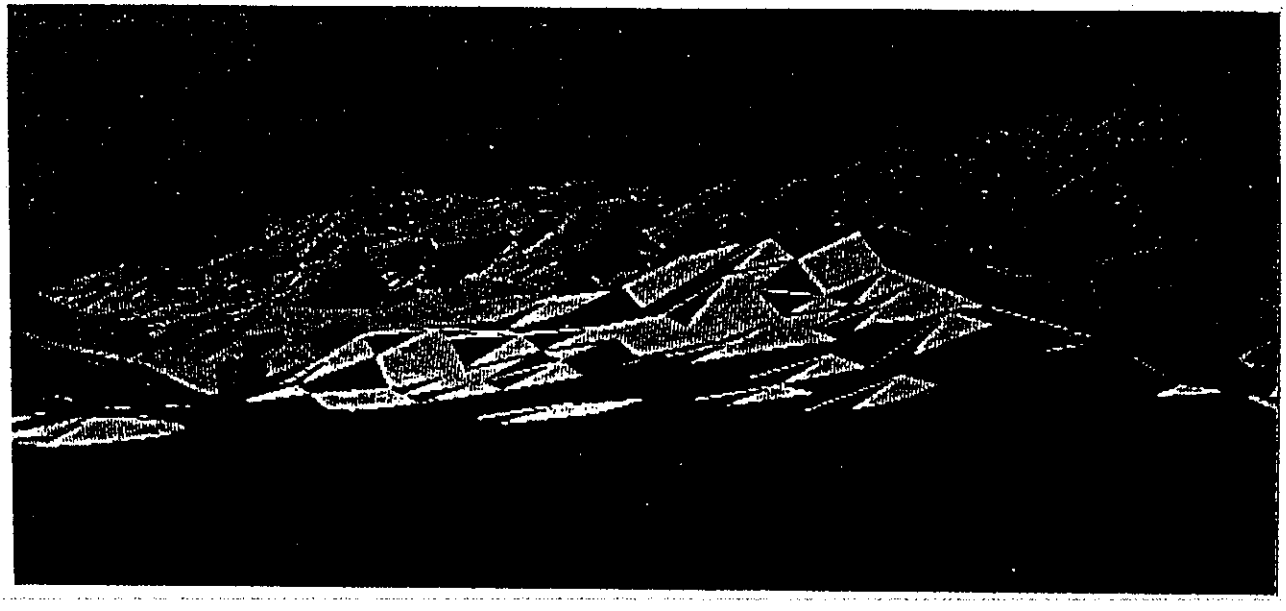
Limitations of Visual Project Analysis



Diane Lucas
Lincoln College
June 1988

Limitations of Visual Project Analysis

"A Man's Country?" (Jock Phillips, 1987a) traces the repression of aesthetics, sensitivity, emotions and their communication in Pakeha society. If the findings of Phillips' analysis are reflected in the way in which our society organizes itself, then these 'effeminate' characteristics would not be expected to be considered seriously in land-use decision-making processes.

The broad base and local focus of the Town & Country Planning Act (1977) have provided opportunity, but not encouragement, to develop both a forum for discussion and statutory recognition of characteristics of the sensory world. It appears that the opportunity has been little utilised (Turner, 1985), one exception is recent response to demands from the tangata whenua. The nature of these demands appears not to conform to planning protocol, which has led to the recognition that (Pakeha) protocol, based on a development ethic (Hayward, 1987), and encouraging reductionist, mechanistic approaches, may be inadequate for evaluation and decision-making procedures in a bicultural society.

From this perspective, Pakeha planning protocol has also been inadequate in eliciting, communicating and incorporating certain meanings within Pakeha society itself. Meanings such as historical association, communal responsibility, emotions and spirituality as symbolised in relation to, or backgrounding, the physical world. Proposals which affect physical resources also threaten the inter-related intangible, or sensory, resource and despite apparent shortfalls in procedure, threats to major sources or symbols of intangible values have been observed to result in concern for the intangible being articulated publicly (e.g. Salmon, 1960; Native Forests Action Council, 1975; Taylor & Patrick, 1987).

This paper suggests the landscape profession has perpetuated the inadequacies of decision-making protocol through use of elitest communication techniques in visual project analysis. The potential for techniques more sensitive and accessible to the broad community is discussed.

THE IMMEASURABLE

The articulation and acceptance of intangible values as expressed by the tangata whenua is contended to provide a guide for the landscape profession. The demands of Maori people, and those of the Pakeha conservation movement, have demonstrated the importance of adequate and appropriate communication. They have eloquently demonstrated the communal significance of resources in language that is rooted in the totality of that place in the world.

The Maori people do not argue in language founded in environmental science, economics, law, or formal aesthetics; nor in the use of simulation techniques. These rational approaches, typical of Eurocentric planning procedures, have been shown to be inadequate for the physical world which is inseparable from the sensory and spiritual worlds. 'Reason' is not sufficient and Judge Turner (1985) suggests that 'reverence' is also necessary.

Reverence involves deep respect for something of exalted character. Reverence for the visual landscape and its depth of meaning has seldom been investigated in land-use decision-making procedures. Public demand for photographic images of our landscapes could be interpreted to indicate that the population reveres both beauty in landscape, and visual characteristics of particular landscapes to which they (individually or communally) have developed particular attachment. However, Wynstan Curnow (1987) argues that the New Zealand landscape is a mere 'spectacle' - traversing it has become a 'spectator sport'. There is no involvement with a place as a lived-in landscape. The photgraphic media merely re-present culture to culture to second-guess experience.

As requested by rationalist protocol, attempts have been made to reason for landscape quality as an objective (Bennett *et al.*, 1983). There has been an unwillingness to acknowledge or communicate reverence for landscape beauty, or for meaning and attachment (Park, 1987). Such communication has been assumed unprofessional and inappropriate for planning and design professionals in the contemporary decision-making arena. However, more recently landscape attachment has demanded recognition, for example, as the turangawaewae of the Ngai tahu in their Land Claims. Perhaps, because of the wholeness of this bond, the visual component has had little specific or explicit attention.

The lack of specific attention to reverence for the visual landscape and its underlying meaning may be indicative of the problems of addressing the landscape in any project analysis. Reductionist, 'expert' approaches endorse a process of measurement of a fragmented image of the environment. In this image there is segregation of people from land, land from water, animate from inanimate, natural from cultural, and, tangible from intangible. Yet the reality is they are inseparable, they are all part of an inter-connected whole.

David Bohm (1980) argued that notions of 'measure' originally went far beyond that of comparison with an external standard, to point to a universal sort of inner ratio or proportion, perceived both through the senses and through the mind. But in the West, measure has come to be a rule imposed from outside, as absolute truths about reality, and no longer a form of insight. The measurable has become the primary reality. Bohm argues that identification of measure as the essence of reality is an illusion.

In traditional Eastern thought, the immeasurable - that which cannot be named, described or understood through any form of reason - is regarded as the primary reality. Measure is commonly regarded as false and deceitful. The entire structure of order of forms, proportions and "ratios" are regarded as a sort of veil, covering the true reality, which cannot be perceived by the senses and of which nothing can be said or thought. Thus, in this Eastern perspective not science and technology, but religion and philosophy are emphasised, directed ultimately toward the immeasurable.

Demands of the tangata whenua suggest their primary reality is likewise the immeasurable. The spiritual bond, turangawaewae, indicates a communal bond with place. The powerful spiritual force, mauri, affects relationships between people, between people and both their past and their present, and, between people and the sea, rocks and sky.

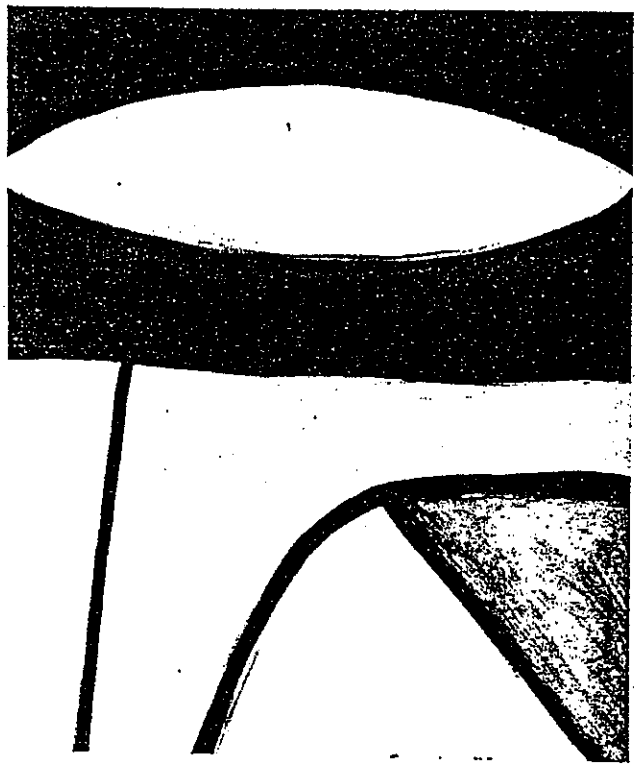
The significance of the emotional, the spiritual, the aesthetic and intuition are expected to demand increased respect and explicit attention in decision-making. It is, however, questionable whether the immeasurable can be made explicit.

From Bohm's analysis of reality, he proposed that the implicate order be taken as fundamental. The explicate order is secondary, a derivative, a certain sub-order of the implicate order, being more or less the one appearing to our senses. Each moment of consciousness has a certain explicit content which is a foreground, and an implicit content which is a corresponding background.

Bohm suggests that immediate experience is best understood in terms of the implicate, as it is immediate and direct. Whereas the explicate requires a complex construction which has to be learned. He argues that we do not notice the primacy of the implicate order because of the emphasis of the explicate in both thought and language. Also, memory content is mainly of that which is manifest, with attention focussing on the static and fragmented. Thus we tend strongly to feel that our primary experience is of that which is explicit and manifest.

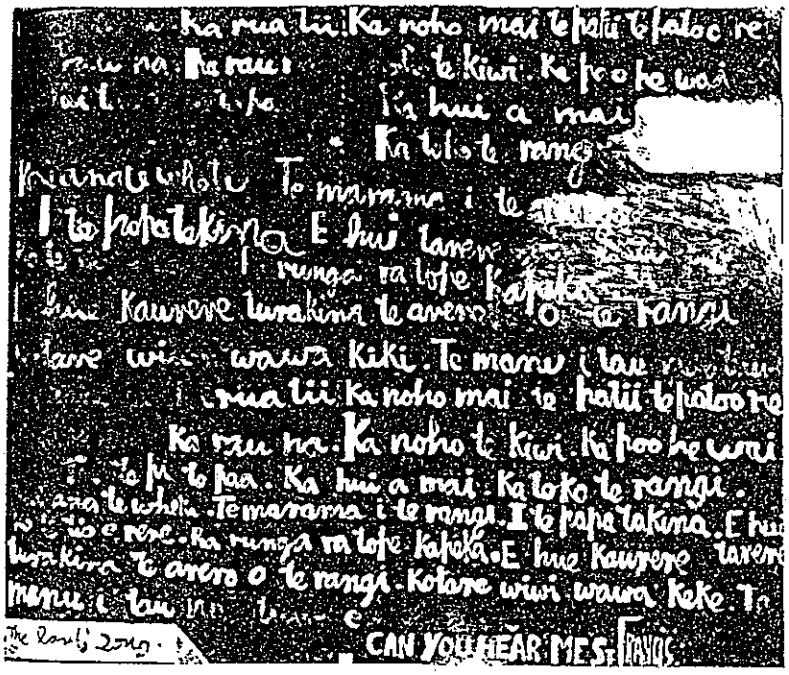
Experience in which static and fragmented features are very intense cause the more transitory and subtle features of the whole to pale into seeming insignificance, so that we are barely conscious of them. This can cause an illusion that the static and fragmented content of consciousness is experienced as the very basis of reality. For the easily accessible explicit content of consciousness is included within a much greater implicit (implicate) background. Although this may not appear in ordinary consciousness, it may nevertheless be present in a certain way - it may be 'sensed'.

> *"Simply to "see" the landscape presented as a picture, no matter how visually interesting, did not go far enough. McCahon wanted the landscape to be revealed as a raw experience that gave insight into what he considered was the true nature of the land...What use were eyes without the expectation of viewing the land with renewed vision, as if for the first time!"*
> Brown (1984 p.102)



South Canterbury, 1968, acrylic on board, 60 x 50 cm, signed and inscribed *McCahon Canterbury '68*.

> *"I saw something logical, orderly and beautiful belonging to the land and not yet to its people. Not yet understood or communicated, not even really invented."* Colin McCahon (Brown, 1984)



The Lark's Song, 1969. acrylic on two panels. 163 x 198 cm. inscribed with title and poem in Maori by Matire Kereama, signed *Colin McCahon August-October '69.* Auckland City Art Gallery.

"...McCahon began to move towards the "empathy for maoritanga"...The land and its history supply an essential backdrop to the reality of such paintings. It is a feeling for a land occupied, possessed, where events have shaped the traditions of the people. This sense of tribal possession is extended further when the passive chant quality in the text is verbalized." Brown (1984 p.160)

"In his paintings McCahon was continually faced with reconciling the conflicting aims of symbolism and realism ...The conscious application of primitivism had the appeal of providing more direct conceptual imagery than any stylization of the "realistic" image could provide, especially in its capacity to transmit symbolic content. Primitivism allowed the shapes of images to achieve the characteristics of a visual shorthand technique in which content had a natural dominance over explicit visual observation. This allowed unnecessary detail to be eliminated in favour of a clearer reading of the incident portrayed ..." Brown (1984 p.34)

THE ROLE

Together the tools of language, model, forum and simulation offer potential to enable and encourage understanding and debate on the visual character and significance of existing landscapes and landscape features, and of any modifications proposed. The tools must enable procedures to:-

1. communicate to the project designers/design facilitators the diversity of the community's aesthetic, their ideals, inspiration and attachment;

2. aid communication in the design process, between professionals, client, decision-makers, expected users and the community;

3. aid communication in the presentation of design proposals to the community (whose landscape resource could be affected) and to decision-makers, to enable understanding, generate and assess alternatives, and prohibit, or approve and assist, implementation; and to,

4. assist evolution of the design, and monitoring during implementation of proposals by providing a reference to compare the proposal with the reality as it emerges. Also, to provide a basis for ongoing discussion on design modification.

PROFESSIONAL LANGUAGE

The lack of recognition that emotions, sensitivity and aesthetics have significance in the community, has understandably not been conducive to either development of a vocabulary for these qualities, or for consciously `reading'their source as visually expressed in the landscape.

There has been considerable documentation of changing attitudes to the environment (Horsley, 1987). The community shows increasing concern for the visual landscape. Landscape architects would be assumed to have a responsibility to understand, interpret, communicate and aleviate this concern. However the debate is muddled and founders through lack of an adequate common language. The landscape profession has seldom provided a suitable vehicle for debate. The profession appears to have lagged in skills for interpreting and expressing evolving concerns.

Without a tradition of public discussion on aesthetic qualities, such as beauty, symbolism, intuition, visual character or design, the vocabulary is limited and unfamiliar. Howett (1987) claims the notion of aesthetic values has become suspect for being identified with elitism, for being insensitive to natural systems, and, for favoring the visual over less obvious experiential criteria. The New Zealand landscape profession has also been traditionally disrespectful of `aesthetics' as encompassing only superficial qualities.

The inter-disciplinary nature of landscape architecture would be expected to allow the opportunity for synthesis to overcome the perceived deficiencies of `aesthetic', to generate new forms as new expressions in the landscape. The design media available include animate and inanimate, natural and artificial, transient and long-term, and, peopled and remote, dimensions. Involvement is at both expansive and intimate scales. Landscape architecture, as a profession which links or integrates the arts and sciences, provides opportunities for:-

* design interpretation and display of the dynamics of bio-physical processes, and the impacts of interference;

* distilling, interpreting and contrasting the traditional people-nature relationships of differing resident cultures; and,

* comparing and emphasizing the "ordinary" character that arises from the particular natural and cultural reasons for the existence of specific places.

The visual landscape is a tangible and dynamic portrayal of the values of society. The landscape is a public resource,

a component of the New Zealand commons, which is always changing. In foreseeing and directing change, it is critical that there be public debate on landscape beauty, meaning and character.

The demands of the rationalist approach have caused landscape architects to use the objective language of science (Brown, 1981; Bennett *et al*, 1983). Beauty and meaningful appearance have rarely been acknowledged as goals in landscape design in New Zealand. 'Beauty' is commonly assumed to be a very personal and inexplicable concept. That much of the visual arts is apparently not primarily concerned with beauty is confusing, for art is not about beauty, but about perceived reality.

Non-human 'beauty' has little acknowledged status in New Zealand design professions. The 'Beautiful New Zealand' scheme for roadside plantings could be understood by professionals to be an appropriately degrading title, but an inspiring one to the public. An interesting demonstration of the language barrier. This was epitomised in the occurences where the public perceived that many of the planting schemes were boring and would fail to produce adequate 'beauty'.

Tony Jackman's inclusion of 'Beauty' in the title for his national landscape model (1986) is a rare exception of status in this concept. Unfortunately the notion is obscured in the technical model. Landscape architects have sought 'visual quality', and a quantifiable diversity of character (Boffa, 1977; Brown, 1984; Hudson, 1985). The focus of attention has been on degrees of visual sensitivity in terms of 'visibility' and visible 'absorption capacity' (Brown, 1981).

The limitations of visibility and absorption indicates the reliance of landscape architects on conventional compositional devices to produce pleasant and 'safe' effects. Jackman (1986a) criticizes the prevailing rural design philosophy of Enhancement by Disguise. Whilst designs generally show considerable respect for the surrounding landscape, there is little celebration of the landscape, little expression of creativity, little to challenge. Designs are seldom positive statements responding to our powerful landscapes. Therefore the designs seldom challenge our perception of these landscapes.

However the lack of expressed creativity is only in part due to a lack of designer skills and confidence. I suggest much is due to the designers' perception of powerlessness regarding the visual illiteracy amongst those in decision-making and implementation roles. The success of designs involving Enhancement by Display is of much greater vulnerability than Enhancement by Disguise. To reduce the risk to the quality of the product, the Disguise option is frequently the only responsible alternative where the 'she'll-be-right', 'jack-of-all-trades' philosophy prevails.

There is probably validity in Howett's criticism that the profession is trapped in producing banal 'quality' by perpetuating a 'hackneyed' design tradition, the picturesque. The evidence for this is further demonstrated in the profession's emphasis on draughtsmanship to produce a design product (Farmer, 1987), together with simulation techniques which concentrate on the pictorial.

Lynch (1976) suggested that the architectural language of plan, section and elevation is so strong that it takes over, even though it is inadequate for studying sensory form. But it is not only graphic language which limits communication.

A frequent criticism of the landscape profession is at the inability to effectively communicate either visual qualities in the existing landscape, or the visual implications of design proposals (Mayer, 1987). The inaccessibility of the verbal and written language of landscape architects is indicated by frequent criticism of the use of 'jargon' (Park, 1988). Even visual descriptors such as 'scale', 'proportion', 'space', 'enclosure', 'coherence' and 'integrity' have little, or ambiguous, meaning outside the design professions. Within the profession there is criticism of communication barriers through use of esoteric language (Anstey, 1987; Evans, 1987).

Publications and other documentation, particularly elaborate reports using formal and complex language or graphics, inhibit dialogue and therefore inhibit the design process. The impressiveness of project documentation can daunt all - the client, potential users, decision-makers, and the public. Such documents distance the audience from the proposal. Many proposals have an air of finality, appearing as a *fait accompli*.

Informal presentation is more likely to promote dialogue than formal. In communicating proposals designers should be aware that not only the meaning of the ordinary is rarely obvious, but also that the sensory experiences which together combine to create a place, are usually lost in verbal accounts of character (Gold & Burgess, 1987). On-site discussions of the significance of the area and its features in relation to the proposal, an indication of characteristics that can be manipulated, and on-the-spot sketches where possible, are a few informal techniques that can all involve and assist decision-makers.

I suggest landscape architects reassess the needs and means of visual project analysis for decision-making, to more appropriately fulfill their professional responsibilities to the client, the public, and to the landscape. Inhibiting involvement in the design process allows the creation of uncontroversial landscapes, lacking the challenge of depth of meaning, of confounding, or of visual stimulation. These oversights invite the creation of landscapes that will be

dismissed for being predictable or boring - the products of an objective and analytical, or modernist, approach to design.

Use of distancing communication techniques not only inhibits designer sensitivity, community understanding and therefore constructive involvement, but it may be degrading to the knowledge and aesthetic sensitivity held by much of the community. A post-modern approach to landscape architecture requires participation of the population. The designer must get the user emotionally involved in the product via the design process. This involvement in turn provides an awareness of what motivates the individual designer (Meeus & Vroom, 1986).

"...at the core are the symbols of national recognition in which ...the ability to "read the felt image" in a positive manner gain in importance. The love of people for the geographical features of their country, its flowers, its trees, its birds, has a definite part to play in shaping the forces that induce maturity and unity in a nation. Such national qualities, with their duffused feeling of shared possessions, should be appreciated and fostered as a precious ingredient in the art of a country... It is from the feelings that surround these characteristics that a nation's heritage is compiled." Brown (1984 p.96)

SHARED LANGUAGE

Productive participation is possible only via a shared language, and a degree of communal consensus. Lucy Lippard (1983) suggests there is no longer a cultural consensus outside of that imposed on us by commerce. It is therefore impossible to distill the meaning of symbolic abstraction comprehensible to the entire community. She suggests a form may mean any number of things to any number of people if they cannot 'read' the symbol system, that is, the language.

People see and say only what they are able to. Robert Mugerauer (1985) argues that the entire fabric of a people's meaningful world, their total environment, comes together with the whole of that people's language. "The landscape and the language are the same."(Conrad Aitken) But we cannot assume that what we see and say today is at all adequate as compared to what emerged for the tangata whenua. Pakeha language, with dialects, were given with different landscapes.

Colonizers' encounters with the New Zealand environment had only the language from their own heritage and landscape with which to think about and describe it. As with Mugerauer's analysis of colonists in the United States, they see, and therefore describe, only what they are able to `- *a landscape unavoidably informed by Western European interpretation, rooted in Biblical, classical, and post-Cartesian perceptions.*' Therefore the environment is not just there, independent of our experience, to be passively described by language. Mugerauer suggests it takes hundreds of years for adequate emergence of a language.

The perceived environment is a cultural product constructed via language and symbol. Introduction of a people having a language that emerged with a different landscape, means that both landscape and perception fail reality. If the language is lacking, the landscape's essential characteristics stay concealed.

Mugerauer demonstrates that the application of a non-indigenous language can have disastrous environmental consequences. Yet such application is perpetuated by our landscape profession in the use of foreign analytical language in attempts to appraise and manipulate the visual landscape. The emergence of a New Zealand identity has been little recognized. Local, as well as national, identity as displayed by landscape and language together is of suggested significance.

Indications of the emergence of language and landscape is an area that warrants exploration, as perhaps indicated in the following examples :-

1. Stock containment on New Zealand farms has been a priority concern. Whereas 'fields', indicating an area of openness, are the grazing units in England the term

is not used for New Zealand pastoral lands. Here 'paddocks', emphasising the enclosure, is the equivalent term.

2. Recognition of 'swales' in the landscape of the Canterbury Plains (Jackman et.al. 1974) which would be irrelevant elsewhere, indicates sensitivity to developing a language-landscape dialect.

3. In farms where mountains may rise several thousand metres, they are referred to merely as 'hills' and thus as manageble territory. Domination by nature need not be acknowledged, for 'Mountains' demand respect and subservience.

In the landscape we read what we know. Therefore the less we train or learn the less we know, and the more we shy away from trying to read greater depth and complexity. This would suggest that continued provision of only 'banal' landscapes along with discouragement of design communication, would gradually reduce the community's visual literacy.

Such visual illiteracy must be addressed. Donis Dondis (1973) comments that 'the visual alone has no regimen, no methodology, no single system with prescribed guidelines for either expression or understanding of visual methods.' That it has none results from the complexity of the visual. Any simple formula must be superficial and limiting,he suggests complexity is essential to communicating the richness of the visual.

Dondis analyses visual data as having three distinctive and individual levels :-

1. visual input, consisting of myriad symbol systems;
2. representational visual material we recognize in the environment and can replicate in drawings, models and film; and,
3. abstract understructure, the form of everything we see, whether natural or composed for intended effects.

George Nelson (198) comments that to see is to think. To think is to put together random bits of private experience in an orderly fashion. For seeing is not a unique talent, but a discipline that can be learned. It is always conditioned, but uniquely personal and private. Seeing relates to the familiar suddenly being seen with fresh eyes. Nelson claims that through seeing, everyone makes design judgements. Techniques are discussed for assisting a community to become visually literate, to help people see what they see and know what they know.

Pakeha interaction with the landscape has been extensively researched in the arts, for example, Pound (1983); Brown (1984); Cooper (1987); Curnow (1987). Trudie McNaughton (1986) investigated both Maori and Pakeha interaction with landscapes through an anthology of written literature. She comments that

"Maori writing draws heavily on a sense of place, season and interaction with the environment. The spirit of the land may permeate much Maori writing, but its presence is often implicit."

In a bicultural society, the landscape, as a reflection of culture, must also be plural (Park, 1987). Recent attempts (Challenger, 1984; Phillips, 1987; NZILA, 1987) and opportunities (Brailsford, 1984; Evison, 1986; Ngai Tahu Trust Board, 1988) to aid Pakeha understanding of the landscape of the tangata whenua are an encouraging development. Considerable research is necessary to better understand meaning in the visual landscapes of both Maori and Pakeha.

Words, including place names, are not merely labels. They are an evocation of what things are, and of how they are related to other things in the web of particular lives and places. Maori place names are a mnemonic device for the heritage of those places. Maori oral literature, particularly the recording of complex trails that mapped a landscape, would be expected to indicate the reality of that landscape - both implicate and explicate. This suggests that environmental hermeneutics (Mugerauer, 1984) may provide appropriate mechanisms for understanding our landscapes. But the possible depth of understanding is inherently limited if the Maori landscape is read in Pakeha language which, by definition, expresses Pakeha perceptions.

Primitive art is concerned not with the pictorial, but with presenting ideas. For art has social significance and a social function. Art can have the power to bring about social change - the power to release a whole process of transformation - the purposeful bringing about the kind of society we would like to have. Art in ancient times had a very important function in creating social order and social cohesion (Lippard, 1983).

Community art, where art becomes familiar and part of daily life, provides an avenue for people's development of a coherent connection with their landscape (Cameron, 1987). Lippard proposes artists' means of communication be "repossessed". Audiences can be involved and not mere spectators. The skills and creativity already within the community can be tapped.

The local secondary school students' River Dance Project is a vivid example of their involvement with the Canterbury riverscapes communicated through dance and sound (Besley, 1988). Lippard supports the role of artists as teachers and interpreters for *"reintegrating the past and the present, the political and the cultural, the personal and the natural"*.

Cameron argues for the potential of community art to allow the environment to "unfold its beauty". Howett suggests that landscape architecture may be more capable than any other of the arts of giving expression to a new vision of the world. Given the profession's communication problems and limitations as discussed, this would appear a massive challenge to landscape architecture to demonstrate purported totality, sensitivity and creativity.

MODELS

A. The Formal Aesthetic

Firstly, a formal aesthetic framework is outlined as a possible educative and decision-making tool for both the profession and the public to become au fait and comfortable with a language to describe and analyse the visual landscape. A recent model from the United States, AIM, is discussed.

The Aesthetic Impact Model (AIM) was developed by Cats-Baril and Gibson (1987) to provide designers, decision-makers and the public with a framework to discuss and assess a proposed development. AIM is a multi-attribute utility model, constructed by a panel of multi-disciplionary experts, to measure the aesthetic impact of proposed land developments. The 3 main components are:-

1. a series of independent attributes describing the type of land-development proposal;

2. a "utility" function for each attribute; and,

3. a "weight" attached to each attribute to indicate its relative importance vis-a-vis the evaluation as a whole.

"Scores" can therefore be computed by "grading" proposals on every attribute, multiplying that "grade" by the importance weight and summing across all attributes.

AIM has two parts, involving assessment of the visual quality of the proposal separately from assessment of the proposal in its proposed context. However, it does not include analysis of the existing landscape.

The model aims to provide a vocabulary to encourage constructive discussion on aesthetics, to enable disagreements to focus on individual attributes, and be clarified. It is claimed to have been used very successfully in public discussions. By integrating and balancing expert judgement with public weighting of independent attributes, the model allows various projects to be compared systematically and consistently.

Cats-Baril and Gibson (ibid.) concede the scoring procedure gives a false sense of objectivity. The defining of the vocabulary by experts introduces a bias which limits the scope and potential effectiveness of public input. In the example they outline, the vocabulary selected merely preserved the status quo.

The model is designed to vary the vocabulary and weightings in relation to 'geographical area, culture and times'. It also allows for analysis of manipulation of the design for various 'what-if?' scenarios, to indicate the advantages and disadvantages of alternative solutions.

The model enables a policy position to be established to assess any design proposal impacting on the visual landscape. The procedure purports to openly establish priorities in terms of aesthetic preferences. The particular usefulness of the model has been suggested to be in providing a vocabulary as a design guide to developers, and to focus discussion, ensuring a systematic, consistent and comprehensive review.

A verbal design guide of visual characteristics (e.g. proportion, scale, texture) is expected to be less likely to encourage standardized structures than a graphic guide setting prototypes. Words are assumed to allow greater scope and less restraint for creative interpretation. Also, with no approved image on which to model a project, greater thought is expected to be given to shaping a project design. However visual illiteracy will limit the interpretation, which might otherwise be allowed for, or even stimulated by, graphic images.

The apparent usefulness and applicability to the protocol and expectations of planning procedures veil the inherent problems and inadequacies. As warned by Dondis, any simple system can only be one-dimensional.

Limitations of the model include:-

1. There is no opportunity to contemplate or record the quality, character or meaning of the existing visual landscape. Only the proposed project (within and without its context) is assessed. This does not encourage a design sensitive to the qualities of the undeveloped site. The model therefore assumes development is desirable, and only debates what that development should look like. There is no basis or forum to debate no-development versus some development.

2. Production of a vocabulary or language by design experts is elitest. It ignores that the landscape is already given to us and interpreted in language (Mugerauer, 1985). There is doubt that Pakeha language has as yet emerged with landscape, or perhaps that the concept of 'landscape' has not as yet emerged for the Maori. This suggests the impossibility not only of experts defining a suitable visual vocabulary for the public, but also of there being an adequate shared language for the community to define for themselves.

3. The requirement for independent variables is an impossibility. Nothing exists independently, it is illusory, and denies inter-connectedness.

4. The significance of interaction between variables is not addressed.

5. In Pakeha culture, explicit measures have the status of a primary reality. The framework of variables, weightings and

ratings are required to be established for a planning area prior to assessing any projects. This fixes the basis for the visual design of all developments. The framework becomes a set of rules denying insight or intuition, and limiting creativity - they become the final word. 'Minimum' standards become the norm.

6. The formal rules for assessment discourage immersion, instead encouraging a detached stance. Real detachment from the environment is an impossibility, and perceived detachment discourages a responsible attitude.

7. The model denies the significance of natural and cultural processes, assessing projects in temporal isolation. The model appears designed to target specific structural development proposals, and is of limited application to non-structural and broadscale landscape management decision-making. Neither the urban nor the rural landscape can be separated from the ever-present dynamics of change.

8. Visual quality or beauty based on formal aesthetics assesses only part of the reality. For it acknowledges only the manifest and non-human. It ignores not only the implicate order, but the existence of people themselves.

9.The model requires a simulated 'product' for discussion and assessment against pre-established criteria. This invites input only at the end of the design process. There is no opportunity for creative involvement of decision-makers/client/community during the process of design.

10. There is no allowance for communal expression of the desirability of a special type of development for a particular site.

11. The depth of discussion and assessment will be dependent on the appropriateness, depth, legibility and integrity of simulations. The type of simulation is largely dictated and limited by the structure of the model. Proponents would encourage abstraction and selected viewing points to emphasise listed variables, meaning that architectural draughting and static modelling techniques would be adequate. Simulation techniques would be selected to satisfy the assumed requirement and possibility of contemplative distance. Thus dynamic techniques which involve the viewer more realistically would not be encouraged by this model. And, project impacts which cannot be simulated through such draughting and modelling would be ignored.

12. The fixed framework, and the presumed independence, limited range and superficiality of variables, could encourage merely banal quality. There is no encouragement to aim for creativity, pleasure or attachment in the design of a project.

13. Conversion of apparently complex, subjective visual issues to a simple model would be welcomed by many decision-makers as

it allows everyone to distance themselves from the issues - the rules intervene rather than the people. Thus debate becomes confined within the limitations of the model.

I suggest the limitations of the formal aesthetic model stem from the assumption that the full visual spectrum can be segregated, labelled, discussed and measured as an objective reality. Although intended to encourage contemplation and visual awareness, the model may come to provide a rule book for standardising design if the variables are specifically defined. But use of the model to express a continually evolving vocabulary may be of value in project assessment procedures.

> *"The problem with good manners in aesthetics is their restrictive tendency, for such values are usually applied narrowly."* Brown (1984 p.4)

A2. *Integrity of Design*
The understanding of both the intended function and the era in which the project was (will be) built.

A2.1. *Legibility*
The ease of interpreting a three-dimensional space.

Difficult	Average	Easy
0	50	100

A2.2. *Honesty*
Extent to which the design is related to the purpose and function of the building.

Not at all	Related	Very related
0	50	100

A2.3. *Authenticity*
Extent to which the design expresses the period in which the project is being constructed.

Poorly	Average	Well
0	50	100

A2.4. *Internal compatibility*
Extent to which the individual elements of the project are compatible, or internally consistent, with the overall architectural character of the existing structures.

Not compatible at all	Neutral	Very compatible
0	50	100

A3. *Specific features*
The emotional and cognitive understanding of the design and its meaning that is experienced by the viewer through specific design elements.

A3.1. *Fascination*
The ability to capture and retain the viewer's attention.

Boring	Interesting	Captivating
0	50	100

A3.2. *Intrigue*
The desire of the viewer to acquire and discover additional information about the design.

Obvious	Interesting	Tempting
0	50	100

A3.3. *Delight*
The ability to charm and give pleasure to the viewer.

Unpleasant	Pleasant	Charming
0	50	100

A3.4. *Symbolism*
Extent to which the design represents some conceptual, spiritual quality.

No symbolic value	Some symbolic value	Powerful symbolic value
0	50	100

from the Aesthetic Impact Model, Cats-Baril & Gibson (1987)

B. A Pattern Language

The model developed by Christopher Alexander *et al.* (1977) to guide design decisions is in complete contrast to the approach taken in AIM. The preliminary model (Alexander,et.al. 1968) sought to reconcile the uniqueness of each community with the fact that certain organisational principles are valid from one community to another. A 'grammar' was produced as a system of generating principles, which can be richly transformed according to local circumstances, but which never fail to convey their essentials.

Further development of the Language (Alexander, 1977, 1979) demonstrated that space and events cannot be separated, and that it has the potential to be a common language constructing 'alive' developments. The elements of this language are patterns. Patterns are therefore not merely a physical expression, a spatial definition. The performance that occurs in association with a space together form a pattern. Thus not only is a pattern dynamic, a space and an activity cannot be considered independently.

Each pattern describes a problem which occurs over and over again in our environment. It then describes the core of the solution to that problem in such a way that you can use this solution "a million times over" without ever doing it the same way twice.

A pattern defines a field of spatial relations and therefore must be able to be drawn diagrammatically. A standardised format is used for recording each pattern and its degree of validity. Each has a picture of an example; descriptions of the context, the problem, and of the solution as an instruction and a diagram; and the relationship of that pattern to smaller patterns.

The language has the structure of a network, but is prescribed and used as a linear sequence to go through the patterns from largest to smallest. All are connected. No pattern is an isolated entity. Relating to wholes, and fitting in to the web of nature, are considered fundamental.

The relationships needed to solve a problem are stated in an abstract way, so that you can solve it for yourself, in your own way, by adapting it to your preferences, and the local conditions at the place where you are making it. Alexander warns the language can be a medium for either 'prose' or 'poetry', being the same language used differently. To string patterns together will not be profound. But to overlap patterns densely, to compress many patterns into the smallest possible space, is to produce poetry.

The patterns are not fixed, but alive and evolving. Alexander (1977) claims that every society which is alive and whole will have its own unique and distinct pattern language. And, every

individual in such a society will have a unique language, shared in part, but which as a totality is unique to the mind of the person who has it (communal individualism). Thus a healthy society would have as many pattern languages as people, even though they are shared and similar.

The book of published patterns is merely to raise awareness of people's own pattern languages, to work to improve them. Whilst not a recipe book, it does indicate those patterns that are essential to successful solutions of certain problems.

A Pattern Language involves an organic or whole system. The recognition of patterns as the basic unit allows for systematic application of these patterns in evolving and assessing design proposals. Mathematics allows the generation of variety within the unity that comprises a pattern. As noted by Bohm, only art and mathematics have retained the original meaning of `measure' as involving insight, thus not denoting a comparison with an external standard. Incorporation of intuition, the sensed or implicate, is critical to the practice of a Pattern Language.

Bohm describes the mathematization of the description of the implicate order enabling an enriching of general language. A more precisely articulated discussion of implicate order is possible through mathematics than through the general language alone. The concept of a Pattern Language recognizes and utilizes this potential.

Accepting the basis as being wholeness, the implicate, Bohm suggests science can derive parts by abstraction from the whole. The parts are manifest, externally related elements making up relatively autonomous subtotalities. These subtotalities can be described in the explicate order. This would suggest that approaches such as Pattern Language, as well as Land Systems and Soil-Landform modelling, can incorporate the implicate as fundamental, with subtotalities explicit.

This contrasts significantly with the AIM approach, in which there is the illusion that the explicate is the basic reality, and an assumption that the elements can exist separately and independently. Science in this model has to start with the parts and derive the wholes through abstraction. However Bohm's analysis suggests we cannot obtain the implicit by abstracting the explicit.

The Pattern Language approach requires an active creative input. Creativity involves the inception of new content unfolding into a sequence not completely derivable from what came earlier in this sequence or set of sequences.

`Designers' cannot stand apart in the use of a Pattern Language. The patterns must be allowed and facilitated to emerge. Mental input is essential, and ambiguities which arise depend on human intuition for resolution.

The technique involves :-

1. observation to discover and slowly formulate patterns.

2. finding a way to talk about patterns that can be shared.

3. making the inner structure of patterns clear so that they are explicit, precisely and scientifically.

4. defined pattern formulated as a rule establishing the relationship:

context → system of forces → configuration

Total immersion in the site, its surrounds and its people is fundamental to using the Language. The Language changes in response to different environments. To utilise the Language, it is essential that site users be involved in the planning. Discussions and design work are required to be carried out on the site, not at the desk. There is no distancing of the designer/decision maker/user from each other, from the site, nor from the proposal. Their inter-relatedness is recognized.

The concept of a Pattern Language counters all thirteen criticisms of the formal aesthetic model, AIM. However, the practice of A Pattern Language is reported to be very difficult (KENTIKU BUNKA, 1985).

Limitations to the application of A Pattern Language to visual project analysis include -

1. The comprehensiveness restricts the utility due to the research, skills and sensitivity required to discover, define and interpret existing Patterns. However, this is offset by the utility of the Patterns to everyone once the configuration is made available.

2. The requirement for considering totalities when present data bases assess factors independently and statically.

3. The preference for a mechanistic approach by Pakeha planning protocol, assuming limits and controls will be defined. But Pattern Language assumes a Pattern is 'dead' if controls are required to put it in place, conversely 'live' Patterns cannot be created by control mechanisms.

4. The inadequate emergence of Pakeha language-landscape composite may be somewhat limiting. However the unstructured participation and immersion, the descriptions and diagrams, together allow sensitivity to that which is emerging. For the Patterns are in the mind. They remind us of what we know already. They involve both essential shared language as well as individual language.

5. Necessity for incorporating the implicit, with our lack of training and practice in such sensitivity, or in valuing intuition. The validity of a Pattern is tested in people's intuitive response - their feelings, not their opinions. The concept of a balanced pattern is deeply rooted in the concept of feeling. Advice, discussions or arguments are not involved.

6. Question the validity of the research, particularly regarding application in a multi-cultural society, in indicating high agreement in people's feelings about Patterns. Alexander (1979) reports only that research yields scientific data on shared feelings.

7. Lack of recognized appreciation of the typical, or of what is atypical within the typical. Pattern Language is based on uncovering and interpreting typical solutions for wide application, and in detecting and allowing a specialness in each solution.

8. The difficulties of appreciating the wholeness of the network that constitutes reality, with the traditional segregation and domination of cultural over natural, human over non-human, and animate over inanimate.

9. Expected difficulties of simulating any Pattern as space and event together. However, to exist a Pattern must be able to be drawn, it emerges and is not imposed, it is accessible. Therefore proposals can be taken through a similar process, to define and draw the combinations of patterns of a proposal.

McCahon has settled people in "a *New Zealand of the imagination which is seen more as an environment than as a specific place, though locations he has known will direct the forms given to a particular environment. Each environment is awake to the meaning and power of life. Within them events and situations take place. What occurs is of the present, existing in space and , by inference, in time, while yet transcending space and time.*" Brown (1984, p.204)

THE FORUM

There is a need for visual project analysis techniques to demonstrate:-

1. the character of the site environs in a local, regional and national context;

2. the significance of this character in landscape experience;

3. the expected impact of a proposal on both the character and experience of the landscape; and,

4. the measures necessary to offset or ameliorate impacts.

To achieve this, techniques must be designed to be easily accessible to, and debatable by, the decision-making audience, including -

* all in the project planning team;
* the client;
* third parties;
* the general public; and their -
* professional representatives;
* political representatives - local, regional and national;
* special-interest authorities and groups; and,
* judicial authorities.

SIMULATION

Techniques for simulating landscape change have long been employed. Recent developments now provide a considerable range of media of varying complexity, abstraction, dimension, and reliance on technical apparatus. The diverse range is indicated in the charts below, and has been comprehensively reviewed (Sheppard, 1986; Zube, Simcox & Law, 1987).

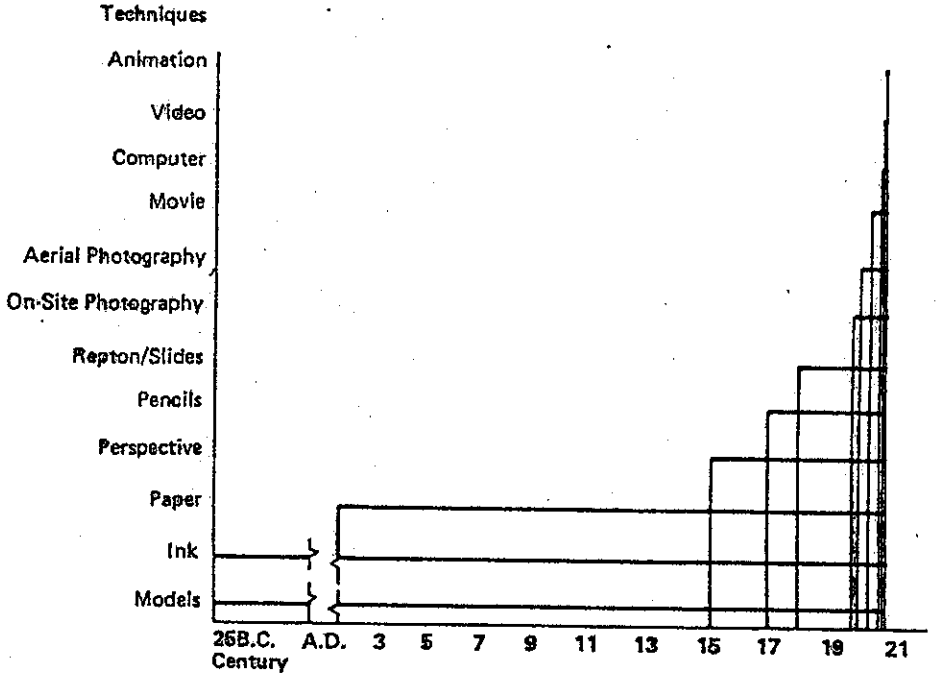


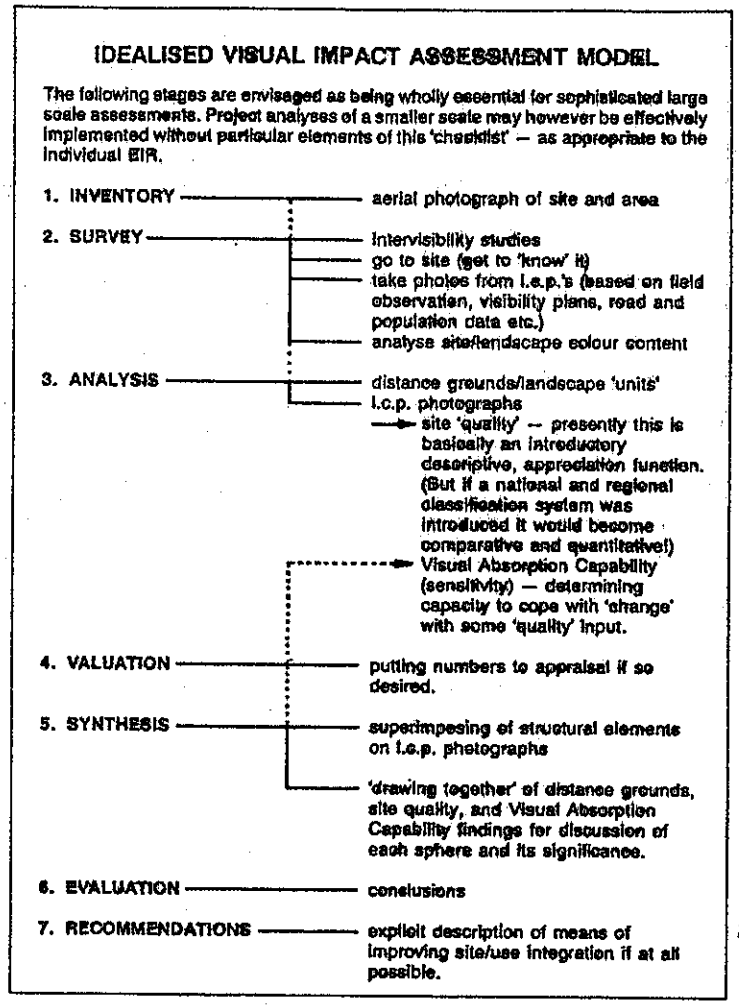
Figure 1. A simulation techniques chronology.

	Perceptual	Conceptual
Static	Photographic: aerial, on-site, slides Photomontages Perspective Drawings Physical Models Composite Techniques	Functional Diagram Maps Site Analysis Plans and Diagrams Site Plans Working Drawings
Dynamic	Animation Computer Generated Perspectives Movie Films: on-site models Video	Computer Analog Models Computer Maps Radar

(Adapted from McKechnie, 1977)

Figure 2. Landscape simulation typology.

Stephen Brown's review of visual assessment in New Zealand Environmental Impact Reports (1981) showed increasingly sophisticated assessment techniques. These assessments were all for large-scale, built development projects. There has been little documentation of visual assessment techniques for broadscale management changes. In all, the explicate was taken to be reality.



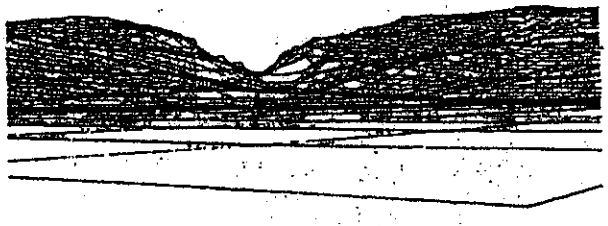
Brown recognized the public had been excluded from visual assessment. He noted the complexity and incompleteness of objective quantitative approaches, and the political effectiveness of simpler, more holistic attempts. It was therefore suggested sophistication must be recognized as a means, not an end.

Internationally, the predominant medium used by landscape architects for depicting proposed landscape change is the plan, with or without colour rendering. Perspective drawings are also common, usually drawn from a photographic image with the proposal superimposed. Zube *et al.*(1987) found that,

although the most prevalent media, there is little information about the abilities of either experts or lay persons to understand plans and perspective drawings. We do not know what people "see" in looking at a plan or drawing.

Three-dimensional simulation commonly employs scale models of varying realism. Increasingly computer generated plans and perspectives are utilised, particularly for high-cost, high-impact developments. As yet these are reasonably abstract depictions.

The appropriateness of these media in communicating proposed landscape change, and enabling discussion, is questioned. The review by Zube *et al.*(ibid.) indicated that only design professionals responded similarly to drawings and photographs of the same landscapes. However their scepticism is indicated in that professional designers and planners themselves place greatest confidence in photographs and models, and least in line drawings and computer graphics.



Drawings as an ancient medium, and computer graphics as one of the newest, are distrusted similarly. Little is known of what different people actually perceive when viewing either medium. Zube *et al.* suggest that maybe the most realistic simulations provide the most valid and reliable responses.

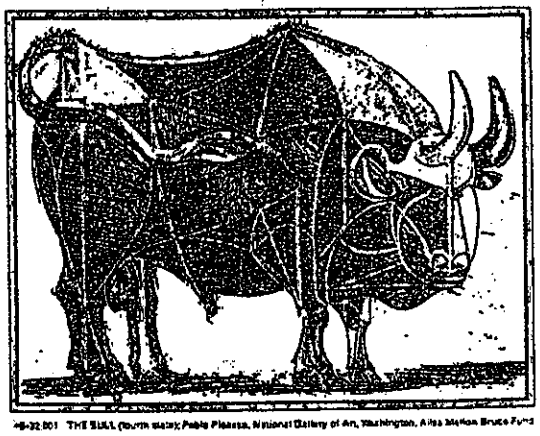
Given the influence of varying the viewing angle, lighting, focal length, lens angle, etc, a selected photographic image cannot be assumed to represent people's reality. A photograph or photo-montage can be quite remote from a common reality. In addition, visual information alone is inadequate to simulate a landscape. Curnow (1987) notes that in photographic documentation of our landscapes by James Siers, the photos are captioned with the words of poets and writers. Curnow claims this acknowledges an absence in the photographic message which literary language can supply.

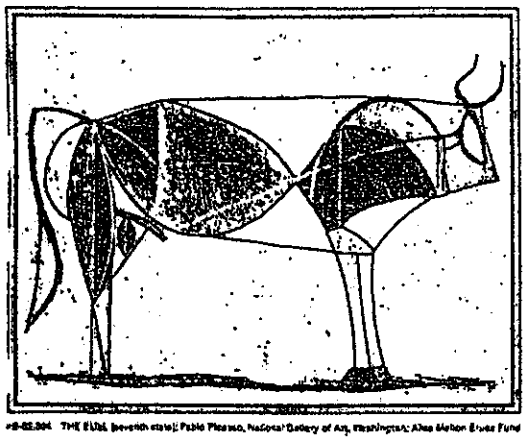
Information on the natural dynamics of a landscape, such as erosion processes, has been shown to change the perception of a simulated landscape and thus the appropriateness of a development proposal in that landscape (Zube, *et al.*, 1987).

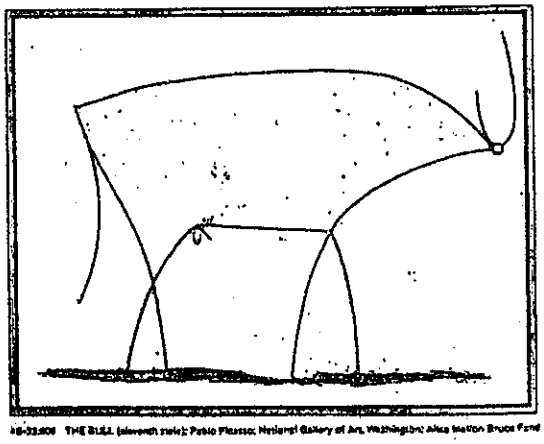
Along with static visual simulation, a verbal description may or may not be adequate to enable this understanding.

Burgess and Gold (1987) suggest the sensory experiences which together combine to create a "sense of place" are lost in verbal accounts of character. *"The felicitous phrase or poetic insight may capture something of the feel of an area but generally writings are unable to do justice to the quality of experience."*

Sensory qualities are frequently dynamic and elusive. Lynch (1976) proposed that sensory analysis be a primary input when writing a design program, so that the sensory qualities required of an acceptable solution can be specified. He also suggested sensory information be provided and analysed for the existing state and predicted for any development proposed. Adequate communication of this analysis presents a challenge. As the total experience of landscape cannot be shown, abstraction and symbolism may communicate more than a superficially "realistic" photograph.

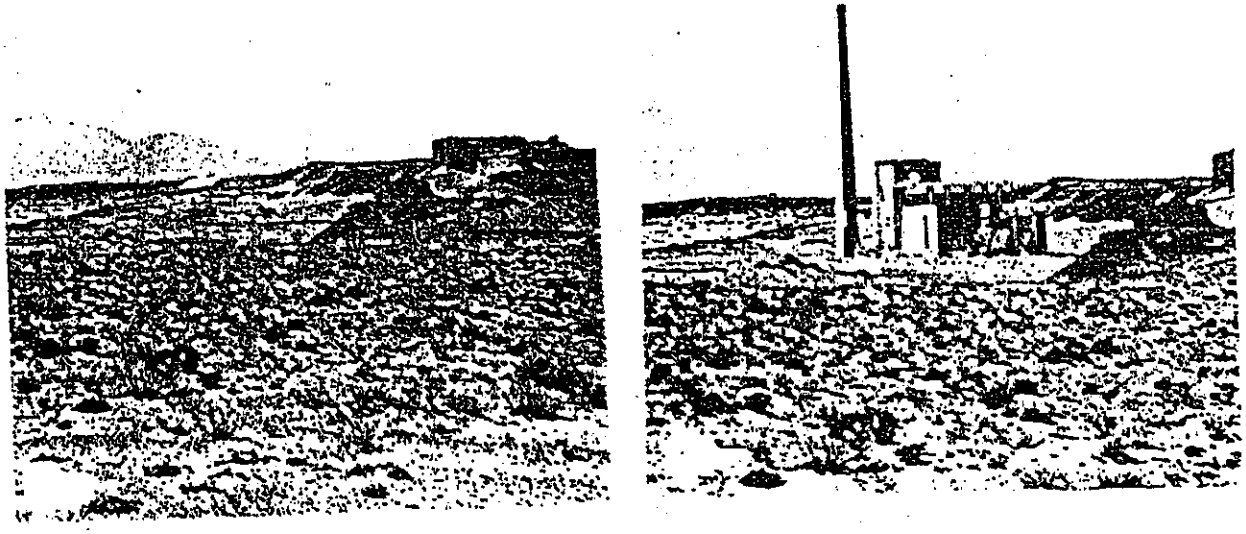






Film allows creation of a "living landscape" through combinations of sights and sounds (Gold and Burgess, 1987). A film can tell the audience what it would feel like to be involved in a scene. Highly skilled and sensitive film-makers are required, and although the technique may have potential to "sell" a proposal, it is of little relevance as a design tool for producing that proposal.

The reviews of landscape simulation techniques in visual project analysis have indicated inadequacies in the typical communication tools utilised by landscape architects (Brown, 1981; Sheppard, 1986; Zube, et al., 1987). These inadequacies are indicated in what is suggested to be relatively clearly-defined proposals for built developments or extensive afforestation.



Landscape change which may seem very subtle can significantly alter the landscape experience for those with knowledge or expectations of that landscape. It can be difficult to adequately simulate predicted and extensive subtle changes, such as depletion of the tussock grassland in a well-loved landscape.

Techniques used to simulate landscape change should aim to :-

1. quickly demonstrate what and who could be affected;

2. undertake the depth of analysis appropriate to the scale or significance of the anticipated impact on the landscape resource - not merely the significance of the project;

3. accumulate and integrate the information into project planning, not merely analysis of a design;

4. be in forms and languages appropriate to the diversity of the audience;

5. be transparent, enabling understanding of what and how various values have been incorporated;

6. give realistic portrayal of the existing and proposed visual landscape;

7. demonstrate alternatives and modifications;

8. respect public understanding and ability to participate;

9. recognize diversity of perception between cultural groups;

10. recognize the existence of diverse public visual sensitivity;

11. respect the more sensitive and concerned public as possible indicators of evolving public awareness and a new ethic; and,

12. explicitly recognize partiality in analysis process and preferred outcome.

Considerable research is suggested to be necessary to provide guidance to the landscape architecture profession for its attempts to simulate existing and proposed landscapes. Research must question the profession's assumption that plans and drawings are an adequate communication tool. As many people seldom have the need to read a landscape proposal, I suggest it is not the audience that should be educated to read the language we have selected. Instead, we must investigate the languages with which the public is conversant, and apply and extend these as appropriate.

> *"What is frightening is the painter's power to communicate with what superficially seems to be so little."*
> Comments on Colin McCahon quoted in Brown (1984 p.27)

CONCLUSIONS

Techniques typically employed for project analysis encourage the landscape architect, decision-maker and user to all distance themselves from involvement in the existing landscape and the consequences of a proposal for change. Landscape architects have attempted to assess only that manifest, to appear objective, and not express any feeling for land, people, or beauty, for example. The profession cannot assess proposals in the context of the total landscape while this remote stance is taken. Investigating the potential to encourage and communicate greater involvement with the landscape, a number of difficulties were noted.

A search for adequate techniques for assessing propositions for landscape change requires the evolving identity of New Zealand be confronted. Landscape is the expression of our identity, for landscape is an expression of natural and cultural processes. To enable landscape change to be directed there is a need to understand these processes. There is confusion and uncertainty regarding direction and form, but recognition that we are undergoing a fundamental cultural change (Pawson, 1987).

We are a South Pacific nation in which both land and tangata whenua have been dominated by the tangata whai of predominantly British origin. The landscape is an expression, and the landscape architecture profession a product, of this relationship.

The perceived injustice of this domination requires the basis and protocol of resource use decision-making be questioned (Hayward, 1987). Partnership or coexistence is sought both between cultures and between culture and nature (Pawson, 1987). With regard to predicting and assessing landscape change, comment is made on the potential for establishing protocol for coexistence.

Effective communication between all concerned is essential to successful decision-making. A necessary skill of the landscape architecture profession is communication of the state and significance of both the existing landscape and of that predicted. However, a lack of an adequate and shared language is identified as a particular communication barrier.

The potential for identifying or developing a shared language is difficult. Firstly, a people's verbal language is thought to slowly evolve with landscape (Mugerauer, 1984), but we have not evolved as one people. The concept of landscape is unknown to the Maori, and the language of the Pakeha evolved in and was transplanted from a different landscape. Neither is yet able to adequately articulate the contemporary landscapes of our emergent cultures.

Secondly, the diversity of people within both Pakeha and Maori

cultures excludes either having their own totally shared language. There is no single voice or perspective of either Maori or Pakeha. Finally, the diversity of our landscapes, but localised concentration of our people, suggests an inhibition to future evolution of a shared nationwide language.

Dependence on verbal language can be avoided through use of images. Landscape architecture has long employed the architectural communication techniques of plan, section, elevation and perspective. These graphics are suggested to be a barrier to communication because the language is familiar to so few. The strength (Lynch, 1976) and unfamiliar symbolism makes a graphics proposal for landscape change appear inaccessible, and prevents discussion and criticism. To provide detailed and realistic simulation to enable communication with a graphic-illiterate audience, may limit the subtlety and intricacy acceptable in a design proposal. The communication tool would thus dictate the design.

Pictorially realistic imagery presents problems in being assumed to show total reality, yet conveying only the tangible, the explicit. Visual simulation has been inadequate in ignoring the implicate, perhaps the primary reality (Bohm, 1980). Graphic landscape proposals discussed off-site exclude the implicate from the agenda, and from being sensed by participants. The planning exercise can therefore seem academic rather than a pragmatic proposal to change a particular place.

Two models for analysing proposed landscape change, AIM (Cats-Baril & Gibson, 1987) and A Pattern Language (Alexander *et al.*, 1977), seek a language shared by those who may be interested in a change. AIM was found to endorse the status quo being a mechanistic approach addressing only the explicate, using an elitest verbal language which inhibites non-professional involvement in decision-making.

In contrast, A Pattern Language combines verbal and graphic languages, requires an active creative input, recognizes the importance of the intangible and values intuition. The potential of this Pattern Language to address the inadequacies of design communication and project assessment, and the considerable difficulties in its implementation, are acknowledged.

The dilemma of a quest for a shared language whilst recognizing the diversity of individuals is addressed by Alexander et al.(ibid) through the concept of communal individualism. Everyone's personal language is unique, but their commonality is identified in a shared language which is recognized intuitively. Such communal individualism can develop in response to a defined identity, such as "home".

Pawson (1987) suggests home, our place, can be a secure base where differences and diversity can be welcomed and explored. A Pattern Language offers a mechanism for creative change

based on both the commonality and specialness of place. Further exploration of this mechanism is required, as a means of articulating and directing landscape change apace with our understanding of cultural and natural change.

REFERENCES

Alexander, Christopher; Ishikawa, Sara; Silverstein, Murray. 1968. A Pattern Language Which Generates Multi-Service Centres Centre for Environmental Structure, Berkeley.

Alexander, Christopher; Ishikawa, Sara; Silverstein, Murray; et.al. 1977. A Pattern Language. Towns. Buildings. Construction. Oxford University Press: New York.

Alexander, Christopher. 1979. The Timeless Way of Building Oxford University Press: New York.

Anstey, Clive. 1987. landscape architect. pers.comm.

Bennett, Earl; Clayton, Anna; Roper-Lindsay, Judith; Wilson, Alex. 1983. Natural resources of the Canterbury Region. A survey and evaluation for management. Environmental Design Section, Ministry of Works & Development, Christchurch.

Besley, Robin. 1988. high school dance teacher. pers.comm.

Blakely, Roger. 1987. "Integrating Environmental and Economic Policy" address to ECO conference, Wellington.

Boffa, Frank. 1977. "Visual Impact Assessment - Auckland Thermal No.1 power Station" The Landscape 5: 2-4.

Bohm, David. 1980. Wholeness and the Implicate Order. Routledge & Kegan Paul: London.

Brailsford, Barry. 1984. Greenstone Trails.The Maori Search for Pounamu. Reed: Wellington.

Brown, Gordon H. 1984. Colin McCahon: Artist. Reed: Wellington.

Brown, Stephen. 1981. Visual Assessment and Environmental Impact Reporting : A study of Methods and Application. unpublished Dip.L.A. disertation, Lincoln College.

Brown, Stephen. 1984. An Assessment of the Auckland Region's Landscape. Auckland Regtional Planning Authority, Planning Division: Auckland.

Cameron, Ronaldo. 1987. "The Art and Spirit of a Community" an interview. Transforming ART 2(2): 27-31.

Cats-Baril, William L.; Gibson, Linda. 1987. "Evaluating

Landscape Aesthetics: A Multi-Attribute Utility Approach" Landscape & Urban Planning 14: 463-480.

Challenger, Neil. 1984. Maori and Pakeha Attitudes to the Land. unpublished Dip.L.A. dissertation, Lincoln College.

Cooper, Ronda. 1987. "Wordsworth Does the Heaphy Track. Landscape in New Zealand Literature" The Landscape (35): 5-8.

Curnow, Wynstan. 1987. "Landscape and the Body" ANTIC Three: 143-163.

Dondis, Donis A. 1973. A Primer of Visual Literacy. MIT Press: Massachusetts.

Evans, Boyden. 1987. landscape architect. pers. comm.

Ericksen, S.K.F. 1987. The Applicability of the Contingent Valuation Method for Determining the Non-Market Values of the High Country Landscape. M.Sc. thesis. Centre for Resource Management, University of Canterbury & Lincoln College.

Evison, Harry. 1986. Ngai Tahu Land Rights, and the Crown Pastoral Lease Lands in the South Island of New Zealand. KA ROIMATA WHENUA SERIES:NO. 1. Ngai Tahu Maori Trust Board: Christchurch.

Farmer, Chris. 1987. "Conservation and the 'Spirit' of Place" Transforming ART 2(3): 27-31.

Gold, John R.; Burgess, Jacquelin. 1987. Valued Environments. London.

Hayward, John. 1987. "Environmental Management - Science or Ethics" Lister Address, University of Otago.

Henderson, Hazel. 1982. Thinking Globally, Acting Locally: The Politics and Ethics of the SOLAR AGE. XXIII Albright Lecture. Berkeley, California.

Horsley, Peter. 1987. "Changing Attitudes to the Natural Environment" NZILA conference, E Rua Nga Iwi, Kotahi Ano Te Whenua (Two Cultures, One Landscape)

Howett, Catherine. 1987. "Systems, Signs, Sensibilities: Sources for a New Landscape Aesthetic" Landscape Journal 6(1) 1-11.

Hudson, John. 1985. "Landscape Assessment - Waikato Coal Fired Power Station". The Landscape 24: 3-7.

Jackman, Tony; Bennett, Earl; Mason, Sally; Woodhouse, Jan. 1974. Rolleston New Town Site: a landscape survey and evaluation. Lincoln College & Ministry of Works: Christchurch.

Jackman, Tony. 1986. Our National Landscape. Strategies for

Survival: In Use, In Health, and In Beauty. DSIR: Wellington.

Jackman, Tony. 1986a. Visual Resource Assessment. Glentanner Park in Visual Landscape Context. The Mackenzie Landscape Region. ERA Group: Wellington.

KENTIKU BUNKA. Architectural Culture. "Eishin-gakuen Higashino Senior High School" June 1985: 29-57.

Lippard, Lucy. 1983. Overlay. Pantheon: New York.

Lynch, Kevin. 1976. Managing the Sense of a Region. MIT Press: Cambridge, Massachussetts.

McNaughton, Trudie. 1986. Countless Signs. The New Zealand landscape in literature. Reed Methuen: Auckland.

Meeus & Vroom. 1986. "Critique and Theory in Dutch Landscape Architecture" Landscape & Urban Planning 13: 277-302.

Mugerauer, Robert. 1984. "Mapping the Movement of Geographical Inquiry: A Commentary" in Environmental Perception and Behavior ed. T.F.Saarinen, D.Seamon, & J.L.Sell. University of Chicago.

Mugerauer, Robert. 1985. "Language and the Emergence of Environment" in Dwelling, Place and Environment - towards a phenomenology of person and world ed. David Seamon & Robert Mugerauer. Nijhoff: Dordrecht.

Nelson, George. 198 . HOW TO SEE. Visual Adventures in a World God Never Made.

New Zealand Institute of Landscape Architects. 1987. E Rua Nga Iwi, Kotahi Ano Te Whenua (Two Cultures, One Landscape). Conference Proceedings, Te Aute.

Ngai Tahu Trust Board. 1988. Submissions to the Waitangi Tribunal.

Park, Geoff. 1987. "A most essential landscape to understand." NZILA conference E Rua Nga Iwi, Kotahi Ano Te Whenua (Two Cultures, One Landscape).

Park, Geoff. 1988. pers.comm.

Pawson, Eric. 1987. "Order and Freedom: A Cultural Geography of New Zealand." Ch.15 *in* Southern Approaches. Geography in New Zealand. ed. P.G.Holland & W.B.Johnston. NZ Geographical Society: Christchurch.

Phillips, Jock. ed. 1987. Te Whenua Te Iwi. The Land and the People. Allen & Unwin; Port Nicholson: Wellington.

Phillips, Jock. 1987a. A Man's Country? The image of the

Pakeha Male - a History. Penguin: Auckland.

Piddington, Ken; Simpson, Philip; Hill, David. 1985. "Who Owns the Landscape?" The Landscape 26:13.

Pound, Francis. 1983. Frames on the Land: Early Landscape Painting in New Zealand. Collins: Auckland.

Salmon, J.T. 1960. Heritage Destroyed: the Crisis in Scenery Preservation in New Zealand. Reed: Wellington.

Sheppard, Stephen R.J. 1986. "Simulating Changes in the Landscape" Ch.11 in Foundations for Visual Project Analysis ed. Richard C. Smardon; James F. Palmer; John P. Felleman et.al. Wiley: New York.

Swaffield, Simon; O'Connor, Kevin. 1986. Perceiving, Conceiving, Protecting and Using New Zealand Landscape Systems. Centre for Resource Management: Lincoln College.

Taylor, Aila; Patrick, Mike. 1987. "Looking at water through different eyes - the Maori perspective." Soil & Water 23(4): 22-24.

Truebridge Callender Beach Ltd; Business & Economic Research Ltd; E.R.A.Group Ltd; & Landmark. 1986. Glentanner Park Development Study for Newmans Gp., Ivey & Glentanner Station.

Tuan, Yi Fu. 1974. Topophilia. A Study of Environmental Perceptions, Attitudes, and Values. Prentice-Hall: New Jersey.

Turner, A.R. 1985. "The changing basis of decision-making. Is reason sufficient?" New Zealand Engineering (April 1): 13-23.

Zube, Ervin H.; Simcox, David, E.; Law, Charles S. 1987. "Perceptual Landscape Simulations: History and Prospect" Landscape Journal 6(1): 62-77.