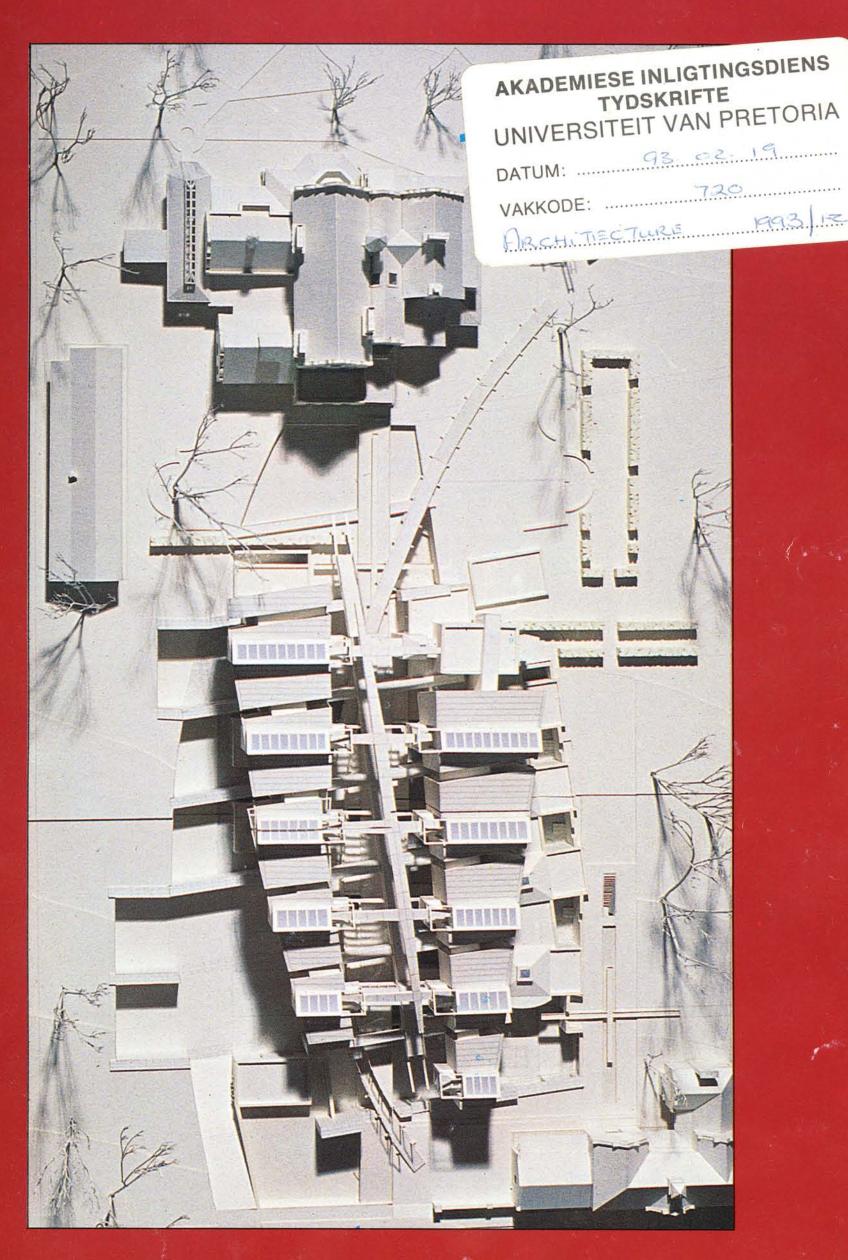
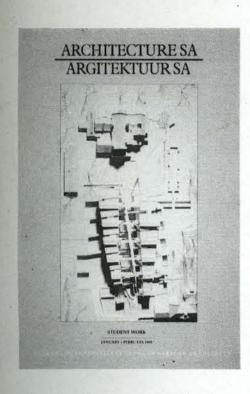
# ARCHITECTURE SA ARGITEKTUUR SA



STUDENT WORK

JANUARY + FEBRUARY 1993

# ARCHITECTURE SA ARGITEKTUUR SA



Front cover: Museum for the Van Tilburg Collection by DJ Ludeman, University of the Orange Free State.

#### **EDITOR**

Piet de Beer

#### **EXECUTIVE EDITOR**

Tessa O'Hara

#### MANAGING EDITOR

Paddy Attwell

#### **PUBLISHER**

George Warman

#### **ADVISORY BOARD**

Chairman - Alex Robertson, Mike Munnik, William Ritchie, Prof Julian Cooke, Prof Walter Peters, Prof Danie Theron, David Glennie

#### REFEREES

Prof J Cooke, P de Tolly, Prof D Dewar, Prof N Dubow, Prof E Haarhoff, Prof G Herbert, Prof D Japha, Prof B Kearney, Prof I Prinsloo, Prof D Radford, G Ramsay, Prof E Rankin, Prof R Uytenbogaardt, Dr R van Niekerk, D Visser

Journal of the Institute of South **African Architects** Joernaal van die Instituut van Suid-Afrikaanse Argitekte

#### CONTENTS

ISSN **O250-054X** 

#### Student Work

**NEWS** Update on people & events.

#### **EDITOR'S NOTES**

Comments from Piet de Beer.

#### COMMENT

Glen Mills, Architectural education: Are universities appropriate venues for schools of architecture in a restructured

### South Africa?

#### UNIVERSITY OF CAPE TOWN

16

Alistair Drummond — Aquarium at the Victoria & Alfred Waterfront; Martin Duys — Extensions to mission buildings at Reichenau-am-Polela; Vernon Head — Extensions & additions to Nico Malan Opera House on the Foreshore; Daniel Maggs — Centre for returning exiles; Noel McCully — Craft market, Hout Bay; and Sonja Petrus — Nangula Place, Windhoek.

#### UNIVERSITY OF NATAL

18

David Barrow — Electronics manufacturing headquarters for Durban; and Amanda Isemonger — Art Gallery for Durban.

#### UNIVERSITY OF THE ORANGE FREE STATE

20

WJ Els — Tambo Square Development; and DJ Ludeman — Museum for the Van Tilburg Collection.

#### UNIVERSITY OF PORT ELIZABETH

22

Mark Gouws — Museum for Steam Engines; Gunter Kapperer — Art & Technology Studio; Andrew Powels — Atheneum; Sean Wall — Steel Design Research Institute; and Chris Wood — Industrial Machine Design School.

#### UNIVERSITY OF PRETORIA

24

Nico Botes — Hoofkantoor vir Nasionale Kultuurhistoriese Museum, Pretoria; Heleen Grimsehl — Metro-Stasie, Pretoria; Karlien Nel — Internasionale Modesentrum, Midrand; and Pierre Pretorius — Brug in Sunnyside.

#### UNIVERSITY OF THE WITWATERSRAND

26

Brian Bernhardt — Katlehong Arts' Centre; Nicholas Whittcutt — An alternative technology centre; Charles van Breda — YMCA, Braamfontein.

#### JOURNAL OF THE INSTITUTE OF SOUTH AFRICAN ARCHITECTS

#### REFEREED ARTICLE

28

Bert Olivier: Deconstructive architecture, deconstructing architecture,

#### REFEREED ARTICLE

31

Roger C. Fisher: An ecosystemic sense of architectural style.

#### **TECHNICAL**

36

Hans Wegelin on student work.

#### PRACTICE MATTERS

38

Computerizing architectural practices: A systems approach, by Dr Roger Coldwell, Faculty of Education, University of Newcastle, Australia.

#### PROPRIETOR & PUBLISHER

George Warman Publications (Pty) Ltd

#### **AREA MANAGERS**

Transvaal: Gill Ella Natal: Gerda van Egmond

Cape: lan Mayne

PRODUCTION MANAGER: Zane Jaffer

PRODUCTION ASSISTANT: Mario Kahn

CIRCULATION: Patricia Witbooi

**REPRODUCTION:** Glow Prints

EDITORIAL/HEAD OFFICE: Warman House, 77 Hout Street, Cape Town, 8001. PO Box, 704, Cape Town, 8000. Telephone (021) 24-5320. Fax (021) 26-

1332. Telex 5-21849. Telegrams: Geewarmco. Johannesburg: 7th Floor, East Wing, Metro Centre, Hendrik Verwoerd Drive, Randburg 2194. Telephone (011) 787-5725/26. Fax (011) 787-5776. Telex 4Durban: PO Box 483, Westville 3630. Telephone (031) 86-5758. Fax (031) 266-8753

Port Elizabeth: PO Box 5542, Walmer 6065. Telephone (041) 51-5889. Fax (041) 51-5887.

Deliveries: 101 Church Road, Walmer, 6070. SUBSCRIPTION RATES: One year R66,00 inc. 10% VAT; two years R110,00 inc. 10% VAT; Students, R33,00 inc. 10% VAT; Zimbabwe & APU R80,00 (one year); Other overseas R96,00 (one

year). Published in alternate months. Subscription address: PO Box 704, Cape Town,

COPYRIGHT: All rights reserved. Opinions expressed by individual contributors do not necessarily reflect the views of the publishers or the Institute of South African Architects. While every effort is made to ensure accurate reproduction, no responsibility can be accepted for the technical content of articles published or for specific claims made by manufacturers for their products. The Editorial Board will give consideration to all material submitted but does not undertake responsibility for damage of for its safe return. Editorial production of this Journal in part is encouraged, conditional to both the author and the journal receiving credit. Two copies of the publication containing any reproduction should be forwarded to Architecture SA.

ADVERTISEMENTS: The publisher reserves the right to refuse and/or omit any advertisement, and no guarantee is given that any advertisement will be inserted on the date ordered.

MEMBERSHIP: Member of the Specialist Press Association and the Audit Bureau of Circulation. Architecture SA is published every second month.







## An ecosystemic sense of architectural style

#### Roger C Fisher

#### Introduction

"Architecture has nothing to do with the 'styles' " (Le Corbusier, 1986 [1931]:47).

I he idea of style in architecture was subject to two major endeavours of Western Man. The voyages of discovery made known cultures characterized by "styles" other than that his own. Archaeological excavations started in C18 in Herculaneum and Pompeii and relentlessly pursued in the C19 exposed the prototypic styles of his antecedents. The style periods which had been expanded by the C18 and C19 style taxonomists was spurned by the C20 modernists. They wished to ride the crest of an eternal future in a present ever nascent, ever new. The avant garde purveyed a series of innovations in rapid succession to ensure that these could never be canonized as style. This was a reaction (or over-reaction) to the C19 cannabalising of every identifiable style into an eclecticism of revivals.

Descartian dualism which has been one of the tacit tenets of the Modern has allowed for the mystification of style by allying it to a sense of Zeitgeist. Post Second World War historians have been understandably suspicious of the universalizing of style beyond the contribution of the individual genius. Even evolutionary connotations have been censured for fear that through the acceptance of stylistic "progressiveness" certain nations or group might legitimately claim superiority.

The Mechanistic Paradigm, epitomized by the Modern, is now in the descendant, therewith the dogma of individual uniqueness and the promise of continuous progress.

A paradigm, termed the Ecosystemic Paradigm is emergent. Ecosystemic thought requires that the known universe comprises a hierarchy of systems. Each system is characterized by its energy state (Laszlo, 1987:23) and its particular mechanism whereby "knowledge" is acquired (Riedl, 1984: 183). Within the Ecosystemic Paradigm the present is viewed as a palimpsest of all pasts and heir to plurality of all possible knowledge. What sense should "style" then have in the emergent Ecosystemic Paradigm?

#### The genetic basis of building behaviour

If an artefact is considered to be the extension of the organism into its environment through the manipulation of the environment then biotic artefacts can be discovered within the biosphere as products of the activity of all organisms, from unicells right through to the socio-cultural behaviour of man.

- "If artefacts have evolved through natural selection then:
- (a) building behaviour must have some genetic basis;
- (b) there must be variation within a population of builders in the nature of their artefacts;
- (c) differences in building style must result in differences in fitness between builders." (Hansell, 1984: 261).

It must be granted that if man did not have a genetic propensity for building then he would not be capable of such activity.

However, through the acquisition of self-reflective mentation he is freed from the direct evolutionary consequences of "fitness" which might have been achieved by the employment of differing building "styles". Yet the following paragraph, if read with the suggested insertions, would appear to hold true for man:

"Building behaviour must have some genetic basis; genetic change may therefore result in phenotypic novelty in the completed artefact. This novelty will then be exposed to the forces of natural selection. If advantageous it will prosper and become widespread, perhaps superseding the former architectural style. The appearance of an architectural feature in evolutionary history must indicate a change in the sense that he building behaviour itself is different, but that the new style of building alters the constraints acting upon the animal (individuals). This may permit it (them) either to use the artefact itself in a new way or to engage in other essential aspects of its (their) life differently. It would, of course, be quite misleading to give the impression that changes in architecture are the cause of other evolutionary changes. However changes in architecture may be accompanied by other changes in the lifestyle of the organism (individuals; community)...." (Hansell, 1984-236).

"One of the consequences of the generation of novel architecture is that it may come to fulfill a function, which it previously did not have." (Hansell, 1984: 237)

This detached functioning of the artefact is, for the study of man and his culture, the most significant. Jantsch (1980) distinguishes between "socio-biological" and "socio-cultural" evolution. The co-operative processes of organisms are seen as being socio-biological. The socio-cultural realm is the co-operative system of man achieved through self-reflective behaviour.

The artefact can operate in two separate ways. At the socio-biological level it can convey information as to the social structure of the community.

Although this socio-biological attributes of the artefact are significant, it is the second level at which the artefact can operate, the socio-cultural level, which is the concern of this essay.

#### The artefact as "meme" carrier

Dawkins, in *The Selfish Gene* (1976), has posited the "meme", which, as the cultural equivalent of the gene, is the unit of transference of cultural information. The gene can only transmute and follow the pattern of Darwinian evolution, that pattern of inheritance where only adaptively advantageous characteristics survive. The "meme" has however the ability to be transformed in a Lamarckian way where characteristics are acquired and transmitted. Characteristics can be acquired in the immediate present or recaptured from a distant past, unlike genetic inheritance where only traits peculiar to the organism directly in the line of inheritance are transferable. Cultural changes are then not chan-

ges of accident but by design.

The "meme" is understood as being the smallest recognizable cultural schema. The artefact can act as agent for such schemata or "memes". These are encoded during its fabrication. Through its message-carrying, or memetic, content the artefact is the agent of cultural homeostasis (or stabilizer) in its time, in that it is encoded with the values and meanings of its time and place. As such the artefact is active within the cultural system. The persistence of the artefact preserves its agency as message bearer. Past values and meanings can be continually transmitted into the present. Through interpretation the memetic content of the artefact can be decoded and anachronistic ideas and meanings be reintroduced in novel fashion. Thus the artefact retains potency within the cultural realm as agent for cultural retrieval or change.

This view of the artefact is distinctly different from that within the Mechanistic paradigm where the artefact was viewed merely as the curiosity of a bygone era sloughed off in its own time and unrelated to the time when rediscovered. Within the Ecosystemic Mindset the artefact is energized and its potency acknowledged. Past dead letters are literally revitalized.

#### Plain words

In attempting to discover the meanings of the term "style" one can do no better than quote Lucas (1974:15-6) directly (with the relevant footnote included):

"What, in fact, is 'style'? A dead metaphor. It meant originally 'a writing-implement' — a pointed object, of bone or metal, for inscribing wax.

"Also, adds the Oxford Dictionary (with unintended irony), 'used as a weapon of offence, for stabbing, etc.' For the Latin stilus comes from the root STIG - cf. Greek 'stilus' stimulus, instigate, stick, German stechen, stecken. We should, were English a logical language, write 'stile' (cf. German Stil, Italian Stile, Spanish estilo). But the Latin stilus became corrupted to stylus by confusion with the Greek 'stylus' 'a pillar'; and thus spurious 'y' does at least save us now from confusing the 'styles' of writers and the 'stiles' of fieldpaths.

"But already, in Classical Latin the word stilus was extended to mean, first a man's 'way of writing'; then, more generally, his 'way of expressing himself', in speech as well as in writing. In modern English 'style' has acquired further senses. As in French, it has been narrowed to signify 'a good way of expressing oneself'—'his writing lacked style'; and it has been extended to other arts than literature, even to the art of living—'her behaviour showed always a certain style'".

If we accept that words are artefacts then we can discover the style of the words in their usage. Take for instance, the following paragraph:

"At the stroke of five each morning Mother and Father leaped out of bed. Then they began to do many chores about the house. Before the sun rose Mother took water from well while Father went out into the fields to feed the cows and look after the horses." (Maleska, 1983: 170).

There are no words with roots foreign to English

here. We have plain words in plain English which have their roots in the Anglo-Saxon language. Were these words implements then we would say they still serve the utilitarian purpose for which they were founded. Just as a knife is for cutting so the meaning of the words are incisive and without nuance. Yet there is a certain blandness about what is being communicated.

Usage and circumstances give words associations beyond their original direct meanings. With time meanings become abstracted into simile and metaphor. As with the evolution of the knife the necessity for specific linguistic tasks requires specifically adapted meanings.

From the definition of "style" a number of terms which apply to Ecosystemic understanding can be illustrated:

The etymology of words are their *traditive style*, that is the continuous pattern which permits the discovery of the evolution of the word, for example "stig-", "stilus-", "style-".

The study of the evolution of style is *diachronic*, that is the pursuit of a specific development through linear time, for example the perpetuation of the "spurious-y-" in "style".

The study of contextual meaning of words is the discovery of their interactive style, for example "get to Russels now and see how little style costs!"

The determining of contextual meaning is the *synchronic* understanding of historical context, that is the placing of the artefact within its cultural context, for example the use of the "spurious-y-" in "gramophone stylus" as a neologism.

#### Lines of thought

Sticks and stones are the stuff of human culture. Through the Indo-European root "stig", meaning "stick", of the word "style" we are linked to the proto-human crouched idly at the fire he has just mastered. The stick with which he coaxed life from the kindling he would idly draw through the sand and leave his first ephemeral mark.

In the scheme of things this mark became associated with mystical powers. The pygmies draw the image of their prey in the sand, which they then obliterate at the first light of day. Then they hunt, having enchanted the endeavour by the ritual (Frobenius, 1933: 163). Once the prey is caught and hunger sated the exploration of the sand drawing as art fills the leisure of their success, so providing opportunity to engage in "art".

The change from the transient techniques of sand drawing to stylus and clay is directly related to the change from the here-and-now culture of hunter-gatherer to the seasonal rhythm and forward planning of the agrarian.

Through the manner of his marking with his stylus in the clay man would identify himself through his style. And through the style of his writing — his petroglyphs, pictogrammes, hieroglyphus and electroglyphs (to coin a term) — he would identify the style of his culture.

We discover thus that style, both the term and

the concept, is a huge metaphor through which we access our cultural memory.

#### Isochrestic styling

It may be useful to consider how the term is used by the archaeologists. Sackett (1977:370) posits that: "style (a) concerns a highly specific and characteristic manner of doing something, and (b) that this manner is always peculiar to a specific time and place".

Hence to have "style", we must have an enterprise — the "doing" of something in time and place. If this "doing" — that is "manufacture" — results in an artefact rather than ritual — that is "behaviour" — then the artefact can be said to embody the style of a time and place.

"Style", when applied to the earliest and therefore essential level of culture, is seen to emerge where communities adopt a particular manner of doing, when there are various ways of doing, whereby to achieve the same utilitarian end. For this particular application of "style" Sackett (1982:73) employs the term "isochrestic" style, "isochrestic" meaning literally "equivalent in use", from Greek "iso" — = even or equivalent and "chrestein" = to use.

The individuals of a community engaged in the day-to-day "doings" are mimicking the "doings" of others. Their style is that of the community and as such facilitates social cohesion. If any choice is exercised it is subliminal and tacit. Thus if we discover style variation in functionally equivalent artefacts which are from the same time it indicates that they derived from different cultural groups.

The discernment of isochrestic styling usually derives from the discovery of style isomorphism in the bio-sociological realm which requires the synchronic study of artefacts in their place and time.

By the same token if there is stylistic convergence between cultural groups which are distant in space (diatopic) or time (diachronic) then this is indicative of similarity in circumstance.

#### Skeuomorphic styling

Techniques of manufacture of prototypic artefacts can later serve as the source of its styling. This is termed "skeuomorphic" styling, a "skeuomorph" being a form which mimics the making of the original, from the Green "Skeuein" = to hide and "morph" = form. Steadman (1979:112) attributes the use of the term to Colly March of the late C19, but he is thought to have got it from the contemporary Sir John Myres.

The best known "skeuomorph" in architecture is the triglyph which derives from the beam ends of timber prototypes. Much of ornamentation derives from skeuomorphic styling which is readily copied and perpetuated and adopted by other cultures. The discovery of skeuomorphs derives from the diachronic study of the linear development of artefactual types and the employment of differing materials to achieve the same artefactual results

and reflects the traditive development of the artefactual type.

#### Iconic styling

By contrast, the deliberate and conscious styling of the artefact is termed "iconic" styling, iconic meaning "having formularised style" which derives from the Greek root "eikon" meaning "image" and is allied to the idealized Greek memorial statues and busts of victorious athletes (American: 1970). Hence the elaborate styling of the utilitarian artefact, or artefact destined for secular or religious ceremony will be iconic. Works of "art" are those artefacts created purely as medium for iconic styling since the sole objective is the encoding the artefact with symbolic significance.

The European Middle Ages, particularly in the C12 and C13 had produced the most integrated programme for iconic styling encompassing all manner of artefacts over a broad geographic spread. Digby (in Knights and Cottle, 1960:39) cites Emile Male's exposition of the comprehensive hierarchical employment of a complex symbol system by philosophers, theologians and artists and craftsman of that time:

"Four levels of understanding were distinguished: (1) historical, (2) allegorical, (3) tropological — in which the image was understood symbolically in terms of the psychology of religion (Jerusalem=soul; Job=its trials), (4) anagogical — which referred to the highest meanings where there was a spiritual or mystical content."

This illustrates the degree of complexity and sophistication which can be attained in a mature and cohesive culture through conscious or iconic styling.

#### Style changes

From an ecosystemic viewpoint Bateson's (1980:245) sense of the "stochastic process" is useful in considering style change.

"Stochastic. (Greek, stochazein, to shoot with a bow at a target; that is, to scatter events in a partially random manner, some of which achieve a preferred outcome). It a sequence of events combines a random component with as elective process so that only certain outcomes of the random are allowed to endure, that sequence is said to be stochastic".

Thus a range of possibilities is opened by directed change but in the process of change other possibilities at the level at which the change occurred are forever precluded. Riedl (1978) has demonstrated this in The order of living organisms, where he shows that evolution has precluded the possibility for certain of the beastaries of which the mythologists and zoographers are so fond. We cannot have mermaids, cherubims, griffins or seraphims since there is a genetic exclusion of the combination of the somatic features required through the stochastic process. The same can be assumed of history. Each historical event precludes the occurrence of certain historical possibilities. Events are not destiny fulfilling but destiny selecting.

"Cultural evolution" differs from and should not be considered as metaphor for "biological evolution". In the hierarchy of systems it follows its own pattern of change by techniques different from those of biological evolution. The agencies of change too are different—"individuals" rather than "gametes", and the system less linearly timebound. Artefacts from the past can return the memetic content it bears.

From a ecosystemic viewpoint it must be granted that a group of individuals involved in common enterprise generate, what the C18 "philosophe" D'Alembert (Norberg-Schulz, 1986:7) termed the "esprit de systeme", and any communal enterprises will be tacitly guided by and expressive of this communal spirit.

The "spirit of the system," once established, will have an inertia to change. Mature cultures will be conservative and static by nature but this inertia is tempered by the destiny selective character which that culture acquires.

Yet it is the individual who precipitates style change. Systems are in a state of dynamic equilibrium. If the homeostatic aspects — the checks and balances which act through feedback — are disturbed then the system will be in flux. This usually occurs when the size of that system exceeds the extent of the channels of communication. In societies this results in paradigm change or shift and for the period of system disturbance the individual is given more freedom for experimentation.

If style change is viewed ecosystemically then the role of the individual is acknowledged but not viewed as of constant importance at all times. In times of paradigm crisis the individual is nurtured and individual freedom cherished and his style will not be that of the community. With the stylistic hiatus which results in a period of paradigm crisis or change there is an opportunity for the individual genius to arise and fill the vacuum. Hence personalities such as Goya in art and Beethoven in music are given free range for their personal genius and from their style experimentations the phoenix might rise.

#### The canonizing of iconic style

Iconic styling, since it exists in the realm of abstract meaning, requires the interpretative act to be understood and redeployed. Bonta (1979:142) has studies the case of the Barcelona Pavilion (1929) of Mies van der Rohe as an example for critical attention. He has identified two phases of style interpretation — pre-canonical, and canonical.

"Pre-canonical interpretations are the most creative ones. In facing a new form for the first time (or an old form from anew angle, as if it were new) the interpreter is left on his own to find its meaning. Constructing the interpretation is a challenge to his intuition, sensitivity and imagination".

By contrast canons: "[have] meaning ... attached to form by social consensus. Individuals learn the meaning, rather than construct or

reconstruct it for themselves. As the canon becomes fixed, the initial insights that led to the association of form, and meaning may be completely lost" (Bonta, 1979:142-3).

This loss of ideas is part of the process of canonization which Bonta (1979:145) ascribes to "filtering" rather than "growth":

"The canonical interpretation is a cumulative result of many previous responses, distilled by repetition and reduced to bare essentials."

The question then is why certain aspects of interpretation are lost in the process of canon formation? The simple answer is so as to eliminate contradictory and conflicting aspects of pre-canonical interpretations and present the canon as having an internal consistency. With time, ideas which have been canonized in style can then be represented in a reduced fashion.

"As individuals learn to recognize the form as a canon, they will be able to identify it even when the form becomes increasingly more schematic, simplified, or distorted" (Bonta, 1979:143).

From the above it can be seen that style canonization is a selective and reductive process. Although requiring the creative input of interpretations by individuals these are eventually synthesized into an internally consistent whole and aspects of conflict and contradiction are omitted. This is a necessary requirement if individual "style" is to achieve currency in the cultural domain.

#### An ecosystemic sense of "style"

In an ecosystemic approach "style" characterizes a particular culture but need not be construed as a judgement of the progressive nature of that culture. Style should be seen as functioning systemically at the cultural level. If "style" is accepted as the way for cultural communication and interaction of communities which have common experience and endeavour, then it can only be evaluated in terms of the success in achieving this end.

Doubts which have a place within the causal and deterministic world-view of the Mechanistic paradigm where the dogma of "progress" supposes that any event or process which contributes to that "progress" is laudable and superior to all those which did not, are untenable in Ecosystemic thought. Such arguments may even hold where the forfeit of biological "unfitness" is extinction. Cultural evolution has advantage over biological evolution in that ideas can be given currency and tested without sacrificing the bearer of the ideas, although the martyrdom of heretics proves the rule! But then again ideas persist long after the flesh is vanquished.

Any attempt to deny the existence of style is not only denying culture the medium for its being but also its persistence. With time comes tradition, refinement, sophistication and variation. Through cultural depth arises an iconology, where prototypes gain cultural significance and acquire cultural "meaning". Styling can therefore be ex-

ploited and diversified for cultural enrichment.

The synchronic and diachronic purposes of style are different. The stylist is communicating in his time and with his culture — that is synchronically. Yet through the persistence of the artefact the stylist is also communicating and revealing something of this culture through time, that is diachronically. This is the equivalent of the interactive (synchronic) and traditive (diachronic) characteristics of open systems.

Styling is thus a complex inter-action of the components of place and time. The variation of styling through the exploitation of the diversity of available cultural resources should hypothetically lead to an infinite variety of styles. What is surprising is that there is a consistency in the stylistic response at a particular place during a specific time. This suggests cultural conservatism and continuity of tradition rather than revolutionary change.

### The paradigm as directive of stylistic endeavour

Revolutionary style changes, however, do occur. Kuhn (1970) has coined the term "paradigm" to characterize the set of tacit directive by which a scientific community proceeds in undertaking "normal" science.

Kuhn's postulate of a paradigm was formulated as an historian attempting to explain the discontinuities of scientific "progress". The scientific discipline is the attempt to impose a pattern on the phenomenological world so that man can engage and exploit that world. Science is but one of man's activities and all man's common activities are directed by the shared paradigm. Hence not only science, but all man's communal undertakings are directed by the prevailing paradigm.

Man encodes his artefacts with the ideas generated within the prevailing paradigm. His art reflects such patterns of encoding and this constitutes the "style" of the artefact. The prevailing paradigm therefore not only directs the scientific pursuit, but also the artistic endeavour. The style of artistic expression is thus a reflection of the prevailing paradigm.

Laszlo (1973:227-9) parallels the nature of scientific endeavour with the development of artistic style.

"Similar to science, the collective endeavour of a population of aesthetically constructing natural-cognitive systems ('artists') can be examined as the multi-individual system in which such constructions are typical ('art')...

"We can talk of 'normal-art type artists' — more simply conservative artists — and of 'crisis-art type artists' or the avant garde..."

"'Conservative artists' (and this term is used here to include not only professional artists but all conservatively creative persons) constitute that segment of the art of community which is concerned with maintaining an already established style. This style is the basis of their artistic activity; it functions analogously to a paradigm in science. Conservative artists do not seek stylistic innovations—their creativity consists of adopting the style for their own artistic-purposes. Theirs is an essentially

'puzzle-solving' activity. They take a style, and use their skill and ingenuity in devising new techniques and new topics for it. Thereby they extend the range of application of the aesthetic constructs proper to that style, and refine them ...

"A 'style' in art is the functional analogue of a 'paradigm' in Science. Both are construct sets, lending meaning to experience and coding conative responses to it ...

"The world of perceptual experience is constructed as the 'natural universe' in science, and as a meaningful, 'felt reality' in art ...

"Much like scientific hypotheses, artistic styles can lose their validity when new patterns of experience supervene over the old ones. Thus a style which incorporated adequate aesthetic with forms and techniques which, at a later time, appear inadequate to many artists. At such times, stylistic change is called for and is normally initiated ...

"Drawing our parallel with science in the framework of art as a cognitive, we can say that a style which incorporated adequate aesthetic culture represents the paradigm for that group. The members of the group practise the style, but do not basically revise it. The picture changes when the style is no longer felt by the members of the group to express their personal felt experiences. The conservative 'normal-art' members become revolutionary 'crises-art' innovators. They re out searching for a new paradigm — a style which could map with more adequacy and greater faithfulness the patterns of felt experience in their culture. The kind of activity undertaken by the avant-garde has much in common with the activity of scientists during a period of crisis: there is a scramble for new ideas, new ways of expression and new techniques, and in this rather haphazard activity many experiments with new styles are undertaken. In the art of this period, novelty is itself a value, and it can come to be so highly prized that it becomes a fad: it is sought for its own sake. But such "purely experimental" works normally create but a temporary stir; they seldom stand the test of time. Novelty coupled with a basic idea, which grasps in some hitherto unexplored manner what most members of the community feel and are trying to express, is what is required for an art experiment to become a lasting success. If it does, it may lead to the establishment of a new style - a new paradigm which thereafter will be imitated and explored in thousands of versions."

As the discontinuities in man's scientific formulations reflect a change in the paradigm, so do the discontinuities in the style of his artistic endeavours reflect the same change and thus these changes should be synchronous. This synchronicity within a particular discipline is well known and can be readily understood, for example the simultaneous development of Newton's "fluctions" and Leibniz's "calculus" and the subsequent controversy about priority to the discovery. Similarly Darwin's and Wallace's simultaneous formulation of theories of evolution of organisms through natural selection. More difficult to recognize is the simultaneity in development in disparate disciplines especially if communication by differing techniques, for example, the abstract language of science as opposed to the stylistic language of art.

We need not speak of "style" in art in the sense of "paradigm" is science, but may use the term

"paradigm" for both, since style is discernible and is employed in agreement with the set of tacit directives, which is the paradigm.

Not only are disparate enterprises directed by the same paradigm but these enterprises give rise to the nature of that paradigm. The prevailing enterprises of a particular culture generate the models for drawing analogies.

It then follows that if man's enterprises dramatically change — for instance from hunter-gatherer to white-collar worker, from forest dweller to inhabiter of the concrete jungle, from noble savage to space ape — his paradigms will of necessity also change. Failing this he will be ill equipped for his changed intellectual environment and the culture will probably fail.

When studying iconically styled artefacts synchronically one is trying to discover the "style resonance" of the artefacts and match that with intellectual millieu of its making. Since these aspects are abstractions it is the realm of ideas which need to be distilled from the artefact and the meaning which this conveys. This is the iconological study which has been elaborated by Panofsky (1967).

#### The naming of styles

"Maybe it is only post factum, by a process of hindsight, that styles can come to express the spirit of an age - an age which has acquired the quality of a myth" (Gombrich, 1979:216).

It should not surprise us that the recognition of stylistic unity and sense of a spirit of an age is *post factum*, for a community is unable to articulate or bring to metacognition the tacit and subliminal directive which dictate their "doing".

It is also of interest that the naming of a period, particularly that of the most recent past, is usually pejorative. Hence to the be "Gothic" in the Renaissance was to be barbaric. It was only the C19 stylists who could use the term neutrally or, as was the case, with appreciation. Banister Fletcher (Palmes, 1975) did not allow for the "Baroque" in his Comparative history of architecture since the term was only then gaining currency, and then with a sense of derision. Burckhardt in 1855 initially used the term to contrast with the Renaissance "a wild, and barbarous art known as 'baroque', the degenerate bastard of the Renaissance" (Bazin, 1968:15). We see the same attitude emerging to the sense of "Modern":

"Now 'modern' is a curious term — it can be used to degrade as well as (or more often than) to elevate. It can mean decadent, degenerate, nihilistic, abysmal, at one end ..." (Bellow, 1992:23).

There is no doubt that the word "Modern" will be later employed as a neutral term for the period and its initial sense of "contemporary" will fade.

We should not feel alarmed that a designation of a style term in some way negates the realities of the communal enterprise of a time simply because it is psychologically useful to telescope the diverse enterprises of a period into a term and supplant all the issues of debate and discovery by a sense of "spirit". Were this not possible we would not be human and like the rest of the animal kingdom would be living in the eternal present.

#### Summary

Certain cultural activities of a community are at a pre-iconic level and are not exploited for stylistic experimentation. Such aspects will persist and become canonical and not be consciously recognizable as "style" to the members of a community. Such pre-iconic, or isochrestic style is tacitly agreed to and further style variation thus limited.

The opportunities for enrichment of styling are a function of time. The degree to which each level of styling is exploited and the degree to which the manner of doing becomes canonical in time is indicative of evolving cultural stability and diversity. The degree of abstraction in styling is indicative of cultural depth and maturity. This should all be able to "read" in the styling of the artefact.

Since styles always emerge from traditive elements and the future determined by the destiny selection of the past the logic of style development has to be established *ex post facto*.

If the cultural system of which the style is part changes then the style will change. If change encourages the historians to coin a new style term then it is indicative of a changed system of culture with another set of tacit guides. Through style interpretation these can be made overt by the historian. The use of a synoptic terminology for style designation helps to capture the essence of the manner and spirit of such doing.

#### REFÉRENCES

AMERICAN, 1970. The American heritage dictionary of the English language. New York: American Heritage and Houghton Mittlin. BATESON, G. 1980. Mind and nature. London: Fontana.

BAZIN, G. 1968. The Baroque. London: Thames and Hudson.
BELLOW S. 1992. Saul Bellow on Mozart. The Guardian. The

BELLOW, S. 1992. Saul Bellow on Mozart. *The Guardian,* Thursday, April 1:23.

BONTA, J. 1979. *Architecture and its intepretation.* London: Lund

Humphries.

DAWKINS, R. 1976. The selfish gene. Oxford: Oxford University Press.

FROBENIUS, L. 1933. *Kulturgeschichte Afrikas*. Zurich: Artemis. GOMBRICH, E. 1979. *The sense of order*. Oxford: Phaidon

HANSELL, M. 1984. Animal architecture and building behaviour. London:
Longman

LANTSCH E 1980. The celf organizing universe. Oxford: Borganize.

JANTSCH, E. 1980. *The self-organizing universe*. Oxford: Pergamon KNIGHTS, L. AND COTTLE, B. (Eds). 1960. *Metaphor and Symbol*. London: Butterworths.

KUHN, T. 1970. [1962]. The structure of scientific revolutions. 2nd Editions Chicago: University of Chicago.

LASZLO, E. 1973. Introduction to Systems Philosophy. New York: Harper & Rowe.

LASZLO, E. 1987. Evolution. The Grand Synthesis. Boston: New Science Library.

LE CORRUSTER 1986 [1931] Towards a new architecture (Translated

LE CORBUSIER. 1986. [1931]. Towards a new architecture. (Translated from the French). Mineola: Dover.

LUCAS, F. 1974. Style. 2nd Edition. London: Camelot.

MALESKA, E. 1983. *A pleasure in words*. London: Hamish Hamilton. NORBERG-SCHULZ, C. 1986. *Baroque Architecture* (Translated from Italian). New York: Electa/Rizzoli.

PALMES, J. (Ed). 1975. Sir Banister Fletcher's A history of architecture. 18th Edition. London: Athlone.

PANOFSKY, E, 1967. Studies in iconology. New York: Harper and Rowe. RIEDL, R. 1980. Order in living organisms: a systems analysis of evolution. (Translated from the German). Chichester: Wiley.

RIEDL, R. 1984. *Biology of knowledge. The evolutionary basis of reason.* (Translated from the Germany). Chichester: John Wiley and Sons. SACKETT, J. 1977. The meaning of style in archaeology: a general model.

American antiquity, Vol. 42, No. 3: 369-80.
SACKETT, J. 1982. Approaches to style in lithic archaeology. *Journal of* 

antrhopological archaeology, 1:59-112.
STEADMAN, P. 1979. The evolution of designs. Biological analogy in architecture and applied arts. Cambridge: Cambridge University Press.