T E C H N O L O G I C A L

V I S I B I L I T Y

By

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A B S T R A C T

This thesis reports on an exploration of technology and the nature of visual perception through the medium of a flatbed scanner. Natural laws and sensuality inform the content and the methodology used in the construction of artworks that enlarge and engage the viewer's experience of hyper-realistic printed images.

The exploration of natural law consists of defining the role of opposition in nature. The terms Dionysian and Apollonian as applied to Nature by the author Michael Pollan are examined as analogues of the intersection of Nature and Technology. Five categories of opposites – atmospheric, internal, objective, time-based, and material – are explored in scanner-based images.

The exploration of sensuality is expressed through the subject matter of the scanner-based images. Using the scanner, mundane and humble plant material is elevated in status and takes on symbolic and metaphoric meaning beyond its existence in the natural world. The exploration of technology uses the scanner as a disrupting medium in image production. By reducing, removing and replacing components so it cannot function optimally, the scanner leaves evidence of its role in image-making on the image itself. Analogies with responses to externally imposed stress in the natural world are explored, as is the concept of the artist as cyborg.

The exploration of visual perception draws on the work of artists Uta Barth and Wolfgang

Tillmans, who use different methods to divert the viewer's attention away from the primary subject matter of an image and onto that which is absent or overlooked (in the case of Barth) or the mechanics of image creation (in the case of Tillmans). The work of both artists is used as a touch-point for a series of scanner-based image explorations.

Theorists Jeanne Randolph and Jonathan Crary provide a foundation for discussion of the space between the viewer and a photographic image, as well as the psychological and physiological engagement of the viewer wrought by the use of a technological medium. Plans for future projects that extend and expand the ideas presented in this thesis are also discussed.

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A C K N O W L E D G M E N T S

I am greatly indebted to all the people who took the time to critique my work and also to read this thesis paper as it developed and grew to reflect my work. It has been an iterative process of looping from reading to writing to scanning and I have benefitted from the gift of the time and the enormous amount of thoughtfulness these people have generously given to me. My thanks to Maria Lantin, Karolle Wall, Fiona Bowie, Glen Lowry, Sandra Semchuk, Rena Del Pieve Gobbi, Lynne Gilroy and Cathy Beaumont.

I N T R O D U C T I O N

the nature of technological visibility

The idea of the form implicitly contains also the history of such a form.

(Prusinkiewicz and Lindenmayer, 58)

This paper investigates the optical, perceptual and metaphoric value in technological visibility when it is embedded in a hyper-realistic artwork. Technological visibility in this paper refers to visual marks that reveal the tool responsible for making an image. These marks create a technological window, or technical layer, through which the subject matter is viewed and interpreted. The particular technology I use and explore to make images in my practice is an ordinary flatbed scanner, but I have enlarged the topic in this paper to include the camera. Photographers Uta Barth and Wolfgang Tillmans, both of whom explore the medium of photography and incorporate mechanical marks and intervention between the photographic content and the viewer, do so to allow the viewer access to a larger subjective and visceral experience. Wolfgang Tillmans explores the medium of photographic process, while Uta Barth uses the camera's failures or accidents to reposition the act of *seeing* – from referencing the external to referencing the internal – the body and its optical constructs, limits and sensations.

This type of embodied experience is created for a modern observer who has the capacity to toggle freely and consciously between the sensation of seeing and the act of seeing. This type of observer was originally referenced in explorations and discoveries made by Goethe (and others)

who wanted to discover how the body and the function of sight were woven together with the imaginative mind in order to position the processing function of sight within the brain.

> Let the observer look steadfastly on a small coloured object and let it be taken away after a time while his eyes remain unmoved; the spectrum of another colour will then be visible on the white plane . . . it arises from an image which now belongs to the eye (von Goethe, 21).

> What is important about Goethe's account of subjective vision is the inseparability of two models usually presented as distinct and irreconcilable: a physiological observer who will be described in increasing detail by the empirical sciences in the 19c, and an observer posited by various 'romanticisms' and early modernisms as the active, autonomous producer of his or her own visual experience (Crary, 69).

The quotations above point to the choice a contemporary observer makes in *seeing* reproductions of a realistic nature – to read an image in a poetic manner or with an empirical and objective bias. The flatbed scanner has a number of visual qualities that confound the purely objective reading and assist in engaging the poetic imagination. By virtue of its near-sighted optical construction, it creates uncanny, beautiful images when it scans three-dimensional objects. It captures all the visual detail precisely and evenly across its surface, but only if the object is in close contact with the scanner bed. The rest of the object is visually diffused in a subtly different way from that of other optical systems. The scanner thus creates images that are perceived to be at once both realistic and unnatural. This uncanny photorealism

engages my curiosity about the parameters of our own optical mechanics and the veracity of this sense of sight has on our interpretation.

By accessing and including the scanner's flaws and faults within my images the observer is given a technical layer or window through which to interpret the subject(s) of the scans. Seeing the subject through this technical window allows the technology itself to become a point of significance and a factor in this inquiry of the meaningful intersection of the eye, the machine and nature. Scanning marks intervene with the visual, visceral experience and often create a push-pull response in the viewer by appearing both seductive and broken. This layered construction enables symbol and metaphor to be attached to the marks, the subject, and the material presentation.

I have chosen plants, and specifically flowers, as my subjects. The scanner and plant combination is powerful because of the tension between the polarized positions of these two objects: technological and organic. The organic and the technological placed together in one image create an opportunity for the viewer to contemplate the complex relationship between wild, mutable and diverse Nature, and the order and control of Technology.

I come to this work with a background as a communication designer, art director and illustrator trained in the philosophy of modernism. This mindset and training revolve around the purity of the "less is more" core principle. Less is more finds expression in the scarcity of elements used on the page, the cleanliness and sophistication of the concept and its realization through the elements, and the mechanical process of production. Conceptual design is a top-down

approach to image and project development. Solid strategy and intent predicates all action. One of my goals in this Masters program was to invigorate my creative process, both as a designer and as an artist, so I put aside this top-down approach and allowed another creative process to take its place. It was challenging and initially uncomfortable to embrace a bottom-up approach, which in essence meant doing and learning from the doing rather than having a clear concept and intended outcome at the start. This underlying bottom-up approach informed my investigation into the visual properties of the scanner.

The methodology and body of work I have made by adapting the scanner's mechanical and electronic method of reproduction have set my project and creative process goals in a new direction. I will now design projects by including many levels of information, direct and indirect, that when rubbed together subjectively create a possible interpretation rather than a direct message. This open semiotic approach is surprisingly invigorating and adds a level of freshness and vitality to my creative process that was missing in my earlier work, both as an artist and as a designer.

C H A P T E R O N E

over looking: discovering the sensual through technology

the influence of Uta Barth

The photographic practice of Uta Barth has had a strong influence on my own artistic inquiries and has informed the tone and objectives of my image making for the last two years. "Her work is as much about the failures of vision as it is about its seeming transparency and consolidation; as much about its fallout as that faith we place in its mechanics" (Lee, 37). Of particular importance is the exploration of eye fatigue in her work. Eye fatigue refers to the physiological compulsion to overlook or dismiss visual information that is well known (like the living room of a family home) in order to focus on the new and unknown (a visitor sitting in the room). She has photographically focused on the qualities that define the peripheral, the dismissible – stillness, quiet and the softness of a distant object. Uta Barth develops photographic strategies in her work that replace the act of seeing the subject of a photograph, with "seeing", itself, as the subject. Her photographs are meant to act as catalysts that spark a visceral, often pleasurable, self-conscious response from the viewer. The images capture the peripheral, the mundane and the often-unnoticed experiences of the everyday. Barth finds these visual moments and reframes them into primary moments. "The work invests in ideas about time, stillness, inactivity and non-event, not as something threatening or numbing, but as something actually to be embraced. There is a certain desire to embrace that which is completely incidental, peripheral, atmospheric and totally unhinged" (Higgs, 22). Rather than dull or static, her work captures elements of life's visual vitality. By consciously avoiding a primary subject and a privileged focal

point, Barth's work encourages the viewer to idle through the image and discover the value of the visual stroll that is often overlooked, yet available in day-to-day moments.

FIGURE 1A, FIGURE 1B UTA BARTH, TWO IMAGES FROM THE SERIES . . . *AND OF TIME,* 2000

LIGHT JET ON FUJICOLOR PAPER, 88.9 X 114.3 CM. COURTESY OF THE J.PAUL GETTY MUSEUM, LOS ANGELES. © 2000 UTA BARTH

Figure 1a/b above, part of Barth's . . . *and of time* series, is about light – not the room's interior, nor a metaphor for the internal. She is taking the atmospheric and spatial background elements back to a conscious plane for recognition. In an interview with Matthew Higgs she said, "There is much attention to the optical phenomena produced by this sustained, prolonged, singular kind of looking. There is a type of optical fatigue and a sense of duration that I'm trying to figure out how to present" (Higgs, 30).

Barth's work educates the mind/eye to see consciously, and this approach to art practice had a profound influence on my work. It has opened the parameters and definition of art practice to include empirical information and methodology from the sciences – particularly biology. It has also given me an understanding of how to establish a personal distance – a cool-headedness – in the practice of artmaking,. When I scan an object I often find my visual aesthetics are

challenged. The look of the scan is not preordained and I have to live with an image for a long time to comprehend it. In this stage of the work I have to overcome my own kind of eye fatigue by looking for prolonged periods of time at an image before and after I've printed it. This process is two-fold – I see and comprehend the scanners interpretation and I also look for the symbolic and metaphoric value in the technological marks as they mix with the content of the scan. This methodology has transformed my art practice from an activity that created great stress for me on a personal level, to an activity that informs and engages my mind, as well as giving me great pleasure in its process and outcome.

Darwin describes a similar experience when he steeps himself in *The Principles of Geology* by Charles Lyell while on his groundbreaking, three-year Pacific voyage. "The great merit of the '*principles'* was that it altered the whole tone of one's mind, and therefore that, when seeing a thing never seen by Lyell, one yet saw it partially through his eyes" (Schneer, 288).

water & seedpod projects

I initially developed a painting project to explore these optical ideas. Focusing on ambience without using a clear focal point became a goal while working on paintings of water. I attempted to capture the silence, stillness and visual strangeness of an alkaline lake on Maui without defaulting to landscape, image depth or true representation.

Further expression of these optical ideas developed into a second project to explore seeing the unique in the everyday and bringing background elements into the foreground. I discovered a number of interesting weeds and seeds in the ever-present piles of yard waste found on Maui

and decided to paint a series of still life works in the Dutch botanical tradition, to celebrate these wonderful little expressions of life that most Hawaiian landscapers are trained to remove.

Most of the painting was to be done in Vancouver due to time constraints on Maui, I therefore chose to document this plant collection using the scanner rather than a camera because it captures better detail and the results can be seen immediately. The scanner and the photocopier have always been favored tools of mine. In my career as a graphic designer I have created many book covers and interior visuals using both the scanner and photocopier to capture and stylize images. I have also used them in the early stages of image development to quickly run through compositional ideas. I had not however, tried to capture a 3D subject with the scanner before, and therefore didn't anticipate that the results would differ from two-dimensional scans in any significant way.

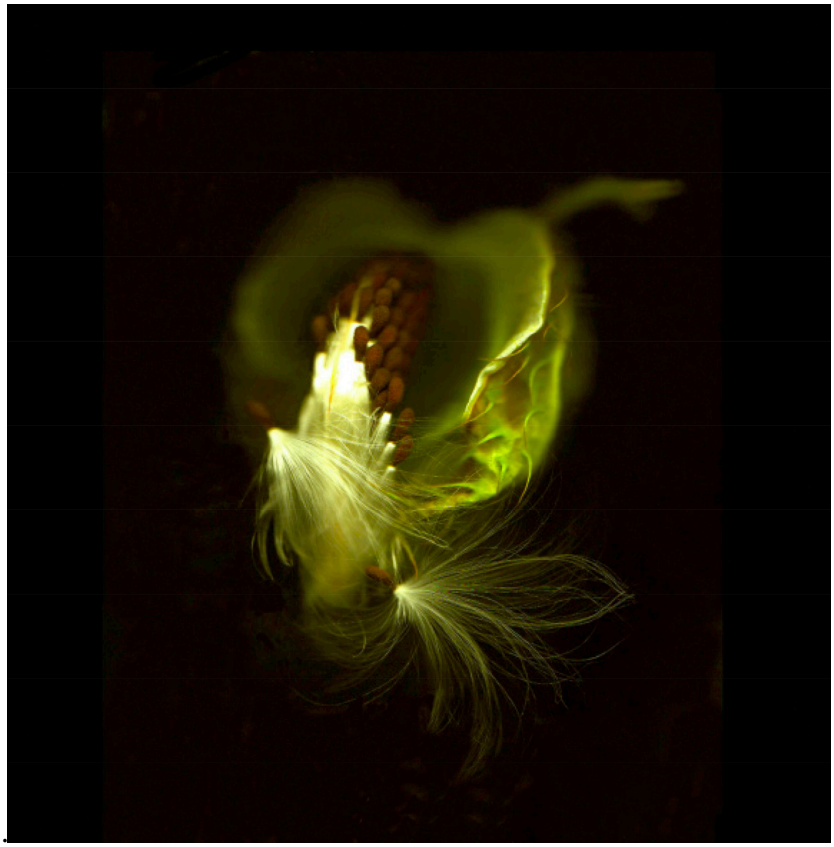

FIGURE 2 ALEXANDRA HASS, *RELEASE*, 2006

The scanner did more than merely capture images of the seeds in a traditional manner. Instead, I produced images that interpreted the seeds in a singular way by portraying high-definition reality wherever the object touched the scanner bed, and shifting to a soft-focus diffusion that defined the rest of the object. In addition, there was no privileged focal point. When the focal point (the compositional point within an image that is of primary significance) is removed and/or undefined, the viewer is free to use their personal subjectivity as the navigational tool to define the important point/s for themselves. The scanner's carriage (containing the light source and light receiving aperture) moved across the flatbed evenly, distributing the focal intensity across the whole of the image. An illusion of depth is created by the near-sightedness of the optics, which quickly diffuses the object into the background.

comparisons with Uta Barth's work

The artifacts are not exactly emulating the work of Uta Barth, but certainly have the spirit of her work within them. They have the same unexpected technical softness, the hyper-real melting into a soft focus, and the lack of a focal point, all of which create a visceral pleasure in seeing. Essentially, the image experience is of a kind that can inspire the viewer towards a more conscious act of looking. Rather than having an automatic or physiologically reactive experience, the viewer can engage with, and compare the subtle differences of the scanners' system of visualizing with their own .

After scanning all the objects and seeing the varied results, I came to realize that these scans reflect the work of Uta Barth in one other way – they reveal their technological origin. Uta Barth has built into her practice a relentless pursuit of revealing the photographic nature of the camera within her images. To her it is another way of engaging the viewer in thinking about vision. She allows – invites, really – blurs, blow-outs, hot spots and any other marks particular to photography. (Fig. 3).

FIGURE 3 UTA BARTH, *FIELD #9*, 1995

My own scans are quite different in their aesthetic quality, but they too reveal their technological nature in almost every scan. The seed in *release* (Fig. 2) reacts to the light of the scanner head by reflecting a rainbow-like spectrum off of some of the individual hairs; in other cases liquids create odd rainbow-like smudges, and sometimes, thin petals are interpreted as semi-opaque and become visually layered with the petals behind them.

I am still working on discovering all the peculiarities of the scanner and its visual interpretations. I consider most of the scans made in this discovery process as studies and experiments that will generate or become finished pieces when I fully comprehend their visual potential. The artworks depicted in figures 4, 5, 6 and 13 are finished examples of this, as they have a set conceptual framework – discovered through the making – that I am now working within. I will continue to search for and discover scanner mark-making capabilities until I feel satisfied that the possibilities have been exhausted.

The seed scans have many threads that tie them to the work of Uta Barth, but they also part company with her images in significant ways. The primary difference between my work and Uta Barth's is my distinctly different method of engagement with the image-capture process. My role within the scanner's image capture is to open the process to chance while working blind to a large extent. Working this way is less calculating, more experiential –partly cyborg, and partly technician. I introduce the term "cyborg" here as it best encapsulates my relationship to the scanner – that of a person who has enhanced her natural biological capacity by mechanical or electronic devices. The artist Stelarc has a somewhat harsh definition of cyborg that references our cultural relationship to enhancing devices.

> Bodies are both Zombie and Cyborgs. We have never had a mind of our own and we often perform involuntarily – conditioned and externally prompted. Ever since we evolved as hominids and developed bipedal locomotion, two limbs became manipulators and we constructed artifacts, instruments and machines. In other words we have always coupled with machines. We have always been prosthetic bodies. (Stelarc)

I do not wholly embrace Stelarc's perception of our mindless and conditioned actions. I do however agree that we are drawn to machines that enhance our capacities and engage our minds in new possibilities or information. When I scan an object, I can't predict or even anticipate what the scanner will produce, or the manner of its interpretation. I can only choose and arrange the object, set up the light conditions, adjust the programming settings, the level of magnification and the DPI that affect the number of pixels; that is, set in motion the conditions that will affect the resulting scan. Even when I preview the image in the scanning software before a final scan, I only see the position and general appearance of the object – the details and anomalies are almost always a surprise. The cyborg-like aspect is only realized after the scan is complete and the original object is revealed in new, and unanticipated ways. The scanner's mechanical and electronic method of reproduction intervenes with my own visual intentions as it extends my visual capabilities. This is surprisingly invigorating and adds a level of freshness and vitality to my creative process that was missing in my earlier work, both as a painter and as a designer.

The plant-scans also differ from Barth's photographs through a lack of situational context, a lack of atmospheric conditions for interpretation, and most significantly, the existence of a central

object. The primary subject in the plant scans is often metaphorically rich, and this again sets the scans apart from the photos of Uta Barth. She has always maintained that her images are not signs or indicators in the semiotic sense, but are to be experienced in and of themselves.

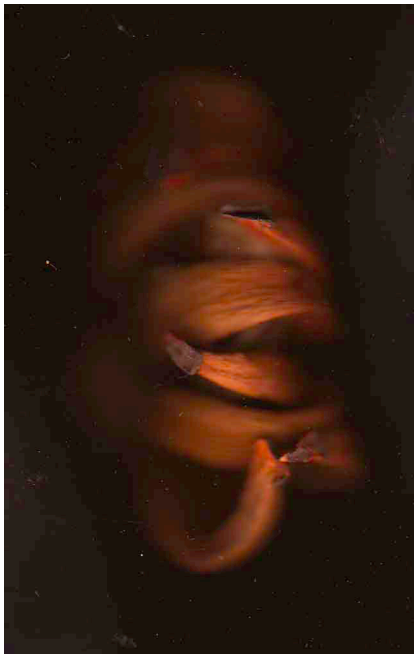

FIGURE 4 ALEXANDRA HASS, *WAITING*, 2006

The metaphoric discoveries made at this stage are visible in the figures 2 and 4 above. The scanner's interpretations of plant forms sets the images apart from the historic depictions of the botanical object. Images made in that tradition reference the plants' structural and textural details in a rational and empirical manner to allow the viewer to fully comprehend a plant that was unknown. The scanner's interpretations are neither empirically, nor indexically authoritative examples of botany's representational tradition. The peculiarity and uniqueness of these images fool the mind into "seeing" with a fresh eye. At the same time the vague and mysterious figurative aspect of the central object opens the mind to metaphoric interpretation.

In many cases the subject becomes anthropomorphized into a symbol of human life. The presentation style of the green and brown seed pods clearly reference the cool botanical and rational approach in the centered and simple presentation, but do not entirely depict the seedpods' structure or textures. The added anthropomorphic elements add tension to the coolness of the presentation and invite the viewer to contemplate another subject altogether. For example the green seedpod has an overt sexual metaphor embedded within it — the opening of the seedpod bears a strong anatomical resemblance to a woman's labia, the shape of the space within the opening and the motion of the seeds dispersing, allude to the vagina, fecundity and the moment of sexual release. The way the light reacts to the different material elements of the seedpod, creating an atmosphere of softness, also biases the viewer toward reading this image in a sensual way, and lends additional visual strength to the sexual atmosphere.

On the other hand, the brown seedpod acts in a different anthropomorphic manner by not alluding to the sensual moment, but to the anxious moment. This seedpod has hardened into a shape that resembles a pair of hands clasping in nervous anticipation. Even the hard, thin texture of the wood-like bracts resembles the strain of skin tightened and pulled taut in anxiety.

Both of these anthropomorphic expressions lend additional value to the images without diminishing the original objectives of the seed project. The metaphoric discoveries have added a conceptual element to the work, which has greatly increased my interest in pursuing this project. However, finding plants that are both humble in origin and rich in metaphoric possibilities is a slow process of walking, seeing, examining, and then finally documenting an object through the scanner. Looking for the abject object also requires a specific frame of mind

and an attentive eye that can see the human aspect within a discarded botanical life form. It is for these reasons a slowly realized series, with progress made by accident and opportunity – naturally.

The seedpod project encouraged me to explore the potential of the human/plant relationship and its complexities. I then began the next phase of my inquiries by researching biology and co-evolution in search of interconnections that could inform the metaphoric content I was looking for.

C H A P T E R T W O

control, chance and seduction

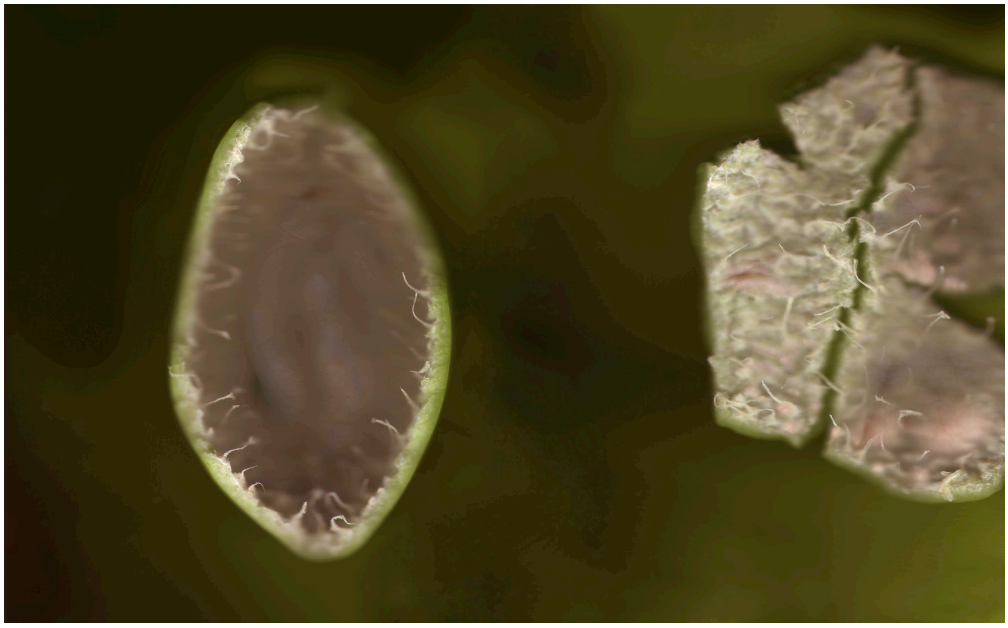

FIGURE 5 ALEXANDRA HASS, *SELF-PORTRAIT*, 2007

"All domesticated plants are in some sense artificial, living archives of both cultural and natural information that people have helped 'design.' Any cultivated flower reflects the human desires that have been bred into it" (Pollan, 195).

control & chance

The investigation of the scanner as a visual tool continued as I explored various topics within biology and evolution. I wished to find a model that I could use as a subtext for my plant choices and scanner settings. It was important that there be an interplay of significance between organic subject and technological tool. I discovered a conceptual model in the tension that exists between monoculture and biodiversity – *control* and *chance*.

The complex relationship we have constructed with nature has been both highly beneficial and highly problematic. The tension lies in the interplay of the Logos (controlling principles) of Nature and those of humankind as expressed through the objectives of monoculture and technology. My guide in this area is Michael Pollan's book *The Botany of Desire*. In it, Pollan examines the reciprocal nature of our relationship with plants from a historic perspective that includes both an appreciation of the benefits and an analysis of the failures of this marriage of human and plant. He uses the term *Dionysian* to represent the wild mutability and diversity of nature, and *Apollonian* to represent the other principle: order, control and drive to perfection. The Apollonian principle also exists and is intrinsic to the technological ethos that created the scanner. According to the writer Jeanne Randolph, "Technology could be defined as an ideology in which human experience is defined and perceived exclusively in terms of goals to be achieved as efficiently as possible. An ideal of technology is to find The One Best Way to accomplish each goal" (Randolph, 77).

I have adopted the Dionysian-Apollonian framework for my plant and scanner work because it allows for a meaningful intersection of plants, and media within physical atmospheric conditions like light or water that are then combined with technological intent and use.

Seduction

The realistic yet uncanny visual quality created by the scanner optics continued to be emphasized in the scanner experiments. I pushed the eye appeal further by adopting another strategy used by Nature: the blatant use of seductive textures, colours and forms – to attract, even seduce, mobile organisms to assist in the process of reproduction. Plants do this by making flowers with features that attract the kinds of creatures best suited to help them reproduce. I determined that using flowers – specifically cultivars (plants that have been hybridized artificially to become more attractive to the consumer) – would imbue my scans with a seductive quality, attracting and pleasing the viewer with flowers designed and modified for current visual appeal. While the flowers are representative of both nature and human, the technological imprint would add an element of both conceptual and visual complexity.

> For look at a flower, and what do you see? Into the very heart of nature's double nature—that is, the contending energies of creation and dissolution, the spiring toward complex form and the tidal pull away from it…Apollo and Dionysius were names the Greeks gave to these two faces of nature, and nowhere in nature is their contest as plain or as poignant as it is in the beauty of a flower and its rapid passing. There, the achievement of order against all odds and its blithe abandonment. (Pollan, 109)

The destruction of the order, the open invitation to chaos after achieving compositional structure and complexity, was not one of the strategies of my original experiments. I have adopted this methodology with the scanner by pushing its capabilities until it creates a rupture

in the scan. In my upcoming projects (chapter 5) I will be incorporating this moment in the flower within the scans – the moment it explodes or destructs.

C H A P T E R T H R E E

dis-connection: the scanner as a disruptive medium

FIGURE 6 ALEXANDRA HASS, *EARLYBURST*, 2008

When I created *EarlyBurst*, above, using a scanner, I discovered optical surprises that did not exist in the object at all, surprises caused by stressing the scanner apparatus (a completely novel action/idea to a print designer taught to scan optimally). Prior to creating this image, I had focused on *perfecting* my scanner technique: what settings were best, what file sizes were needed, what steps should be taken in Photoshop etc. I was pursuing information that would enhance the hyper-real photographic interpretations of three-dimensional objects. These early pure-minded scans contained reflective light and material anomalies, wonderful unexpected

textures and structural details, but nothing that was outside of a realistic interpretation or realistic visual information.

EarlyBurst has embedded within it three types of visual aberrations that contribute to a discontinuous representation. The first of these aberrations is the broken seaming of the image – the scanner is unable to properly fuse one pass of the image to another. This creates a visual jostling in the image – particularly around the edges. Another aberration is the rainbow effect it creates on some of the stamen and pollen. The third and most unexpected effect is the flattening (by this I mean a three dimensional object becoming one flat colour, rather than alluding to a plastic shape) of the pollen that is in turn interpreted as red or green or yellow, not the original orange.

EarlyBurst changed my objectives and the direction of my work with the scanner's technology. Rather than attempting to perfect the image capture process, I began to pursue methods of distress to discover the range of visual properties the scanner possessed.

the influence of Wolfgang Tillmans; back to Barth

Actively exploring the medium of a scanner is similar to exploring the medium of analog photography, though the technical and material conditions of the scanner consist of making imagery through light and programming, rather than light and chemicals.

> Photographs can represent things in the world, but photography can also be self-reflective and explore its own possibilities as a medium, i.e. the technical and

> material conditions involved in the making of imagery through light and chemicals. (Tillmans, 7)

Wolfgang Tillmans, quoted above, is referring to his photographic explorations in works such as *Silver*, *Paper Drop*, *Lighter*, *Studio Light, Aufsicht* and *If One Thing Matters, Everything Matters.* In *Silver*, Tillmans explores the chemical reactions used in film processing:

> *Silver's* images are mechanical pictures made by feeding them through a processing machine while it's being cleaned, so they pick up traces of dirt and silver residue from the chemicals. Because they are only half fixed and the chemicals aren't fresh, they slowly change hue over a few days. Sometimes I use this instability to create different shades and lines on them, before scanning and enlarging them to their final size. (Eichler, 1)

His explorations also include composing and capturing light as it plays with the simple shapes of folded photo paper in the series *Paper Drop*, and extends to three-dimensional, physically folded photographs, which then become sculptural explorations of the photographic medium in works within the series *Lighter*.

> Some of them I expose to different coloured light sources in the darkroom after first folding them in the dark, and some are made in reverse order. Some are not folded at all – they only suggest the possibility of a fold – but they are all highly intricate. We are still blind to what it exactly is that makes a photograph so

> particular, so deeply psychological, even though it's supposedly a mechanical medium. The *Lighter* works are a continuation of the three-dimensional approach of the paper drop pictures (2001–8) of hanging and flipped-over pieces of photographic paper. (Tillmans, 7)

In these works Tillmans reveals an obsession with the "chemical magic" of photography and the photographic process. The discoveries he makes in these material explorations often find expression within his depictions of still life, his portraiture, his documentary style shots of 90s club scenes, and most noticeably in his landscapes. He also uses other mechanical interventions – notably the photocopier – to add the atmospheric interpretations he believes will complete the image experience.

> When I work on the non-figurative pictures in the darkroom or use photocopiers, it is a direct engagement with physical realities: the colour and intensity of my light sources or the electrostatic charge on the copier drums. I use them and play with them to make pictures possible. For instance, under the burden of all the clichés it's not really possible to photograph Venice, but I still wanted to, so I made the photocopier-enlarged image *Venice* (2007), in which the details that indicate 'Venice' are reduced heavily. That makes them feel almost appropriated, but in fact all the photocopy pictures are based on photographs, which I took for this type of enlargement. (Eichler, 1)

I believe that Tillmans, through his material explorations, informs and educates his inner or mind's eye, which in turn strengthens and fine-tunes his spatial sensibility and his ability to find

poetic moments in the everyday. This experimentation also increases his capacity to see potential opportunities for mechanical intervention after he has taken the images – opportunities to add in layers of purely photographic mark-making that take the image to a new experiential plane. This work is done in the darkroom (as opposed to Uta Barth who composes her shots to contain the photographic mark-making).

It is this celebration of what photography *is* that connects him to the work of Uta Barth. The intent behind his abstract work differs from Barth's as it is grounded in the exploration of the photographic medium rather than Barth's overt exploration of visual perception through photography. The two approaches however, share a common goal in their quest to enlarge and engage the viewer's optical experience.

Tillmans' work and mine connect in the common pursuit of discovering how a technological tool and its associated materials react to various unanticipated or undesirable conditions. These conditions create visual disruptions that potentially create an enhanced visual interpretation of the image/art piece and deepen the possibilities of a meaningful viewing experience.

My own artistic goals are informed by both Barth's and Tillmans' approaches, and sit somewhere between the objectives of these two photographers. I wish to maintain the hyper-realistic and uncanny quality of the original Maui seedpod scans, which connect them back to Uta Barth's gentle proddings into the "physicality of vision . . . exploring the differences between looking at the world and being conscious of that looking" (Barth et al, 29). I also believe that embedding evidence of a technical nature into an image can add subjective and

metaphoric depth to the content of that image. An example of the can be found in *Entropy* (figure 13, Chapter 4), where the rainbow-like striations that have been created by scanner force themselves between the viewer and the plant. Their presence has been read in two distinct ways. One is a poetic interpretation of the sunlight being converted to a rainbow by the scanner. The other interpretation falls in the category of a critique of our relationship to Nature. In this interpretation the coloured bars of the striations symbolize a cage, the flowers symbolize a Nature that is trapped and impotent. The embedded evidence makes the technology visible in the images, which allows to the eye/ mind to comprehend the boundaries - real and illusory - and actively work with and transgress them. These marks will always have a metaphorical association to our technologically mediated society. Fused together with the plant matter they create a semiotically rich image that is lightly directed, but still very open to a subjective interpretation.

While Uta Barth denies or de-emphasizes the metaphoric nature of a technical mark, Wolfgang Tillmans captures this subjective richness in many ways – most of them through photo-technical intrusions. An example of this can be found in his photocopy work, where the poor visual quality of the photocopier toner and non-archival paper add a sense of loss to the temporal nature of the moment captured and reproduced, only to be lost to the decomposing processes of time.

embracing the accidental

Both Barth and Tillmans reference Nature and everyday experience in their process of exploration and in the content of their work. " . . . control and chance, intention and liberating

accidents are a constant theme in Tillman's work" (Birnbaum, 8). Intention and liberating accidents also play a part in the work of Uta Barth.

This embrace of the accidental within the larger scope of calculation and control is a methodology that echoes the process of evolution in Nature, so it was to that process that I turned to frame and inform my own methodology for the exploration of the scanner. The scientist and writer Hans Meinhart, on the topic of structural development and evolutionary behaviour in nature, wrote, "Sooner or later self-enhancing processes provoke antagonistic tendencies" (Meinhart, 1). I have interpreted the term "antagonistic" as oppositional, i.e. opposing a particular action, or growth, in an attempt to rebalance or strengthen a larger system. This is the core premise of the oppositional strategy I developed – technology (representing the *Apollonian* aspect) versus the organic (here representing the *Dionysian* aspect), which has evolved (forgive me) to also encompass the overlaps and similarities that exist between biology and technology. The complexity of their relatedness exists in the fact that they are both technologically created. The evolution of the image and the evolution of domesticated nature are tied to technology. In that sense the oppositional nature of the technology is illusory inasmuch as the technology is part of nature (just as we are).

changing the scanner's role

The flat-bed scanner, in its objective role of digital interpretation, simply captures a two dimensional image in digital form. The better the input and scanning device, the more perfectly the scanner reproduces the image without adding any visual sign of its presence. When asked to interpret a three-dimensional object, it adds a subtle and unique visual flavour. Under optimal light and programming conditions, it produces images that interpret three-dimensional objects

in a visually pleasing manner capturing fine details when the objects touch the scanner bed and instantly diffusing to a soft blur of colour where they do not. This technological visual quality, combined with the innate sensuality of plants, creates images that are easy to access, both because of the subject matter and because they are an uncanny interpretation of reality. The uncanny quality of the scanner lies in the fact that its optical construct is horizontal, table like and shallow, unlike human organic optics which work within a cone shape, have a precise focal point and incorporate large distances for seeing the larger territory that needs to be negotiated. The scanner's technological vision is reduced to a one-centimetre depth distributed across the glass surface evenly. It can be thought of as the surface of a table with a thousand little nearsighted eyes scanning down and across the glass bed, picking up each and every detail where there is contact with the scanner bed, and alluding to the rest of the information with a blur. The visceral pleasure in the simple act of seeing is brought to the forefront by this shift in visual interpretation – heightening the difference between our own optical sense and that of the scanner's.

The scanner, as an imaging device, is situated between the computational world of programming and the optical world of the camera. It functions in a very limited way within each of these categories, but does not have full membership in either. This tool was designed to function in a narrow technological field - specifically to digitize two-dimensional analog imagery. As a visual medium it has not been fully explored, and this exploration is a multifaceted undertaking.

Additional exploration of the flat bed scanner has entailed systematically reducing, removing and replacing many of the technical requirements and supports that allow it to function optimally.

This is analogous to the logic of Nature: if stress is introduced the organism must respond with change – either immediately or gradually through reproduction. The changes can be interpreted as aberrations or adaptations. In the case of the scanner, the stress might entail a process of operating it in bright sunlight, which is a condition under which it would not normally perform at an optimal level.

In my visual experiments I have cast the scanner in the role of an organism whose natural environment is a dark, clean, dry lab. For optimal performance the scanner bed must be clean; the two-dimensional objects placed on it must be devoid of water, oil or dust. The objects to be scanned are synthetic- photographs, paper, and transparencies – and are not found in nature. The scanner's interpretation of the two dimensional object (the actual scan) is usually reviewed to ensure the scanner has left no mark of its use and has captured the original object perfectly without any aberrations. In the lab environment the scanner functions perfectly and invisibly.

This lab environment has emerged from a long line of rational thinking and pragmatic tinkering that now has a firm place in our industrial and computational society. The rational mind and methodology of the 17th and 18th century, which have been instrumental in creating this environment, are perfectly encapsulated in the following quote from Descartes who was writing about his experience of the natural world within a camera obscura:

> I will now shut my eyes, I shall stop my ears, I shall disregard my 'senses.' The orderly and calculable penetration of light rays through the single opening of the camera

> corresponds to the flooding of the mind by the light of reason, not the potentially dangerous dazzlement of the senses by the light of the sun. (Descartes, 24)

I wanted to open the eyes and flood the "mind" of the scanner to see what would happen when the scanner was introduced to and engaged with the larger spectrum of the natural world. To oppose the airless, sunless scanner environment meant adding back sunlight, organic objects, dust, dirt, oil and water – dazzling the scanner's senses with nature. It also meant throwing out the programming instructions and even the program itself. The focus of my research became the discovery of the role of chance – through provocation and liberating accidents –in creating, amending and destroying visual form, as well as how these amendments and/or aberrations worked to enhance an image by giving it a greater visual trope.

To adapt oppositional processes to the exploration of the scanner's visual potential, I separated its programming functions from its contextual needs. Making an oppositional or contrary change to both the programming and the operating conditions, I then scanned to see what the resulting visual interpretation would be. I connected this concept of opposites back to the two ruling aspects of nature – between the Apollonian tendencies towards control and perfection versus the Dionysian tendency towards mutability, chaos and change.

five categories of opposites

The explorations to date fall into five categories: atmospheric opposites, internal opposites, objective opposites, time-based opposites and material opposites – each one illustrated and explained on the following pages.

FIGURE 7 ALEXANDRA HASS, *LIGHT STUDY*, 2008

ATMOSPHERIC OPPOSITES refers to the light quality – dark, and still vs. light, open or moving. In figure 7 the scanner interprets the plants and sunlight in a semi-photographic way because it is being used to optimize the image, not distort it. This image creates a push-pull tendency for the eye by engaging it equally between the visually intense, yet playfully diffused interpretation of background light and the hyper realistic foreground details.

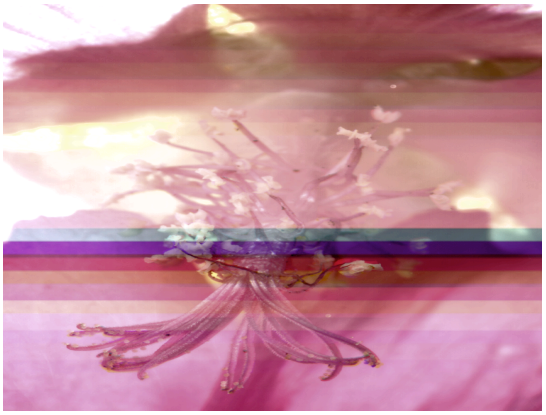

FIGURE 8 ALEXANDRA HASS, *ENTROPY*, *DETAIL*, 2008

INTERNAL OPPOSITES are proper scan procedures and inputs vs. inputs and procedures that intentionally stress the internal mechanics and programming. In figure 8 the scanner software is stressed by increasing the magnification past the proper settings, which greatly slowed the scanner functions. Addition stress was introduced by scanning in direct sunlight. Various image aberrations were created all within one scan: the scanner broke the image into flat 2D areas, photographic planes, colour-spectrum striations, and RGB defined elements – i.e. parts of the plant were interpreted as red, some parts green, and some parts blue. This outcome has multiple effects on the image, the eye and the viewer's experience. There is the pleasure of identifying the realistically captured stamen within the blown-out diffusion of sunlight near the centre of the flower. Added to this effect is a posterizing of the petals overlaid with bands of rainbow striations – all these elements weave a visual effect that takes time to absorb and create a less automatic, more engaged viewing . The temporal lag allows for multiple readings of the layers, and for assessing the relationship of the subject to the technology. The digital artifacts divert the perceptual processes, preventing a dismissal of the image as yet another flower.

FIGURE 9 ALEXANDRA HASS, *W/TEETH IN THE WIND*, 2008

OBJECTIVE OPPOSITES invert visual priorities; capturing the material object with the scan vs. capturing the effects of the surrounding sunlight, wind, and negative space. In this example there is a visual focal inversion occuring with the plants – those in the background are brighter and of greater visual interest than those in the foreground. This is caused by sunlight's greater visual power – the scanner light source, though it is enough to define the objects well, doesn't have the same intensity and is captured almost as a type of shade. The spatial quality of the background of this image is another type of inversion,one where the space becomes a dominant aspect because it is implying movement, while the plants are still. This causes the eye of a viewer to move back and forth between the two in order to understand their relationship to each other.

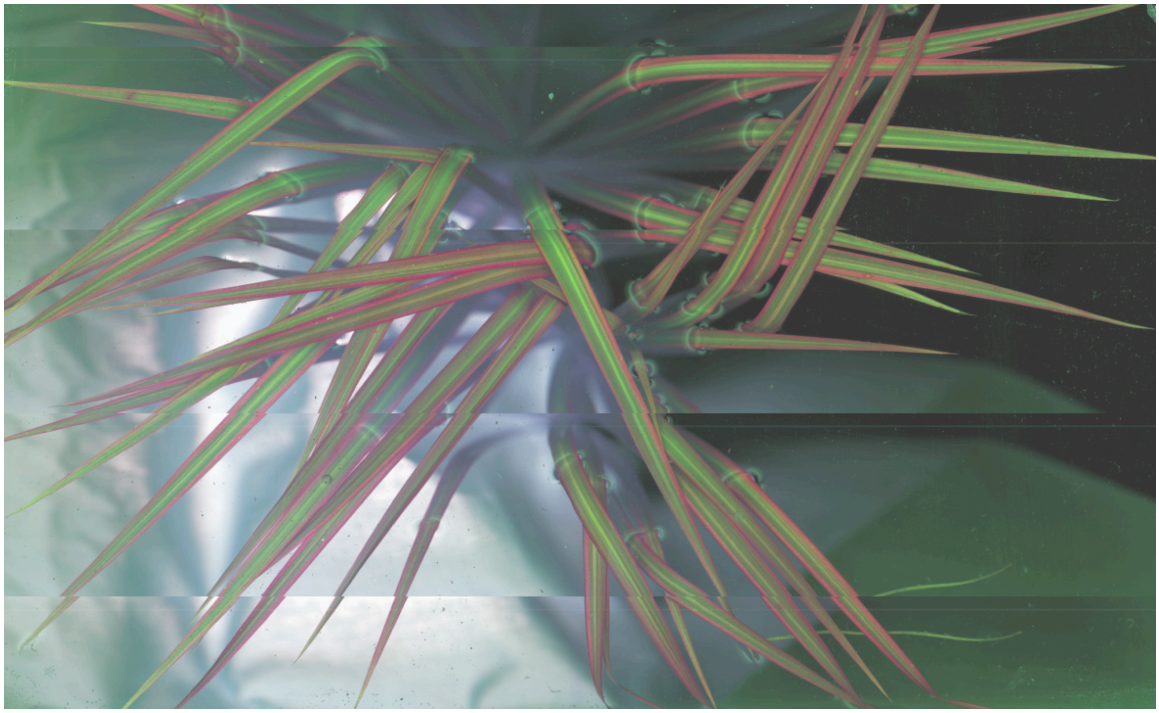

FIGURE 10 ALEXANDRA HASS, *FOLDING LIGHT*, 2008

MATERIAL OPPOSITES is a category of opposite material type and use. For instance the scanner bed is usually dry – therefore I scan through water. As the glass is usually clean – I apply oils, or dirt and allow water and/or pollen to fall onto it. The scan interprets the objects through the oil or water, or captures the dirt and pollen as though they are floating in air, detached from the plant altogether. Another material opposite is scanning a three-dimensional object versus scanning objects that are flat.

In this example the plant is scanned through an inch of sea water with sunlight shining through the water on half the scanner bed only. There are three visual aspects created by this aquatic medium that are unnatural – one is how the background is interpreted, and the other is the colour spectrum effect ringing each stalk of grass breaking the water. The third is the scanner's deficiency in making coherent seams.

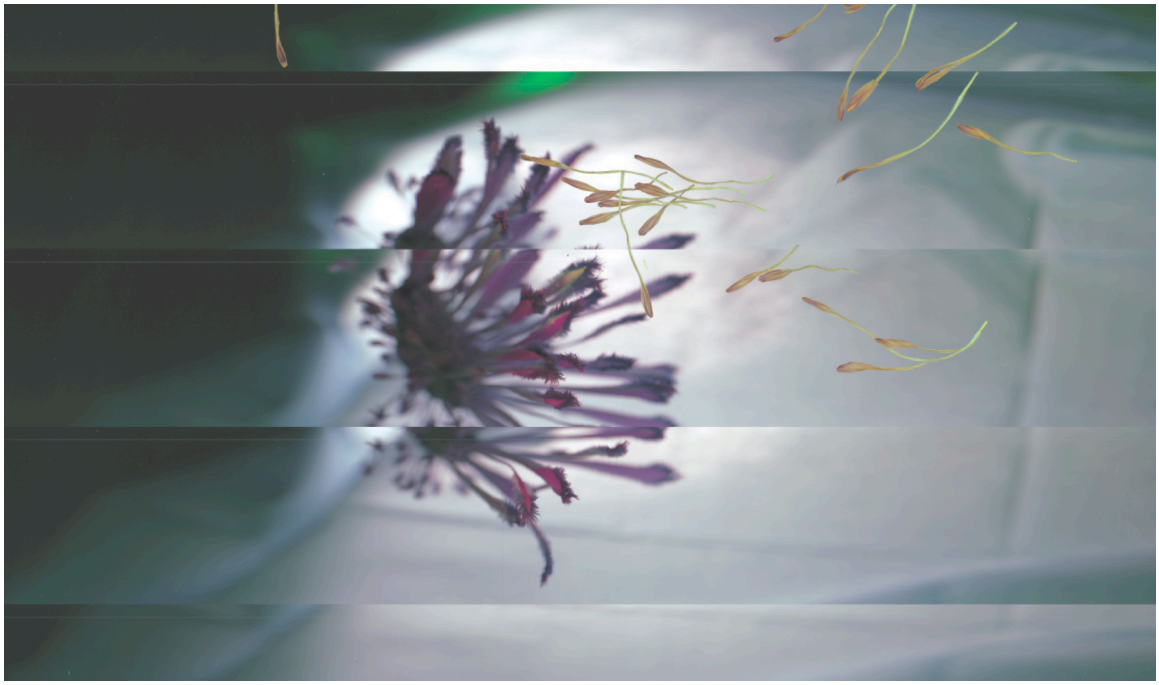

FIGURE 11 ALEXANDRA HASS, *SWIMMING*, 2008

FIGURE 12 ALEXANDRA HASS, *PARCHMENT*, 2008

TIME-BASED OPPOSITES takes advantage of the fact that a scan is usually quick and perceived to be similar to a snap shot – one moment in time. However a scanner can be programmed to take

over an hour on a scan if the programming is adjusted. The image reveals the object's deterioration over the duration of the scan and can be interpreted as a time-based document.

Figure 12 is part of a larger scan that began as soft fresh white petals. By the time this section was scanned the petals had become dehydrated and browned on the edges. The effect of the whole image is unnatural as it presents very gradual decomposition and yet is perceived as a snapshot-like moment. The tension that exists between the fresh and new petals and the old and dehydrated ones is clearly visible, though does not jump out at the viewer at first glance. Reading it is perplexing because of the massive quantity of petals used – this scan could have been set-up with the old and new composed in this manner, but the set-up would have taken so long that the fresh petals would not have lasted long enough in their fresh state for the image to be taken.

The scanner experiments have defined and identified specific limitations, particularly in the scanner's programming. To further explore capturing the temporal potential of the scanner, Dr. Maria Lantin, the director of IDS, wrote a new scanning program for the Epson scanner. The new program allows for random scanning of the image bed rather than the preset, linear, top to bottom progression of the scanner head. This new program allows images to be scanned in a nonlinear way and pushes the time-based aspect of the visual information into the unnatural territory of seeing different temporal moments seamed together in what initially appears to be a single moment in time. I anticipate that the resulting images will engage the viewer in attempting to make out the subtle pattern of freshness and dehydration as it is distributed across and throughout the image. My hope is to reveal a temporal whole in the disjointed spatial assembly.

The visuals produced by these oppositional pairings are byproducts or offspring of the scanner – echoing biological themes in their unknown outcome and far-ranging results. Just as an apple forms five seeds that do not replicate the original fruit, these scans do not replicate either the object within the scan or its environment, but a new interpretation of the two. An additional echo of evolution is based on the survival of the fittest strategy – in my selection process only those images deemed successful are printed (or replicated).

Adapting nature's predilection to chance in my use of the flat bed scanner has freed the scanner from the constraints of controlled invisibility as a tool of digital translation. Unfettered by the limitations of the lab, the scanner has revealed itself as an artistic tool with its own interpretive vocabulary of image and mark-making capacities that both distort and heighten our visual experience.

Throughout the experimentation with the scanner I have noticed my own visual awareness and aesthetic go through a significant shift. In the manner of Wolfgang Tillmans, I have discovered that my awareness of the environment and the spatial and atmospheric conditions of the day has increased. This experimentation has also given me a greater understanding of the value of visually intervening between the image and the viewer with a mechanical mark.

CHAPTER FOUR

technology as metaphor

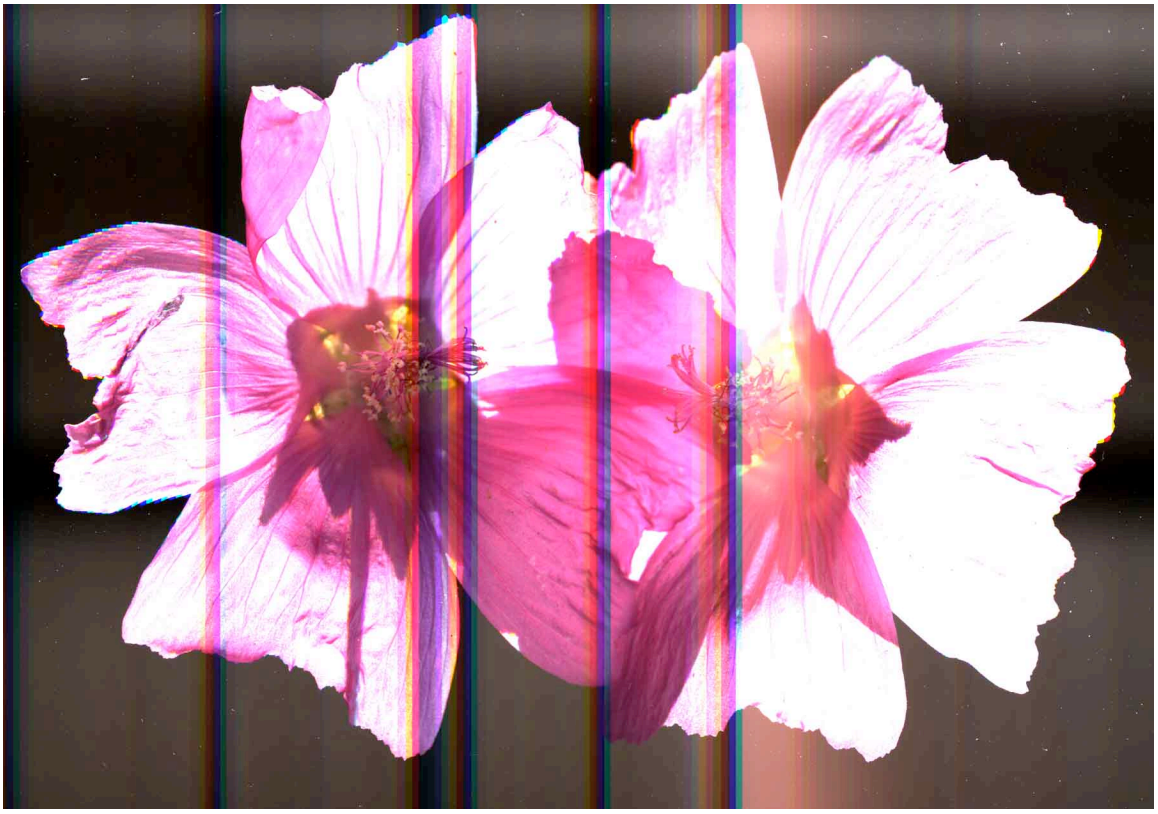

FIGURE 13 ALEXANDRA HASS, *ENTROPY*, 2008

There are many theories about how a viewer interacts with a photographic image. The viewer might mentally fuse with the photographic space and content, or perhaps contemplate the technology or the photographer and the type of mind that created the image. Another possibility, which I am exploring in my images, and which Uta Barth and Wolfgang Tillmans also use, is the concept of a "third space" that locates the place of engagement for the viewer within the intersection of the photographic content, the technical elements, and the artist. Where final meaning rests with the viewer. A type of reality is referenced, but because of image distress, distortion or abstraction, it is, as with all imagery, open to varied degrees of

interpretation and nuance. The visual evidence of the technological in an image is generally perceived as a metaphor for our industrialized society and the plant becomes a symbol of nature.

In his book *Techniques of the Observer*, Jonathan Crary explores the history of human vision and its perceptual developments as informed by scientific inquiry in tandem with technological advancements. He addresses the gap that exists in discussions about past and current perceptual capacities, which usually focus on empirical data. He also addresses the subtle changes in the role of the observer as he or she becomes more adept and sophisticated in seeing, deciphering and making meaningful the processes of nature and our industrialized, technological environment rich with images and signs. Crary's book pivots around the premise that technology educates, shapes, refines and enlarges our visual and perceptual capacity both individually and collectively.

Crary's book begins with the invention of the Camera Obscura in the sixteenth century and its influence on the perception of life through the processes of nature. He focuses much of the book on the transformational impacts these technologies have had on art and philosophy. He addresses the current impact of digital technology only in the first paragraph of the first chapter. There he states that we are

> ...in the midst of a transformation in the nature of visuality probably more profound than the break that separates medieval imagery from Renaissance perspective. The rapid development in little more than a decade of a vast array of computer graphics techniques is part of a sweeping reconfiguration of relations between an observing

> subject and modes of representation that effectively nullifies most of the culturally established meanings of the terms observer and representation. (Crary, 1)

Crary's book has influenced my work and research because it explores the development of perception through enhancing technological devices. His "observer," much like Marshall McLuhan's, sees the technological context as meaningful. McLuhan's famous statement "the medium is the message" asserts that the function of seeing includes and gives priority to the method of its delivery.

Jeanne Randolph and object relations theory

In her essay "Technology as Metaphor," Jeanne Randolph outfits Jonathan Crary's new observer with a specific ability: the capacity to maintain an illusionistic space within a technologically made artwork. "This is a subject who welcomes the conditions in the "third area," conditions that are ambiguous, self-contradictory, approximate. These conditions necessitate an act of interpretation. By an act of interpretation this hypothesized subject deliberately co-authors illusions . . ." (Randolph, 77). The specific technology Randolph refers to is photography, but her ideas can be applied to many artworks that reference "reality," yet reveal and use their technological origin to attach additional layers of meaning within its aesthetic presentation.

Jeanne Randolph's ideas revolve around the complicit role of the viewer of a photograph in sustaining and building its illusionist force. This is the viewing ability my work anticipates and engages with, one aspect of which is the metaphoric tendencies of the viewer's mind. This is an audience that actively engages in sustaining the illusionary "working fiction" of an artwork, and

welcomes the opportunity to engage with and use their subjectivity as a navigational tool. Jeanne Randolph's ideas have assisted me in articulating the desired relationship I seek to create between my images and the viewer.

> That area between autistic, private fantasy and public, pragmatic, convention, between bodily function and sociopolitical function is, in fact, culture. Phenomena that are brought into this intermediate or third realm of activity no longer exist solely on their own terms. In the cultural realm the objective and subjective merge … In this third, cultural realm of activity, phenomena become found objects that are free to be re-defined as well as actually reshaped, so that their interpretation is multiplied. (Randolph, 48)

Both Uta Barth and Wolfgang Tillmans explore and engage "the third space," in works that define and/or activate the space of visual, visceral illusion, and engage the viewer psychologically and physiologically through a technological medium. This conceptual framework is pivotal to the ideas I am developing with the scanned image, and the expectations I have of viewers' metaphoric tendencies and capabilities.

Jeanne Randolph reads the observer of the photograph through the filter of object relations theory, which places great emotive power on the visual connections made by the viewer. "Object relations theory is a modern adaptation of psychoanalytic theory…object relations theorists believe that we are relationship-seeking rather than pleasure-seeking as Freud suggested" (Klee). To me, relationship-seeking implies an urge to understand where one fits,

what one sees, and how one is affected. In this light it is a perfect fit for the audience that Uta Barth and Wolfgang Tillmans attempt to reach in their work. This is an audience that is ready to see meaning and value in the technical abstractions produced by the camera.

Both Barth and Tillmans have created their work for an audience that is technologically literate; viewers who are able to interpret technological marks like pixilation, moiré patterns, striations and screen break-up as signifiers. The beauty of the work of these two photographers is their ability to invert the meaning of the technical mark generally signifying a "problem," to a mark created for the viewer's engagement and the image's enhancement.

technology educates

> "In his projections regarding the popular apprehension of Film, Benjamin was not able to anticipate the ways in which technology would discipline the audience into particular ways of seeing or the ways in which that technology would develop." (Stewart, 11)

Susan Stewart's concept of *disciplining* the audience can include the concept of *educating* the audience, if *discipline* is used in its original meaning. The term "discipline" comes from the Latin word "disciplinare," which means to teach. Therefore to see an image through the lens of technology and interact with the image and its technological origin together, creates a type of seeing that is quite different than the automatic vision we use for scanning to negotiate the details of daily life. Uta Barth and Wolfgang Tillmans use this new ability to bring daily life back into the framework of a gallery or book with new eyes and engagement. It is their shared

belief that viewing is or can be a conscious "process of perception, and the visceral and intellectual pleasures of seeing" (Higgs, 32) and can be triggered by allowing the technology used to visually reveal itself and become part of the aesthetic experience.

The meaningful convergence of nature and technology in my images relies on the observer's semiotic engagement. Over the past year I have been developing scanning techniques that interpret the object scanned in combination with a variety of visual, technological noise. I combine this technological noise with a plant-form presented in an indexical composition. This exploration of nature is designed to allow the observer to attach meaning at various or combined conceptual coordinates; the scanner's noise, the plant-form and how it has been presented, the meanings of the two combined, or the material presentation.

Entropy , the image at the beginning of this chapter, has a number of visual aberrations embedded in it and is a good example of the wide range of visual responses and metaphoric attachments that can been read into an image. One example is the interpretation of the scanner's visual presence as a signifier for society, imprisoning nature – the striations act as bars, the plants are captured and immobilized. Another quite opposite reaction is seeing the striations as a rainbow captured by the optics – a moment where the two systems find each other and celebrate that moment of contact with a visual party. The flowers then, act as catalysts for the momentary fusion of the two opposing systems. These disparate responses have confirmed the validity of my approach: attempting to keep the metaphors open while creating the potential for a semiotically rich visual experience. Leo Steinberg, an art critic known for his engaging and lucid writing said something similar about the work of Jasper Johns in his essay about the artist's process of engagement with the viewer. " . . . he

puts two ideas together and makes them work so hard that the mind is sparked, seeing them (the paintings) becomes thinking" (Steinberg, 96). What I admire so much about this concept is that the "thinking" is not predetermined and closed. Similarly, the technological lens, by which I mean the marks made by the scanner, functions because the marks are open and ever changing – determined by the viewers subjectivity.

C H A P T E R F I V E

future directions & material applications

FIGURE 14 ALEXANDRA HASS, *CHAOS*, 2008

> "For look at a flower, and what do you see? Into the very heart of nature's double nature—that is, the contending energies of creation and dissolution, the spiring toward complex form and the tidal pull away from it. . . . Apollo and Dionysus were names the Greeks gave to these two faces of nature, and nowhere in nature is their contest as plain or as poignant as it is in the beauty of a flower and its rapid passing. There, the achievement of order against all odds and its blithe abandonment." (Pollan, 109)

This quote is revisited here as it points to the change in direction of my current projects. The quote addresses the two faces of Nature – the Apollonian system of control (creation) and the

Dionysian system of abandon (dissolution). My scans up to this point have explored distressing the tool that captures the images, the plants within the scans have been manipulated in many ways, but this was done to either find their inner structures or to capture internal material qualities. I have not attempted to capture the plant *itself* abandoning its structural order.

explosion | implosion

" There is a crack in everything, that's how the light gets in." (Cohen)

printed images

I have developed a number of projects that explore different material applications of this calculated plant dissolution. One expression of the idea will rest with large printed images that capture dissolution in the subject (figure 14, *chaos* is one example) and in the rupture of a perfectly captured image as it is broken-up by the scanner with markings, odd interpretations and problems with seaming. This dual moment of dissolution references not only the moment of rupture, but also the system of control that it is attached to. This moment represents vitality, freedom and renewal.

Additional metaphoric elements will be added to the images by the manner of their presentation. The prints will be framed without glass in thick wooden frames that reference the aesthetic found in early European museums of Natural History. The choice to display the prints without glass was made because of the velvet nature of the paper itself – its material surface is lost when glass covers it. This surface adds a painterly patina to the experience of these images, and though subtle it is important to retain as it adds one more tangible element to

the experience. The wooden picture frames that reference the museums of Natural History are a device that sets a tone – or alters the tone (as Darwin states) of the mind of the viewer – alluding to an earlier time when the observer was looking in a leisurely way at a drawing or painting to learn or to comprehend, but not to be entertained.

sculptural form

The second project is a freestanding sculpture made of a transparent duratran print with a seed explosion (part of the same sequence of scans as *chaos)*. The transparency will be sandwiched between sheets of plexiglas that are patterned with a star-like spatter and lit from within its base. My hope it to create a very delicate visual, visceral experience by combining light, glass and elements of hyper-realism. The celestial addition is inspired by a project by August Strindberg called the *Celestographs*. In this project he placed glass plates on the ground or a windowsill and exposed them to the night sky. He did this work in the 1890s. The marks that were developed could have been image captures of the sky, but could just as easily be particles of dirt, or stray light from another source. It is the poetic gesture within this project that appeals to me. My work will reference the micro and the macro in a similar manner within the juxtaposition of seed and sky.

timebased work

The third project will explore creation and dissolution in the cycle of life of a growing plant(s) using a time-lapse video. The video will be made using the scanner programmed and positioned to show its marks and aberrations – the theme of rupture in the plant juxtaposed with rupture in the image will be the core premise of the visuals.

I will scan a plant as it grows, flowers and explodes with seeds, then stream together hundreds of scans into a stop-motion video. The scanner will be directed to capture strips of the plant randomly, with a specified delay between each stripe until a complete scan has been obtained. The process is repeated for each frame, again with a specified delay between frames. The plant (and therefore the scanner) will be exposed to sunlight, so this process will create a video of the plant metamorphosis containing a shimmering effect caused by the variation in growth and light level, and scanner stresses. How the eye/mind will engage with motion and the scanner is of interest to me and will determine the way that the images are streamed together as well as the method of presentation.

These projects continue to explore and build on the themes I have investigated over the last few years; visceral visual engagement, triggering the "third space" mindset of the observer, exploring the potential meaning of a technological mark, discovering degrees of metaphoric and anthropomorphic opportunities within natural objects, and finally creating images that leave meaning open enough for individual interpretation. The new work will build on my earlier discoveries by exploring and revealing how three dimensional form and time-based work affect the experience of images made by a scanner. I hope to incorporate parts of this creative process and methodology into my work as a communication designer as well. The open technological metaphor is far richer territory for an audience to experience than the usual closed system of communication design.

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