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Double Horizons:
shifting figure and ground in some Australian Photography.

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Photography, normally considered a prosaic medium, is considered in this paper as a syntheses the processes of seeing, to develop an aesthetic, a poetics of space (Bachelard 1964). I am not alone in making such use of the medium and I will deal here with both my own and other Australian photographers’ work.

I was lost. A mate and I, teenagers, were ambitiously building a hut on a spur in the Lerderderk Gorge and had gone for a pre-breakfast stroll. We found our way back that night, and a weird disorientation, or should I say relocation had taken place; so that the site I knew was now somehow facing another way. Imprinted for me forever upon this place is this upheaval of the sense of place in space.

While Australian popular history and culture repeats tales of our explorers and children vanishing into the uncanny, hostile bush, like the lone figures in Fredrick McCubbin’s Lost (1888), based on the story of Clara Crosbie [Figure 1], Peter Pierce (1999) extends the theme of the lost child as a metaphor for the settlers’ anxiety in being separated from ‘Home’ (Britain) and left stranded, compounded by the recurring conviction that Europeans do not belong here. Adam/Noyce in Rabbit-Proof Fence (2001) represents the converse, stolen, not lost, children and an indigenous perspective on the landscape. Is this white ‘race memory’ the source of this thrill or terror in the bush, the undeniable impact of landscape on psyche?

Knowledge of such places comes about. That is, it involves incursion and excursion. Linear but curvilinear, rotating about the known and expanding it. ‘Here’ begins with our body, our focal point. Like a compass rose our world swells from it. This is the physical fact of our perspective, our coordinates are measured not from an infinite horizon, but from within us. Our body is that dark home, from which we watch the world face to face, we are nestled within its eye sockets, caves in the wall of our own vast continent. The continent is our body that stands behind us, but it is also what brings us ‘here’, everywhere we are. Accordingly, the concept of landscape or environment as a neutral entity is difficult to support and some kind of self-reflection or transfere is bound to occur because we are always ‘there’ too. Embedded in language in such terms as “the sheltering rock” is an assumption of purpose in elements of the landscape and of the landscape as an entity, but close analysis of them reveals that it is actually our purpose and our being. The word mountain contains our act of climbing it. Such are the parameters of the figure-ground which is our self in the landscape.

In photography, the premise of the environmental portrait (which I had practiced in earlier work) is that the environment and the subject together form the portrait, implying a reciprocal relationship of environment with the human in an extension of the figure/ground problem (of the kind found in the well-known vase/faces illusion). However, my interest here is not to deal with Gestalt theories, but with the question of the figure in the landscape, as described by the French phenomenologist Merleau-Ponty who presents us with a situationist, as opposed to geometric/scientific mapping of this spatiality...

As far as spatiality is concerned...one’s own body is the third term, always tacitly understood, in the figure/background structure, and every figure stands out against the double horizon of external and bodily space. (Merleau-Ponty, 1962)

When I take a walk in the bush, it is not long before the pure experience of the surroundings is replaced with a concern for finding my way through it, ‘Passage’ (2001) traces such a walk on the land [Figure 2]. It surveys a site that is a pitted, ruined creek bed, turned over by miners several times and sluiced so that the surface is stripped, leaving quartz and sandstone rubble encrusted in a hardened clay that becomes almost fluid in the rare wet months. Treacherous shafts still penetrate the crumbling upheaval of old mullock heaps. The panoramic format and large (5m wide) scale is a strategy that encourages the viewer to ‘unscroll’ the landscape, and consequently to regard the image as a passage or a journey rather than a ‘view’. A viewer who has looked into the pit at either end may realise that they encounter the same shaft at the opposite end of the image, reoriented so it presents two framings of the same hole at right angles to each other. Travelling with the viewer through the panorama and its undulations is a field of moire patterning that activates the whole surface and spirals into the black maws that penetrate it, then arcing out in amongst the repetition of trunks and grasses. It traces my own experience of this small journey, in venturing out and returning to find my thoughts of other times, future and past.

Traditional perspective is being challenged as we are becoming able to image this other view, where space and location become the same experience.

The body, and with it the portrait itself is behind our perception of the landscape (in Mirleau-Ponty’s sense), its orientation is to perception and the mind as much as the environment.
Seeing with both eyes

I turn to the problem once more, of properly seeing the ‘ground’. For a human being, the landscape is understood in transit. In the process of journeying through the space of the landscape, it becomes a place. The photograph forgets the passage, but it records for us the place, or presumes a place, an assumption that it is also a representation of a significant environment – a ‘view’. An eye steeped in European landscape looks for vistas and views through bending bough and enfanning foliage, but this landscape cannot be grasped by standing in one place, for how can one snapshot moment recreate a sense of place that only the span of time can return?

Might this not be achieved by overlapping and combining these instances? Our two eyes already do this, and thus, as Ernst Mach commented, every person becomes two observers (Mach 1933). By extension comes the possibility that where we stand we are in two places at once and at two points in our movement through space. This is what seeing with both eyes is.

Stereopsis occurs in the brain. The pathway of the output of right and left retinas cross as they enter the brain so that the left hand image is dealt with by the right hand side of the visual cortex and vice versa. Strangely, this crossing is only partial and applies only to the overlapping parts of the field of vision. The peripheral, outer portions of the field remain uncrossed and the right hand, unduplicated information is processed by the right hemisphere (and reciprocally in the peripheral left field). Cells in the visual cortex thus deal with both duplicated and unduplicated data. Duplicated data is compared simultaneously to highlight the discrepancies caused by spatial separation (Regan 1991).

“Cyclopean” vision is a term used in the literature of human physiology to refer to this effect of seeing one image with two eyes through a ‘fusion’ of the images. However, it also appears commonly in discussions around mathematical perspective (Panovsky 1990 and Kemp 1997, 1990), often with the connotation that perspective imagery is a construct that signifies panoptic (all-seeing) vision, particularly as arising in Foucault’s account Discipline and Punish of Bentham’s prison Panopticon. Stereo vision, or stereopsis, coined from the Greek stereos, solid or firm, and oculus, look or appearance, precedes this fusion into Cyclopean vision.

Binocular vision aroused a great deal of curiosity amongst philosophers from Aristotle and Euclid onwards, who were puzzled that we have two eyes but perceive a single picture of our surroundings. In addition, people with one eye do not perceive a different picture. Early theories of vision held that vision was essentially touch, and naturally the eyes touched the same object, so there was only one impression of a unitary reality. (Wade, 1998)

Later, experiments showed that an image was projected on the retina (Agulhonius in Wade, 1998), and that the sense of depth was provided by the convergence of the optic axes. Wheatstone demonstrated (Wheatstone 1838), using drawings, before the invention of photography, that the retinal images from two independent sources could be fused into a single image.

This is a process that is difficult to imagine because it is happening simultaneously with vision, but I believe that the superimpositions that I employ are a graphic representation of it, and that not all forms of spatial representation are calibrations. The stereoscope uses the conventions of binocular vision to produce the effect of three-dimensional vision from two-dimensional images. It repositions the observer in visual representation, no longer separate from the representation. The representation is situated in fragments outside, but appears within, the body of the observer. Stereo viewing apparatus blends human perception and camera lens imaging in a unique way that exemplifies my concerns. However, the blend becomes invisible, permitting the illusion that we are looking at three-dimensional space.

Jonathan Crary posits that the stereoscope replaces the camera obscura as the instrument that encapsulates the spirit of its period, citing Descartes’ and Diderot’s use of the camera obscura as a model for the eye (in Crary, 1998). The stereoscope accepted that vision is a function as much of the mind as outside stimuli. This is useful sociologically and philosophically, and prompts a re-evaluation of these instruments for their characteristics in poetic uses.

Photography itself is synthetic perception. The analogy between the human eye and the camera has endured since it was first drawn by C. Scheiner in Oculus, hoc est fundamentum opticum... (1619) which he validated in his dissections of animal eyes that permitted him to see the images cast within them, as if they were miniature cameras (as later described by Descartes in Dioptrique (1637)) and from which he projected plans for the construction of an artificial eye, which was then built by Rochult (1671). The camera is thus not merely a device, but a construct made with the expectation that it will result in images that are analogous with human vision. The anticipation still exists. Geoffrey Batchen (Batchen 1997) names it ‘desire’, that the camera obscura, and by implication its evolution into the photographic camera, will replicate and verify what we see.

I recommend we separate the idea of the photograph from the apparatus and connect it with the concept that the process of ‘photography’ may involve a synthesis of seeing itself, and following from this propose that it is out of the perceptual synthesis that a whole aesthetic branch of the medium grows.

My own challenge to traditional perspective is to set up an effect within the image that is a projection of two views, that is binocular vision. The effect operates in much the same way to disrupt the perspective space by displacing the convention, replacing vanishing points with ‘points of apparition’.

Clearly there are limits to the stereoscopic illusion of being ‘in the image’. The process also renders voluminous forms as cardboard cutouts, reducing the effect of binocular vision to two-dimensional planes receding in three-dimensional space. What is missing in this process is feedback from our body about the space we are seeing. Such motion is absent in a stereo image. Part of this feedback is the muscular sensations we receive as our eyes converge on parts of the scene. In fact, our whole biology, our socketed eyes, mobile head, articulated body, participates to satisfy any curiosity about the space in which we are.
I wanted to see what would happen when the two nearly identical images were simply overlapped, not as an anaglyph (red/green overlapping stereo pair requiring glasses to view). Logically the two views would match up only at one point just as two prints of the same image at different enlargements coincide at only one point. I knew that they would not appear three-dimensional, but I guessed that the procedure would uncover something about the way we perceive space. The concept of the new images was to align the images at one place in the scene to initiate the convergence of our eyes which as they focus, converge. A convergence on particulars is evidence of a mind that chooses where to look.

I discovered that the overlap reveals a coincidence in the images representing points equidistant to the observer, that are analogous to the convergence of eyes on subjects of attention. The overlapping images also generate a moiré whenever there is sufficient detail on a recording plane. Within the moiré, concentric patterns develop around coincidences between the images so what is revealed is that what we see, that is, what we attend to, appears at the nodes of a series of vortices. Each vortex is like the whorls of a fingerprint, that is, they are unique in each image, created by the topology of the landscape in which they are created but also by the position of the observer within that landscape (Figure 3) a perspective not with a vanishing point but with a 'point of apparition' that resolves at the nodes of the vortices, while all other parts of the scene stutter and dissolve in repetition that increases with distance before or behind the point of concentration. This causes us to reconsider the Renaissance conventions of perspective, which dictate a vanishing point.

For me the vortex reveals a force field in the landscape, the spirit of this landscape, the deep convolutions that have formed it and the history that has tortured it.

**Vision in motion**

Vision in motion, and binocular and stereo perception are our biological ways of knowing the world. Pictorial, planar imagery is a construction that we can build with any device or by sectioning space with a window, through which we can infer spatial relations. Beyond the binocular construct, a further way to convey spatial information in 2D images is through motion of the observer/camera.

In Jacques Henri Lartigue's famous photograph of an early car race at Le Mans, [Figure 4] the spectators and car wheels are stretched diagonally in an almost cartoon-like representation of speed and a reaction to it. His clock-work driven camera shutter blinds sliced vertically across a large format negative, consequently images moved relative to the film as they were projected on its surface during a panning shot. He did not quite keep up with the pace of the racing car as it passed stationary spectators, thus car wheel becomes an ellipse that leans to the right while the figures lean to the left. His camera records the motion of time and space.

Daniel Crooks is a Melbourne artist who employs the term "Time Slice" to describe his images. This was the title of his exhibition at the Centre for Contemporary Photography in Melbourne in June 14 - July 6 2002 (Crooks, 2002). He used video to slice the images instead of a static shutter. A scan is a keyhole in time, a scalpel fashioned from the second hand of an analogue clock, which pares away at the motion in front of it, whether the motion is of figures and vehicles in front of a static camera or whether the camera itself is moving. Crooks' modified camera includes both kinds of motion in one image as it surveys the interior of an elevator, a paranoid claustrophobic micro world in which figures are brief captives. The lift and the camera scan the vertical interior of the building. These time/position 'graphs' are vertical format images with both a time (duration of elevator ride) and position (position of elevator in building and figures in lift enclosure) on the vertical axis and the relation of the travellers in the lift and its doors recorded on the short horizontal axis. Figures entering and leaving the lift as the doors open and close on different levels are recorded as ribbons that thread themselves through the space-time continuum in and out of our field of vision. In Elevator No.1, [Figure 5] the lozenges of light that punctuate the tall vertical are doors opening and closing, enlarged vertically in proportion to a longer period spent open, while figures become plates as they weave past each other before settling at either side of the doors.

It is Crooks' choice of subject matter that makes these images far more than an exercise in calibration. The work has precedents in the Futurists' and others' interest in a poetic representation of movement, especially in the urban environment. Crooks achieves a simultaneously that would be the envy of such artists. He positions us in relative time and space inside lifts, trams, trains where local events are nestled inside the energies of the city. These are vehicles (in both senses) for a dynamic that is at once strange and familiar.

Inspired by his example my understanding of binocular vision was ramifying into two branches. I understood that with our two eyes we stand at two places at the one time, but now I could see new potential to be derived from the idea that, in movement, with our two eyes we might exist in two moments simultaneously.

**Motion Perspective**

When we first pick up an object, we turn it in our hands so that our sight and sense of touch are exposed to every part of it. The same kind of inspection is extended from this bodily scale into the whole environment as we interact with it. John Herschel was the first to note the effect of rotation in motion perspective:

> Let any one traveling rapidly along a high road fix his eye steadily on any object, but at the same time not entirely withdrawing his attention from the general landscape, he will see, or think he sees, the whole landscape thrown into rotation, and moving round that object as a centre (Herschel, 1833)

This is part of a range of phenomena arising from visual kinesthesia. That is, a sense of centric motion that spreads outward from the direction of our travel. J. J. Gibson, who throughout his writings refers to the primacy of motion in perception, calls this the 'optic flow' or 'flow perspective' (Gibson, 1979) relating vision to his 'ecological psychology', a theory that recognizes reciprocity between
Depth perception, and a sense of the volume and presence of objects, arises not only from binocular, stereo vision, but also from the active or passive motion of the head, peering around things to get a sense of their proportions and position. Our first experiences of space as a helpless baby are of our body as a world amidst us in order to observe the effect. Herschel emphasises that the observer has to put themselves into at least two states of awareness in order to be conscious of the rotational effect that arises from an unconscious background awareness of motion. The act of attending to one object, fixing our eyes upon it is not sufficient to notice the effect, though that is an essential part. It requires another level of quite conscious attention to make the surrounding motion stand out even though it is attached to fixation upon an object we are passing.

A connection between motion and perception is at the heart of my research. The effect, called motion perspective is familiar in the phenomenon of the moon appearing to follow us, steady on the horizon, as we move by in a speeding vehicle. This perception is, as my imagery might reveal, complementary to the vortex pattern created by convergent binocular vision.

My introduction to this effect came in 1995 when I saw Susan Purdy’s exhibition “The Shaking Tree” at Switchback Gallery at the Gippsland campus of Monash University. What I saw there confirmed that there were new ways to work with space in the two-dimensional image. Susan Purdy encountered a continually changing landscape which she photographed as a moment past the train window. In this case, the motion perspective effect was represented in blurred, relatively slow shutter speed images. The process clearly was an intuitive one, the motion perspective effect at work produced compelling and beautiful images. The result was for me a powerful evocation of the way we see.

The train is a classic platform for the observation of motion perspective. The passenger is seated, relaxed, at ease. In fact, they are stationary. Through the train window, they observe a world in motion, and yet it does not move any more than the passenger does. Both move in relation to the other and yet the impression of the passenger is that the world outside is somehow frozen, sliced out of time. Philosopher Michel de Certeau (de Certeau, 1984) sees a peculiar stillness which attaches to his notions of subjectivity; “A travelling incarceration. Immobile inside the train, seeing immobile things slip by. What is happening? Nothing is moving inside the train or outside the train.” No wonder the carriage provided the most handy simplification for Einstein in explaining relativity (Johnson, 1982). Such observations, repeated by a population of travellers, soon led to an expression of its emotional effects by more astute train passengers, among them poets and artists. Paradoxically it is the silence of these things that puts us at a distance, behind the window pane, which, from a great distance, makes our memories speak or draw out of the shadows the dreams of our secrets. Paul Verlaine’s poem La Bonne Chanson (Verlaine 1869), evokes not only the way we see in motion perspective from a moving train, but also demonstrates its emotional potential. It is one of the first poems in any language that describes such a scene, a vision which causes the poet so much joy is a projection upon the pivoting point in the landscape on which his eyes rest, the only constant at the centre of “le tourbillon cruel” which catches up the whole landscape. In this case, it is also a projection of the constancy of his yearning for his beloved Mathilde Mauté, the twenty-six year old poet’s wife of barely sixteen, whom he left not long after for his lover Arthur Rimbaud.

This phenomenon of motion is also recounted in the Australian Xavier Herbert’s writing, though he uses it, like Purdy does, to express his sense of the alien unknown of the outback landscape...

...seeing the stunted trees, the mulga and the wilga and the gimlet gum, doing a kind of dance, spinning past, seeming to swing away from the train to the horizon and race ahead, to come back to meet us and go Waltzing past and round again, the same set of trees in endless gyration, trees that danced a wild arboreal polka to our going.” (Herbert 1963)

Where do the internal and external meet? In the train, with a camera [Figure 6], I could be detached from the passing landscape, yet hold in my hand the power to see it all and to track its passing. The other potential is to engage with the motion itself to reflect into it the condition of the traveller in space and time. This I took to the next stage of this research which involved using train travel as a means of producing images that explored another aspect of the portrait in the landscape. The portrait subject in this body of work was the unseen traveller who at the same time is every observer, the portrait image was the landscape which is contained every place.

All of these observations gave rise to my question “What does photographing this effect do to our understanding of awareness and attention?”

I decided to take up the results of Susan Purdy’s intuitive photographic technique. Panning on subjects by the roadside produced some results that resembled Purdy’s “Shaking Tree” series. When the subject of the pan, that is the object on which the camera is rotated to keep it ‘still’, was a standing form like a tree it could be rendered as an almost static vertical. There was a convincing sense of motion and kinetic forces in these images, a ‘spin’, just as described by Xavier Herbert (Herbert 1963). What resulted were images in a panoramic format joined with each other to represent the gathering and fleeting of notions, memories and reverie of travelling in this landscape, as we ourselves are gathered up in its motion.

The Vortex of Vision
The figure that emerges from this practical research, in both the binocular and the motion
The form of the spiral, whirlpool or vortex, and the related Labyrinth, appear throughout art and literature and are also mystical symbols well known in occult circles. It was an obsession of the eighteenth century, whose thinkers described it ideological, religious, artistic, and moral as well as technical meaning and it is with such traits that it appears in William Blake's Milton (Blake). W.T. Mitchell comments on this passage by noting that, "the vortex serves as an image of the gateway into a new level of perception," for "the infinite does not reside in an opaque, transcendent realm at the 'vanishing point' of three-dimensional space, but is located immanently in the intense, dialectical perception of immediate 'minute particulars,' a process which is symbolized and embodied in the vortex" (Mitchell, 1978).

Jonathon Crary (Crary, 1999) links Blake and Cézanne with reference to Cézanne's 'sustained attentiveness' when he says "William Blake and Cézanne shared a related understanding of the universe as perturbations and differences between centers of energy." It is here that I find some accord with aspirations for my work in which curving, spiral, helical and vortex forms arise as a reading of the way this compelling formal derives from the processes I have used. Let me clarify my position by comparison with David Stephenson’s Starlight series.

I first saw them in a major mid-career retrospective "Sublime Space: David Stephenson Photographs 1989-98" at the National Gallery of Victoria. The Starlight series were metre-square prints. Their content, all arcs and curves and spirals, could seem to be the product of an obsessive geometer, and this impression was reinforced by the edge-to-edge grid-pattern presentation of these prints. The effect of Stephenson’s imagery is entirely original, as the viewer comprehends that these images are the recorded passage of stars. The concentric arcs are familiar from astronomy books and camera clubs, but what is seen here is much more complex. The arcs intersect with others, inscribing the blackness with hairsbreadth curving lines that in the colour prints are astonishing prismatic hue.

Sometimes the arcs are broken into steadily increasing intervals and angles, arrayed to form concentrated hatchings. In "1902" [Figure 7] and others like it, the thatch of short strokes and dots models, in white relief against deep space, a contracting spiral. It is not a galaxy but the abstract for one.

Stephenson has had to section his nocturnal exposures systematically, in some cases also repeatedly reorienting the camera and tripod to substitute angles, precise to the minute-arc, relative to the passage of the stars across the sky. The vortex forms emerge from the interaction of two time frames, that of the camera and that of the stars and earth. The outcomes transformative not mechanical, the ethereal predominates over the mathematical in these complex geometrical harmonisations, and they are more like mandalas, a meditational orrery with a lineage that can be traced from Descartes’ orchestration of the vortices, to a transformational modernist torque. In this process, the original star trails and their underlying logic do not entirely vanish but they become abstractions with intimations of the infinite in a re-ordered constellation. 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These meditational devices are indeed made with traces of the ethereal predominates over the mathematical in these complex geometrical harmonisations, and they are more like mandalas, a meditational orrery with a lineup that can be traced from Descartes’ orchestration of the vortices, to a transformational modernist torque. In this process, the original star trails and their underlying logic do not entirely vanish but they become abstractions with intimations of the infinite in a re-ordered constellation. These meditational devices are indeed made with traces of the stars themselves, but mediated by Stephenson’s calculated re-configuration, so that a design emerges and reorderers chaos into a two-dimensional form, a spiritual dimension that resides in a generated harmonic overlay.

The initial element of invention in my investigation was to devise the means by which the process of binocular perception might be depicted. Once the vortex form emerges from that experimentation, and I had the experience to predict the generation of effect, it became possible to manipulate it purposefully in seeking a solution to the problem of the portrait in the landscape.

The observer may be depicted in the photograph as an illustration or document of their presence. They are represented in the third person, becoming, when an 'object' attached to our comprehension of personhood, but then they are not necessarily an observer. For an observer is an entity quite distinct from a viewer, who is, in any image, a being with open eyes, while the observer can only be identified from their state of mind, their attention. How to put an observer into an image at the same time as depicting their knowledge of them as one becomes problematic. Though the observer may be inferred as sharing the same vision as a viewer in the image, they cannot themselves appear.

The solution to such a paradox can be resolved in the figure of the vortex. [Figure 8]

Figures

Figure 1 Frederick McCubbin Finding Clara Crosbie after three weeks lost in the bush (1885). Australasian Sketcher, 29 June 1885
Figure 2 James McArdle Passage (2001), monochrome digital print
Figure 3 James McArdle (2004) The exact pivot monochrome inkjet print from large format negatives
Figure 4 Jacques Henri Lartigue (1912) Grand Prix 1912 silver gelatin print
Figure 28 Daniel Crooks (2002) Elevator 1 Lambda Print 1000mm H x 50mm W
Figure 6 James McArdle (2004) The landscape in furious flight four colour inkjet print from digital camera
Figure 7 David Stephenson 1922 (1996) Chromogenic process color print 1000mm square from the “Starlight” series
Figure 8 James McArdle Locus (2004) digital montage, size variable