a phenomenology of light

The understanding and manipulation of the qualities of light has in many ways defined the nature of the modern life. Developments in the technologies of illumination in the twentieth century have seen our private and public spaces transformed by the potentials afforded by artificial light. We are in a generation that has come to rely on lighting systems. In our homes, workplaces, retail and cultural environments, on the facades of our buildings, along our streets, boulevards and freeways we are assisted, directed, informed, amused, entertained, comforted and confronted by myriad forms of lighting. In recent years, the pace of development in lighting and material technologies has increased to such an extent that the contemporary designer needs to constantly keep pace with the engineering innovations available to them. The control of light now far exceeds the specification and diffusion of appropriate lamps as new technologies such as data projection, light emitting diodes, plasma screens, optical films and sensors systems present a whole new set of parameters in the approach to lighting.

In order to be able to employ contemporary lighting technologies one needs to be equipped with a sensibility that can assimilate the potentials of new lighting media and forge new and refined methods of their manipulation. A key to the creative manipulation of light lies in the identification of the relationship between phenomena and perception. The qualities of light can only be fully appreciated when they are considered as a dynamic system. The perception of light and colour can be seen as a question of relativity, as the apparent affect of a lighting condition is dependent upon its relationship to the nature of the ambient light and darkness which surrounds it. Our perception of a particular hue, saturation or brightness of light is dependent on its contracting effect with the contiguous environment. Similarly the workings of the eye and brain have the ability to manifest further gestalts, illusions and after images that can be manipulated to shift and alter our experience of a particular lighting scenario. The potentials of manipulating that space between the stimulus of the optic nerve and the interpretation of the mind offers a new dimension in the thinking of light for designers.

In coming to terms with the manipulation of light and colour from a design perspective it was useful to consider Goethe’s observations of light, particularly his focus on the experience of the viewer in the comprehension of light’s properties and his postulation that ‘colours are the deeds and sufferings of light, the deeds and sufferings of light with darkness’². Goethe pictured that light and darkness relate to each other like the north and south poles of a magnet, and that colours arise at the borders where light and dark meet. In this thinking darkness can be seen to weaken light’s power and conversely, light can limit the energy of the darkness. So it is possible to think of yellow as a light which has been dampened by darkness and blue is a darkness weakened by the light. In negotiating the boundary between darkness and light, it became apparent that white light (be it natural or artificial) obliterates coloured light’s intensity and that darkness provides the perfect backdrop from which to achieve the full depth of projected colour. Between these two extremes lie the ideas of colour emerging from darkness and that colour can be manifest as a shadow within a field of light.

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Between Darkness and Light

The development of an appreciation of the perception of coloured light and shadow and the subtleties involved in its controlled manipulation was conducted through the direct physical engagement with the medium of light through the undertaking of a series of experimental design projects. These projects grew out of a series of observations and discoveries which over time developed into a complex ordering of the principles of light and the design methodologies that are employed in its manipulation. The first project in the series began as a response to the ‘Chrysalis’ exhibition brief, that was sent to a number of designers in Melbourne, inviting them to produce a piece of work that would redefine the idea of design in the new millennia. As I had been a designer predominantly interested in furniture and the use of natural materials I took the opportunity to expand the scope of my design practice and to question the nature and identity of objects that we interface with everyday. As a result the Vessel piece was designed to defy the categories of typology and use. It was conceived to simultaneously be both a piece of furniture and a sculpture, a seat and a light source.

The form was derived by the consideration of folded plate structures and the potential development of curvilinear shapes through the composition of flat panels. The resulting shape was created by the intersection of two overlapping arcs which were traversed by gently twisting vertical side planes, bringing to mind the graceful hull of a ship. The piece was made from green tinged transparent fibreglass impregnated with metallic dust. Upon completion of the moulded shell a series of investigations were conducted which explored the potential effects that could be achieved by lighting the pieces from the inside. As the initial installation of white fluorescent tubes tended to overpower the form with light, it was decided to experiment with ultraviolet fluorescent lights. The UV light’s diffraction off the metallic dust particles within the piece’s shell, produced an ethereal glow, that engulfed the work as a tangible cloud-like haze and created an otherworldly effect. Further investigations involved the combination of ultraviolet and red fluorescent tubes that coalesced to create a captivating illusion in which the surface of the piece and the cloud of coloured haze that surrounded it merged to create an indistinct boundary between materiality and phenomena. This experience of colour, opacity, density and immateriality shifted and changed across the surface of the piece as one viewed it from different angles.

The piece was exhibited at Span galleries in Flinders Lane Melbourne, in this setting it was found that the Vessel responded to ambient light conditions in a curious way, subtly shifting its appearance from a steel-like sheen of metallic opacity when illuminated by the gallery’s overhead skylights during the day to glowing with shades of phosphorescent pink, purple, blue and a dazzling white as the ambient light shifted from day to night. Appreciating the effects achieved by the Vessel and its response to changing light conditions, led to a renewed consideration of the phenomena apparent at the twilight hours, when the refraction of light in the atmosphere, caused by the setting of the sun, makes the sky dance with colour and interact with the spectacle of artificial light. In these circumstances, the qualities of natural light have a tangible reaction with the colours and surfaces of buildings. Opaque and reflective windows slowly become translucent and the lights from within seem to subtly change their colour and intensity as darkness descends. At the edge between darkness and light, the qualities of inside and outside, materiality and immateriality, colour and luminosity undergo a complete transformation.
The making of Vessel and the subsequent study of its ephemeral light effects established a direction for the further development of the understanding of the interplay of light, darkness and colour. The next piece in the series, Spectrum, created for the ‘Light’ exhibition at Span Galleries, was initially conceived of as an exploration of the behaviour of additive primary colours (red, green and blue). In this sense, the piece adopted the techniques used by Stephen Holl in the design of Shaw Offices and the Chapel of Saint Ignatius, in which the façade walls are designed so as to bounce light from externally painted panels into the spaces as glowing fields of projected coloured light. However in the production of prototypes and the testing of the piece’s qualities, a whole range of other phenomena was exposed.

The design of Spectrum consisted of three gently curving elliptical reflectors that were mirrored on the front surface and backed with brightly hued fluorescent acrylic paint. The reflectors were supported above fluorescent tubes that were housed in rectangular light boxes so that no white light split across the walls or the sides of the other boxes. Only light which was reflected off the coloured surfaces was visible. Each unit was carefully positioned parallel to each other so that the pools of reflected coloured light interacted with each other to create a secondary hue. Between red and blue reflectors a deep pink purple field became apparent, between green and red reflectors a powerful and pure yellow light was manifest. The secondary colours appeared as subtle gradations from one primary to the next. The effect of these mixed pools of light was dazzling as the interplay of complementary colours tended to make the viewer’s vision flicker with faint after images. One’s gaze would continually move across the work while never quite settling upon it.

Beyond this immediate affect of the piece there lay another level of phenomena. The sides of the light boxes, which sat in the shadow of the reflectors and received no direct light, glowed with unexpected hues. The colours of the sides of the boxes were in sharp contrast to the pools of mixed light transmitted to the walls. This effect was highlighted by the light on the edges of the box which received the most intense concentration of the original reflected hue. Further to this, complimentary hues of colour sat in the shadows created by the end of the boxes. The composite affect was a carnival of unexpected colour and an intense illumination of perceptual gestalt. This effect was reinforced in a different way when the piece was taken to a photographic studio to be documented for the exhibition catalogue. The coloured reflectors were moved into the studio and laid on the white floor and the photographer turned on the powerful halogen photographic lights. From underneath the reflectors an intense coloured shadow appeared. Yet from beneath the blue reflector sat a pink shadow, under the red reflector was a yellow shadow and beneath the green reflector an aqua blue. These serendipitous discoveries began an appreciation of what I describe as a spectral shadow.

The discoveries about the nature of coloured shadows and the careful shaping and mixing of pools of reflected light were adopted in a much more formal and pre-emptive way in the conception of the Pixel light fittings. Using circular fluorescent tubes and an array of shaped reflectors the project initially sought to hone the focusing of light and to create intensified concentrations of particular hues within a variety of bowl forms. These studies led to the development of ray tracing techniques that were used to develop specific shapes of reflectors that would interface with the circular fluorescent tubes. The Pixel piece was ultimately developed as a work of product/lighting design in which the spun aluminium base and reflector was carefully designed to allow coloured reflected light to wash the perimeter of the fitting while a different colour of light collected as a seemingly gelatious pool at the piece’s centre. This concentrated field of colour was framed by white light that traversed the reflector’s geometry and projected itself directly onto the funnel like outer wall of the reflector’s core. The piece was designed to function as a table, standard, hanging or wall mounted light shade. The fitting was envisioned to be employed as a singular lamp or could be organised in arrays of any shape to create complex mixes of additive light and coloured shadows within large public spaces.
After Images

In the creation of the Vessel, Spectrum and Pixel pieces it became increasingly apparent that not only was there incredible effects to be found in the nature of the manipulation of light but there was also an equally important manipulation of our perception that could affect our experiences of such conditions. My first exposure to the potential power of the mixing of additive and subtractive colour to create powerful perceptual gestalts came through the viewing of the works in exhibition on Op art held at the Museum of Contemporary Art in Sydney in 1996. In one installation, inside a darkened room, concentric circles in various colours were painted on a wall, in front of which a number of chairs were positioned. Mounted on the ceiling were three coloured lamps (red, green and blue) which were set on a simple timing device to turn on and off at regular intervals. After taking a seat and viewing the painted circles for a few minutes with no apparent optical change, the painting, which had seemed static and uninteresting, suddenly began to pulsate with the affects of after image. The effect was cumulative, so that at some point one's eye seemed to be responding to the apparent after image of an after image that cascaded with increasing speed. The experience was thrilling and mildly disturbing and ultimately one had to look away from the wall as the spiralling colours of the concentric rings became too much to bear.

With this experience in mind, I produced a projection piece entitled Targets in which the simple geometries of concentric circles were shaded in specific hues to create compelling tonal contrasts. Over time I developed a refined understanding of the manipulation of colour harmonies as specific colours (hue), shades of grey (value) and intensities (chroma). Using the after-image affects brought about by the transition of one image into the next, these works sought to manipulate and orchestrate the experience of coloured after images so that a perceived coloured shape would pulsate, scintillate and dissolve within one's vision. This knowledge in turn informed a succession of projects in which the manipulation of residual optic effects became the key to the success of the work.

In Pause and Descend, these principles were combined to interact with a soundscape produced by Bruce Mowson. The piece begins with complete darkness and subtly introduces small squares of coloured dark greys which are barely distinguishable from the black background. Almost imperceptible these tonal areas dissolve into each other, slowly becoming larger and brighter. As they grow larger, areas of colour remain and new smaller squares appear at their centre. The intensity of colour and the level of contrast between these framed squares within squares gradually increases to a point where the screen is filled with oscillating after images and a complete saturation of colour. The accompanying soundtrack matches these visual effects, starting with complete silence from which a low soft broad hum begins to emerge, the sound pans between speakers and upward in pitch and volume as the corresponding colour contrasts on the screen intensify. At its peak one's senses are assailed as the screen is filled with the dance of intense after images and the frequency, compression and stereo qualities of the sound seem to oscillate between one's ears in unison with the visual stimuli. The intensity of this experience lasts only a moment, then the colours and sounds begin to recede to darkness and silence, however subtle residual affects halo the darkening grey squares and they seem to pulsate with rims of colour. The quietening drone does not dampen the thrill and intensity of the sensorial event one has just experienced. The piece plays upon a synaesthetic confluence of colour harmonies and musical chords, the qualities of after image production inherent in the act of seeing and the spatial overlays of the stereo nature of hearing. In doing so, it alludes to the complex interaction between sound and vision that we experience every waking minute of the day.
Immersive Atmospherics

The lighting for the Hybrid Objects exhibition at the Melbourne Museum provided the opportunity to enact the ideas on the dynamics of light and colour on a larger scale. In collaboration with the museum's technical staff and with access to a high-quality computer-controlled lighting system, the project provided the opportunity to test the ideas on additive and subtractive light, complimentary contrast and after image in ways that enhanced the spatial experience within an exhibition context. With the use of the extraordinary and powerful lights of the museum it was possible to create a completely immersive environment in which one was bathed and surrounded by the ethereal glow of colour.

The exhibition was a presentation of works by thirty-two Australian furniture designers which had been on display at Tokyo Designers Block. The brief for the exhibition, called for participants to seek to blur the boundaries and definitions of what constitutes design. The exhibition represented cross-fertilisation from many different sources and included objects whose functions were ambiguous, that juxtaposed different materials and processes, and which mixed craft skills and high technology production techniques. The pieces in the exhibition included furniture, products, home ware, lighting, sculpture and architectural forms which ranged from experimental and theory-based speculations to fully-realised and marketable products.

The lighting for the exhibition attempted to create a zone of space that was distinctly different from the permanent display areas of the rest of the museum. As you entered the gallery space you were assailed by the subtle yet dazzling sweep of colour. Turning around in the space would elicit a momentary tingle of after image as your eyes adapted from one colour to its complimentary. The most compelling of these was the affect as you turned from looking at the orange-red section of the exhibition to a corner that was lit in a subtle blue light. With one's eyes filled with the after image of the orange wall, the blue would seem to be an intense mist of colour that danced off the surfaces of the gallery. As your vision lingered, this elusive blue would then seem to disappear into white light.

Each wall and alcove was lit with a different hue of light which was precisely masked to create crisp edges on the corners where two colours met. Lighting pieces in the exhibition were placed to balance their colour temperature with the affects of the luminous interior while the furniture and artworks were distinguished from this field of colour through the use of carefully focused and shuttered spotlights. A number of pieces were placed in colour fields that were the complimentary colour of the material from which they were made. These pieces appeared neutral grey when left in the wash of opposite colour, however when lit by a focused spotlight they would glow in sharp contrast with their surroundings, and seem to project themselves forward into one's field of vision. The overall affect was a stunning alchemy of additive and subtractive colour, an otherworldly experience in which the subtle optical affects of the background lighting worked in concert with the desire to draw the viewer to the objects on display.

The Hybrid Objects exhibition lighting represented a synthesis of the principles that had been developed in previous studio-based work. As a designer with a developed sensibility to the contradictory nature of light, it was possible to show a new way of thinking about exhibition lighting to the group of museum technicians who assisted in the set up of the show. Over the course of the week in which the show was put together, a creative partnership was forged between the sensorial qualities and poetic vision sought by the designer and the technical specifics involved in the colouring, focusing, dimming and masking techniques used by the technicians and the lighting system. The exhibition lighting proved to be a watershed in my understanding of the potentials of creating illuminated environments through the implementation of immersive light fields and optical affects. The application of these qualities and the size and scale of the exhibition space also shifted the scope of my vision, from the design of object-based lighting elements to the realm of architectural lighting installations and the spatial atmospherics that they can manifest.
Colour Fields

During the last decade developments in programmable Red-Green-Blue Light Emitting Diodes (RGB LED) lighting systems has greatly enabled the ability to control the qualities of coloured light in an architectural situation. The flexibility and dimming properties of these light sources makes it possible to change the combinations of primary colours with an infinite number of compositions which has seen their large scale adoption as architectural and media facades and interactive immersive environments. Orchestration was designed to explore the potentials of programmable LEDs to manipulate the physical and perceptual affects of fields of coloured light and shadow by integrating shifting optical gestalts and rhythms within a structure’s composition. Instead of using the lights as the primary source of colour mixing, as in most examples of RGB LED works, the project adopted the lessons learnt from Spectrum and Pixel and looked at amplifying the affect of these pieces through the generation of large scale wall sized works that manipulated a complex field of light.

The piece was composed of a set of interac
tions of the physical components was a simple system of colour se

Rather than be seduced by the endless poten
cial of architectural walls and facades in

Beyond the washing of walls with coloured light

Orchestrating piece established the parameters for the conception of architectural walls and facades in which the dynamic interplay between the surface configuration and the system of programmable light sources is mediated and controlled. In this case, the ability to create extraordinary colour fields which shift in hue and intensity from every viewing angle and varying light conditions elevates the potentials of lighting design practice made possible by the latest generation of lighting technologies. Beyond the washing of walls with coloured light or the turning of cityscapes into vast television screens, this project alludes to a mature and poetic adoption of the revolution taking place in lighting technology and suggests that the creative application of the principles of light and its perception can define a new sensibility and aesthetic value in the illumination of the contemporary city.
Test Patterns

While the production of virtual renders of the Orchestration piece provided an invaluable methodology that can be used in the conception and representation of lighting design proposals, the rendered image falls well short of the subtleties and moments of unintended discovery that are made in the actual production of built works. To this end the Test Pattern piece was envisioned and produced. Using sheets of tinted polypropylene, I began a series of investigations into the colour mixing properties of the material and the effect achieved when it is back-lit. It quickly became apparent that the slightly frosted nature of the tinted sheet and the intensity of its colours provided a perfect medium in the creation of softly focused yet striking colour contrasts and harmonies. Using the large window in my office at RMIT as the site for the project I developed a series of sixteen frames that, when assembled, would fit in the window frame as a four by four grid. These sixteen frames became the test pattern through which I explored the potentials of manipulating the colour balances between four layers of polypropylene sheet.

The geometry of the Test Pattern was a simple arrangement of cut out squares within squares, (a homage to both Itten and Albers, subtractive colour studies of the twentieth century), although in contrast to the pigment-based work of these artists, the frames of tinted film which I was manipulating exposed the nature of progressively mixing light through a series of differently coloured densities. Through these sixteen studies, I explored a range of possible combinations of colour mixing, from the generation of the ephemeral and indistinct boundaries that can be achieved between blues, yellows and greens to the vibrant pulsations that can be made apparent between red, pink, purple and orange and the mixing of the soft pastel greys, achieved by overlapping of complimentary colours in the right balance. These effects were refined through the careful cutting of the square holes in the inner layers of the constructions so that a colour contrast could find an appropriate balance of size and intensity. In this way the Test Pattern became a refresher course and a honing of my perceptual skills towards the capricious nature of colour and light. The work, which is now a permanent feature of my office, provides an energetic counterpoint to the drab fluorescent lit corridors of the institutional building. The joyful reaction to the window by students and passers-by reinforces my belief in the restorative and life affirming qualities of light and colour when it is expressed powerfully in a work of art.

While producing the panels for the Test Pattern piece, I was aware that once installed, the piece would create not only a powerful source of harmonic colour contrasts and dazzling optical effects when looked at directly, but that it would potentially generate a plethora of colour shadow effects in the confines of the room. Understanding that the intensity of the hues of the coloured shadows work best in a darkened space, I began the experiments by blocking out incidental fluorescent light from the clerestory windows in the office that face the corridor. I then produced a simple rig that would allow me to hang panels of cardboard and medium density fibreboard at different distances from the wall. With this set up it was possible to test the effects of a number of panels that had different patterns laser cut through them. The panels created astonishing effects through the manifestation of deeply coloured umbras, penumbras and antumbras. When cut as vertical strips, these shadows manifest themselves as clearly defined bands of hues of the colour spectrum. When the panels were cut as a grid of equally spaced squares the shadow effects would create an interweaving pattern whose colour and intensity could be changed by moving the cut panel either closer or further away from the wall. In a further experiment large arcing curves were cut into the panels creating multiple rings of different coloured shadows that intertwined with each other on the adjacent wall. While the Penumbra investigations are still in progress, they do suggest the potential to create large scale architectural screen elements that could respond to façades of coloured glass. Such works would create ethereal and atmospheric window corridor spaces which would glow from the intensity of the window elements on one side and interweave delicate patterns of coloured shadows on the other.
Shortly after finishing the Test Pattern piece, a project presented itself that serendipitously provided the opportunity to take the window-sized explorations of polypropylene sheet conducted within the confines of the studio/office and explore their effects on a much grander scale and public space. The work was commissioned by the Stylecraft showroom in Flinders Lane to be part of the ‘The Project’ at Saturday in Design, Melbourne in 2010. In this project the client’s brief and vision for how they wanted the showroom to function for the event helped guide the design development. After a series of design proposals and discussions the concept for a two storey high light wall, entitled Auroral, which framed the staircase of the showroom was agreed upon. However rather than confronting the visitor with powerful optical affects, as produced in earlier works, the wall needed to act as a focal point and a backdrop for the showroom’s furniture collection and provide a sensuous and colourful counterpoint to formal corporate austerity of the showroom.

The eight metre by four metre back-lit luminous wall was made from twenty framed panels which housed multiple layers of semi-translucent polypropylene sheet. Departing from the strict regularity of the square geometries used in the Test Pattern piece, the Auroral project explored the potentials of incorporating a number of overlapping geometries that transcended the boundaries of the structural frame and created a large-scale pattern that ran across the length and breadth of the wall’s surface. The abstracted circular patterns of the piece and the use of subtle pinks, greys and whites were derived from the Stylecraft logo however the regular geometry and colours at the top of the wall progressively transformed into an exuberant tapestry of concentric geometries and interaction of vibrant colours at the bottom.

The installation was designed as a companion piece to the glowing angularity of Christina Fogale’s floating cloud-like installation called Cirrus, an intricate folded floating form which hung in the ten metre void space above the staircase and that cascaded down from the ground floor entrance to the basement showroom. The wall was designed to ensure that the eye danced across its surface continually finding different relationships and juxtapositions within its overlapping curves and hues. As one moved around the showroom the wall’s interaction with light shifted and changed. Viewed from behind, the wall took on a lustrous sheen and the colours blended as soft pastels, while from the stairs the wall’s colours would intensify and fade as you moved past. At night, from the street, the wall seemed to project itself onto the window glass and merge with the furniture forms and corporate graphics, instilling a dynamic vibrancy and a visual presence within the showroom.

Working on Auroral seemed like a fitting conclusion to this phase of development in my approach to the manipulation of light and colour within the context of architectural space. In many ways the project brought together the knowledge, skills and sensibilities that have evolved through the undertaking of the research into the physical nature of light and the specific and personal path to this topic that the individual design works mapped out. In working within tight constraints of time and budget and in taking on board the wishes and desires of clients, the project highlighted the creativity, flexibility and responsiveness that a designer must bring to their profession. This involves dealing with the day to day dramas that the project entails while holding true to a creative intention and being guided by a personal understanding of the physical world that is subtle and rarefied and not easily articulated to the layperson. Ultimately the success of such a design revolves around how the elements of light and it’s perception have been fused in the built work, and how these qualities and affects are instinctively appreciated by the users of the space.
In the twenty-first century, the act of design must respond to ever-rapid cultural and technological change while developing new ways of inhabiting and interacting with the spaces we occupy. The role of design research in this context is to uncover new and original methods of thinking which anticipate the currents of progress and in doing so extend the boundaries of contemporary design practice. In considering the orchestration of light within architectural spaces, the design approach to the preceding projects has encompassed the physics, psychology, artistry and technical scope of light and in doing so provided the framework for the comprehension of a new imagining of light’s interaction with space. The development of such sensibilities has involved the appreciation of the aesthetic and phenomenological concerns embodied within contemporary art practice and an understanding of the potentials that new technologies offer while implementing strategies for the codification of light’s qualities within specific design contexts.

The works documented here explored the wavelike properties of spectral colour and developed an approach to the manipulation of fields of light which identified the relationship between phenomena and perception as a critical component. These projects reveal the primacy of perception and the value of careful observation in developing a refined perceptual sensibility to the subtleties of the phenomena associated with light. However beyond the purely physical experience of light, lies its ability to be used as an expressive medium. Light’s curious nature provides the designer with a powerful tool with which to engender warmth, safety, wonder, delight and drama. Light can confound, astound and amaze. It can be used to intensify an intimate moment or overwhelm us in spectacular fashion. While it is highly speculative to attempt to assign any absolute or specific value between light, colour and emotion there is no doubting that light plays a tangible role in the enhancement of our experience of the world. Ultimately this shaping of a spatial experience through the manipulation of light must be considered as a response to specific places and spaces and involves the interpretation of the qualities of light in a contextual, cultural, programmatic, functional and poetic way.

James Dodd in his seminars on Phenomenology, Architecture and Light describes this potential of light’s interaction with architecture;

“Ultimately it is the promise of space that draws us to light, the hope that built space holds out for us as places in which our interest and concern for our being can be pursued and realized. Built space, must unfold in certain definite ways in order for it to be engaged at this level. I need to be progressively introduced to its forms and structures as articulations of the possible; I need to be able read it, to grasp it, to follow it, to let it lead me. I need, in other words, to discover something like a language that is not a language. This, I would argue, is precisely the function of light.”

References


Merleau-Ponty, Maurice, and Donald A. Landes. Visual References

Notes


8. Wagner, Brian, Thomas, and Kline, Donald. The Basis of Colour Vision The Vision and Aging Laboratory, University of Calgary http://www.psych.ucalgary.ca/pacs/va-lab/brian/default.htm


Visual References

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First row:


Second row:


Notes


8. Wagner, Brian, Thomas, and Kline, Donald. The Basis of Colour Vision The Vision and Aging Laboratory, University of Calgary http://www.psych.ucalgary.ca/pacs/va-lab/brian/default.htm
