera heightens our curious and voyeuristic gaze on unusual actions.

The otherness of entomophagy becomes apparent in Food Network channel and reality TV game shows such as *Fear Factor* and *Survivor*, where contestants squeamishly devour whole insects to win games or insect-infested food to sate their hunger. The genre of reality survival and adventure challenge TV is flourishing.[viii] Bugs have become a Reality TV staple, a commonplace in "docu-stunt" and "docu-real" television.[ix] Such shows often involve eating spectacles, and play on recent popular (especially American and Asian) fads of eating contests and transgressive eating. Here bees and other insects are transformed into harmful and scary creatures by the discourse of fear and context of exoticism that frames these spectacular shows. Bee swarms, scorpion pits, pizza with grub worms and coagulated blood, cockroaches passed between couples' mouths, clear plastic coffins full of giant Madagascar hissing cockroaches, live dragonflies, roach blender drinks, worm wine and worm sausage, and a cricket eating contest have all appeared much to the disgust and titillation of the TV spectator conditioned to seeing playful and transgressive eating in reality and culinary television.

NBC's *Fear Factor* challenges are shockingly sensational with their revolting menus.[x] A roulette game that required participants to eat African cave-dwelling spiders, which the host deems "uglier than regular spiders," was featured in a *Fear Factor* Las Vegas special that emphasized spectacle and play, as live spectators looked on during filming.[xi] The host encourages a reluctant female contestant: "This is nothing. These are just little bugs. If you were starving you would eat it. It's not that bad . . . throw it down, bite it, chew it, do it . . . just chew it and swallow!" The verbal cues in this episode clearly portrayed the sensations of disgust and amazement targeted in the audience. The reference to survival entomophagy is merely a gesture in the playfulness of the game. In one season of the CBS reality game show *Survivor*, stranded contestants ate bug-ridden grains to sate their hunger during their gruelling sojourn in the Amazon Rainforest. Here spectators engaged in a simulation of survival entomophagy but only as party of a game.

The National Geographic Channel plays on audience fear of the unknown surrounding insects and insect eating. The titles of the nature episodes alone suggest the sensationalized perception offered to fascinate spectators: *National Geographic Nature's Nightmares: Pests and Parasites*, *Nature's Nightmares:*

Infested!, Dr. Cockroach, and *National Geographic Showcase: Superfly*.[xii] Both titles show insects as somehow supernatural echoing the playfulness of media, game, and reality television. In the former, entomologists offered reassuring advice for audiences who may have been shocked or amazed by the statistical information given on the number of insects present in their food. The show emphasizes that accidentally ingesting bread beetles or "weevily pasta" is not dangerous and, as a historical anecdote, that it was a common occurrence for sailors on long voyages. It also claims that men would be more likely to eat insects in their food than women. Finally, the program noted that "eating insects should not cause concern" and that if anything, it is an "additional source of protein." Many visual representations of insects and entomophagy play on human taboo, our human "fear factor." *Giants: Spiders*, produced by the Discovery Channel, includes lurid images of barbequed tarantulas the size of dinner plates cooked in bamboo.[xiii] Insects, edible or not, are seen as other, or even otherworldly, playing on awe, ignorance, and fear. National Geographic's *Alien Empire* insect documentary shocked and titillated spectators with the probability that insects are Earth's dominant life form; with their evolutionary history, the show warns in a grave conclusion, they will surely outlast humans.[xiv]

The Discovery Channel series *Survivorman* from 2004-7 continues to demonstrates to audiences how to survive in intemperate climates in survival situations.[xv] While stranded in the desert or the jungle without much more than a pocket knife, Canadian host and intrepid eater Les Stroud shows viewers how to collect water and find food sources, including insects. He survives on turtle, desert rat, conch shells, sea lettuce, seal liver and other available food sources, but makes more of a spectacle when he turns to entomophagy. In episode two, after a simulated car breakdown in a remote area of Arizona he survives a week in the heat of the desert by eating scorpions, which he shows as nutritious but still regards as disgusting, dangerous, and exotic, exhibiting only limited understanding of cultures that survive on entomophagy.

Our fears of insects are further allayed and culinary desires awakened by cooking shows, as on the Food Network Channel's *Extreme Cuisine,* Japanese import *Iron Chef*, and others. Cooking shows provide spectacle of a dual nature, in vicarious entertainment that is both playful and instructive. Beyond gourmet are the fanciful novelty recipes by Gale Gand and celebrity chef Sara Moulton in a special "creature feature" episode of *Sweet Dreams*, on which so-called Bug Juice, Ladybug Cupcakes, Spider Cupcakes, and Butterfly Pizza were deemed more appetizing and festive desserts because their decorations represented familiar images of child-friendly creepy-crawlies.[xvi]

On the silver screen, the vivid signs of entomophagy lend themselves to the exploitation of visual spectacle. Insects have long been sensationalized in late twentieth- to early twenty-first- century films like *The Fly*, *The Fly II*, *Dracula*, *Joe's Appartment, Antz*, *A Bug's Life, Microcosmos,* and countless B science fiction movies. Anthropomorphic insects such as the chummy

The Fly
1958 Original Movie Poster, Courtesy of
20th Century Fox

cockroaches in *Joe's Apartment*, the neurotic characters in the animated film *Antz* defamiliarize insect roles. The countless number of films with insects on the cast list is an indicator of continuing audience fascination with their own microcosmos.

The act of entomophagy frequently carries a sinister connotation. Bram Stoker's *Dracula* and its many film adaptations focus on the evil of the other. The marginal character of Dracula's assistant, Renfield, is portrayed as mentally ill. Under his vampire master's influence and powerful gaze, he craves insects and feeds off them regularly, much to the shock of the innocent bystander Jonathan. Like an animal, Renfield catches and eats the bugs alive for survival and pleasure. In a perverse master-slave or master-animal relation, Dracula feeds his assistant with flies and rats. In the 1931 film adaptation of *Dracula*, Renfield's own references to his entomophagy are particularly telling; he prefers fat spiders to "puny flies." His desire for insects is objectified as other, similar to Dracula's desire for young women's blood; both are echoed by the gaze of the camera and the spectators on these transgressive acts of consumption:

> MARTIN: Aren't you ashamed now! Aren't you? Spiders now is it? Flies ain't good enough!
> RENFIELD: Flies?! Flies?! Poor puny things! Who wants to eat flies?
> MARTIN: You do, you loony!
> RENFIELD: Not when I can get nice fat spiders!
> MARTIN: All right, have it your own way!

The derogatory term "loony" insults Renfield's preference for alternative food sources, viewed as a perversion. Renfield is what he eats; he embodies evil when he ingests them to the disgust and titillation of spectators both on and off screen. His unfamiliar or deranged actions add to the audience's sensations of fascination, horror, even disgust. This becomes even more graphic in more recent film adaptations, as images of insect eating multiply.

Some screenplays use entomophagy to provide and amplify a sense of exoticism, for instance in *Indiana Jones and the Temple of Doom* (1984). Indiana's creepy-crawly adventures with insects and snakes play on audience fears and reservations about unfamiliar exotic dishes, such as baked beetles, eyeballs, and monkey brains. In the central entomophage scene, the hero and his entourage are served the delicacy a platter of large scarab beetles at the lavish Maharajah's feast.[xvii] Even the language of the script suggests the attempt to awaken spectator's vicarious disgust at the unusual culinary offerings: Short Round avoids the dinner by feeding it to his little monkey as he listens to the scary conversation. The talk is bad enough, but Willie finds the food unbelievable! A servant leans over her shoulder and places a six-inch long BUG on her plate! Willie whimpers quietly as she watches the fat merchant next to her lift one of the black, shiny baked-beetles -- and cracks it in two! The man proceeds to enthusiastically suck the gooey innards out.

In these graphic stage directions, the visual description of texture, color, and appearance is highlighted, in an attempt to create a spectacular and unexpected image meant to evoke disgust.

In part because of the very disgust it provokes, entomophagy is now a growing spectacle for curious consumers of popular culture and cookbooks. Cockroaches are no longer unwelcome in every cook's kitchen. As novelties, many insect cookbooks are often more sensational spectacles than they are practical guides. In *The Eat-a-Bug-Cookbook,* familiar American recipes such as pancakes, pizza, or alphabet soup are defamiliarized with the addition of edible invertebrates. Many entomophage recipes combine well-known elements with exotic insect main ingredients, resulting in such unexpected creations and puns as *The Eat-a-Bug-Cookbook*'s appetite-whetting and evocative dishes: "Cockroach à la King," "Pest-o," "Three Bee Salad," or "Fried Green Tomato Hornworms." Continuing in this humorous discourse of entomophagy, the science-writer author of *The Eat-a-Bug-Cookbook* and *The Compleat Cockroach,* in a 1998 on-line interview with CNN Interactive, expresses this notion of entomophagy as confronting culinary convention: "What counts as good food in our culture is what we're raised on. Some people won't touch okra. It's a subjective thing. I think part of the fun of the book is challenging people's food beliefs." Interest in food insects is not waning. Menzel and D'Aluisio offer a photo essay volume, *Man Eating Bugs: The Art and Science of Eating Insects,* including diverse entomophage scenes and dishes from around the globe. The *Food Insects Newsletter* is another source of recipes and scientific research on entomophagy. Moreover, public curiosity in entomophagy appears to be growing. There are many entomophage events in popular culture; the San Francisco Insect Zoo, the Cincinnati Zoo, college Bug Bowl at Purdue University, the Montréal Insectarium, and several other diverse public venues offer patrons occasions to participate in insectivore activities and to dispel myths surrounding the insect kingdom, promoting edible insects.

In addition to being viewed as exotic ingredients, food insects have other reputed qualities. The Mexican mescal worm has long been the subject of lore, with its reputedly hallucinogenic or intoxicating properties when eaten from the bottom of a Tequila bottle. Similarly, mysterious aphrodisiac qualities have long been attributed to so-called "Spanish Fly" potions. Medicinal entomophagy figures heavily in the history of medicine and pharmaceuticals.[xviii] Whether commercial prophylactic or home remedy with curative or hallucinogenic properties, insects play an important role in medicine. William Burroughs drew on the association between cockroaches and drug consumption in *The Exterminator* and *Naked Lunch* (becoming cinematic spectacle in Steven Cronenberg's 1992 entomophilic film *Naked Lunch*).[xix]

Approaching fears and fascinations surrounding insects with play, insect candy is a growing form of entomophagy (real or simulated). While most candy only resembles insects in its form or packaging, the "Hotlix" company in California is remarkable because it offers a line of *real* insect "Insect-n-side" candies. The Hotlix company in California is a pioneer in the industry and sells original flavorful novelty candies from chocolate-covered ants to spicy barbeque worms to colorful bug lollipops. This innovative and successful product line includes clear sugar-free tequila suckers with real worms, flavorful "Worm-in-apple suckers," and mint-flavored candy with crickets, called "Cricket Lick-its," as novelty flavorings in their amber-like edible lollipops. Puns and word play are common in branding, as in television titles. Several companies in the United States, Mexico, and Asia sell real insect candies and chocolates. These are exotic, if not appetizing, products with tremendous visual marketing appeal.[xx]

Also a feat of marketing, images of insect eating abound in the field of modern children's literature, marked by curiosity, mischief, and in particular, disgust.[xxi] *Insect Soup: Bug Poems* by Barry Louis Polisar, *Chocolate-Covered Ants* by Stephen Manes, *Guts* by Gary Paulson, and *How to Eat Fried Worms* by Thomas Rockwell all cater to childhood fears, fascinations, and fantasies of insects. In the documentary-style *Guts,* characters eat insects to survive in Paulsen's guide to wilderness nutrition. The jacket of *Chocolate-Covered Ants*, targeting pre-teens, is more spectacular and less subsistence-based, promising a tale of humor, practical jokes involving insects, and transgressive eating. In addition, though worms rather than insects, the children's culinary fantasy book *How to Eat Fried Worms* and 2006 film adaptation depicts similar experimentation with entomophage recipes, also depicting characters' initial disgust turned to appreciation of this unusual diet. Such children's literature and film share some similarities with the popularity of video games featuring fanciful insects as exaggerated, grotesque, and visually exiting foes, often with exotic alien or robot-like qualities.

The global phenomenon of entomophagy has always existed, and is fast becoming a popular subject of diversion and curiosity in literature and mass culture. Though space does not allow a comprehensive review of entomophagic representations, we have witnessed significant examples in which entomophagy is perceived as transgressive consumption or used as spectacle. Such spectacle recalls taboos, awakens vicarious pleasure, and provokes a strong reaction among spectators, be they readers, television audiences, consumers, or cinemagoers. Exhibition and spectacle are at the basis of entomological entertainment. Entomophagy may leave spectators on the edge of their seats, or give them the proverbial butterflies in the stomach. We have observed that different images of entomophagy feed audience appetites for the scary and repulsive, or the unusual and exotic. Whether on screen or in the text of a cookbook, images of entomophagy not only constitute the consumer's identities, they may also (re)construct spectators' identities and question their perceptions of insects and of themselves as consumers.

[1] *Randy Malamud provides a new perspective on anthrozoology, reminding us that "Our culture manifests a tremendous consciousness for animals, for good and fobad" (B6). He cites an art project that uses an electric "Insect-O-Cutor," and suggests that "A crucial task for anthrozoology must be to decenter the human perspective and discover the animals' authentic reality—certainly a complex concept, but one that may be more easily understood by antithesis to cultural constructions of animals" (B8). In the texts and media considered in the present chapter, we rarely escape such anthropocentric constructions of insect identity for these creature at the bottom of the food chain that become objects of food and/or play.*

[2] *Curtin explains the idea of food as other, "the substance project for personhood, which stresses autonomy and independence, must understand our relation to food as objectified; food is understood as 'other'" (11).*

[3] *On entomophage practices and recipes in different cultures, see Schwabe.*

[4] *Kritsky and Cherry offer an overview of insect signs and mythology in Aztec culture, as well as Native American and Asian culture.*

[5] *See Berenbaum for a concise scientific and ethnographic survey of intentional and unintentional insect eating practices, including FDA regulations and nutritional comparisons between insects and other food sources (177-86). After reviewing the numbers, she concludes with some level of encouragement: "Basically, there's nothing inedible about insects from the human perspective. A quick examination of the composition of insects reveals that they're not so different from beef, pork, or fish. The chitinous exoskeleton is by and large indigestible, but then again, so is apple skin…Insects are even rich in vitamins and minerals (so maybe it's the worm a day and not the apple it's eating that keeps the doctor away. Not only are insects nutritionally suitable as a food source, they're economically feasible as well" (178). As George David Gordon reports, FDA regulations allow as many as 56 insect parts in every peanut butter and jelly sandwich, up to 60 aphids in 31 ½ ounces of frozen broccoli, and two or three fruit-fly maggots per 200 grams of tomato juice. One type of cheese made near the Puy-de-Dôme, France is traditionally made with maggots. Jean-Louis Thémis' recipe book, published under the auspices of the Montréal Insectarium, provides additional statistical dietary information.*

[6] *Entomophagy was first studied in detail and advocated in western culture by V.M. Holt as early as 1885 in Why Not Eat Insects? anthologized in Hoyt and Schultz.*

[7] *The reader is referred to the Crane study, which provides an in-depth cultural and scientific history of honey.*

[8] *MTV's shock stunt show Jackass and the reality game show Road Rules both rely on occasional insect eating for spectacle and ratings, for instance, a stunt where the performer inhales an earthworm through his nose and regurgitates it out through his mouth aired September 2003. In the reality game genre, television shows such as Survivor, Fear Factor, or Nickelodeon Channel's game shows for children, incorporate the element play into their spectacles, with challenges and contests.*

[9] *In discussing "docu-real fictions," John Caldwell also coined these terms, referring to television programs that, among other things, show " . . . documentary looks and imaging as part of their mise-en-scène," and noting that "the genre, then, invokes marketing and programming strategies as well as aesthetic forms" (259).*

[10] *Details and images of Fear Factor episodes and stunts may be found at http://www.nbc.com/Fear_Factor/stunts/. Transgressive eating is growing in popularity in many genres of television, not limited to documentaries or game shows.*

[11] *Aired September 2003.*

[12] *Aired August 2003.*

[13] *Aired October 2003.*

[14] *Aired January 1996.*

[15] *Episode originally aired November 3, 2004 http://science.discovery.com/convergence/survivorman/survivorman.html*

[16] *Aired October 2002.*

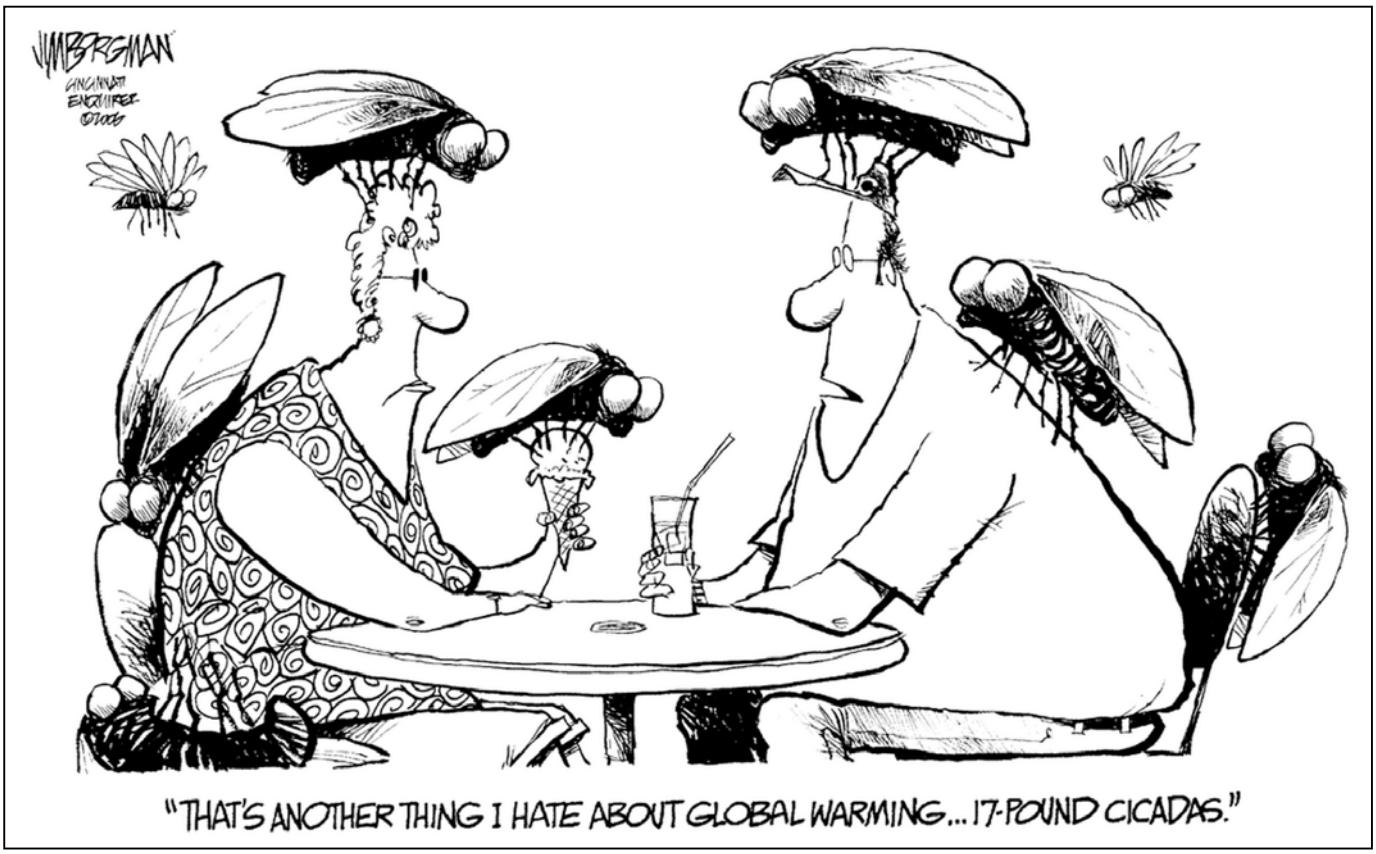
Sensational scarabs also appear in the films "The Mummy" (1999) and "The Relic" (1997), where they are also images of the exotic and the sacred, in an ancient Egyptian setting filled with horror and surprise.

[17] *Representations of medicinal insects abound; for instance in the film Greystoke: The Legend of Tarzan (1984) the hero feeds a wounded colonial soldier with grubs to cure him of a wound and help him regain his strength with the insects' protein.*

[18] *On different forms of consumption in Naked Lunch see Eburne. Berenbaum's Bugs in the System provides a historical survey of insects in pharmacopeias from early modern times to the present day (165-76).*

[19] *These products, mostly Thai in origin, can be found for example at http://www.dcothai.com/food/insects.htm.*

[20] *The phenomenon of disgust has received recent critical attention in Disgust: Theory and History of a Strong Sensation. See also the forthcoming volume of essays Bad: Infamy, Darkness, Evil, and Slime on Screen for more on the pleasure spectators derive from scary, negative, or disgusting cinematic images.*



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