

Table 3 Physical Light: A System of Nomenclature

Physics		Psychophysics		Psychology	
Visual stimulus		Light		Visual sensation	Visual perception
Radiant energy Spectral composition		Luminous energy Color		Color sensation	
Characteristics of radiant energy:		Characteristics of light = color		Attributes of color sensation:	Corresponding modes of appearance
Radiant flux a. Radiance b. Irradiance c. Radiant reflectance d. Radiant transmittance		1. Luminous flux a. Luminance b. Illuminance c. Luminous reflectance d. Luminous transmittance		1. Brightness	Aperture (1-5) Illuminant (1-8) Illumination (1-3) Object modes: Surface (1-11) Volume (1-9) *
Spectral distribution (Relative spectral composition, quality Radiant purity		Chromaticity 2. Dominant wavelength (or complementary) 3. Purity		Chromaticness 2. Hue 3. Saturation	Attributes of modes of appearance: 1. Brightness (or lightness) 2. Hue 3. Saturation 4. Size 5. Shape 6. Location 7. Flicker 8. Sparkle 9. Transparency 10. Glossiness 11. Luster

* The figures in brackets refer to the attributes of the modes of appearances numbered 1-11 as listed in the last block.

In conjunction with the official system for physical light and colour outlined in Table 3, issues either coincidental with, or distinct from the notion of light and colour for the painting discipline will be isolated. After consideration of such issues, the candidate's own responses to light and colour, both in the external world, and in the context of painting, will be shown. These responses are incorporated into her entire ideational programme regarding the relationship between light and painterly usages.

Thus, this section of the dissertation will end with subjective responses to differing aspects of the appearance of light and colour. The candidate's own responses have been shaped into a personal world-view and, as an individual sensibility, constitute a creative force. For the candidate, details concerning light and colour integral to her world-view find their counterparts within her painterly process of painting. Before dealing with painted entities, and the aesthetic ambience surrounding the notions of light, colour and painterly usages for the painting discipline, commentary on issues emergent from Table 3 is first necessary.

Concerning the physical characteristics of radiant energy, the particular wavelengths of the light reflected from a painted surface are properties of the chemical nature of the paint covering the surface, that is, the natural or synthetic colouring matter of pigments held in insoluble suspension within a binding medium, for example, oil. The chemical nature, or the particular pigment molecules present in paint, is cause for certain wavelengths of light to be absorbed and for the remaining wavelengths to be reflected. The nature of the wavelengths of the light reflected determines the colour sensation on the eye.

The phenomenon of the selective reflection of light represents a simplified explanation as to why the surfaces of matter, including painted surfaces, appear coloured. Significantly, however, paintings are alterations of surface reflectance. J.J. Gibson has stated:

Like any other surfaces of the world, they [painted surfaces] must be illuminated (or transilluminated or self-luminous) in order to convey information to an eye. They cannot be seen in the dark. They are sources of optical stimulation. But the peculiar fact ... is that they are modifications of pre-existing surfaces, made for the special purposes of being looked at.¹³

Hence in paintings, colour is a phenomenon of radiant energy, or light, which originated at an earlier point in time, that is, before reaching the painted surface, and which, at the painted surface, undergoes a process of filtering through the film of paint, and then, reflection. The energy of the waves reaching the eye is the same whether the radiation arose from an original source or is received by the eye after rebounding off the surface of a painting. In terms of radiant energy, there is no physical difference between the phenomena of emission, selective reflection, or secondary reflection. The waves reaching the eye are of exactly the same type and must necessarily be so to produce the same type of colour. However, the painting discipline is concerned with colourants,¹⁴ and therefore remains at a certain remove from the colour of light. The manual effect of painting cannot acquire the radiance of the natural world. Importantly, all that colourants can do is reflect, absorb, or selectively transmit light in accordance with one plane, the flat picture surface.

Colourants are compounds of their selective reflection of physical light and function, in practice, at variance to the spectral hues of light. The combining of pigments in the manufacture of paint matter, or the superimposition of colourants in a painting, or the blending of colourants either on the palette, or on the picture surface, implies

subtractive colour mixing. That is, in the mixing of colourants, each pigment component continues to absorb its own share of wavelengths from the illuminating source and selectively reflects the remainder. For colourants, a loss of ability to reflect light occurs through subtraction, the taking away of energy. That is, if pigments are intermixed, more absorption occurs, and therefore less reflection, and consequently less light, is perceived by the eye. Mixture by subtraction implies that each new mixed colour will be darker than a previous colour seen by itself. Subtraction is not the same as absorption. Rather, subtraction implies that a combination of pigments, or a film of colourants, checks a single light source in much the same way as a coloured filter does. Thus, when pigments are mixed, the light reflected is invariably less than the sum of the previous, individual, reflections of pigments and the colour sensation produced is modified in the process. Conversely, the additive mixture of light from more than one source, and therefore the resultant colour, is the sum of differing wavelengths. The number of wavelengths is increased through additive mixture and in this way white light may be reconstituted.

Whereas the additive mixture of colour produces more light, the subtractive mixture of pigments destroys quantities of light. Hence, the additive mixing of lights and the subtractive mixing of colourants result in inverted consequences and the corresponding colour sensations are of differing light intensities. The consequence of the subtractive mixing of colourants is that, inevitably, luminosity is impaired. This new context of colour, brought about by the enforced utilisation of colourants, requires a revised vocabulary of light for the painting discipline as the criteria for gauging the luminosity, the light intensity of colour, have shifted in emphasis.

Although the physical energy and the activation of colour sensations on the retina of the eye is unchanging in both a natural situation and the pictorial context, in terms of Gibson's observation stipulating the particular condition of the painted surface, and in terms of the dissimilarity between additive and subtractive colour mixing, it is advantageous to consider the colour in paintings as idiomatic. Sidney Tillim has referred to colour functioning as, 'a surrogate illusionism of light'.¹⁵

While the attributes of colour may be emotively and not only physically bound, 'All colors depend on light',¹⁶ and in this generalised sense colour, as the energy manifestation of light, is synonymous with light. Evans reiterated this generality when he stated:

It is only natural that in common speech the word [colour] ... now means too many different things for precise use. On the other hand, if an attempt is made to generalize the word to include all the manifestations, it is found to become almost synonymous with the word "light".¹⁷

While fundamental to the technical specialist, this notion has proved desirable for the painter, irrespective of the limitations concerning colour-light arising from the means at the painter's disposal, that is, colourants or paints. The painting discipline, by necessity, concerns itself with applied colour and the properties and potential of colourants when combined with various vehicles and applied as material substances to an equally material flat support. Max Kozloff made the following pointed observation concerning the allure of correlating pigment colour with the spectral radiance:

Needless to say, the advantages of additive mixture in strength and luminosity have haunted the tradition of modern art even as they appeared out of reach.¹⁸

Specific preoccupations with colour as light in modernist painting have ranged between formulae with a view to re-enacting natural radiance (Divisionism,¹⁹ Orphism²⁰), the endorsing of equivalence: 'Color in

itself is Light'²¹ (Matisse, Hofmann, Albers), and the formalist critical directive concerning colour and light, as a spatial condition, 'light does, after all, stay light'²² (Post Painterly Abstraction).

On recognition of a painter's concern with colour as light, a critical proviso is necessary. Painted surfaces cannot act as luminaries, the reflected light intensity of colourants is insufficient for the consideration of paintings as discrete light-giving bodies.²³ Proposing an aesthetic contract for the comprehension of colour-light, other than the formalist, and referring specifically to the paintings of Mark Rothko, Kozloff emphasised that only figuratively may a painted surface be considered auto-luminous. Qualifying the presence of colour-light in paintings, and stressing the non-literal notion of light 'emanating' from a painting, Kozloff stated:

All objects reflect light but only a very few try to give the impression of emitting it on their own. There has to be some agreed-upon translation, a kind of understanding between artist and spectator, that the energy exists, and the differing sensations elicited are in continual process of transmission, even though, in fact, there can be no predetermined correlation between object and effect in themselves.²⁴

Subject to the actions of physical light, the painted surface is coloured to the viewer. Whereas the effect of the colour contained in the painting may appear luminous, any quantitative measurement of this visual condition would refer not to the painted rendering of luminosity, but to the light reaching the eye from the surface. Concerning light, the painting as object, and its pictorial effect, may not physically correspond. Kozloff continued:

This applies to all painting, and it merely emphasizes that artists are far more manipulators of contexts, than demonstrators of visual or optical knowledge, or packagers of natural facts.²⁵

Information thus far has been presented in order to affirm that, as objects, paintings are illuminated and coloured by extrinsic light

in the first instance. Due cognisance should be taken of this fundamental fact and, in view of the notion of intrinsic colour-light in paintings, a reorientation towards what is essentially an idiomatic occurrence within the painting discipline is necessary. In this way, the word 'luminous', its derivatives and associated qualities require attention in that art critical descriptions of pictorial circumstances frequently make use of this word complex. Through convenience of usage, 'luminous' is often used to refer to a coloured pictorial condition which appears to be a light-emitting source.

'Luminous' is a specialised technical word (see Table 3), and luminosity pertains to calculations of luminance, the amount of light emanating in a given direction from a stimulus to the eye. Concerning illuminance (the physical quality of light falling on a surface), the measurement of variations in luminosity conveyed to the eye via a visual stimulus can be made. The discipline of psychophysics is concerned with the quantitative measurement of light that reaches the eye, and hence, the objective measurement of colour, or colorimetry. Such calculations refer only to the sensation, and not the perception, of colour.

For a painting, although an increase (or decrease) in light from an original source can radically alter its coloured condition,²⁶ the notion of light 'emanating' from a painted surface remains figurative. Hofmann insisted:

Light must not be conceived as illumination - it [light] forces itself into the picture through color development. Illumination is superficial. Light must be created.²⁷

That light must necessarily be created in paintings corresponds with Kozloff's statement above that painters are manipulators of their own pictorial contexts. Strictly, there can be nothing luminous in a

painting with the exception of paints so constituted that the phenomena of fluorescence or phosphorescence emit a type of radiant energy, the luminosity of which affects the surroundings and is visible in darkness. Colourants make for particularly low light intensities and thus paintings cannot act as luminaries, or light-emitting sources. As to the notion of light contained in paintings themselves, to refer to the luminescence²⁸ of the internal colour configuration, as opposed to the luminosity, or evaluation of the luminance of the painted surface, possibly assists in alleviating the subjective dilemma whereby a painted surface can, seemingly, emit light in its own right.

Wittgenstein differentiated between the appearance and the impression of luminosity.²⁹ He stated:

The difficulty is ... one of knowing what we are supposed to consider as the analogue of something that is familiar to us.³⁰

In terms of the notion of a type of self-light produced by painting, first made visible by natural light, and in relation to Kozloff's proposal for an aesthetic contract for the comprehension of colour-light in paintings, the luminescence of the colour variegation engendered by the painter is considered the pictorial analogue to the appearance of luminosity. To account for such a pictorial condition, considerations of both the evolution, and eventual state, of the painted surface is necessary.

Investigations into light and colour for the painting discipline do then confront an imponderable in that the nature of light, identifiable with two differing contexts, is operative simultaneously.

Henri Focillon's questioning stresses the overlap:

Is a work of art conceived as an object within the universe, lighted as other objects are by the light of day, or as a universe with its own inner light, constructed according to certain rules?³¹

Although taken out of a strict scientific context, the distinction made between luminosity and luminescence, and the non-objective measurement of colour-light, is considered pertinent to the condition of colour-light in the particularised universe of paintings.

As a term adopted primarily for consideration of the candidate's abstractionist paintings, it is intended that the gradual unfolding of the colour development in her particular painting processes informs the notion of luminescence. In this way, and with reference to Focillon's rumination above over 'certain rules', luminescence is distinct from the effective simulacrum of luminosity in illusionistic painting in which the distribution of tonal gradations and the colour arrangement may be calculated towards a determinable end.

Whereas the physical attributes of colour³² can be measured precisely and objectively under experimental conditions, it is possible for the visual attributes of colour to be identified subjectively. Analogous to the physical attributes of colour, these visual attributes are referred to as value, hue, and chroma.³³ In order that such perceptual evaluations are afforded exactitude, standardised systems for the appropriation of colour dimensions exist, notably: the Munsell, Ostwald, and Faber Birren systems. Concerning the chroma, or the concentration of colour, the extent to which a given hue departs from a grey of the same value, towards its full strength, is the criterion on which the perceptual uniformity of the visual dimensions of colour is based. As entities, or colour solids, a colour system demonstrates colour harmony and co-ordination. It is against such a geometry of plotted colours that the visual attributes of colours in paintings may be evaluated. Necessarily, exactitude of colour matching requires colours to be viewed in isolation and proves more satisfactory when dealing with opaque colours.

Generally, value (or lightness, or brightness)³⁴ is considered the visual attribute analogous to luminosity, and is regarded as the perceptual equivalent of the specificness of luminance. Being a relative notion, made fully operative only within the confines of a developed colour system, the determining of the value of colour in isolated instances is virtually redundant in practice. Albers made mention of his reservation of the term and substituted 'light intensity' as 'a self-explanatory term'.³⁵ Akin to luminosity, the notion of value, although seemingly decisive for determining the notion of colour-light in painting, carries little significance and is considered unsatisfactory for the purposes of this dissertation. The significance of value as such appears to reside only in experimental situations in which unnuanced colour is evident.³⁶ However, any one colour in a painting is influenced by its surrounding colours, including the effects of white or unprimed canvas, and is thus rarely seen in isolation. This is particularly so inside the relatively small area of the candidate's paintings.³⁷ Furthermore, multiple colour finishes can be manipulated in the course of painting in addition to opacity. In view of the candidate's concern with the facture of the painted surface, the notion of the gathering of luminescence by means of colour variation, remains a more satisfactory concept, and is considered to be a conclusive finding concerning the relationship between light and painterly usages.

Concerning paintings, evaluations of colour attributes are normally made without the aid of colour-measuring instruments or the use of colour samples of a specific colour system. Accordingly, the candidate did not predetermine specific viewing conditions for the scrutiny of colour in her paintings. It was not her intention to pursue an experimental colour-light programme in which, for example, specific illumi-

nation would be essential for viewing; or the colours isolated and viewed in relation to neutral grey backgrounds; or the paintings hung on grey or coloured walls to either test, or enhance, their value readings. Rather, precision in the discernment of coloured circumstances, and ^{the} attunement of the eye to the means incorporated in her painting process, were central to her creative programme. The notion of luminescence for the internal colour development may be extended to attain more meaning if a distinction is made between brilliance and brightness, brightness being, until recently, a generally accepted alternative designation for the attribute of lightness (value).

To the three customary visual attributes of colour, namely: hue, saturation (chroma) and lightness (value), Evans added a fourth, brilliance.³⁸ Furthermore, on re-examining the notion of value when considering the non-isolated (related) colours of non-luminous objects, Evans differentiated between perceived lightness and perceived brightness and considered each as separate variables, and not synonymous. Significantly, Evans concluded that brightness is an attribute of illumination, and was thus eliminated as a visual attribute of colour.³⁹

Concerning the attributes of lightness and brilliance, both may refer to colour readings in colour complexes, for example, of any one area of paint in a painting, the colour of which is influenced by surrounding areas. Importantly, however, Evans affirmed that the perception of lightness implies comparison and that estimations of this colour attribute are convincingly acquired only on comparison and when prefaced by the phrases, 'lighter than ...', or 'darker than ...'. As has already been asserted for the purposes of this dissertation, while practical within a controlled colour system, such a means for identifying the value of individual colours in paintings is

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impractical. Painterly usages in particular do not lend themselves to either large tracts of single colour, or to uniformly coloured areas. Alternatively, brilliance, being the wider concept, was seen to be identifiable by virtue of a complex of related colour interactions determining a contextual reciprocity of parts to the whole.

Evans maintained that the antithesis of brilliance is 'dullness', whereas 'darkness' is antithetical to brightness. The terminological and conceptual framework introduced by such opposites is pertinent when considering the notion of colour-light in paintings. As a frame of reference, 'dullness' remains a condition of light and does not connote the absence of light, as does 'darkness'. Thus, for the painting discipline, the extremities of the concept 'light' are not the achromatic ones of black and white as they are, for example, in the alternative two-dimensional discipline of drawing. Rather, vacillations in colouration, and the progressive development of a distinctive coloured situation, supersede manipulation of the grey-scale with its fixed limits of black and white.

The antithetical relationship between brilliance and dullness proved acceptable to the candidate in her involvement with the engendering of luminescence. It was found that the brilliance-dullness polarity was appropriate in terms of the painter's sensitivity towards colour and coincided with the candidate's own innate colour sensibility.

Both lightness and brilliance are attributes linked to the saturation of colour and to the proportions of the achromatic grey component perceived in colour. That brilliance is preferred to the evaluation of lightness or value of colour for the candidate's pictorial light systems is owing to her preference for the contextual instrumentation of colour and, therefore modifications in reading of the fluctuant

grey factor.⁴⁰ Utilization of such a colour characteristic, and its alteration through colour juxtaposition and adjustment through the textural variations of painterly usages, makes for equivocal visual circumstances and an intricate display of colour changes. However, to co-ordinate colour configurations in such a way as to promote the detection of higher and lower, lighter or darker values between different hues was not a practical preoccupation of the candidate and thus not a priority in subsequent analysis. Rather, she was intent on making paintings and not test-sheets.

The inconstancy of colour perception is compounded by the fact that:

... even if all people were exactly alike in their sensitivity to light, we still would not know whether any two people perceived exactly the same colors in their minds.⁴¹

Matisse phrased this psychological generality in a more pertinent way to the painter's natural thinking in colour:

Colour helps to express light, not the physical phenomenon, but the only light that really exists, that in the artist's brain.⁴²

Modifications in colour reading assist in connoting the candidate's individualised notion of luminescence as pictorial light, perceived within the brilliance-dullness frame of reference. Moreover, the colour denoted in her paintings functions as expressive colour, capable of offering an aesthetic effect sui generis.

2.2 Light and Colour: Ideational Variants

A brief account of the trajectory of physical light from a source to the human eye is again presented. A general mental view of light as a physical phenomenon is now intended, worded in such a way as to emphasise issues upon which the candidate's ideation and imaginative interpretation of light is founded.

Thus, on emission from a source, which itself need not be seen, light is propagated outwards at great velocity. As an energy packet, light is transmitted through the atmosphere, the medium of air, without interference until such time that it strikes intervening matter at which point a reciprocal interchange occurs: light affects matter by illuminating it, and light is affected by matter by being absorbed and by having its moving and continuous nature violated.

Upon interaction with solid matter, light is absorbed and reflected according to the constituents of matter. Significantly, the reflection of light rays affects both matter and the surrounding atmosphere continuously. When reflected from matter a dense, reverberating system of light rays is activated in all directions at all points. Consequently, terrestrial airspaces are 'filled' with light from the flux of interlocking reflected rays. In addition, the phenomenon of colour is the direct energy-determined manifestation of reflected light from matter. When light is reflected, matter is illuminated, and the reflected light rays from the surfaces of illuminated solid matter transmit colour sensations to the eye. Because the eye is sensitive to light, if all matter absorbed all light the potential for the visibility and the coloured appearance of matter could not be realised.

Thus, one outcome of the trajectory of physical light from a source to the human eye, given the interaction of light and matter, is the visibility of matter. A further outcome, given that matter absorbs and selectively reflects light rays, is the visual sensation that the surfaces of matter have colour. The quantitative and qualitative differences in the visual sensation of the visibility of matter and the colour of its surfaces is interpreted via visual perception. Importantly, visual perception is not a substitute for visual sensation, and both

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remain discrete activities.

The following example provides a distinction between visual perception and visual sensation when looking at the light instead of merely through it:

... what [is seen] is not a man in a red pullover walking down the street but a moving shape of red slightly blurred at the edges moving across a multi-coloured field of glowing light.¹

It is the philosophical sense-datum position by which the activities of 'being perceptually conscious of', and 'seeing', are differentiated. Thus, in response to the above example, the perceiving of 'a man in a red pullover' is distinct from actually seeing the 'shape of red'. Weightless, polychromatic patches existing side by side in the visual field comprise the fabric of iridescence. Such colour patches are referred to as sense-data, and it is not the essence of a sense-datum to be perceived. Sense-data refer to an individual's active and subjective experiencing of, and looking at, the world, as opposed to the world of objects being passively experienced and identified.

Hegel, in his Aesthetics, stated: 'With light, nature begins for the first time to become subjective',² that is, once the sense of sight is stimulated and matter is made visible. Given that light is 'absolutely weightless',³ and the opposite of 'heavy matter',⁴ and, in terms of the illusory nature of the painting discipline as opposed to 'the sensuous concrete material',⁵ of the sculpture discipline, Hegel cited light as, 'the physical principle of painting',⁶ and colour as 'the real material of painting'.⁷ Hegel then made the overall claim that:

Painting does not at all feel the lack of the third dimension; it discards it deliberately in order to substitute for what is simply a real object in space the higher and richer principle of colour.⁸

The following statement by the English abstractionist painter

Patrick Heron, himself much preoccupied with colour as light in painting, corresponds to the candidate's own identification with the conceptual framework outlined above:

Painting should start in that multi-coloured, and at first amorphous, texture of coloured light which is what fills your vision, from eyelid to eyelid, when you open your eyes.⁹

Heron continued by saying: 'The finished painting should also end in a pure sensation of colour'.¹⁰ Owing to her predisposition for painterly procedures, the 'texture of coloured light' was dominant in the candidate's paintings rather than the 'pure sensation of colour'. In this way, the potency of the dense, reverberating system of light rays reflected from matter gains precedence over light's unitary and enveloping action.

From this standpoint, the candidate's attention was necessarily directed to the modes of appearance of colour. Two dominant modes, namely surface and volume colour emanate very different types of colour impressions, depending on the nature of the illumination. The attributes of these two modes of colour are namely: brightness (or lightness), hue, saturation, size, shape, location, flicker, sparkle, transparency, glossiness, and lustre.¹¹ With the same immediacy with which the colour of matter is experienced, comes the apprehension of its illumination. Significantly, the attributes of illumination are not limited to matter alone, but equally to the surrounding space.

In his study, The World of Colour, the Gestalt psychologist David Katz aimed at showing how colours appear in space. Three distinct categories of colour appearances were determined by Katz, namely: surface, volume, and film colours.¹² While these categories have far-reaching effects for the understanding of colour readings in both the natural and pictorial contexts, it is not the intention here to elabo-

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rate on either Katz' findings, or to apply them in a formal analysis of the candidate's paintings.¹³ Rather by acknowledging particular characteristics of colour, and the corresponding colour impressions, the candidate concentrated on presenting infinitely varied modulated transitions and delicacies of arrangement of colour in her paintings in pursuit of her relationship between light and painterly usages. Of pressing concern to the candidate was Katz' consideration of the temporal factor when experiencing colour, thereby challenging the notion of colour constancy.

At one stage of his investigations, Katz concerned himself with:

... colour-experiences which require time and movement for their very existence, and which have no existence at all in a stationary field.¹⁴

The distinction made by Katz between a mobile field of vision and a stationary one and, more specifically, colour inconstancy and the condition of flux, rather than of temporal succession, is of immediate ideational significance for the painterly creative attitude.¹⁵ The colour attribute of 'lustre',¹⁶ was particularly interesting in relation to the candidate's notion of coloured luminescence. Katz stated:

Undoubtedly the painter succeeds in many cases in representing lustre in his pictures without having to use the brightest colour on his palette, namely white.¹⁷

The candidate's concern with the gathering of luminescence parallels Katz' account of lustre in the natural context:

When we see a lustrous point shifting about on a moving object, all the successive impressions - the not-yet-lustrous, the fully lustrous and the subsequent no-longer-lustrous - belong together in a single phase which taken as a whole, represents an appearance fundamentally different from that of stationary lustre. Movement makes it possible for this impression to build itself up through a period of time ...¹⁸

The finding of form to carry a myriad of differentiations in types of colour appearances, and types of brushwork, constituted the candidate's painterly probing towards the quality of luminescence. Furthermore,

the attributes of 'shape', 'size' and 'location',¹⁹ condition the appearance of colour. Such factors were taken into consideration when the candidate was creatively absorbed in the notion of changeableness. The principle of changeableness encompassed both the inconstancy of the play of colours in Nature and the mobility of the painter's painterly procedures. The candidate's innate shape-consciousness determined the character, the positioning, and scale differentiations of the coloured patches evident in her paintings.

It is not only the organisation of but equally, the nature of, painted images and coloured configurations that requires critical attention within the painting discipline. To this end, due consideration as to the derivation of pictorial images is essential.

It may be said that a concern with either actual objects or imaginative constructs prevails. When actual objects are selected as visual sources, attention is directed to their creative potential. Alternatively, imaginative constructs are, by definition, created 'objects' - objects of perception or thought determined by combining sense-impressions. As mental objects they are created before and during the making-process, through and after which they attain their identity and meaning. Essentially, no finite existence, except their eventual pictorial existence, is afforded to imaginative constructs. Once externalised, their presence is as much a force with which to contend as the physicality of an actual object. Naturally, there is overlapping, and the establishment of a division between actual objects and imaginative constructs serves only to offer assistance in the clarification of a particularly complex creative issue.

It is to be argued for the purpose of this dissertation that physical light cannot, strictly, be construed as an actual object in that substantive materiality is absent. Nevertheless, the apprehension

of physical light presents itself either as a correlative to the thinking mind or, importantly, to the imaginative and creative faculty of the mind.

Given the multifarious visual qualities of the effects of physical light, subjective world-views are formed by individuals, which vary according to attitudes, interests and experiences. The obtaining of visual sensory information is purposive. Significantly, only certain aspects of the external world are selected in order to achieve a specific view of the world. This gathering of sensory information may be referred to as active looking, affected by the individual's attention and intention. Thus:

How one casts his gaze around the world depends ... upon his knowledge of the world, and on his purposes -- i.e., on the information that he seeks.²⁰

That an individual's subjective world-view is conditioned, in part at least, by the prevailing cultural ethos, compounds the notion of a relativity of vision. An extension of such partiality concerns cycles of perceiving, and hence, of artistic styles, such as the linear and the painterly, resulting in Ernst Gombrich's notion of a 'history of illusionism' in painting. Max Kozloff's interpretation of the relativity of vision was more intimately related to the responses of individuals to Nature. When considering the history of American art, Kozloff stated:

... it is surprising to see it nevertheless divide itself along almost physiological lines ... Without regard to cycles of action and reaction, sequences of personalities oppose one another, as if the density of matter itself were negotiable.²¹

Before an imaginative construct of physical light can be made by the painter to function in the context of painting discipline, such is the insubstantive nature of physical light, yet the potency of its visual effects, that light necessitates the mind to formulate a perception of itself, by means of which sensory information is made

operative. Ortega y Gasset elaborated on the consequences of such subjective mental conversions and the derivation of imaginative constructs:

Sensations ... are subjective states; for that reason, they are realities, effective modifications of the subject. But still further within the subject are found ideas. For ideas, too, are realities which happen in the soul of the individual, but differ from sensations in that their content -- what is conceived -- is unreal and on occasion utterly impossible ... Ideas, therefore, are subjective realities which contain virtual objects, a whole world of our making, distinct from that which the eyes transmit to us, emerging from the innermost recesses of the psyche.²²

Ortega y Gasset's account of subjective realities moves towards an individual's intrasubjective identity. Accordingly, of concern here is the way in which the candidate's subjective realities, including her imaginative construct of light, are made manifest through the painting process, thus realising an expressive, creative potential.

Kozloff was concerned with how an idea is engendered by the painter during the making-process and stated: 'I imagine painting to be, if it finally is reducible to one kind of term, "touch"'.²³ He elaborated in the following way:

... touch is a ... term usable as a means of determining if the object, the artifact is a painting. And then, once one recognizes that, one recognizes it at the end as well as the beginning ... could it be that from time to time, perhaps more frequently than we imagine, there are painters whose touch, whose embodiment of sense itself, becomes an idea? That is, the sensation is ideated before our eyes.²⁴

In the context of the present study, Ortega y Gasset's account of the derivation of imaginative constructs, and Kozloff's account of their creative realisation, are crucial when considering the representation of the candidate's imaginative construct of light. The creative realisation of her construct is not to be confused with the representation of an illusion of physical light, although any consideration of physical light for pictorial purposes, such is its nature that, after

being perceived, imaginative constructs necessarily eventuate.

It is accepted for the purposes of this dissertation that representational illusionism offers seductive, yet artificial, perceptions as reminders of those perceived in Nature. It is the viewer's prerogative to feel defrauded by such effects and to respond not to the illusion, but to the handling of paint. Paint obstinately stays as strokes of paint, even though an effect of sudden transformation may be perceived by the viewer.

By claiming an illusion to end in 'a mockery' of the picture surface, yet, not discounting the evocative potential of paintings, Kozloff substituted 'allusion' for 'illusion' as a more appropriate term for the painting discipline. Kozloff contended that, once recognised, an illusion usurps the identity of paint effecting the illusion. Alternatively, an allusion, activated by the paint substance itself, generates responses in the spectator to extrinsic circumstances. Harold Rosenberg's statement that: 'Nature and psychology inhere in the most abstractly related visual data, unless they are trimmed out of the work by training or by doctrinal taboo', is supportive of the potential of allusion.

Thus, via the functioning of allusion, reverberations are set up in a painting when the painter's touch, and the treatment of paint is such that information emanating from the painting necessarily returns back to the paint substance for its identification. Such is the condition of relation between the candidate's imaginative construct of light and her painterly usages.

Kozloff's notion of sensation, ideated in the paint substance itself, is fundamentally opposed to illusionism in painting. Light within the pictorial context has been defined in the following ways:

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