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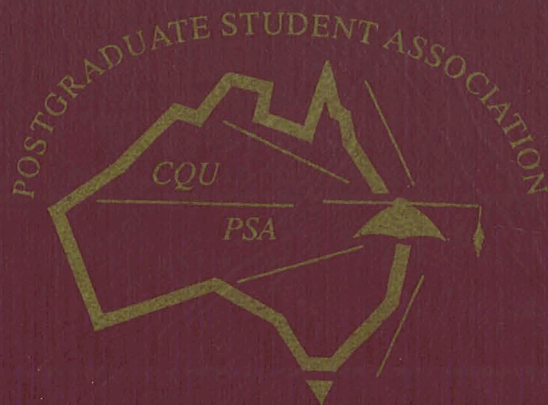
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1995

Postgraduate Student
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held at
Central Queensland
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October 11 1995



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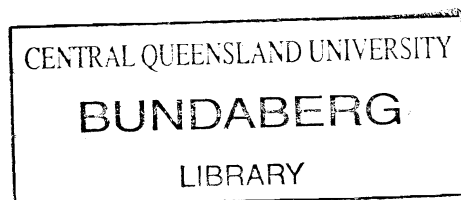


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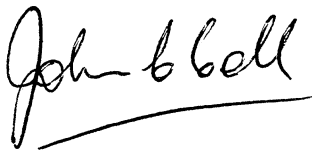
FOREWORD

I am very happy to provide a foreword to the Proceedings of the 1995 Postgraduate Student Association Symposium. This is a particularly important symposium because it evidences the blossoming of research at CQU. The Proceedings this year are bigger and better than ever before, showing that we are now seeing the emergence of the tip of a very big iceberg - the future research reputation of CQU is secure.

The quality of research in a University depends on the calibre of its academic and research staff who lead that research effort. These achievements however would be relatively insignificant without the complementary activities of a quality group of postgraduate students who work in partnership with the Faculty and who provide constant revitalisation and rejuvenation to the permanent staff. These Proceedings provide evidence of the quality and variety of research carried out by the postgraduate community. With this calibre of research, CQU's future is secure.

On behalf of the Vice-Chancellor, I would like to commend the organisers of the Symposium and all who have contributed to this volume for their efforts and the quality of their inputs.

As part of the Symposium, we will be announcing that Associate Professor Marie Brennan of the Faculty of Education is the Research Supervisor of the Year. Marie illustrates the important role played by the academic supervisor in the research of postgraduate students. Achievement through partnership is the theme for postgraduate student research and these proceedings illustrate some of those achievements.

A handwritten signature in black ink, reading "John C Coll". The signature is fluid and cursive, with a long horizontal stroke extending from the bottom of the name.

Professor John C Coll
Pro-Vice-Chancellor (Research)

October 1995

Dialogue at the Carnival: A Bakhtinian Reading of a Queensland Traveller Education Program

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Abstract

My doctoral research is concerned with an education program implemented by the Brisbane School of Distance Education for the children on the coastal Queensland circuit of the Showmen's Guild of Australasia. My previous presentations at the annual symposia of the Central Queensland University Postgraduate Students Association have focused on the show children and their parents as members of a marginalised group engaging in tactics of subversion of their disadvantaged status.

This paper explores an early stage of an alternative interpretation of the show children's educational experiences. This alternative reading calls on selected ideas of the Russian linguist Mikhail Bakhtin. In particular, the concepts of 'carnival' and 'dialogue' are used to analyse some of the interviews conducted this year as part of a broader study in the Faculty of Education at Central Queensland University. The paper demonstrates that 'carnival' and 'dialogue' provide useful conceptual lenses for examining the cultural context of the show children's educational experiences.

Introduction

The designation 'marginalised group' has been used as the conceptual foundation of all manner of social research projects. The particular groups identified as 'marginalised' have included women, Aboriginal and Torres Strait Islander people, members of other ethnic minorities, inhabitants of rural Australia, and the unemployed. Research to which I have contributed has considered the extent to which itinerancy is another kind of

The continuing assistance of members of the Showmen's Guild of Australasia and staff members of the Brisbane School of Distance Education is gratefully acknowledged. My supervisors, Professor Leo Bartlett and Dr Leonie Rowan, have provided commendable intellectual stimulation and emotional support, as well as a close reading of the text of this paper. My fellow researchers in the Faculty of Education at Central Queensland University have tolerated the inclusion of my doctoral study in a broader research project. The project was funded by two University Research Grants (ER/U/399 and ER JOU 378), awarded through the Research Centre for Open and Distance Learning. My Geoffrey Danaher, Ms Bonita Frank and Ms Pam Gale transcribed the interviews. I accept responsibility for the views expressed in the paper.

marginalisation, as a result of its deviation from 'the norm' of fixed residence (Danaher, 1994; Danaher, 1995; Danaher, Rose, & Hallinan, 1994).

Yet many of these studies of 'marginalised groups' contain a serious potential tendency to error. This tendency derives from the concern that one outcome of describing at length what it is about such groups that 'makes' them 'marginalised' can be the perpetuation of those very same 'causes' of 'marginalisation'. That is to say, by concentrating attention on what makes particular groups different from 'the norm', researchers can contribute to the essentialisation, naturalisation and aestheticisation of that 'difference'.

I have been uneasily aware for some time of this potential tendency to celebrate the uniqueness of the cultural traditions and the present day lifestyles of participants on the Queensland show circuits. The undesirable corollary of focusing on the show people's distinctiveness is the prospective omission of another, equally important aspect of their lives. This aspect is the range of processes and activities through which show people communicate and engage in dialogue with all kinds of non show people. One significant result of these processes and activities is an important attribute of 'carnival': the distinction between 'show people' and 'non show people' emerges as less definitive than studies of 'marginalised groups' would suggest.

This paper, then, presents an early version of a Bakhtinian reading of the educational experiences of Queensland show children, by elaborating Mikhail Bakhtin's concepts 'carnival' and 'dialogue'. The paper follows an account of the two concepts with an application of the concepts to selected interviews with show people and teachers from the Brisbane School of Distance Education. The utility of this application is used to justify an application of the concepts to the remaining interview data.

'Carnival' and 'dialogue' in Bakhtin's work

As a social thinker, Mikhail Bakhtin is primarily known for his studies in linguistics. He elaborated several influential concepts as part of his general project of revealing the complexity and multiplicity of linguistic and other relations between individuals and groups. A unifying theme in Bakhtin's writings is the multivocality and polyvalence of language, and the resultant potential for the contestation and subversion of supposedly immutable social categories. Stam (1989, p. 8; cited in Pearce, 1994, p. 11) has provided a useful synthesis of Bakhtin's politicised understanding of language:

To speak of language, without speaking of power, in a Bakhtinian perspective is to speak meaninglessly, in a void. For Bakhtin, language is thus everywhere imbricated with

assymetries of power. Patriarchal domination and economic dependency make sincere interlocution impossible. There is no 'neutral' utterance; language is everywhere shot through with intentions and accents; it is material, multiaccentual, and historical, and is densely overlaid with the traces of its historical usages.

It is this general interest in the politicisation and polyvalence of language that provides the backdrop for examining Bakhtin's concepts of carnival and dialogue. In *Rabelais and his world* (1968), Bakhtin used Rabelais' novel *Gargantua and Pantagruel* to argue that the European medieval institution of *carnival* was a highly visible manifestation of something that occurs in every society: the ritualised humour associated with expressions of popular culture. To Bakhtin (1968, p. 6) carnival was a subversive enterprise, creating "a second world and a second life outside officialdom". Furthermore:

...carnival celebrated temporary liberation from the prevailing truth and from the established order; it marked the suspension of all hierarchical rank, privileges, norms, and prohibitions. (Bakhtin, 1968, p. 10)

Bakhtin (1968, p. 34) regarded the function of carnival as emancipatory and creative:

...to consecrate inventive freedom, to permit the combination of a variety of different elements and their rapprochement, to liberate from the prevailing point of view of the world, from conventions and established truths, from clichés, from all that is humdrum and universally accepted. This carnival spirit offers the chance to have a new outlook on the world, to realize the relative nature of all that exists, and to enter a completely new order of things.

Many of Bakhtin's publications contained extended accounts of his developing understanding of *dialogue*. Rather than becoming engrossed here in unravelling this concept as Bakhtin articulated it in several publications, I have drawn on a useful observation by two of Bakhtin's biographers. Morson and Emerson (1990, p. 486, n. 4) identified three distinct ways in which Bakhtin wrote about dialogue:

...as a description of language that makes all utterances by definition dialogic; as a term for a specific type of utterance, opposed to other, monologic utterances; and as a view of the world and truth (his global concept).

This paper is concerned with the third sense in which Morson and Emerson claimed that Bakhtin understood dialogue. Morson and Emerson (1990, p. 52) provided a helpful synthesis of this understanding:

It is clear that dialogue so conceived involves the constant redefinition of its participants, develops and creates numerous potentials “in” each of them “separately” and between them “interactively” and “dialogically”. It is also clear that no single interaction could exhaust the potential value of future exchanges. Both dialogue and the potentials of dialogue are endless. No word can be taken back, but the final word has not yet been spoken and never will be spoken.

From this perspective, dialogue is an intensely creative process. It assumes simultaneously two attributes much prized by Bakhtin: the “outsidedness” of the participants in the dialogue, and the “unfinalisability” of individual acts of dialogue. Implicit in this view is a recognition that participants in dialogue are not necessarily of equal status; this brings to the process an additional complexity, by recognising dialogue as a politically charged phenomenon.

‘Carnival’ and ‘dialogue’ in the interviews

The preceding discussion of Bakhtin’s concepts of carnival and dialogue suggests that two questions might usefully be asked of the data collected for this study. The first question, which relates to the notion of carnival, can be expressed as follows: “To what extent does the show children’s education program disrupt and displace conventional or mainstream education?”. The second question, which refers to the notion of dialogue, can be stated in this way: “In what ways does the show children’s education program reveal dialogical communication among various groups of participants?”. The data reported here were gleaned from ten audiotaped and videotaped interviews with eleven show people and two itinerant teachers, conducted in Emerald in May 1995.

In relation to the destabilisation and displacement of conventional education suggested by Bakhtin’s concept of carnival, the most obvious evidence of such destabilisation and displacement lies in the ubiquity of references by show people and teachers alike to the innovative, even revolutionary, nature of the show children’s education program. Several participants in the program emphasised often the extent to which the program differs from the traditional offerings of mainstream education that had been available to the show children’s parents. The common assumption seemed to be that only a radically new approach to traveller education could fulfil the particular educational needs of show children.

In this context, most of the adults on the show circuit retained vivid memories of their own schooling experiences. For some, these memories were happy and positive. One

person remembered with affection the efforts to assist her school work by a teacher in a Catholic school at Redcliffe, with whom this person worked “solidly for three months every year for three or four years”.

For others, their schooling days were unhappy, even hateful, experiences. One young mother recalled what it was like to travel from school to school:

It wasn't too bad when there were other kids and that. But when you were the only one by yourself, it was the worst feeling in the world. You're standing up there in front of all the class and you have to say your name and "Hello", and what you do. You just stand there and cry. It was just the worst feeling. And that's when I used to send...[my daughter], I used to think, "Oh, I remember what it was like for myself". I think, "I used to hate that. It was horrible".

Less traumatic, but no less frustrating, were recollections of drawing the same picture at every school, or of completing “the same project on New Zealand at five different schools”.

Whether their memories of their own schooling were happy or unhappy, most show people seemed to be animated by the conviction that the conventional education system was inappropriate for their children. In particular, they were concerned that this system forced them to choose between two objectives that they felt should be combined: giving their children a solid educational background, and socialising their children into the ‘arcane lore’ of the show circuit. From this perspective, conventional education can be seen as destructive of their social order and cultural traditions. Hence their determination to ‘mould’ the education system into a shape more congenial to their aspirations and more suited to their lifestyles.

A few show people articulated a sophisticated understanding of the structural restraints influencing their own education. One parent in particular identified “the bureaucracy” as encapsulating those attributes of mainstream education most inimical to catering to the educational needs of travellers.

We're not hindered by the bureaucracy that goes on for the education system, which is something that's built up over a lot of years. We're young, we're enthusiastic...[W]e've all experienced what there is in that [correspondence education] package. We want to take the best of that, and evolve it into something that's specialised for our children. And try and get as much as we can.

The same parent expressed considerable cultural self-consciousness when she elaborated:

We can't have to wait for bureaucracy or if it doesn't please one person they say "No", and all of a sudden we have to put our hands down. We're not those sort of people. We're the sort of people who get things done and do things. And if we have that independence and freedom we'll do a lot.

It is this kind of cultural self-consciousness that has motivated and equipped show people to destabilise and displace conventional education, in ways that reflect the Bakhtinian notion of carnival.

With regard to dialogised communication among different groups evoked by Bakhtin's concept of dialogue, there is extensive evidence of this kind of communication taking place. Interviewees referred often to how unusual it was for 'outsiders' to understand the particular circumstances of the show people's lifestyles. Show people were therefore especially appreciative when they acknowledged the itinerant teachers' efforts to understand those circumstances. For example, one parent explained how activities need to be completed quickly and efficiently, because the show stays in each town only a few days, then she added:

That's the things that...[the teachers] understand about us. That's the way we live...They've understood us, not just taught the kids. Because they had to understand the way we live.

This understanding of the show people's distinctive lifestyles was certainly articulated by the itinerant teachers. One teacher outlined the pressures on parents who were also home tutors for their children:

In our particular situation we have to remember that our home tutors are often our mums, and that the mother's role in the family situation is not only as mother, but as business person, as truck driver, as organiser. The family shopping has to be done at some stage so the families are very very busy. And perhaps part of the success of the program is the development of understandings about the working lifestyle, and the huge time constraints and commitments by our families in maintaining their family, and their working lifestyle, their profession.

There was also evidence of increasing understanding on the part of the show people of the exigencies governing the teachers' working lives. One parent acknowledged that the

teachers involved in the program exceeded the requirements of their 'duty statements', by attending barbecues with the show people and observing the myriad activities accompanying packing, moving to the next site and unpacking. Her companion concurred:

And they've made sacrifices. They've been travelling and been spending a lot of time out in the field with us, when they could be at home with their families. Why did they do it? They did it because they care about our children and they could see we needed it.

One of the teachers identified an additional area of growing understanding by show people resulting from the education program for their children. This area related to adult literacy:

Many people are asking,... "You're the teacher, can you help me read?". And you're speaking with a young adult who's sixteen or seventeen years old.

The same teacher referred to the fact that many parents "themselves are taking on board lots of understandings" as a consequence of helping their children with the reading and activity books involved in the program.

Considered in combination, all these utterances reveal considerable convergence of understanding about the other's material circumstances and psychological and cultural motivations. This convergence would appear to reflect Bakhtin's conception of politically charged dialogue.

Conclusion

This paper has applied Bakhtin's concepts 'carnival' and 'dialogue' in a tentative reading of some of the interview data arising from my doctoral study. The outcomes of this application are encouraging, in that they have permitted a reasonably intensive interrogation of interviewees' utterances and the material and cultural conditions shaping those utterances. The resulting discussion has suggested several fruitful lines of analysis, particularly with regard to moving 'beyond' a consideration of the show people as a monolithic 'marginalised group'. At the very least, the discussion would appear to warrant applying the concepts to interviews conducted prior to the ones considered in this paper.

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The Effectiveness of Environmental Policy in Japan: The Issue of Wildlife Conservation

by Mike Danaher (BA Hons., Grad. Dip Teaching CQU)

Introduction

In an age when environmental issues, and more importantly ecological issues, are playing an increasingly important role in world politics, it seems appropriate to consider how the Japanese government is responding to pressures from the international community calling for Japan to become more environmentally responsible, especially in the area of wildlife conservation. Wildlife conservation relates to the protection and conservation of ecosystems, habitats and species of animals and plants. Conservation can range from total preservation (non-use) to wisely managed complete use of resources. In terms of environmental policy, wildlife conservation is reflected in such things as: the number and quality of Natural Parks established, legislation to protect native fauna and flora from becoming endangered or extinct, policies which discourage large scale land clearing, and most importantly, evidence which shows that these laws and policies are effectively implemented.

Despite Japan's well publicised effective efforts in pollution abatement and anti-pollution technology since the 1970s there remains considerable criticism, both from outside and within Japan, of its record in nature conservation. The aim of this paper is to illustrate that criticism and to suggest reasons why Japan is not as environmentally conscious as it should be regarding the issue of wildlife conservation.

Critiques of Japanese environmental policy related to wildlife conservation

"The 1989 United Nations Environment Programme survey showed that Japan had the lowest level of concern and awareness of environmental issues among policy makers and the public out of 14 countries surveyed" (Mark Brazil, 1992). Japan also had the lowest percentage of people believing that they should contribute time and money to environmental groups (ibid). The main preoccupation of environmental policies in Japan is still the threat posed by pollution to human health (Vogel, 1990). Environmental concerns apart from extreme pollution affecting human health (such as the case of mercury poisoning) are relatively recent additions to the agenda of public policy in Japan. On the whole Japan is fairly successful at producing anti-pollution technology particularly in abating air pollution. Japan even exports some of its anti-pollution technology.

However, Japan appears to be less successful regarding wildlife conservation. Currently there is considerable Western criticism (as well as some internal criticism) of Japan's environmental responsibility concerning global and domestic wildlife conservation issues. The following are some examples of this criticism.

1. Wildlife conservation issues within Japan which have attracted criticism.

a) Loss of huge areas of natural habitats and entire species due to the encroachment of urbanisation, pesticides, hunting and the introduction of alien species of animals and plants into Japan (Mark Brazil, 1992) and (Japan's National Report to UNCED, 1992).

b) Forest cultivation where large scale deforestation was followed by afforestation with a single species of tree (Tsuru and Weidner, 1989).

c) Environmental Impact Assessments (EIA) are often seen as ineffective by conservation organisations and EIAs are often influenced by business and industry.

2. Wildlife conservation issues involving Japan globally which have attracted criticism.

a) Whaling - Japan has failed to ban whaling and has failed to respect the International Whaling Commission (IWC) imposed moratorium on all whaling despite enormous international pressure on it to do so. Even though Japan is a member of the IWC, it is a whaling industry country as opposed to a whaling conservationist country (Kuronuma and Tisdell, 1993).

b) Slaughtering dolphins in order that dolphin flesh can be a more affordable substitute for whale meat which is becoming more expensive and in short supply due to pressures on Japan to stop whaling (Donoghue and Wheeler, 1990). Japan is one of only a few nations still to kill whales and dolphins for eating.

c) Driftnet fishing which indirectly kills large numbers of other marine life eg. turtles.

d) Illegal trade in wildlife and extensive imports of wildlife. Japan has the largest illegal wildlife trade in the world according to the

Tokyo office of TRAFFIC, an international network that tracks wildlife trade around the world. A large part of the problem stems from the government's reluctance to investigate the veracity of export permits. Japan has also been criticised at international environment conferences for massive imports of endangered species that enter the country by abusing special treaties on wildlife trade (Fitzgerald, 1989).

e) Importing vast amounts of rainforest and other timber and therefore contributing to the destruction of rainforests and their fragile ecosystems in other countries, notably those in developing countries. Japan is the world's largest importer of tropical timber (Holliman, 1990).

f) Japan's huge demand for products like grain and shrimps from developing countries which put enormous pressure on those countries to clear their natural areas (eg. mangroves) to grow these products.

Japan's Environment Agency (the government arm largely responsible for promoting environmental policy and established as recently as 1971) appears to have some serious limitations. It appears to want to be increasingly more responsible in the area of wildlife conservation but lacks power within the Nature Conservation Bureau, as well as cooperation from other stronger ministries such as the Ministry for International Trade and Industry and the Ministry of Construction. These Ministries often favour seemingly opposing, economic growth policies. Environmental organisations have virtually no access to the Environment Agency. The Environment Agency is not the sole agency responsible for environmental issues and many environmentalists remain dissatisfied with the EA's stance (Tsuru and Weidner, 1989). Conflicts of interests often arise and it is the environment which is nearly always compromised.

The problem

Despite Japan's best intentions at attempting to be genuinely responsible for wildlife conservation both within Japan and in the global commons (witnessed by the enactment of certain legislation and in the participation at some multilateral conventions on the environment, for example, CITES, Ramsar Convention), the fact remains that Japan's efforts in policy formulation and policy implementation are still unsatisfactory from the perspective of

world opinion. There seems to be little practical action being implemented to safeguard wildlife. The main research question for my thesis is 'Why is this the case?'

There are two themes which appear to characterise this unsatisfactory record in wildlife conservation. Firstly, the typical Japanese approach to the environmental issues involving wildlife seems to be that the natural resource in question is an economic resource to be exploited, or as something that has no particular conservation value to the majority of people. For example, whales are an economic resource for eating and other commercial by-products such as soap, and tropical timber is an economic resource involving wood for houses and furniture and wood chips for paper (Matsumoto, 1995).

Secondly, Japan appears to be unsure how to become involved in environmental issues which do not require technological and money solutions (Graham, 1995). Japan has traditionally had a technocratic type of environmental policy which arose in the early 1970s when Japan faced unprecedented pollution problems and court actions against major polluting industries. Non-technological solutions such as changing or modifying old practices/ideologies and adopting more responsible ones are apparently much harder for the Japanese, especially if economic policies might have to be compromised or sacrificed. Protecting the natural environment and achieving ecologically sustainable development (ESD) involves more than simply reducing pollutants through advanced technology. The problems related to wildlife conservation are mainly of a social, not a technical, nature.

However, Japan has shown that it can change its social practices in order to help protect wildlife if there is a genuine commitment there to do so. This was evidenced by the relatively recent banning of ivory imports which were being used in Japanese seals (inkan).

The problem from a non-Japanese perspective is that we do not really know what Japanese people think about wildlife and wildlife conservation. If changes are to occur to Japanese environmental policy making, this will need to take place in the context of their own cultural background and environmental attitudes.

Tsuru and Weidner (1989) concluded that "What is known is that great public concern for the protection of the environment and readiness to participate in environmental policy matters is the

most important prerequisite for long-term environmental improvements. As we can learn from Japan, when social pressure to adopt environmental protection measures subsides, government and industry soon slacken their efforts". Arguably, the survival of Japan's unique wildlife, as well as wildlife elsewhere in the world, is dependent on domestic appreciation of the problem and remedies to address it.

Why the poor record on wildlife conservation? A search for reasons

There are a number of possible reasons why Japan is opening itself up to criticism of its policies about wildlife conservation. There is also conflicting literature about the degree to which Japan is insensitive to this environmental issue. Most of the criticism of Japan's wildlife conservation record comes from Western sources. Despite Western rhetoric criticising Japan's poor record on wildlife conservation, the West does not seem prepared to enforce harsh economic sanctions against Japan in an attempt to get Japan to change its environmental policies and/or become stricter in enforcing them. This would be another reason why Japan feels it can get away with what may be strongly termed as environmental vandalism, that is, very little pressure on Japan to change.

It is necessary to examine closely Japan's level of participation at global environmental decision making and policy making fora to see if there is a correlation between the level of participation which Japan engages in and the degree to which Japan then implements those policies. It is also necessary to find out whether Japan is a poor implementor because it does not influence policy making. This study will look at the whaling issue and will examine Japan's level of participation at other conventions, for example the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Japan didn't ratify this convention until November 4th 1980, 7 years after it was finalised. It was not until 1987 that Japan enacted domestic legislation to regulate domestic trade in endangered species pursuant to its CITES obligations (Lauber, 1993). Moreover, Japan is still reported to be a major violator of this international convention. Japan began with the largest number of reservations of the 102 signatories, and despite withdrawing several reservations over the past years, it still retains the highest number.

Under CITES, the burden of trade control is placed squarely on member nations. Like most international treaties, CITES has few

enforcement provisions. Individual countries are responsible for enforcing CITES within their borders. They are expected to police their own ports of entry and exit, report on trade and punish violators (Fitzgerald, 1989). Clearly the Japanese government is not doing a very effective job.

In order to better understand Japan's responses to wildlife conservation issues in general there is a need to find out more about Japanese people's attitudes to nature and their understandings of nature and conservation. Nature conservation is not a universal construct. It is rather an ideal of certain cultures. When the Japanese attitude to nature/wildlife is better understood then perhaps one can begin to understand Japan's environmental policies and why Japan implements/does not implement certain policies, including those reached at international fora. If it is found that the Japanese attitude to nature is that nature is something to exploit for economic gains, and/or as an issue of not much importance, then one can probably assume that the Japanese people in general will not put much pressure on their government to conserve nature in the same way they have put pressure on the government to reduce pollution which affected public health. In turn this lack of pressure would reflect a weak environmental movement in Japan in respect of wildlife conservation.

Hypotheses for ascertaining why Japan still has a relatively poor record in wildlife conservation domestically and globally

There are two main hypotheses. Firstly, I hypothesise that Japan's poor record in implementing certain international environmental policies is a result of its superficial level of participation in decision and policy making at these international conventions. At multilateral environmental conventions where the environmental issue at hand is in conflict with other Japanese policies, or in conflict with Japanese beliefs, in order to avoid confrontation, Japan appears to pay lip service to the making of the environmental policies to maintain an image of caring (no active participation occurs) and then does very little to implement them. As a result, protection of the international environment has often been regarded as more of a problem in public relations - of keeping up with other nations only to avoid embarrassment (Lauber, 1993). The whaling issue and CITES are two examples which can be used to test this hypothesis.

Secondly, I hypothesise that the poor record regarding wildlife conservation globally and domestically is largely the result of there still being no substantial opposition from the Japanese public, and there still being no united wildlife conservation movement in Japan to lobby the government into developing and implementing broader-based environmental policies that deal with wildlife conservation. Furthermore this pressure does not exist because Japanese people in general still do not perceive wildlife conservation as an issue of great importance to their daily life or to their health. It could be argued that if there was substantial opposition/pressure from the Japanese people, the government would do more on domestic environmental issues, as it did with pollution. As well Japan would do more to implement policies reached at international conventions if there was greater pressure on it to do so from the Japanese people.

The Japanese people have not established a strong and united network of conservation organisations in Japan which are able to, and are vital in, successfully lobbying politicians. Why? Japanese conservation organisations tend to draw their primary support from the least affluent and least educated segments of Japanese society who live in rural areas and are only really interested in environmental issues to protect their own health and source of income. The Japanese person's perception of and attitude to nature (plants, animals, ecosystems) largely appears to be that they are either economic resources to be exploited or resources of no particular conservation value. This contrasts markedly with Western thought which tends to place a relatively high value on the protection of animals and nature, and is reflected in the West's strong commitment to ban whaling, for example. Does this way of thinking permeate from the bottom up and does it have a significant influence on decision making at the national level?

Japanese people appear to still allow their government to give priority to economic policies over environmental ones whether the issue is global or domestic. Moreover, the Japanese government has not traditionally looked to citizen groups for advice on policy decisions. A fundamental environmental commitment still appears to be lacking within Japan. If this is the case, and part of the study will be to prove whether it is or not, then one would not expect there to be an environmental commitment to environmental issues outside Japan.

Methodology

My methodology for testing these two hypotheses involves the following:

I will conduct three main levels of investigation.

a) Policy Making Level: decision making and policy making at the national government level (Environment Agency) and at the international level (IWC, CITES).

b) Implementation Level: implementation of policies reached at the national level and at the international level. Who is responsible for the implementation?

c) Grassroots Level: conservation organisations and their impact on lobbying politicians to act more positively on wildlife conservation issues globally and within Japan; a particular wildlife conservation issue case study (the rare brown bear); a particular conservation organisation case study; Japanese people's attitudes to wildlife and wildlife conservation (extensive questionnaire survey).

These investigations will be made through literature reviews of primary and secondary sources (English and Japanese), government documents, interviews, group discussions, questionnaires and case study analyses.

Conclusion

The aim of this paper was to illustrate the criticism of Japan's record on wildlife conservation, and to suggest reasons why this record is far from satisfactory. The criticism of Japan's record on wildlife conservation is both considerable and justified. For a highly developed country, the extent to which Japan still continues to disregard wildlife is both astonishing and appalling. To say why Japan acts the way it does towards wildlife is a difficult question to answer. I hypothesise it has to do with the lack of a fundamental commitment (which is intrinsically linked to attitudes /perceptions of wildlife) to the conservation of wildlife which is all pervasive throughout every level of Japanese society. It is this lack of commitment that allows the Japanese government not to be serious about formulating and actively implementing policies at the national and international levels which aim to conserve wildlife.

The next stage of my thesis is to test this broad hypothesis, as well as to eventually see if it is possible to suggest ways where Japan will want to change old habits and adopt new ones which will lead to conserving wildlife more responsibly. If Japan does not change, then the people of the world will be worse off as a result. A key element for future environmental policies is the organisation of public participation. Change is more likely to occur if it is supported by the bulk of public opinion.

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Transgressive heroines: redefining and reconceiving images of women in Hollywood's new action cinema

by Elizabeth Hills

Images of aggressive, independent and even violent women have regularly occurred in recent popular Hollywood films such as *Aliens*, *Terminator:2: Judgement Day*, *Thelma & Louise* and, more recently, *Bad Girls*. Though these films open up interesting questions about female identities and popular cinematic representations of women various feminist critics have contemptuously dismissed these films and the female characters who forward their narratives. Why?

This is a question I will try to answer by looking at images of what I have called "action-heroines" in the film *Bad Girls*.

The final images of *Bad Girls*, a feminist Western released in 1994, depicts a group of female outlaws, who, having escaped the Law gallop off into a glorious sunset leaving misogynistic restriction trailing in their dust. They go west of everything, west of patriarchy. Their journey to this point has been one of awakening and transformation. This process is also evoked in recent screen images of women who are clearly "transformed" on screen, like Ripley (from *Aliens*), Sarah Connor (from *Terminator 2*) and *Thelma and Louise*. These transformations have elicited a number of questions from feminist film theorists most of which focus on issues of whether these characters are trying to be men, to be different from them, or to become something beyond all such simple binary oppositions? (Boundary 2, Fall 1992:v).

It would seem, then, that these films offer an ambiguous conception of identity, moving away from attempts to constitute "masculine" and "feminine" as unshakeable categories cast in binary opposition. It is, of course, no coincidence that the period in which such ambiguous images have achieved popularity is a time in which a range of radical writings have sort to challenge a binary understanding of sexed subjectivity. All of this represents an

important set of questions for feminist film theory and the emerging body of work being conducted on gender and the action cinema (Tasker; 1994, Cohan & Hark; 1993, Jeffords; 1993).¹

The fact that action-heroines can be so difficult to analyse may have something to do with the theoretical categories which feminists (and other) critics have constructed. For example, psychoanalytic accounts which theorise sexed subjectivity within a framework of linked binary oppositions (male/female: active/passive) necessarily position normative female desire as passive or in terms of lack. Considered within a psychoanalytic framework, then, these aggressive women are seen as "phallic". The main reason for this is that many film theorists adopt the psychoanalytic argument that the only way a woman can exercise power, for instance if she wields a gun, is by "borrowing" her power from a male register. Within this phallogentric logic the powerful woman can never be represented as a female subject but only in terms of male symbolism, as the "phallic woman". The question, from a feminist perspective, however is, what is at stake in relying exclusively on a methodological paradigm which consistently defines the feminine in terms of lack or passivity? Are there other, more empowering ways of discussing female subjectivity?

Taking up this point, Elizabeth Grosz has stressed the political necessity for feminists to find explanatory frameworks and models which can conceive of female subjectivity as a positivity (1994: 182). One model put forward by Grosz is the work of Gilles Deleuze and Felix Guattari. Whilst emphasising the need for a feminist reading of their work Grosz argues that:

Even if their procedures and methods do not actively affirm or support feminist struggles around women's autonomy and self-determination, their work may help to clear the ground of metaphysical oppositions and concepts so that women may be able to devise their own knowledges, accounts of themselves and the world (1994:164).

¹Interestingly, most of the work done by feminist film theorists on subjectivity and the action cinema focuses on men and masculinities. This is part of a recent shift in feminist film theory from analysing female subjectivity specifically to the more general focus of gender studies.

Grosz suggests that Deleuze and Guattari's concepts of the body, with its emphasise on transformation, dynamic interaction and fluid boundaries, makes their work highly relevant to and useful for feminism. Focusing on the action-heroines of *Bad Girls*, this paper uses a feminist reading of Deleuze and Guattari's work to explore an alternative textual approach to the question of female subjectivity in the action cinema: one that might allow them to be read as empowered and transformative figures.

In Deleuze and Guattari's work the terms male and female and subject and object are not to be understood as discrete and separate entities, rather, they are "the same material" which produces difference via the particular connections made. In this model, because desire is productive energy and not lack it is present and evident across the structures of sexual difference. This is, of course, highly significant for an analysis of the action-heroine. For example, the "gun-totting" woman of action cinema can be recoded as machinic: a woman's hand forming an assemblage with a gun. This has nothing to do with the compensation for the lack of an original object - as is the case for the phallic woman - but, simply, the particular connection produced in this activity. This is an important difference for, if the body can be reconceptualised in terms of surfaces which are constantly amendable to, and transformed by the flows of energy which produce linkages with other objects this means that the female body is capable of being imagined outside the notions of "castrated", "passive" and "other". In contrast to the psychoanalytic view, then, we might say that it is not a matter of what the body has or is (the phallus) but rather what it creates and produces; what it does (Grosz, 1994).

What action-heroines do, and what some critics have found so hard to understand, is enter into a process of becoming. Briefly, Deleuze and Guattari's concept of "Becoming" is the affirmation of the positivity of difference meant as a multiple changing process of transformation. Following Deleuze and Guattari, I understand this as a process of deterritorialization; of interrupting and breaking down the rigidity of hierarchies and binary notions of identity in favour of pure flows of energy, capable of multiple variations; becoming-animal, becoming-child, becoming-molecular, becoming-woman. For the female characters of

Bad Girls becoming-action-heroine - a psycho-social and bodily process visually documented in the film - has been one of interrupting and breaking down the rigidity of patriarchal notions of "Woman" to becoming full human beings in charge of their own destinies.

Bad Girls charts the development of its four heroines as they move from the objectification of prostitution to the freedom of the open plains. In the process they move from the female spaces of the indoors to the historically depicted male space of the great outdoors. In doing this, the action-heroines of *Bad Girls* interrupt conventional flows of representation of both the Western and images of women within them; representations that would contain and dismiss the action heroine.

These female protagonists achieve feminist subjectivity through rewriting patriarchal stories. They interrupt and disrupt patriarchal narratives while seeking alternatives to living as something other than full people. Their hesitation to conform to patriarchy's story of women propels them into a liberating feminist line of flight from patriarchy, a place which offers a new horizon in relation to restricting patriarchal imperatives. Finding these lines of flight is one of Deleuze and Guattari's strategies; it is a function of deterritorialization.

As outlaws from patriarchy these action-heroines conduct self-experiments which lead to transformations. In this sense they have made for themselves bodies without organs. Deleuze and Guattari introduce the term to conceptualise a notion of subjectivity which rejects the binary logic of separation and hierarchy in favour of multiplicity and transformation. In their theoretical model the BwO is not opposed to, or opposite from its organs, rather, it is opposed to its organisation, that is, the way in which the organs organise the organism (1987: 158). For example:

The body without organs is not a dead body but a living body all the more alive and teeming once it has blown apart the organism and its organisation. The full body without organs is a body populated by multiplicities (1987: 30).

The action-heroines of *Bad Girls* become all the more alive once they have blown apart the organism of patriarchy and its hierarchical organisation over their lives. Their transformed lives

Undoubtedly, one of the pleasures of the film, for me, was the rush of excitement when it became apparent that the agents of power, force and heroism being displayed on screen were women. This thrilling mix of masculine privilege performed by female bodies is made visible through the markers of the body: the radical change in the women's body language - their stance, gesture, gait - a transformation that is also traced through the shift from dresses to cowboy clothes and hip holsters. This is not just a change of clothes but a bodily transformation. They have, quite literally, instituted a becoming-action-heroines - which, in terms of the narrative is equal to becoming-outlaws - by taking into themselves the dynamics of outlaw behaviour: moving as they do, acquiring the modalities of outlaws.

The characters actively assume the process of wilful transformation in which identity is no longer fixed but multiple and open-ended. The action heroines of *Bad Girls* no longer move within the framework that determines their identity from the established codes of masculinity/femininity. With them, these signs have been extracted from the defining strata and reassembled into a new action-heroine machine. They look, move and sound like outlaws. A new hybrid composed of whatever signs have been picked up and transmuted in the process of the production of desire and becoming. This doesn't mean that they have moved beyond sexual difference to an androgynous, non-differentiated state, but, rather, to a non-hierarchical state. That is, they affirm their sexual identity through a play of difference and refuse to be limited by the constraints of binaristic structures. Being composed of action instead of the conventional signs of femininity, these heroines are neither something other than women nor even "other(s)", but instead a becoming-action-heroine, an assemblage that strains the phallogentric order of subjectivity precisely by remaining on the inside.

This process of becoming-action-heroine is the crucial insight of *Bad Girls* - an insight that is made highly visible through its Western structure. It would seem that the Western, with its significant imagery about frontiers is tailor made for addressing issues of transgression. Transgression is of course a politically significant term for feminism, implying the crossing of boundaries and the breaking of taboos.

Feminist film theorists, however, have had mixed reactions to the transgressive potential of films which feature action-heroines. Like many of these films *Bad Girls* attracted a range of reviews and responses. Criticism centred largely on the apparent impossibility of achieving positive images of a female, if not "feminist" Western. Pat Dowell's comments are exemplary:

Bad Girls is literally a travesty, with its prostitutes strapping on the accoutrements of men to confront male authority - while prurient scenes of rape and threatened rape keep them squarely placed iconographically as women, creatures without power (1994, 9).

Whilst Dowell reads *Bad Girls* as a failed cross-dressing fantasy, I find it difficult to reconcile a notion of their powerlessness with some of the images within the film. Even in the aforementioned rape scene, Lily's defiant and independent personality is foregrounded both visually in the close-ups of her face resolute and unyielding as it dominates the frame in the two shot and through the dialogue:

Neddy: How 'bout old Neddy unties you and we have ourselves some fun?

Lily: Well you had better kill me first because that's the only way I'm gonna' lay down with you.

I also find it ironic that the struggles of the female protagonists of *Bad Girls* are read as markers of their powerlessness when the pursuit and punishment, so common of the male heroes of Westerns such as *Butch Cassidy and the Sundance Kid*, for example, is interpreted as a romantic testimony to the outlaws struggling heroism. Furthermore, the isolation of images of defeat or objectification at the expense of the numerous images of female power

and heroism displayed in these films seems to me to be a curious process of selection and interpretation and one with serious ideological implications for feminism.²

Reinventing the way we look at images of active women coincides with reinventing womanhood. We can claim that characters such as Ripley, Connor and Cody as well as Thelma and Louise are pseudo men but, wouldn't it be more productive, from a feminist perspective, to see them as transformer women? At the risk of sounding New Age, the fictions we believe in create our reality. As pioneers on a new frontier, like the heroines of *Bad Girls*, feminist film theorists can let go of current reality, cross the borders which inhibit women and create new paradigms of female subjectivity. Feminist film theorists can continue to read these characters in reductive terms or they can focus on the positive aspects of female characters' textual identities to not only create new ways of conceiving images of women but to endorse viable feminist realities. The choice is ours and we should choose carefully for, to quote Louise, "you get what you settle for".

² . I am thinking here of the debates which have raged over the final images of *Thelma & Louise* and the scene in *Alien* where Ripley strips down to her underwear.

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THE 3 YEAR PHD : EFFICIENCY OR FATUITY ?

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Abstract

This paper seeks to examine the PhD research process and evaluate the feasibility of its completion within the 3 year timeframe sought by the Department of Employment, Education, and Training (DEET). Discussion of the significance of the degree, and the characteristics of the research process precede an examination of the author's research, which is presented as a case study. It is found that the 3 year requirement is likely to present the candidate with an unsatisfactory choice between quality and completion.

1.0 INTRODUCTION

The author received an *Australian Postgraduate Research Award* (APRA) for a PhD by research, from the Central Queensland University in 1992. This paper has been written in accordance with the *Conditions of Award* under which that scholarship was offered.¹ Normal tenure of the scholarship was set at 3 years. However, provision was made for a 6 month extension where the reason for the request was beyond the candidates control and was related to the research. This paper resulted from an application for such an extension.

2.0 THE PHD QUALIFICATION

The DOCTOR OF PHILOSOPHY is the highest degree which can be awarded in this country. It indicates that the holder has achieved *full professional status* in a given field. The degree is based on the need to recognise those who are authorities in their field - in full command of a certain field of study, right up to the boundaries of current knowledge, and able to extend those boundaries. And whilst award of the PhD is only one step in becoming an authority, it is a recognition that the holder is proficient in a certain field, and has made - and can continue to make - a worthwhile contribution to it.²

To obtain a PhD, the candidate must demonstrate a series of abilities, by way of a research thesis. These include the ability to identify a research topic, the mastery of techniques necessary to investigate and extend the topic, and the expertise required to cogently communicate the findings.² As for any process of learning, these skills are gained by the standard methods of *exploration* and *practice*, and their attainment is part of the process of becoming a full professional.² In order to demonstrate the required skills, the thesis must contain two key elements. The first being an original contribution to knowledge, and the second being a demonstration of the candidate's ability to carry out independent research.^{2,3}

Firstly considering the question of what constitutes a "contribution to knowledge": The degree of originality required is not easily defined, and no such definition has been discovered in the literature. It is sufficient to say that the examiners must be satisfied that the thesis shows a command of the subject area, contains a degree of originality, and is the unaided work of the candidate.²

Secondly, considering the demonstration of the candidates ability to carry out independent research: This consists of a number of components, and is in some respects is a more well defined task. The thesis must be written in a manner that testifies to the author's understanding of the subject, and which presents a well-reasoned, comprehensive exposition of the research topic. Selection of the research topic itself must be explained and its relationship to the literature must be established. In order to write such a thesis, the candidate must have performed a thorough exploration of the subject area, and have learned the skills necessary to obtain, analyse, and communicate original results - including the ability to evaluate research work (including his or her own).

Taken together the two aspects confirm that the successful candidate is able to take command of the subject with the perspective and understanding of a true professional, and is capable of growing with the discipline. The two elements demonstrate the learning of *knowledge* and *skills* respectively. And whilst both are essential, it can be argued that the ability to carry out independent research is the most important. For without the required skills, the attainment and demonstration of knowledge becomes practically impossible.

Within the context of the range of skills necessary to carry out independent research, the requirement for an original contribution tends to follow-on logically. Thus if a candidate is able to perform a thorough investigation of some subject area in a competent and independent manner, and if the specific research topic is well chosen, then that research must be virtually guaranteed to contain sufficient originality - especially considering that the original contribution does not, in itself, have to be of great significance.²

The independent researcher and thinker is the life-blood of academia, and a well-conducted PhD candidature should provide the opportunity for the candidate to learn and practise the skills necessary to illustrate that independence.

3.0 THE PhD PROCESS

The average time taken for PhD studies has traditionally been, and still remains, between 4 and 5 years.^{2,4} However, in recent years the DEET has aimed to reduce that time - presumably to improve the efficiency of postgraduate research. To that end DEET scholarships have been reduced to a standard of 3 (and maximum of 3½) years, since 1989. Considering the lofty ideals outlined above, it is inevitable that a candidate may face difficulties when attempting to complete such a comprehensive task in a relatively short time frame.

Each PhD candidature will be unique in its content. However there are many similarities in the aims of students, examiners, and institutions, as well as in the work processes involved. Without delving into all facets of the PhD process, it is worthwhile here to consider two aspects which are relevant to the application. The first will be related to the *research philosophy* of the supervisor and student, and the second to the effects of *time restrictions* on PhD research outcomes.

3.1 Research Philosophy

Broadly speaking there are two distinct research philosophies which apply to PhD candidatures. Each is legitimate, and each candidate and supervisor will have an inclination towards one or the other. An important step in any candidature is for both student and supervisor to recognise their own and each other's approach, and to subsequently reach agreement on a method of conducting the research process. Notwithstanding the fundamental requirements of the PhD degree (as discussed above), virtually all aspects of the PhD process are affected by these basic philosophies. The first will be called the "target" approach, and the second the "zetetic" approach. (*zetetic* α Proceeding by inquiry.)

For the target approach, the supervisor or candidate will have a well defined topic in mind before the candidature commences. Conversely, for the zetetic approach the initial topic is typically vague, and definition of a specific topic is one of the most important tasks of the candidature. Either approach may see a modification of the specific topic as research progresses, but the basic distinction remains. Similarly, for the target approach, a candidate with a well defined topic will typically proceed without significant distraction toward the final goal without doing more than is necessary. And where the supervisor has a specific target in mind, the student will often be directed closely - possibly approaching the manner of a research assistant. On the other hand, the zetetic approach suits; (i) the student who is interested in probing different aspects of a subject and investigating those which prove the most interesting or promising, and (ii) the supervisor who believes that postgraduates should be autonomous researchers.

Having a relatively well defined research path, the target approach is more suited to a short completion time. The corollary to this being that the focus remains relatively narrow, because the areas of interest are easily identified. For the zetetic approach however, the path is not as straightforward. Without a detailed topic to begin with, the candidate must first review the general subject area to obtain an understanding of the background theory on which subsequent work can be based. As the background study proceeds, possible areas of specialisation are identified, and further work is then needed to choose which of those areas is suitable as a specific topic. Thus before direct work on the specific topic can begin in earnest, a good deal of exploration must occur. This may include time spent investigating areas which later prove to be largely irrelevant to the specific topic. However this is a characteristic of the process, and adds to the experience gained by the candidate. The time is not wasted because (as has been stated above) exploration is a vital part of the learning process, and skills and knowledge are gained.

3.2 Time Restrictions

Obviously the two research philosophies will be affected to different extents by time pressures. However there are important effects on research quality common to both. Postgraduate research makes a significant contribution to Australia's overall research effort. High standards have been achieved and maintained through the efforts of many people. The reduction of time sought for PhD studies is not planned at the expense of research quality. Thus today's students are expected to achieve the same levels of research quality in 3 years, as past students achieved in 4 to 5 years.⁴ However, the evidence shows that the time taken to complete a PhD has not reduced, despite the reduction in scholarship tenure.⁴ Hence the main effect of the time limit is increased financial pressure on students in the final stages of their candidature.

Any student commencing PhD studies will be tempted to choose a "safe" topic over an "adventurous" one, when such a time limit is imposed. A safe topic may not be particularly challenging or practical, but presents a relatively good chance of achieving success in the given circumstances. Such a choice may indeed minimise the time taken to complete a PhD candidature, but must also tend to compromise the quality of postgraduate research.

This compromise is manifested in a number of ways. First the student has to take a narrow view of the research topic, identifying and working in only those areas necessary to achieve the final goal. This largely precludes two activities which have traditionally been seen as highly desirable in postgraduate research. Firstly, the element of discovery which largely comes about due to exploration, is less likely to occur, because exploration will be limited to only the areas of direct interest. Secondly, the likelihood of interdisciplinary work is reduced, because of the time typically consumed in the establishment of sufficient mutual understanding to achieve a substantial outcome.

4.0 A CASE STUDY

This author's candidature commenced on 17 February 1992 with the offer of an APRA^{1,3}. During the last year of the standard 3 year time frame it became clear that completion could not be achieved as originally planned. A great deal of progress had been made, and a plan was put in place for completion of work by June/July 1995. Accordingly, an application for a 6 month scholarship extension was submitted to the Research Services Office. It aimed to show that the extension provided for in the APRA scholarship awards was justified¹.

Progress to date had been considerable, and was partially demonstrated by the publication record. At the time, 1 international journal paper was under consideration, 2 international conference papers had been accepted, 4 research reports had been produced, and 3 training modules had been written. In addition, recent research had provided the basis for 2 more papers or reports, and the planned study course was expected to yield at least 1 more.

Almost all required subject areas had been studied in detail, with only one such area remaining before the final detailed design could be completed, and the work concluded. A detailed schedule - agreed between supervisor and student - was provided in an appendix. It aimed to ensure that all remaining work was completed by mid-1995. The candidate was committed to achieving the completion target - even if that required modification of the research method.

The research philosophy adopted by both student and supervisor for the candidature was what has been termed the zetetic approach. Thus the initial field of interest was quite broad and a good deal of time was required to establish sufficient background knowledge to allow a research path to be developed. During that process a number of subject areas were identified as potentially important, and numerous others were able to be left aside as only of peripheral relevance. As the research progressed, each of the promising areas was investigated as part of the process of defining a detailed topic, and it was during these investigations that a significant amount of time was expended for little direct reward. However, a detailed topic was identified, and since that time work had been tailored to achieving the final goal.

Hence the research path was somewhat convoluted due to the research philosophy. Of itself this characteristic had many benefits for the training of an independent researcher. However, it also posed a major difficulty when the work had to be completed in 3 years.

Within the context of a PhD qualification which had as its aims the learning of knowledge and skills, sufficient to establish the proponent as a full professional and independent researcher, the zetetic research philosophy was seen as an ideal vehicle. The candidate was required to develop sufficient understanding of the general subject area to be able to identify areas suitable for detailed investigation. Then by looking more closely at those areas the candidate was able to establish an

area where an original contribution to knowledge could be made. In order make those achievements, the candidate had to employ the standard methods of exploration and practice, through which independent learning is achieved. And in order to carry out these things the student had to develop the very skills required by the degree - namely (i) the ability to evaluate research work performed by both oneself and others, and to establish its relevance in the subject area, (ii) the techniques required to investigate and analyse the subject material, and (iii) the ability to write a paper or report which communicated the findings to the academic community at large. The role of the supervisor in such a process became more that of a learned colleague than of a directing superior.

As a result of the research philosophy (and practice), and with the benefit of hindsight, certain areas which had been investigated could be seen - in a strict sense - to be unnecessary for achievement of the final goal. However, time spent investigating those areas was not wasted, because the exploration provided valuable contributions to the key learning processes represented by the PhD degree. In particular, such exploration provided knowledge and enhanced research skills, and by so doing provided valuable practise of independent research. The amount of time consumed in such a manner was difficult to estimate accurately because the division between what was relevant and what was irrelevant was not a clear division, but rather a broad transitional zone. Moreover the total such time not only consisted of that expended on major avenues of investigation, but also included time spent in a similar manner on subsections of each of the major areas.

Including a period of 5 months spent on a major topic which eventually proved to be largely irrelevant, the total time spent looking into such areas was probably in a minimum range of 9 to 12 months. Considering that time, the standard 3 year APRA proved to be insufficient for completion of the candidature.

The *Research Higher Degrees Handbook* (RHDH) provides a broad range of information about the PhD process as it applies at CQU.³ Section 5.2 outlines the role of supervisors, and paragraph 2 of that section is entirely consistent with the zetetic research approach adopted for the candidature. The paragraph states that : "The supervisor(s) will provide guidance" ... "about the planning of the research program"... In this case the guidance took the form of regular (quasi-weekly) discussions of research progress. It was not however interpreted to mean that the supervisor was responsible for setting down a detailed research path, and it was the also the candidate's opinion (according to the ideals outlined previously) that it should not have been.

Another section of the RHDH presents the PhD student with a fundamental contradiction. In section 1.4, a particular concern of the Postgraduate Research Awards Committee is stated as "maintaining excellence in research and ensuring completion of research higher degrees in the shortest possible time." Considering the zetetic philosophy as outlined above, it can be seen that it would have been at best difficult, and at worst impossible to reconcile those two aims in this case.

5.0 CONCLUSION

The case study provides a clear illustration of the difficulties expounded in Section 3 of the paper. Given the zetetic research philosophy employed for the candidature, the 3 year time frame proved to be unrealistic. In light of such difficulties it would be interesting to investigate successful PhD's to determine how many have been completed within 3 years. And further, to identify the research philosophy adopted in those candidatures, and to assess the initial conditions of those candidates with respect to background knowledge and research topic.

Considering the foregoing discussion, it may be postulated that a successful 3 year PhD would require a candidate with both sound background knowledge, and a clear, suitable research topic. (Assuming that research facilities are not an issue.) Further, it would be expected that such candidatures would make up only a small minority of the total successful candidatures.

So what then of the value of the 3 year PhD, as expected by DEET? It would appear that students have real difficulties in meeting that time restriction. At the end of 3 years the candidate who has not finished either has to complete the process within the possible 6 month extension period or continue without financial assistance. (Of course the option of dropping out is also present, but has not been included here.) In attempting to complete the research in a minimum of time, the reality would in all likelihood be, that the student would only do the bare minimum to satisfy the examiners. Consequently, the quality of the research, and the quality of the research training must be compromised.

Therefore in the context of overall research quality, a 3 year time limit can only be detrimental to Australia's research effort. Thus the limit imposed by DEET will not produce more efficient research, but rather must be seen as a fatuous, short-sighted attempt to limit DEET expenditure on postgraduate research.

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Success and Failure: Case Studies of Executive Information Systems Implementation.

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ABSTRACT

Executive Information Systems (EIS) are computer-based information systems which are designed to serve the needs of executives. Although EIS implementation is increasing every year, there is very little known about the success factors or methods which lead to success. In order to achieve a successful EIS, these success factors need to be better understood. In this paper, comparative case studies are investigated in two large organizations in Australia. The first is an international petrochemical company which implemented an EIS and then ceased its use. The second company is an Australian telecommunication company which successfully implemented an EIS.

This paper presents the framework of an EIS implementation. Then, case studies of the two organizations are evaluated and considerable support for the framework and its factors are provided. The factors of the project that contribute to the successful EIS implementation are (1) initiation by executive sponsor, (2) identification of information requirements of executive users, (3) business experience of development team, (4) planning for evolution and spread of an EIS, and (5) EIS quality. This study provides knowledge about success factors for project managers in the adoption or development of EIS implementation and for future research in the area of management support systems.

Keywords : Executive Information Systems, success factors, case study, EIS development, EIS implementation

1. INTRODUCTION

The concept of an EIS was introduced by Rockart and Treacy in 1982 as an information system that is used to support top level management. According to Rockart and DeLong (1988), an EIS is a computer-based system that serves the information needs of top executives. It provides rapid access to timely information and direct access to management reports. An EIS is very user friendly, is supported by graphics, and provides exception reporting and drill down capabilities. It is also easily connected with online information services and electronic mail. It has been, however, suggested that an EIS is a risky and expensive project to develop (Watson, Rainer and Koh, 1991). The implementation of an EIS in some organizations has not been successful and it has been terminated after being in use for only a few years (Watson, 1990; Millet and Mawhinney, 1992).

This study was initiated because of

1. reports based on successful implementations and voluntary reporting which also indicate success
2. reports of failures.

This study aims to provide knowledge and understanding of the theoretical framework and the success factors that are involved in EIS implementation. Research activities to describe the framework, as well as the success factors of EIS implementation process, will improve understanding of the complex processes that are involved. Further, research should assist management in planning implementation, in preventing pit falls or, at least, in moderating the difficulties that are experienced.

1.1 Previous research

Watson et al. (1991) presented a framework for the implementation of an EIS, which introduces the structural perspective and key elements in developing the process. However, Watson et al.'s framework (1991) does not identify each stage of EIS implementation. In this study, the implementation framework is broken down into stages, the three stage model is described (Figure 1), and each potential success factor is discussed in this paper.

Recently, case studies were investigated by Elam and Leidner(1995) on the adoption and use of EIS in three banking organizations: one where executives used an EIS, one where a planned EIS implementation halted and one where a regular paper system was established with no plans for an EIS. In the case of the aborted EIS, the reason given was "no clear pay off from the system was seen" (Elam and Liedner, 1995, p. 93). It seemed that EIS was incompatible with the decision style of the CEO. Moreover, he saw no direct impact of EIS on business. In another bank, the CEO used an EIS for analyzing and planning. Elam and Liedner(1995) suggested that the major reason for executives adoption and use of an EIS is based on the decision style (directive and analytical) which the system fits.

Interest in the implementation of an EIS can be the consequence of external and internal pressure (Houdeshel and Watson, 1987; Rockart and DeLong, 1988). Researchers suggested that an EIS should be *initiated by an executive sponsor* in the organization (Barrow, 1990; Meneely & Pervan, 1994 and Watson et al., 1991). The executive sponsor is the one who makes the initial request for the system, makes the necessary resources available, stays on top of the system's development, handles potential resistance, communicates strong and continuing interest in the system (Rockart & DeLong, 1988). The executive sponsor actually directs an operating sponsor to manage the implementation of an EIS and also helps to match business needs with technological capabilities (Rockart & DeLong, 1988; Watson et al., 1991).

Another factor is an *existing operating sponsor* (Rockart & DeLong, 1988; Thierauf, 1991; Watson et al., 1991). The operating sponsor manages the details of implementation from the executive user's side. He is well acquainted with the executive's work and way of thinking (DeLong and Rockart, 1986). In addition, this sponsor involves a delicate balancing act with all other groups in the project, including: executive users, data providers and EIS developers (Armstrong, 1990). Meneely and Pervan (1994) suggest that there is a continuing operating sponsor in the EIS implementation. An existing operating sponsor in the EIS implementation is a determinant of successful EIS implementation.

A key EIS designing phase is to *identify the executive user information requirements* (Watson & Frolick, 1991; Whymark 1991b). The executives are provided information from internal and external environments, but this information does not always meet executive needs. By understanding executive information requirements the developer can deliver an effective system. In this phase it is necessary to determine the relevant information needs for executives (Armstrong, 1992; Emery, 1991; Evans, 1989; Houdeshel & Watson, 1987; Houldeshel, 1990; Meneely & Pervan, 1994; Thierauf, 1991; Volonino & Watson, 1990-91; Volonino & Robinson, 1991; Watson & Frolick, 1991; Whymark, 1991a).

The users always want more information as time passes as they become experimental learners and familiar with the system. (Watson, 1990; Watson et al., 1991). The *planning for the spread and evolution* of an EIS should be considered (Houldeshel, 1990; Volonino and Watson, 1990-91 and Watson 1990). The system should spread to additional users and its spread is likely to be both hierarchical and lateral (Barrow, 1990).

The resistance to an EIS is one of the most common causes of implementation failure. Since an EIS changes information flow and it always has the potential to shift power relationships in an organization, anticipating and managing to *overcome the political resistance* will support the stability of an EIS (DeLong & Rockart, 1986; Whymark, 1991a).

Prototyping is a widely accepted approach in the development of an executive

information system (Armstrong 1990; Barrow, 1990, Volonino and Watson, 1990-91; Watson et al., 1991 and Whymark, 1991a). In practice, executives provide general system specifications while working with EIS builders who develop the prototype. The executives then test it, and the EIS development team modify the system as needed to meet the executives detailed specifications.

The *commitment of the executive sponsor* involves executives who are willing to put time and energy into an EIS project, and also have a realistic understanding of the implementation process, commit the necessary resources, participate in its creation, and encourage its use by others (DeLong & Rockart, 1996; Houdeshel & Watson, 1987).

The technical skill and *business experience of a development team* is another factor that should be considered. The development team must be able to define solutions to high level-business problems. Therefore, team members need a foundation in business terminology and principles. (Armstrong, 1992; Barrows, 1990; DeLong & Rockart, 1986; Whymark, 1991a).

The next factor is *executive participation in ongoing information analysis*. After an EIS has been implemented and the executive users are accustomed to the system, they will require more information and further capabilities to be added to the system. In practice, the executives participation in ongoing information analysis is feedback which provides information and specifications to be added to the system (Meneely & Pervan, 1994; Whymark, 1991a).

The last factor is *quality of an EIS*. In this study quality of an EIS has been categorized in three groups: system quality, information quality and service quality. DeLone and McLean (1992) categorized the measurement of IS success by suggesting system quality and information quality as two of the six measurement surrogates. The attributes of system quality and information quality are also suggested as the following. First, system quality is the performance or characteristics of information processing system such as user friendliness, flexibility of system, and response time. Second, information quality is the quality of information that the system produces. This includes timeliness, reliability, relevance, currency and completeness of the information which is provided. Third, service quality is the quality of services provide by IS department. The services include supplying product installation, software support and hot line (Pitt, Watson and Kavan, 1995).

In early studies, Meneely and Pervan (1994) carried out two case studies of factors that contributed to the use of EIS. They concluded that EIS system quality, such as flexibility, adaptability and evolvability, was one factor that contributed to the EIS usage. Whymark (1991a) studied the implementation of an EIS in the Royal Australian Navy. Based on his results, he proposed that EIS system quality for example simplicity, user friendliness, compatibility with the existing systems and relevance were some factors of the successful EIS implementation.

1.2 EIS Implementation framework

The EIS implementation framework, introduced by Srivihok(1995), is illustrated in Fig. 1. This framework consists of three stages: design, development, and maintenance phase. The design phase is the essential phase which leads to successful EIS implementation. An EIS system is usually initiated by the president or vice president of the organization. In this stage, the objective and the executive information requirements are defined (Watson et al., 1991). The spread and evolution of an EIS are planned (Rockart and Delong, 1988; Volonino and Watson, 1990-91). Moreover, the physical system including hardware, software, infrastructure and EIS information base is designed (Houldeshel and Watson, 1987; Watson et al., 1991).

The next phase is development. After the information requirements have been identified, the development team builds a prototype to provide to executive users who test it. During prototyping, the information requirements are identified to develop an EIS system which serves the needs of executive users (Theiruaf, 1991, ch. 5). After the prototype has been approved by the executive users, the system is built by coding the program from a specific prototype and also by linking with an EIS information base (Armstrong, 1990).

The maintenance phase consists of integration, demonstration and evaluation. The EIS system is installed and made available to the executive users. Next, the EIS development team demonstrates the system to the users. After the system has been used, the quality of EIS is evaluated by the executive users, the operating sponsor and the EIS development team. In cases where a new EIS version is requested, the development phase is repeated. The information requirement needs to be determined, the EIS will be rebuilt to add more capabilities and functions. These two development and maintenance phases are ongoing are repeated (Watson, Watson, Singh and Holmes, 1995) unless the EIS is not implemented and the project is ceased in the organization.

The success factors which play key roles in each stage of EIS implementations were summarized from previous studies and shown in Table 1.

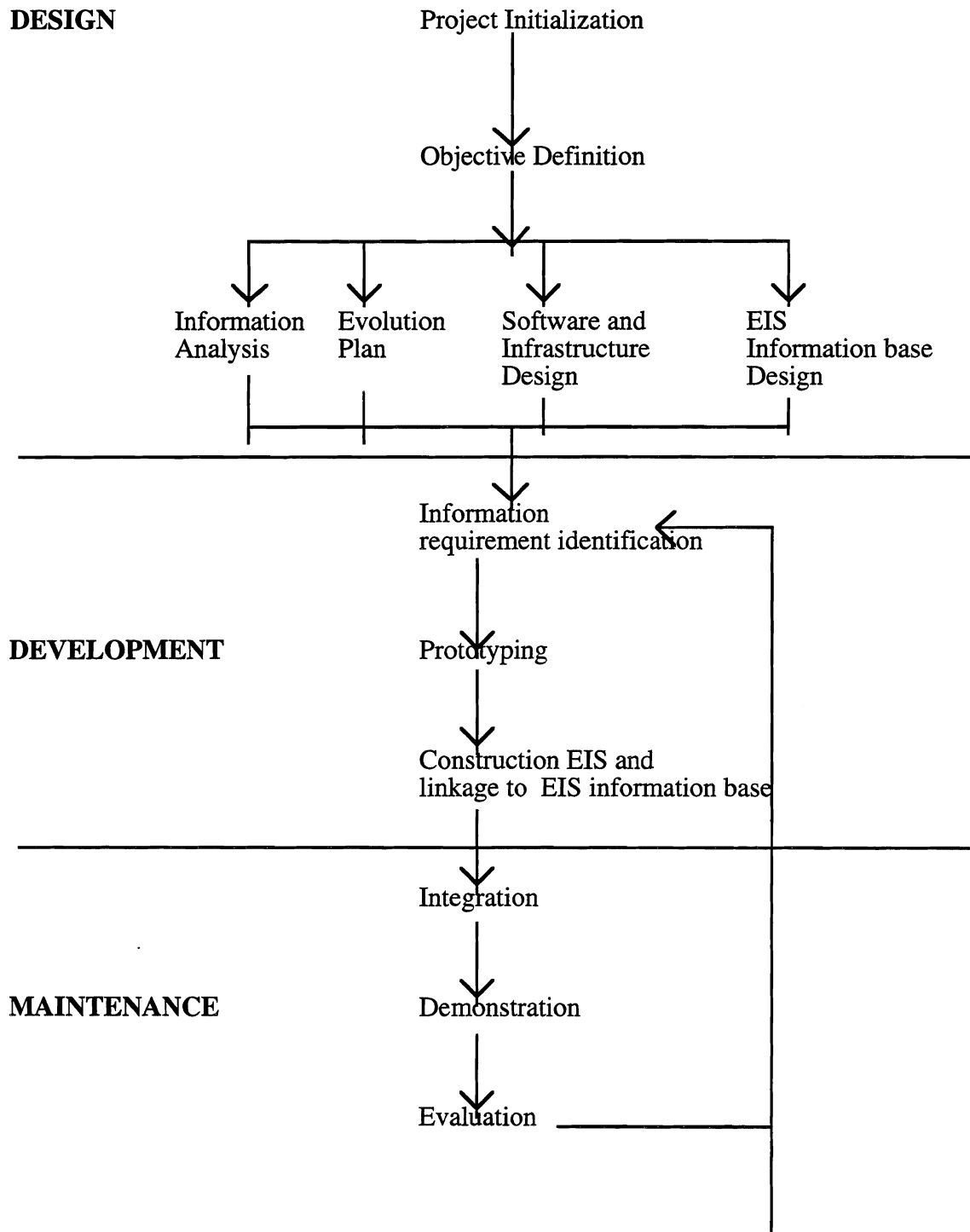


Fig. 1. The Proposed EIS Implementation Framework (by Srivihok, 1995) .

Table 1: EIS implementation framework including success factors

Stages on framework	Factors on each stages	Sources
Design	<p>initiation by executive sponsor</p> <p>planning for evolution and spread</p> <p>identification of information requirements</p> <p>overcoming resistance</p> <p>existing operating sponsor</p>	<p>Barrow, 1990; Meneely & Pervan, 1994; Watson et al., 1991.</p> <p>Barrow, 1990; DeLong & Rockart, 1986; Houdeshel & Watson, 1987; Vololino & Watson, 1990-91.</p> <p>Armstrong, 1992; Emery, 1991; Evans, 1989; Houdeshel & Watson, 1987; Houdeshel, 1990; Meneely & Pervan, 1994; Thierauf, 1991; Volonino & Robinson, 1991; Volonino & Watson, 1990-91; Watson & Frolick, 1991; Whymark, 1991b.</p> <p>DeLong & Rockart, 1986; Whymark, 1991b.</p> <p>DeLong & Rockart, 1986; Thierauf, 1991; Watson et al., 1991.</p>
Development	<p>identification of information requirement prototyping approach</p> <p>commitment of executive sponsor</p> <p>business experience of development team</p>	<p>same as design phase</p> <p>Armstrong, 1992; Barrows, 1990; Emery, 1991; Evans, 1989; Holland, 1991; Thierauf, 1991; Volonino & Watson, 1990-91; Volonino & Robinson, 1991, Whymark, 1991a; Whymark, 1991b.</p> <p>Barrow, 1990; DeLong and Rockart, 1986; Holland, 1991; Houdeshel, 1990; Houdeshel & Watson, 1987;</p> <p>Armstrong, 1992; Barrows, 1990; DeLong & Rockart, 1986; Whymark, 1991a</p>
Maintenance	<p>executives participation in ongoing information analysis</p> <p>EIS quality</p>	<p>Meneely & Pervan, 1994; Whymark, 1991a.</p> <p>Meneely & Pervan, 1994; Whymark 1991a</p>

2. RESEARCH OBJECTIVES AND METHOD

Even though many success factors have been proposed such as identification of information requirements (Armstrong, 1990; DeLong and Rockart, 1986; Emery, 1991; Evan, 1989; Houdeshel, 1990; Meneely and Pervan, 1994; Thierauf, 1991; Volonino, 1990-91; Whymark, 1991a), there are a few empirical studies which investigated evidence concerning the factors that contribute to or inhibit the success of EIS implementation. In order to provide further knowledge about these factors involved in the EIS implementation, the case studies of one successful and one failed implementation are introduced in this study. In particular, the case studies aim to investigate the wide range of variables that have been identified in previous research. Ultimately, the research objective is to identify the success factors of the EIS implementation framework. The framework described in Figure 1 was proposed by Srivihok(1995) as the study's underlying research model.

Case studies are best used to generate research questions and help the investigators develop concepts and theories (Hesslers, 1992). Since studies of the EIS theoretical implementation framework are not clearly established, study in its natural setting or a focus on contemporary implementation and its success factors are needed. Therefore a case study approach is most likely to be appropriate for this task. In this study, multiple case studies are investigated in two large organizations in Australia.

2.1 Data collection

The case study protocol and the questionnaires for the interview were developed according to the guidelines provided in Yin (1989). The project managers in both company A and B were interviewed using the questionnaires, and observations in each company were carried out. Other sources of evidence for the data collection were the company annual report, the EIS project documentation and conference papers presented by the project managers of both companies.

2.2 Organizational background

These two large organizations were chosen because of the difference in EIS implementation results. Company A has had a successful EIS implementation while Company B had an unsuccessful one. These contrasting outcomes helped to identify components of the EIS implementation theoretical framework and its factors.

Company A

Company A is one of the largest national organizations in Australia with more than 80,000 employees with many semi autonomous divisions. This organization serves as the supplier of communications services such as telephone systems to the public and private sectors. Since the 1988 reorganization of the Corporation, a new

strategic direction has provided a competitive advantage in a new marketing environment.

A new computer based system, an EIS, was introduced for the purpose of supporting the monthly business reporting cycle with significant resources, producing reporting documents which served the requirements of executives, and improving management effectiveness. A Comshare's Commander EIS and System W has been used for this EIS since 1988. The database is in an IBM mainframe and the system provides the network for supporting communications. The users can access the EIS from their own personal computers.

Company B

This company is an established international petroleum company which has a long history of operations in Australia. It is one of the world's largest petroleum and petrochemical groups with three core businesses: (1) exploration-oil and gas exploration and production, (2) oil-refining, marketing, supply and transportation, and (3) chemicals-manufacturing and marketing petrochemicals and related products. The total revenue in 1993 was over 5,000 million dollars.

In 1989, an EIS was initiated in the Australian operation by the IT director because of both promotion by the vendors and the realization of company needs for fast reporting systems on the sector, products, individual and group performance. At that time, the computer system had been centralized on an IBM mainframe. The EIS was developed by using Commander which is an EIS generator. The database, which came from various sources such as finance, accounting and marketing, was a corporate database which resided in the IBM mainframe. The information was presented monthly to executives in review book format, spreadsheet or done manually in the printed reports and graphs from the mainframe. The EIS was implemented to serve the needs of senior executives from 1990 to mid 1991 for a period of 9 months and it was then decided to terminate its use in the company. Since the removal of the EIS, the company has continued using conventional office automation products and the company's Network Information System for staff communication and the presentation of financial monthly reports.

3. CASE STUDIES RESULTS

The case data was used to investigate each part of the framework. Each stage, and each factor was examined in turn, using data the two cases.

3.1 Design an EIS

Usually an EIS is initiated by the president or vice president of the organization (Watson et al., 1991). There is an operating sponsor who manages the resources for the EIS system. In this phase, the information requirements are

identified, the spread and evolution of an EIS is then planned and finally, the software, hardware and infrastructure are designed.

Initiation by executive sponsor

In 1988, due to the internal pressure: financial process requirements, the EIS in company A was initiated by the executive sponsor who was the Chief Accountant. He also gave positive support for the system. One year later, the EIS in company B was initiated by the IT director who was interested in having an EIS in the company. The reason for this initiation was because of its promotion by vendors and the company's requirements for improving information systems.

Existing operating sponsor

Both companies had operating sponsors. At present the operating sponsor in company A has resigned, and the project is therefore seeking a new operating sponsor. The operating sponsor in company B was the IT director.

Identification of information requirements

The EIS in company A was based on the information requirements of executive users. On the other hand, no identification of information requirements was undertaken in company B which relied on identification via existing paper flow and available data.

Planning for evolution and spread

Company A has planned for the evolution and spread of an EIS in the future. However, company B does not share that point of view. These results for the design phase are summarized in Table 2

Table 2. Factors contributing to successful EIS design.

Stages on framework	Factors on each stages	Company A	Company B
Design	initiation by executive sponsor	Yes	No
	planning for evolution and spread	Yes	No
	identification of information requirement	Yes	No
	existing operating sponsor	Yes	Yes

3.2 Development of an EIS

In this stage, the EIS prototypes are made and tested by the executives until they are satisfied. After this, the development team starts developing an EIS and link it to the database.

Prototyping approach

Both company A and B used prototypes to work with their users and made decisions on what the users wanted.

Commitment of executive sponsor

In this study the project manager was asked to rate the commitment of their executive sponsors using a scale of 1 to 7, with 1 being high. The executive sponsor in

company A was assessed at "2". On the contrary, the executive sponsor in company B was assessed at "5" on the same scale.

Business experience of development team

In company A, the EIS was developed in the consumer service department. The development team, the project manager and the operating sponsor had business experience. In contrast, the operating sponsor in company B was the IT manager and the project manager was an engineer. It seemed that the development team did not have adequate business experience.

These results for the development phase are summarized in Table 3.

Table 3. Factors contributing to successful EIS development.

Stages on framework	Factors on each stages	Company A	Company B
Development	prototyping approach	Yes	Yes
	commitment of executive sponsor	High	Low
	business experience of development team	Yes	No

3.3 EIS maintenance

In this phase, the EIS system has been installed in the system and demonstrated to the users by the development team. Afterwards, it is used by the executive users. The quality is evaluated by the development team and the executive users. The nature of an EIS is always evolving and needs more capabilities because the executives are always requesting a new EIS version. The important step is the participation of executives in information analysis for the new version of an EIS.

Executive participation on information analysis

The EIS in company B ceased after being used for only nine months. During EIS implementation, no executive users participated in the information analysis at this stage. This was unfortunately, due to the time lapse involved which could not be

constructed. However anecdotal evidence collected in interview suggests a lack of participation by executives in this area. In company A, the data of executive participation on information analysis was not collected.

Quality of EIS

In this study, the quality of EIS has been categorized as system quality such as simplicity and information quality which includes relevance. In company B, executives found that the system was not as simple as they expected. Furthermore they did not get the relevant information they wanted. Thus, the EIS system in company B was abandoned after it had been used for 9 months. While some executives in company A are satisfied with the system quality, some are not. Some executives still access the EIS in company A.

These results for the maintenance phase are summarized in Table 4.

Table 4. Factors contributing to successful EIS maintenance.

Stages on framework	Factors on each stages	Company A	Company B
Maintenance	executive participation on information analysis	Data not collected	No
	quality of EIS	Average	Low

4. DISCUSSION

The two case studies in both company A and company B provide considerable support for previous studies and also support the research model in Figure 1. In general, the results showed a number of variables that contribute to the success of an EIS. The study provides evidence for 9 factors within the model. These case studies reveal the number of variables that do impact on the success of an EIS.

The EIS project in Company A has these characteristics:

- initiation by executive sponsor
- existing operating sponsor
- identification of information requirements
- planning for evolution and spread of EIS
- using prototyping approach

- operating sponsor and project manager had business experience

In contrast, company B had some different characteristics.

- low commitment to the EIS by the executive sponsor
- no support by the executive sponsor
- initiation by the IT director
- use of prototyping approach
- operating sponsor and project manager did not have adequate business experience
- low EIS quality.

The executive users were not satisfied with the EIS because the EIS system quality was not as good as expected. For example: the system was not user friendly and the information quality was not satisfactory.

Company A adopted an EIS between 1988-89 stopped the project, started again in 1992 and are still in operation in 1995. On the other hand, company B adopted an EIS in 1991 and operated it for 9 months. There are some factors in company A which company B does not have and these are the ones that may contribute to the success of EIS implementation. Those suggested factors are:

- initiation by executive users
- identification of information requirements
- the operating sponsor and project manager have business experience
- planning for evolution and spread of an EIS
- EIS quality

Limitations

The limitation of this study of that only two companies were investigated and one project ceased operation in 1991. The ability to generalize data is limited but that is not our main purpose. The prime purpose of this study was to help build a model for later investigation, not to seek statistical significance. The data collected in company B was investigated for an EIS implementation which happened in 1991. Therefore, it is possible that the data from the interview is biased because the interview referred to an EIS that ceased implemented after four years ago. Moreover, no data was available from the executive users because they have already moved elsewhere.

5. CONCLUSION

The investigation of EIS implementation in two companies has been presented in this study. The EIS implementation in company A is the successful on the one hand and on the other hand in company B is unsuccessful. Both companies are large, located in Australia, and they started EIS implementations almost the same time. The studies revealed the support for the previous studies as concluded in Table 2. Moreover, they identified many factors which were characterized in company A but not in company B. The suggested success factors were initiation by executive users, identification of information requirements, business experience of the operating sponsor and project manager, planning for evolution and spread of an EIS and EIS quality.

The results from these case studies provide a useful starting point for investigation of the precise nature of EIS implementation success factors and the relationship among those factors. Further studies are suggested. First, the characteristics of each factor, the degree of the success factors' effect on the implementation, and the relationships among these factors should be investigated. Second, the study of EIS quality: system quality, information quality, and service quality which influence or inhibit the use of an EIS should be investigated. Third, an investigation of executive decision style which effect an EIS adoption and use should be carried out.

Project managers who are interested in adopting EIS in their organizations could increase the potential of success of their system by considering such factors while they are designing and developing for their own system.

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A Comparison of Policies on School Review in Australian States and Territories in 1994

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Abstract

The paper will outline a framework used to analyse and to compare the different policies on school review operating in Australian States and Territories. The framework focuses on ideologies embedded in the texts, examines the knowledges and assumptions on which the policies are predicated and reveals the techniques employed by policy writers to sell the policies and obtain consent. The framework also offers a basis for suggesting some tentative conclusions about similarities and differences between States and Territories. In particular the devolution of specific management, planning and review responsibilities to local school level and the introduction of quality assurance and accountability practices into education to raise standards and to regain public credibility for the system. Questions will be raised about a national agenda for schooling and the present Labor government policy climate. Other issues addressed by the paper include the nature of the mechanisms set in place by school review policy and the effects on schools.

Introduction

This paper outlines a framework used to analyse and to compare the different policies on School Review operating in Australia's States and Territories in 1994. The policy analysis is actually one part of a larger study of the politics of Queensland public schooling conducted as part of my Honours degree in 1994.

My interest in School Review was fueled by three things happening around me at the time:

1. There had been an explosion of educational policy in the past decade
2. There had been an upsurge of interest in education as a way to a smarter and more competitive economy
3. Schools were in the middle of a major restructure - the nature of which was a mystery to me and to most school practitioners that I associated with at the time.

An investigation of the nature of this shift in education led to the School Review process - a process for transforming schools into self-managing corporations.

School Review was introduced in Queensland in 1992 under the Goss Labor government through the Collaborative School Development Planning and Review policy and guidelines. Queensland's Collaborative School Review is an element of Program Management which is itself an element of the Queensland Treasury's Public Finance Standard Practice Statement submitted in 1990 to implement essential elements of Program Management. School review is designed to assist with the improvement and accountability requirements of the school and system in Queensland.

The program management model for the management of schools is clearly aligned with the modern corporate model of work organisation. Using modern business principles (establishing mission statements, quality assurance audit processes, centralised overarching policy and outcome targets) the corporate model devolves certain areas of responsibility and power away from a central agency of control towards local areas of educational activity. In terms of schooling the corporate structure allows for a devolution of responsibility to the school community facilitated by collaborative decision-making processes. At the same time, it has accumulated tighter centralised control mechanisms for curriculum, assessment and systems audit.

School communities comprising principals, parents, teachers, students, educational department personnel, employers and union officials are now required to participate in school management and review processes and are to be held accountable for strategic planning, budget and resource planning and management and for evaluation and review (Quality Assurance).

Schools are not the only organisations affected by the reform movement. The entire public sector is undergoing radical restructure to raise levels of efficiency, productivity and accountability in an effort to help secure Australia's economic future in an increasingly competitive world market. Other Industrial Market Economies (USA, Britain, NZ) are also experiencing similar shifts in response to global trends.

School Review is part of a recent, highly politicised move by governments to restructure and improve the public education system through devolution policies and the institution of Quality Assurance in Australia's schooling systems. While school review is only one dimension of the wide-scale changes to the education system, it is centrally connected to a whole range of issues surrounding school governance including access, equity, choice, participation, accountability, efficiency, Regionalisation and privatisation and the changing relationship between the state and education.

Between 1989 to 1994 each Australian State and Territory developed its own policy for self-managing schools in response to the broader international, national and State social, economic and political context. This broader context includes the changing global economy, the crisis of capitalism, the breakdown of Keynesian economics and the restructure of the welfare state, deregulation, the postmodern condition and post-Fordist forms of work organisation and the neo-liberal/neo-conservative alliance known as the 'New Right'. Translated by more local structures (Labor party politics, key spokespersons and politicians, the media, unions, pressure groups, education departments) the current reform agenda for schooling has taken on a particular 'look' in different States. From a more distant perspective, however, it is clear that there is a national agenda driving the reform in a particular direction.

It is certainly important to examine school reform policies closely because reform signifies change and improvement. Changes and improvements to schooling are the obligation and responsibility of more than just government bureaucrats and policy writers. In a democracy such as ours decisions about the roles, purposes and direction of schooling should remain the responsibility of (dare I say it) every stakeholder. Education is a moral enterprise developing individuals and improving society and schools are political places reflecting the dominant modes of thinking and sets of values in society. It is important to recognise that the aims of schooling are able to be "related [back] to ideology of some kind" (Lawton, 1992). Carr and Kemmis (1986, p.160) assert a "political reality that schools themselves are concrete historical expressions of the relationship between education and society". The present goals of education as stated in the Corporate Plan of 1994 and again in 1995 (Department of Education, Queensland, 1993; 1994) increasingly reflects society's relationship to schooling as a vehicle for the economy and societal reform.

I question this narrow, instrumental use of education on the basis of an appreciation for the intrinsic value of a broad, general education and of a recognition of the wider developmental purposes of education (Scott in Department of Education Queensland, 1992). While I acknowledge Australia as a nation embodying a 'collective' or society, I also situate it within the postmodern which sees it as a collection of individuals and groups with multiple, socially-constructed realities. I therefore reject any 'mass' view of schooling which seeks to dominate, limit or suppress individual agency.

I also object to any system which is an agent for social control, inculcating a dominant value system in society. We teach our children about democracy through a curriculum which is being appropriated by the powerful elite and which is born of the one sided rationality of capital accumulation.

While economic rationalism is hailed as the only viable way to compete on the world market for the means of production and for the perpetuation of our modern society, we teach our children to be consumers of products and control the future labour force by inculcating in them a "weak sense of knowing" (Hospers in Pojman, 1992, p.160) that they must conform to the system or become unable to participate in a society where full membership rights depend on the ability of the individual to contribute to society's material wealth.

Although the present government has shown concerns for inequality, injustice and poverty and their associated problems in our communities and have placed these issues on the agenda, the concerns are expressed in terms of 'monetary expenditure' (on maintaining social order and of lost production) and not as a humanistic desire to confer on individuals the right to live happy, moral and enlightened lives. In other words, it appears that the new conservative regime has carved out convenient footholds in schools for proponents of Human Capital and Correspondence theories.

Formulation of an approach

To ensure that the ideals of schooling remain socially-just and loyal to the tenets of our democracy (free, secular, non-discriminatory) it requires a critical approach to the analysis of school policy - an approach which recognises policy making as a political activity designed to produce action (or inaction) in a particular direction (Yeatman, 1990). That is, an approach which questions the knowledges and assumptions in the text, an approach which looks for inconsistencies and contradictions as evidence of the multiple meanings embedded in the text and an approach which exposes the techniques employed by policy writers to gain consent - in other words an analysis conducted by those with an interest in the power relations between the state and schooling.

Apple (in Dale, 1989) urges policy analysts, during this period when the 'right' is becoming increasingly interventionist in education, to be vigilant in the examination of educational policies as a means of scrutinising the politics of education in order to identify both the nature and the effects of the struggle for control over education.

The struggles inherent in the formation and implementation of educational policy are however, rarely acknowledged in policy documentation which, Codd (1988, p.244) claims, presents itself as a "single authoritative meaning... a blueprint for political action expressing a set of unequivocal intentions". According to Codd, it is the purpose of policy analysis to expose the struggle for power and control through the deconstruction and analysis of policy texts whose "ambiguities, distortions and absences... expose the real conflicts of interests within the social

world which they claim to represent" (p.246).

Other policy analysts (Ball, 1990; Yeatman, 1990; Dale, 1986; Throgmorton, 1991) expound different theories of policy construction and deconstruction according to particular persuasions. It is not my intention to conduct an in-depth study of all these theories of policy analysis. However, I acknowledge that in order to explain my analytical approach, I must indicate my theoretical position in relation to that of other models submitted to date. Hence, a brief discussion of various theories of policy analysis follows.

Policy Analysis

The importance of policy analysis in determining the various discourses is especially emphasised by those who have an interest in the power relations between the state and the subject of the state. Codd quotes Bourdieu (1977, in Codd, 1988, p. 242) who associates policy discourse with the innate role of language which is

"not only an instrument of communication or knowledge, but also an instrument of power. One seeks not only to be understood, but to be believed, obeyed, respected distinguished".

A number of theorists (Codd, 1988; Yeatman, 1990; Offe in Pierson, 1986) subscribe to a theory of policy as a 'discourse of the state' where the dominant groups seek to "legitimate the power of the state and contribute fundamentally to the engineering of consent" (Codd, 1988, p.1)

Codd further states,

"such texts contain divergent meanings, contradictions and structured omissions so that different effects are produced on different readers. An important task for policy analysis is to examine those effects and expose the ideological processes which lie behind the production of a text" (1988, p.1).

Foucault contends (in Ball, 1990) that the state produces its own 'truth' and 'knowledge' about education through a discourse which asserts authority and power over the reader. Similarly, Yeatman (1990) argues that discourse (by naming and thereby giving meaning to reality) selectively "constitutes what is to be counted as real and true, and in so doing....determines a politics of inclusion and exclusion" (p.155)

According to Foucault, knowledge and power are inexorably linked.

"Implicit in the question of the restructuring of education is the question of how the state exercises and imposes its power in part through the production of "truth" and "knowledge" (Donald, in Ball, 1990, p.17)

Dale (1989) also examines the role of the state in education as it becomes increasingly interventionist in educational policy and practice. Dale argues the importance of focussing on the state as the 'provider of education' in order to understand the complex interplay of events and actors that generates educational change. However, Dale warns of the limitations in focussing exclusively on functionalist theories of the state which fail to recognise the relationship between formal government structures and policy making, and the effects of mediations caused by internal struggles for policy between various groups in society which can transform action into policy.

Codd (1988) recognises the significance of policy in the formation and engineering of public consent and recommends an anthropological approach to analysis as a means of interpreting the texts which are in effect, "cultural and ideological artifacts" which should be interpreted in relation to what it symbolises, and the various contexts in which the policy is located.

According to Codd (1988, p.245), the explicit recognition of the policy's political, historical and ideological contexts allows the analyst to identify the "process of production ...the organisation of the discourses which constitute it and the linguistic strategies by which it masks the contradictions and incoherences of the ideology which is inscribed in it".

Ball (1990), Yeatman (1990), Codd (1998) and Kress (1985) declare the importance of the role of administrative policy texts in the educational reform process as a tangible indication of the nature of the multiple discourses struggling for representation within the policy arena. Policy sociologists however, lament the complexity of policy analysis and deconstruction given the postmodern pluralism of society where the range of factors that influence and help construct policy are of such diversity that Ball (1993, p.10) recommends a "toolbox of diverse concepts and theories" with which to formulate a theory of policy analysis.

The discussion thus far reveals policy sociology as a discourse which has its arguments embedded in many other discourses (eg. theories of the state, theories of management, discourse and literary theories) and that no one theory has predominated.

However, from a limited study of the area of policy discourse, I would have to agree with the Foucauldian conception of policy as a discourse through which the struggles for power and

knowledge are contested, with Ball who emphasises the need to "recognise and analyse the existence of dominant discourses.." within the policy text (1993, p.15), and with Throgmorton (1991) who recommends analysis of rhetoric as the persuasive discourse.

Hence, in this next section I will be examining policy documents in an attempt to reveal the ideology(ies) embodied in the texts, to question the knowledges/assumptions on which the policy is based and to reveal the techniques employed by policy writers to 'sell' or justify the policy and to obtain consent.

The approach I will be using for this analysis draws on the arguments of Dale (1989), Yeatman, (1990), Ball (1993), Codd, (1988) and Throgmorton (1991) and is in the form of a set of questions which I regard as a useful critical tool for the purposes of my study. These 9 questions have been adapted from a Deakin University Study Guide (1993) on policy development and analysis.

Questions for the approach

1. What is the stated problem in the text?

This question allowed me to explore the text for stated and/or implied reasons for the proposed changes to education? It allowed me to address who and what the document might have blamed or approve of for the changes, how the problem was defined, and what was excluded. The framing of the question did not presume that the stated problem is the only one. Nor did it suggest that every document would explicitly state a problem. However, it was important to look at what the document identified as concerns, as a signal of how the reform could be read as a response to broad issues.

2. What does the text propose as a solution?

The answer to this question helped to position how the document defines the problem. The link between the problem and solution acted as the key to understanding how this particular reform was offered.

3. How wide is the context in which the problem is set?

This question examined the explicitness of the reform's positioning by suggesting factors which had a bearing on the present situation, and by examining the document's presumptions or assumptions about the context for the reform. For example, the text might have made presumptions about education, the economy, technology, levels of

government intervention or levels of participation.

4. How does the policy position itself as authoritative?

This question explores certain techniques the document used to assert its authority. It looked at the text to see how it 'sold' the proposed changes to education, whether or not it used particular language features, whether it was laid out in a way which enhanced its appeal or whether it used any particular references to sanction its activities. It also examined the ways in which the document justified itself (or didn't justify itself). It looked at whether the document was seen as an end in itself (simply a government or department document) or whether it was an attempt to represent a democratic process of change. This is central to an understanding of the changing role of policy in the State.

5. How is the text organised and presented?

Questioning the organisation and presentation of the text revealed a variety of things about the policies. For example;

Some of the document's suggested a permanency or impermanency by their 'glossiness', the thickness of paper or other features which reflected either quality or haste in production.

The fact that the review appeared in one volume or several was also significant as fragmented pieces of information make for a difficult and confusing critique.

Some policies relinquished the fact that they were designed in such a way as to emphasise or conceal particular elements which would conceivably produce different meanings for different groups helping to 'engineering consent' for the policy (Gronn, 1994 and Codd, 1988 have also spoken about this).

6. What is the tone of the discourse?

This question looked at the overall 'tone' of the document which helped to establish the way the document legitimated its version of the problem and how it 'sold' its solution. This was evidenced through the use of particular terminology, vocabulary and even generic text structure which in some cases revealed either an administrative, managerial, political, fiscal, technical, corporate, professional or academic hue.

7. How does it define the terms "Quality" and "Accountability"

This question enabled me to explore the different ways in which the terms quality and accountability were rationalised as being part of the agenda of Australian schools at this time. The analysis showed that these particular terms had different implications for different States suggesting that local factors had influenced the general translation.

8. How does the document establish relations between the school and the department and the Government?

By looking at the relationship between schools and the department and the government, it allowed me to explore whether the document represented a change in a particular direction. For example, in several cases there were some indications of a change to the structure or function of schooling. Knowing how 'school' was defined or implied in the text also revealed more about the tone of the document which again reflected how the State wished to portray its own relationship to schooling.

9. Is there a reference /justification in relation to social justice and equity?

This question enabled me to investigate a specific area of variation between policies which indicated some fundamental differences between the ideologies driving each State's policy.

In a broad sense, this type of policy study furthered my understanding of the relationship between School Reform and educational reform. Close examination of each State's policy revealed the convictions and assumptions that Federal and State governments have made about education in the current context and provided an outline of the ideological framework driving many of the changes to education at this time.

In comparing each State's documentation for School Review, the enquiry set out compare how each state's policy prescribed the processes for review. This information reflects how each State perceives the current role of education and how it sees school review as able to contribute to that perceived role. In other words, it was an analysis which aimed to find out how each State had translated the global situation into its own educational agenda which was made evident through the school review policy.

Limitations to the approach

Reviewing documents as a way of finding similarities and differences between the review processes in different States of Australia, has obvious limitations. As Codd (1988) and Ball (1993) have argued above, reading texts to find out what actions the author(s) has prescribed will not indicate what sort of action the reader will take since different readers will have different interpretations of the policy text and will transform their interpretations into different actions.

In other words, I recognise the plurality of our postmodern society where language and action shape reality; where reality is that which is constructed between interacting individuals using language symbols and conventions. In this way, the reader is an agent for action which is not determined solely by structures established by a more powerful element. Rather, the reader is free to construct his/her own meaning from the text. However, I acknowledge that this occurs within constraints of historically developed frameworks of meaning.

Since comparing policy texts was the only practical way I could look for similarities and differences in each State's School Review processes, (it was not possible for me to visit all the schools in each State), it was therefore not possible to 'know' how each State was conducting School Reviews. Hence, while I acknowledge the limitations of constructing an analysis exclusively around written text, especially texts which may have multiple authors and audiences, I also acknowledge that a study of the discursive features of a policy text provides a consistent basis for the comparison of the assumptions embedded in each State's policy documents.

The scope of this paper prevents a detailed look at the comparative discussion. However, the next section contains a brief overview of the main conclusions from the analysis assisted by a quick reference comparative table in Appendix.1.

Conclusions from analysis

As policies, these documents, together and singly, signify that the government's approach to the current situation is to devolve specific management, planning and review responsibilities to local school level and to introduce certain kinds of quality assurance and accountability practices into education to raise standards and achieve greater equality in schooling, and to regain public credibility for the system.

The fact that standards, quality and accountability are on the agenda of all State policies, raises the question again about a national agenda for schooling. Indeed, the distinct similarities between the policies denotes a common effort on the part of all of Australia's public schooling systems to corporatise education which facilitates drawing schools more tightly into connection

with the control mechanisms of the state. This is clearly the design of all State documents which require strategic development plans kept accountable through the operation of a School Review.

Although only the Northern Territory admits to general changes in society causing change in education, all States appear to be introducing similar measures to bring back public confidence in schooling. Queensland, in particular expressly emphasises 'participation' as a strategy to achieve greater public ownership for schooling decisions. This suggests that the system is indeed becoming "increasingly 'loosely coupled'" (Weick in Gronn, 1994, p.64) and that the post-Fordist, corporate model of organisation, designed for the problems of the postmodern workplace is clearly a Federal government response (along with many businesses) to a system perceived to be in crisis.

Indeed, the focus in each document is on managing education for outcomes which will meet systemic priorities, not so much for local school needs. As Angus points out, " the government [is] not intent upon devolving to schools the authority to determine what the ends should be.....What is being devolved to schools is the authority (and the capacity) to determine the way in which the schools will achieve the agreed outcomes" (in Lingard and Rizvi, 1992, p.118).

The fact that all documents also focus their purpose on the benefits of individual school communities making decisions for their schools, reveals that there may be tensions between some dimensions of the post-Fordist model for schooling. In other words, while the documents talk about devolving the responsibility for schooling back to the school community, the accompanying (authoritarian) rhetoric about systems monitoring and system accountability indicates that schools very much remain in the control of a centralised system.

While some States flaunt the centrally mandated nature of their policy (New South Wales, Tasmania, South Australia), other States have taken a softer approach to decision-making. Queensland's policy in particular states that decision-making has now been "put into the hands of those who implement the decisions". This symbolises a changed relationship between the government, the department and the school where the authority of departmental policy and government legislation are no longer brandished on schools. Rather, they are represented as 'supportive and advisory' bodies exhorting a more tacit form of leadership by seeking consensus from Principals, teachers, students, parents, interested and invited community members and departmental personnel about decisions to improve schools and make schools more accountable. However, the conciliatory tone of this discourse belies the underlying fact that it is a government mandate for schools to help steer education towards centrally determined goals.

The Queensland document authorises devolution with a distinctive two-pronged thrust ie. as a government 'requirement' through straightforward departmental policy to become more economical, efficient and accountable, and as a champion of democracy and equity in schooling. The tensions between these two largely incongruous dimensions of the policy are evidenced in its constant efforts to reconcile the two by linking the two sorts of rhetoric in the same sentence. These twin themes of corporate efficiency and social justice also run through other recent Labor government policies for education and signify a particular government policy climate.

In other words, although Queensland's document clearly outlines the directions for change in Queensland schools, the document fails to address this issue as well as some other fundamental questions about the assumptions on which its recommendations are based and why it represents a particular direction for the future of education. It also fails to consider the problematic nature of change at school level and disregards knowledge available to date about how schools change (Brennan, 1993).

As a government policy, it excludes reference to any context for change apart from the immediate setting of departmental and State educational policy agendas. In this way, educators at school level are not involved in decisions about the direction of change nor are they invited to participate or reflect about the nature of education in the current social, political and economic context. At best, the document treats educators as merely passive servants of the state, at worst as gullible and naive.

As a prescription for school administrations to become more efficient, effective and accountable, the policy exhibits an instrumental rationality which treats problems about educational practice objectively ie. purely as technical issues to be dealt with through the implementation of certain strategies. Such objectivity, Carr and Kemmis (1986) argue, creates the "illusion of an 'objective reality' over which the individual has no control and hence to a decline in the capacity of individuals to reflect upon their own situations and change them through their own actions" (p.130). Hence, rather than encouraging a collaborative effort on the part of schools and communities to find local solutions to specific localised problems, the document in a sense, runs the risk of paralysing the local school community into an acceptance of the rational arguments of the document.

It is a document couched in terms of 'the ideal' where an omniscient government works in close partnership with an exemplary school community, efficiently and effectively managed by the strategic brilliance of the corporate manager-principal. Such utopia of course, does not exist, and a policy which makes such assertions discredits at one level the plausibility of the

discourses contained within its pages.

The document is also misguided in its presumption that implementation in the prescribed form will occur in a mechanistic process from state policy to school and classroom level. This assumption rests on structuralist theories of the state which assert that the macro controls the micro, which ignores the multiple effects of the pluralities of the state (Yeatman, 1990; Franzway, Court & Connell, 1989; Clegg, Boreham & Dow, 1986; Dale, 1989)

Schools are a complex interaction of individuals and groups whose different life experiences and differing perspectives exhibit different attitudes, behaviours and needs at different times. Schools are also a microcosm of activity directed towards the developmental needs of a local community of individuals. To ignore the multiple 'human' realities of school level change in educational policy, as has the current functionalist policy for devolution which reflects a single perspective (economic management), is to license schools to conduct oppressive, unethical and inequitous practices (Reitzug, 1994).

School Review also represents a move towards semi-privatisation of schools. As a collaborative effort on the part of the school community to provide an efficient, effective and equitable school community which reflects 'system priorities', School Review appears to be actively relinquishing responsibility for social justice (special programs, resource allocation, target groups and individuals) back to the school community.

School Review signals a change in the relationships between the community (parents, employers) and teachers, as the community now appears to be licenced to declare what quality teaching and learning is. The fact that schools are now required to generate a document through School Review as a public declaration of a quality service, suggests that it is no longer a 'given' that a school full of educators will deliver a 'useful' education. School Review, however, does not admit to these sort of assumptions.

By posing as an administrative problem, the document distances itself from the social context of schools. In this way it ignores the fact that the changing roles of Departmental (Regional) personnel, Principals and teachers will ignite zones of conflict in schools as participatory processes are forced on teachers and duties are thrust upon them as a team responsibility.

In fact the document fails to acknowledge that it represents a substantial change to teachers' and Principals' work. For instance, teachers have never had to write their own school policies or be involved in systems monitoring before in Queensland. Moreover, they have never been **forced** to collaborate in the evaluation of their own colleagues. Similarly, the document signifies that Principals' roles have been given more of a 'corporate manager' status, concerned

not so much with studies areas of schooling, but with financial accounting and management, co-ordinating whole-school planning and development programs and Human Resource Management.

The fact that all State devolutionary documents are saying similar things about corporatisation of schooling combined with the fact that schools around Australia are part of much the same context, suggests that there may be many schools around Australia currently enduring these sorts of problems.

Despite these obvious struggles occurring throughout schooling (the state seeking legitimization amid economic crisis and social upheaval; Education Departments juggling resource cutbacks with social justice and consensus issues; conservative movements demanding 'back to basics'; privatisation and marketing of schools; parents and employers becoming more vociferous; teachers seeking recognition for intensified and more complex work) education policy remains glib - easily glossing over the issues. It is no wonder that teachers rarely feel the need to read school policy and it is no wonder that many educators are confounded by the meaning of recent changes to their work.

Conclusion

This particular model of policy analysis allowed for a different understanding of the role of policy in state agendas. It showed that although each State's policy is supposedly separate, similar interpretations of the context of education has produced a common agenda for school reform. This agenda appears to be bipartisan in that Labor parties have embraced school reform with the same fervour as other countries' conservative governments.

The framework I used for the policy analysis enabled me to compare reform strategies from specific States, to demonstrate how education is connected to economic concerns and to raise important questions about the changing role of the state.

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School Councils in Queensland State Schools

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Preamble

The issue of community involvement in schools is of significance to all educational stakeholders. It is by its very nature, a contentious issue which has the potential to impact upon all areas of the schooling process. This paper addresses a number of significant considerations with regard to School Councils and their impact upon the parent/school relationship.

The establishment of School Councils within Queensland state schools would involve four major areas of consideration.

These areas being

- changes to the existing framework
- management decisions
- accountability and risk management and
- the skilling process for participants.

Issues arising from these considerations will now be discussed in regard to the development and implementation of school councils within the Queensland state school system.

Establishment of School Councils

"The relationship between the family and formal system of education in Australia is in the process of change" (Ochiltree, 1983 : 1). At the school level this relationship comprises all educational stakeholders, most prominently parents, children and teachers. As the needs of the community have changed, schools have sought and to some degree been forced to respond to and accommodate community values, culture, attitudes and family situations. These aspects have subsequently impacted upon many areas of the education system and are responsible at least in part, for many of the current educational trends and innovations and the expanded roles of schools.

School Councils provide a forum in which school communities are able to play an informed and proactive role in the operation and management of schools. However before the introduction of School Councils or some other school-based structure, examination of changes to be made to the existing framework would be necessary. Significant legal, decision making and operational considerations would need to be identified and their implications explored, before initiating any changes to the current Queensland state government schooling processes.

In this respect reference is first made to the Education (General Provisions) Regulations 1989. This document provides the guidelines for the administration and operation of Queensland state schools. In particular, Part IV-PARENTS AND CITIZENS ASSOCIATIONS, Number 36, Functions of an association, states "(1) In pursuit of an association's objectives, the functions of an association shall be - (d) to provide, if requested by the principal or if an association considers it desirable so to do, advice and recommendations to the principal of the State school for which it is formed upon the general operations and management of the school". In light of this guideline, the proposed functions and powers of school councils need to be examined and resultant changes to the Act instigated. This necessitates legislative procedure, whereby any alterations to the Education (General Provisions) Regulations 1989, are brought to cabinet for their consideration.

Questions also need to be raised with regard to aspects of the decision making processes. Primarily, consideration needs to be given to who will make the decisions and how the decisions will be shared and how will decisions be transmitted and acted upon. Closely linked, are the issues relating to approval, accountability and authority for decision making. As in all organisations, decisions also need to be rationalised and the process for this needs to be clearly defined and familiar to all participants.

Clearly the role of the decision making bodies will impact upon the operational level of the school. Within the school learning environment, there exist many levels of involvement through which participants may exercise their roles. These opportunities, within both the classroom and the school, may offer participants, input into the direction of school policies, programs, resourcing and the general functioning of the school. However, whilst the trend for increased community input is evident in all aspects of the school infrastructure "there appear to have been few, if any, studies of the extent of these trends" (Thomas, 1987 : 174). In light of possible responsibilities of school councils, (Comben, 1994) this situation represents severe limitations in current research and requires an investigation of the contextual features contingent upon community participation.

Functions and Powers of School Councils

A locus of management decisions needs to be determined. As indicated above, these may involve decisions relating to school operations, administration and policy. It is considered imperative that specific areas are identified which warrant input from members of school councils. These areas may include curriculum, human resources, assets and finances. Analysis of each area would indicate issues which need to be addressed. For example, in the area of human resources, guidelines would need to be established on the selection, recruitment, training and dismissal of staff members. In addition, the School Council would also be responsible for maintaining the independence and integrity of all staff members. Whilst decisions in the curriculum area would need to account for a number of factors specific to the school context, there would also need to be guarantees that the curriculum, as outlined by the Queensland Department of Education, was taught. Financial decisions would raise issues related to risk of priorities and the questions related to liability.

Protection of Members from Liability

Accountability would subsequently need to be an inbuilt component of each decision making process in which participants would be expected to contribute. This has many implications in the area of risk management. Initially it would be necessary to outline conditions and circumstances needed to be created to allay potentially destructive situations. On the basis of social justice, decisions would need to conform to Public Finance Standards and appear both fair and just, with documentation to support School Council decisions. Similarly the representativeness of the participants would need to be monitored. Members of the wider community could question whether the School Council represents all sectors of the school community and on this basis, refute any decisions carried out in the interest of all members of the school learning community.

Membership of School Councils

The process of developing a working relationship between school and family is far from uniform and may be accompanied by some misconceptions and reservations of the part of those involved. These may be attributed to a variety of sociological, psychological and logistical determinants. Within our pluralistic society, changing values, relatively high unemployment and multiple voices which are often conflicting, characterise the communities in which we live. Consequently, before the commencement of dialogue between parents and teachers and negotiation of attitudes

and programs in pursuit of more effective, relevant schooling, many issues need to be addressed.

Therefore the success of initiatives to involve community members in School Councils hinges upon the development of methods of structuring and monitoring effective skilling programs. In turn, methods of easing participants into active, participatory roles need to be developed from practices, around existing and emerging forms of involvement. This involvement may include limited participation in classroom activities, membership of school committees or employment within the school.

The skilling program would need to provide consideration of the following aspects

- both pre-selection and post-selection training,
- group processes employed by the body and
- opportunities for all participants to contribute within the processes.

Summary

Clearly there are a number of issues which must be addressed with regard to the introduction of School Councils in Queensland state schools. The major omissions evident in the 'Discussion Paper on School Councils in Queensland State schools' (Queensland Department of Education, 1995) may relate to what schools and teachers now do. From this premise, research into the following areas is of critical importance.

1) What changes are envisaged to the school/teacher culture and attitudes to the community?

2) How will school councils change the nature of teachers' work?

Clearly, terms of reference also need to be devised according to the context of school councils.

3) What is the definitional understanding of 'community'?

And finally, perhaps the most serious omission from the document relates to the clientele who school councils will ultimately seek to service.

4) What will the role of students be in school councils?

This paper has sought to raise implications of a range of issues, address concerns held by members of school learning environments and provide direction for further areas of investigation, pertinent to school councils in Queensland state schools.

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TO SIDE WITH THE DINOSAURS OR GO WITH THE TRENDIES: A DILEMMA FOR THE POSTGRADUATE LABOUR HISTORY STUDENT

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All students undertaking a doctoral degree, irrespective of their particular discipline, must fulfil two requirements to earn this eminent academic award. Foremost, their research must contribute original knowledge to that discipline, either by venturing into unexplored territory or by challenging current orthodoxy. Additionally, the student must engage with the contemporary literature to position the work in the existing field and to defend their theoretical and methodological approach. As most students would agree by about six months into their candidature, neither of these requirements is an easy feat. The result of their efforts by then is typically a rapidly-growing mountain of disorganised notes and a half-written literature review, accompanied by a crisis of confidence and overwhelming doubt about the wisdom of undertaking the degree in the first place - a syndrome commonly known as 'the Ph.D. blues'.¹ In my particular area, labour history, the position has been made even more problematic by the claim that the whole discipline is in a state of crisis, with one historian lamenting the 'death of Labour History'.² Leading labour historian Terry Irving has recently confronted this issue in his edited work, *Challenges to Labour History*.³

From a preliminary reading of the literature, the originality of my contribution appeared to be obvious to me. My proposal for a study of trade unionism in Rockhampton from 1907 to 1957 argued that this research would fill glaring gaps in both local history and the wider context of Australian labour studies. Much of the writing of Rockhampton's history to date is 'history from above' which focuses upon the men of commerce and the squattocracy.⁴ It overlooks what was essentially a workers' city where working-class activities were conspicuous, Labor politics dominated and unionism flourished.⁵ In the broader context, many union histories take

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1. Thanks to Robyn Cox, Faculty of Education, CQU, for this diagnosis.

2. T.H. Irving, *Challenges to Labour History*, Sydney, 1994, p. 2; V. Burgmann, 'The Strange Death of Labour History', in B. Carr (ed.), *Bede Nairn and Labour History*, Leichhardt, 1991, p. 69-82.

3. Irving, *op.cit*

4. See for example, L.L. McDonald, *Rockhampton: A History of City and District*, St Lucia, 1981.

5. B. Webster, 'Stations in Life: A study from below of social class in Rockhampton, 1910-1921', M.Litt. thesis, University of New England, Armidale, 1993.

a traditional institutional approach limited to the workplace and politics,⁶ and almost all concentrate upon militancy and strikes.⁷ Moreover, studies relating to Queensland either omit any reference to Rockhampton which, until the 1950s was the largest provincial city in the state, or make passing comments about the 'weaker' attitude of local unionists,⁸ without asking why.

My research would rectify these deficiencies. It would be a workers' history or 'history from below', exploring not just the industrial and political aspects of unionism, but also the social and cultural. My writing would restore workers to their rightful place in Rockhampton's history. In particular, it would reveal the degree to which unions represent the needs of local workers and assess the strength of unity within the movement. Finally, my investigations would consider the 'weakness' of Rockhampton unionists and, if substantiated, seek to identify the particular factors which might have shaped such behaviour. As already mentioned, my conviction of the originality was based on a preliminary literature survey, but more so upon history than historiography, that is, upon *what* has been written rather than on *how* it has been written and, more importantly, on how some academics believe it now *should be* written. Not only does much recent literature question the legitimacy of traditional labour history topics but it also refutes the theoretical and methodological approaches previously used in the discipline.

Until recently, many labour historians found the social history popularised by E.P. Thompson gave them the scope to move beyond the narrow confines of the 'classical' labour history of the 1950s and 1960s. This earlier style, with its concentration upon institutions and leadership and its central theme of conflict, was informed by a crude Marxism which ignored the wider social and cultural context.⁹ Moreover, it usually failed to distinguish between the organised working class and those workers who lay beyond the bounds of political and industrial institutions.¹⁰ Thompson's redefinition of class provided a new theoretical framework which acknowledged this wider context. He saw class as 'an historical relationship' based on the recognition of an identity of interests, largely determined by occupation, between one group and against another group. Class *consciousness* was the cultural expression

6. See for example, G. Patmore, *Australian Labour History*, Melbourne, 1991.

7. See for example, D.J. Murphy (ed.), *The Big Strikes: Queensland, 1889-1965*, St Lucia, 1983 and D. Blackmur, *Strikes: Causes, conduct and consequences*, Leichhardt, 1993.

8. Blackmur, *op.cit.*, pp. 165 and 168.

9. R. McKibbin, 'Is it still possible to write labour history?' in Irving, *op.cit.*, p. 34; S. Garton, 'What have we done? Labour History, Social History, Cultural History', in Irving, *op.cit.*, p.42.

10. *Ibid.*, p.47.

of those interests through institutions (such as unions), traditions, values and ideas.¹¹ Moreover, Thompson viewed workers not as victims but as agents in their own making.

Adopting the new social history Thompson popularised, labour historians began to explore the public and private lives not only of workers in general but also of women and ethnic minorities, the unemployed and other powerless groups, especially in the local community.¹² Some pursued new areas like work, leisure and the family while others reworked traditional themes like unionism set in a socio-cultural and geographical context as I envisage for my study. However, two features unified these new-style labour histories. Firstly, writers endeavoured to reconstruct the lived experience of past. Secondly, even though they acknowledged the intersecting themes of gender and ethnicity, most historians still regarded class as the central dynamic for social action.¹³ It is these two points in particular which are now being challenged and which have caused the apparent 'crisis' both in the discipline and for me.

Class-based histories now appear to be out of fashion. The collapse of Marxism as political ideology in Eastern Europe, the alignment of many Western workers with conservatism, decline of trade unionism and the welfare state have called into question the notion of class.¹⁴ Yet these contemporary events should not refute a class-based history for a period when an organised working class was central to industry, politics and society.¹⁵

Feminist historians deny that class ever was central to historical experience. They assert that gender was the main cleavage because all women, irrespective of class, suffered patriarchal oppression in every aspect of life.¹⁶ Such a value judgement places workers' demonstrable material hardship inferior to female subjugation as perceived from a modern viewpoint. Certainly gender transects class, but does not negate it as the major social dynamic of the time. However, feminist historian Jill Matthews and others criticise those studies which

11. E.P. Thompson, *The Making of the English Working Class*, London, 1980, pp. 8, 9 and 12.

12. See for example, J. McCalman, *Struggletown: Private and public life in Richmond, 1900-1965*, Melbourne, 1985.

13. Garton, in Irving, *op.cit.*, pp. 51, 52 and 55.

14. A. Wells, 'Marxism and Labour History', in Irving, *op.cit.*, p. 21; McKibbin, in Irving, *op.cit.*, pp. 35 and 37.

15. *Ibid.*, p. 41.

16. Wells, in Irving, *op.cit.*, pp. 29 and 29.

use traditional conceptual frameworks, ... slotting women into the empty spaces of male defined historical scholarship, and ... keeping women marginal to the standard canon of masculinist writing.¹⁷

The feminists' openly-stated political agenda, then, is to establish a new paradigm which places women central to all historical analysis.¹⁸ It is difficult to substantiate this claim in the public sphere when for most of the past women have been relegated to private space.¹⁹ In the union movement, it is important to study their role and the practical implications of gendered policies, but to concentrate upon women to the minimalisation of men is to misrepresent past reality.

Even the concept of reality is now challenged by the new 'discipline' of cultural studies which, according to Keith Windschuttle in *The Killing of History*, is attempting to colonise History Departments as it has already done in Departments of English Literature.²⁰ The resultant new genre of cultural history is often conflated with social history by many uninitiated scholars,²¹ but it is markedly different because, by drawing upon poststructuralist and postmodern thought, it opposes the theory and methodology used by social historians to reconstruct, analyse and explain the past. It opposes much of what I plan to do in my thesis. As Terry Irving forcefully contends, this new mode of history demonstrates an overwhelming 'preoccupation' with culture. In their schema, 'culture *defines* history'.²² We can, they claim, explain people's past social actions by exploring their worldview or *mentalité*, that is, attempting to see life through their eyes and interpreting it as they might have done.²³ Here in particular, they frequently draw upon the work of Mikhail Bakhtin on 'carnival' as a revelation of ordinary people's diversity, conflict, desires and aspirations.²⁴ More important for the social historian, though, is their poststructural insistence that subjectivism and relativism pervade all forms of writing, history included.²⁵ According to this view, we cannot objectively reconstruct the lived experience of past generations as they insist that social historians myopically try to do. Moreover, as Irving identifies as a 'postmodern twist' to this poststructuralism, they deny that culture has any underlying economic or social reality

17. J.J. Matthews quoted in J. Damousi, 'Gendered meanings and actions in left-wing movements', in Irving, *op.cit.*, p.151; M. Lake, 'The constitution of political subjectivity and the writing of labour history', in Irving, *op.cit.*, pp. 77-79.

18. *Ibid.*

19. J. Hirst, 'Women and History: a critique of *Creating a Nation*', *Quadrant*, March, 1995, p. 37.

20. K. Windschuttle, *The Killing of History: How a discipline is being murdered by literary critics and social theorists*, Sydney, 1994, pp. 9, 14, 15 and 17.

21. A. Curthoys, 'Labour History and Cultural Studies', *Labour History*, No. 67, November, 1994, p. 12.

22. Windschuttle, *op.cit.*, p.19.

23. Garton, in Irving, *op.cit.*, p. 56.

24. Curthoys, *op.cit.*, p. 17.

25. Irving, *op.cit.*, p. 6.

at all - denying, therefore, the hardship and constraints of real working-class life.²⁶ More directly relevant to my particular topic, this postmodernism also rejects the validity of the collective actor, such as unions, which it dismisses as a form of social control and argues instead for 'a plurality of struggles' against many different forms of power.²⁷

Perhaps the greatest objection 'conventional' historians have to a cultural approach is its fixation on language and the application of literary theory. People 'experience the "world" only through language'.²⁸ Discourses and texts (full of endless ambiguities) are the key to all knowledge(s) of the world and history is merely a 'genre of writing' which constructs many differing narratives of the past.²⁹ History, then, approximates fiction. But it is not simply this obsession with language which baffles the uninitiated, it is also their dense writing style. Canadian historian Bryan Palmer has described the combined outcome as a 'descent into discourse'.³⁰ Windschuttle more bluntly denounces it as 'a new foreign language', 'unreadable' and 'wilfully obscurantist [where] obscurantism is often assumed to equal profundity'.³¹ Such convoluted elitist writing ignores a fundamental task of labour history - that it should be communicated and made relevant to the aspirations and local experiences of workers themselves.³²

Axiomatic to this subjective, language-centred approach is a rejection of any degree of empiricism and a condescension of the documentary sources which have been the mainstay of traditional historical method.³³ Cultural historians accuse their orthodox colleagues of blindly accepting as 'truth' everything read, without acknowledging any bias in the documents or in their own interpretation. Most historians would deny such gullibility and would counter-argue that the 'cultural' school *overreads* between the lines and makes generalised interpretations and assumptions based on a modern theoretical perspective rather than on the documentary evidence - shortcomings acknowledged. Their obsession with the specificity of all experience³⁴ also frequently leads cultural historians to the highly-selective use of sources preferring, for example, oral testimony or even a single diary to a wider range of documents. Certainly it is important to personalise experience, but to ignore the

26. *Ibid.*, pp. 5 and 6.

27. *Ibid.*

28. Windschuttle, *op.cit.*, p. 17.

29. Garton, in Irving, *op.cit.*, pp. 56 and 56.

30. Quoted in Irving, *op.cit.*, p. 6.

31. Windschuttle, *op.cit.*, pp. 3, 5 and 6.

32. Harvey J. Kaye, quoted in Irving, *op.cit.*, p. 13.

33. R. Selden and P. Widdowson, *Contemporary Literary Theory*, London, 1993, p. 128.

34. Garton, in Irving, *op.cit.*, p.56.

wealth of information contained in traditional documentary sources is to see only a distorted fraction of the picture. Few conventional historians would be so bold as to claim their's was *the definitive history*, but surely their wider research must give a *closer approximation* of the elusive past.

The crucial point with these recent criticisms is that most academics are polarised in their opinions and current practice of history. One camp wholeheartedly embraces the new ideas and regards those who have not seen the light as prehistoric relics; the other group rejects these innovations as the current 'fashion' and awaits their passing.³⁵ Other labour historians have abandoned ship altogether and headed for the safer but narrower ground of industrial relations history. For postgraduate students, this present cleavage in the discipline and therefore in the contemporary literature with which we must engage, presents a dilemma. While we can acknowledge the debate in the thesis introduction, how do we accommodate such divergence in our own writing. Do we side with the 'dinosaurs' or go with the 'trendies'? Terry Irving considers there is no crisis in the field at all. He argues that there is no one definitive labour history, rather there is 'a labour history tradition' so that this apparent fragmentation is a sign of health not malaise.³⁶ At the same time, though, he denounces 'the vain cry for a new synthesis'.³⁷ Yet there are many aspects of traditional labour history that have continued validity and usefulness while some of the ideas from cultural and feminist studies offer new possibilities for exploration. The pragmatic historian uses whatever materials and methods are most useful in understanding the past. The problem of a synthesis lies not just with conventional historians who are reluctant to change but also with those whose assertion of relativism and denial of realism and truth are, ironically, so absolute³⁸ that there is no room for compromise on their part. Perhaps there is some hope in the concession of recent convert to cultural history, Ann Curthoys, that E.P. Thompson's redefinition of class as a 'culturally specific phenomenon' and his emphasis upon workers' agency in a specific context partly contribute to the new genre.³⁹

Having read and reread the contemporary literature (accompanied by a guide to literary theory), I am convinced an eclectic approach is possible and is the solution to my current crisis. Essentially, my thesis will be a social history which employs a Thompsonian view of class that situates unionism not only in its industrial and political

35. Windschuttle, *op.cit.*, p. 5; N. McMullin, Communication to the Editor, *Journal of Asian Studies*, Vol. 52, No. 2, May, 1994, p. 677.

36. Irving, *op.cit.*, p.3.

37. J. C. Moody and A. Kessler Harris, quoted in Irving, *op.cit.*, p. 4.

38. McMullin, *op.cit.*, p. 678.

39. Curthoys, *op.cit.*, p. 15.

framework but also in the broader socio-cultural context. Simultaneously, it will consider how other contradictory identifications of community and how gender, ethnicity and race cut across class unity but did not transcend it. Acceding to postmodern insistence on relativism and subjectivism, I will not boldly claim to reconstruct past experience but will endeavour to paint as realistic a canvas as possible given the constraints on objectivity. My thesis will acknowledge the specificity of experience by considering the extent to which unions served the needs of the whole working class or only those of a privileged section to the marginalisation or exclusion of others, including women as feminists insist. It will also acknowledge the locality of experience in its search for those factors which influenced Rockhampton unionists to create their distinctive style of unionism. Oral history, too, will personalise and localise the union experience. Equally, though, my research will draw upon empirical sources such as union and employer records, newspapers and official government documents but will not employ a strictly empirical approach if that applies the acceptance of all evidence as 'truth'. The concept of *mentalité* will inform the consideration of how perceptions of skill further divided the working class and will elucidate the meanings that workers gave their celebrations and parades. Drawing from both feminist and cultural studies, the role of gendered language and space is relevant here but will not lead to the elitist 'descent into discourse'. Above all, my work will remain accessible.

Cultural studies practitioners may dismiss my new synthesis as deluded and methodologically and theoretically incongruous; I view it as pragmatic. Feminists may even denounce my choice of topic as perpetuating 'phallogocentric'⁴⁰ discourse but this has been driven by deficiency and not an agenda to celebrate masculinity. As both these groups should concede, though, if all knowledge is relative and subjective, if there are many differing views of the past, then my particular view with its eclecticism just as valid as theirs. In adopting this new approach to historical investigation as well as revealing forgotten knowledge of Rockhampton's past experience with trade unionism, I am confident my research will indeed make an original contribution to the discipline of labour history. From the anguish of my Ph.D. crisis has come a little enlightenment and an enormous restoration of confidence and enthusiasm for continued research.

40. Hirst, *op.cit.*, p. 35.

***The hospital Wantoks in Mackay:
the Australian South Sea Islander community taking responsibility for
its own health needs.***

Rosemary Kennedy.

Background

The Australian South Sea Islanders in Mackay, Queensland, are descended from the Pacific Island labourers who were brought to Australia to work in the sugar industry during the latter half of the Nineteenth Century. They have settled so successfully in the Mackay region, and contributed so much through their labour that it is impossible to imagine Mackay without them. In fact, they are often presumed to be indigenous, and most Australians do not realise that they are Melanesians, and are unaware that they have their own unique culture which has developed during their long settlement in Australia. Thus, it has been difficult to ensure that culturally appropriate health services are available for them.

In 1994, the Australian government formally recognised Australian South Sea Islanders as a distinct, ethnic group within Australia. Soon after this, the Queensland Ethnic Health Policy Unit circulated a document, *Towards an ethnic health policy for a culturally diverse Queensland*, and it was clear that the health needs of all non-English speaking background communities, including the Australian South Sea Islanders, were to be accommodated by mainstream health services:

The emphasis is on the modification of mainstream health services and programs to ensure their accessibility and cultural appropriateness.

... it is necessary for all health policy and planning activity to be inclusive of the needs of people from non-English speaking backgrounds. (p 4)

For South Sea Islanders, this accords with their dis-inclination to be separated off into non-mainstream services like the Aboriginal, Torres Strait and South Sea Islander

Health Unit in Mackay. In *The health and health care of Australian South Sea Islanders in Mackay*, 26 April 1995, Hill and Faafoi found

There was a clear correlation between identity and preference for care providers. The majority of respondents who identified themselves only as Australian South Sea Islanders, preferred Private Practitioners or the Mackay Base Hospital. (p 15)

The evidence of this report suggests that the existing services for Aboriginal and Torres Strait Islander people will only be accessed by those members of the Australian South Sea Islander community with links to indigenous communities. (p 18)

Cultural features of the Australian South Sea Islander community in Mackay

A long tradition of self sufficiency grounded in hard work and family solidarity has resulted in the survival of Australian South Sea Islanders as a community in Mackay. When most Islanders were repatriated at the turn of the century, those remaining were excluded from formal work by Union action, and were reduced to eking a subsistence livelihood in the Pioneer Valley countryside. Islanders are proud of their contribution to the prosperity of Mackay, and their ability to work hard is important to their self esteem. They do not want hand-outs, but they do expect to have equal access to mainstream services.

The indenture process had resulted in a disproportionately young and male population of Islanders coming to Australia, and the loss of cultural traditions as Melanesians from different tribal and language groups were juxtaposed. The generation of indentured single men grew old and died, unable to pass on their island based traditions. The original islands of origin of forebears still feature strongly in the identity of Australian South Sea Islanders, reinforcing the sense of uniqueness of each family group within the community.

There is a strong sense of spirituality in the community, and a particularly strong adherence to non-conformist Christianity. Culture specific details of traditional religious practise have been lost, but the underlying awareness of spirit-life remains. The basis of the community is the family group, and the traditions of respect for older members and loyalty among families from the same islands of origin are still strong. All family groups are linked through marriage over generations. Islanders are settled people, who like to live close to family members and are keen gardeners. Many continue to cultivate traditional root crops for family consumption. South Sea Islanders have a collectivist culture; the individual defers to the group.

Attitudes to health

There is a long tradition among Mackay South Sea Islanders of dreading the hospital, which dates from last century when the Hospital for Pacific Islanders was in the grounds of what is now the Mackay Base Hospital. The hospital was where one went to die. The morgue was unfortunately situated next to this hospital and undoubtedly increased the Islanders' fear of the place, as traditionally, they believed that the spirits of dead people would interfere with the living until laid to rest according to custom. This usually meant burying the body in the village of birth, which was clearly not possible in a foreign country. Spiritual beliefs relating to fear of the dead still survive, and add to other anxieties about being admitted to hospital.

The traditional Melanesian approach to illness, unlike the Western approach, is bound up with taboo. Generally, there is not the concept that illness has physical causes, so there is no place for preventative medicine. Whatever legacy this may have in the Islander community of today, it is reinforced by the poor educational opportunities experienced by them in this century. The need for health education in the South Sea Islander community is cited by the few health professionals in the community as one of the community's most urgent needs.

An individual in this collectivist culture does not suffer alone as sickness is traditionally shared by the whole family. Isolation of a patient in hospital away from family support is more distressing than to Westerners because of this, and the local Islander oral tradition abounds in examples of patients being denied visits from family because of limited visiting hours, irritable nursing staff and other circumstances.

The personal relationship between medical staff and patient is very important. Once a satisfactory relationship is established between doctor and patient it is likely to be ongoing, and that doctor will be recommended to other family members. Doctors are held in high regard, akin to the respect for older community members.

The Australian South Sea Islanders' culture is a high context culture, in which the interpretation of any action is related to the context in which the action happens. . For example, an expression of irritability or impatience on the part of hospital staff will be interpreted by the Islander to have greater significance in the hospital, which is a stressful place for him/her, than the same action would have in a more casual situation. Consequently, staff are often unaware that their normal behaviour is regarded by Islanders as unnecessarily abrupt or offensive. It is important for all hospital staff to be aware of the cultural expectations of minority groups that are using the service so that mis-interpretations are minimised.

The hospital Wantoks

The Mackay and District Australian South Sea Islander Association Inc. (M&DASSIA), the peak South Sea Islander association in Mackay, is addressing some of the community's health needs by establishing a volunteer group, the hospital Wantoks, to help Australian South Sea Islander patients who are treated in the Mackay Base Hospital.

They believe that the presence of South Sea Islanders in the hospital will have a number of benefits.

The hospital will be less stressful for Islander patients if they can see that there are other Islander people around who can help them find their way in the alien environment, share the burden of their illness, and liaise between them and the medical and para-medical staff. As the Wantok gets to know the medical staff and develops the confidence and knowledge to ask questions, he/she will be able to ask questions that the patient is too inhibited to ask. In a sense, the Wantoks will be a supportive family group for Islander patients. The volunteer Wantoks will also know whom in the patient's family to contact for details of medical history, fresh clothes, etc. The Wantok will continue the contact with the patient after discharge, encourage the patient to have follow up treatment or appointments as necessary; and ensure that appropriate Community Health services are applied for as necessary.

There will also be benefits for the Wantoks and their families. The volunteer service will enable Wantoks to become familiar with the hospital staff and environment, so that they and their families can more readily access the Base Hospital. They will be able to learn about health and illness while they are well themselves and not distracted by the anxiety of being a patient. This will begin to compensate for the poor health education that the South Sea Islander community has had in the past, and encourage Islanders to adopt the preventative health measures that they become aware of in dealing with patients.

A further benefit will be the opportunity for hospital staff to get to know South Sea Islanders in an ongoing capacity, so that they can learn about the cultural expectations of Australian South Sea Islanders as patients and offer more culturally sensitive care. Finally, contact with health services as Wantoks may open up career prospects in the health professions for Wantoks' families when the hospital is no longer regarded as an alien environment.

Setting up the Wantoks

In January 1995, Ms Angie Braun, a PNG nurse educator, ran a number of workshops in Mackay on the topic of Melanesian culture and health as part of this research.

Nurses from the Mackay Base Hospital and the Mater Hospital were most interested to gain an insight into aspects of Melanesian culture which had never before been explained to them. They had been aware of communication difficulties while nursing South Sea Islanders, but had not had the chance to discover how cultural factors influenced the Islanders' needs and responses as patients.

The *Mackay Region strategic plans, 1992-97* (p65) reveals that as a group, South Sea Islanders have a high incidence of diabetes, heart problems and high rates of asthma. Australian South Sea Islanders are well known to present late for treatment at Mackay Base Hospital, and it is not uncommon for South Sea Islander cardiac and renal patients to be sent to Townsville for surgery. A new nursing initiative was being planned to ensure continuity of post-operative care for patients being discharged early, and the Wantoks would be able to offer culturally appropriate help in this program. When approached with the idea of establishing the Wantoks, the Regional Director of Health, the Director of Nursing and her team, and the Director of Medical Services were willing to offer support to the Wantoks, including accommodation, administrative assistance and access to some staff training. Wantoks' training will include a TAFE First Aid certificate course, basic computer skills for record keeping, a personal development and communication skills course, and medical terminology. They will need to become familiar with hospital rules of confidentiality and behaviour. The M&DASSIA chose the name "Wantoks", which is a Melanesian Pigin word meaning 'friends', or "extended family", and recruited fourteen prospective volunteers. The first session of the First Aid course was held on 11 September '95.

Conclusion

In August 1994, the Australian government officially recognised the Australian South Sea Islanders as a distinct ethnic group. The Mackay South Sea Islanders who do not want to be serviced through an Aboriginal and Torres Strait Islander health service have been warned that there are no government funds available for any ethno-specific services for them. However, through their entitlement to culturally appropriate mainstream services, their ability to negotiate with mainstream health providers, and their willingness to work hard for their own advancement, they are managing to address their need for improved health services in an innovative way. They are accepting responsibility for their own health needs.

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THIS IS NOT ART!-IMAGES SUITABLE FOR STUDY

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This paper looks at the question: what art works are suitable for children to study at school? I will focus on public schools and the primary grades. This issue is problematic as responses to art works may vary from person to person, culture to culture, society to society, and according to time, place, and circumstances. Further, who should, then, decide what art works children should be studying at school? Let's look at this question more closely.

Who should decide?

Decisions must be made as no program in school can include everything worthy of study. Teachers do make choices and do have an 'editorial role' in representing art to students, but it is not an exclusive role (Chapman, 1995). Educators are constantly mediating the space between the individual and the collective, the specific and the general.

For example, there are national guides for education in art (see The Arts-The National Profile, 1993), which if you subscribe to them, suggest certain art forms for study at the national and state level. Further, school districts increasingly involve not only teachers but parents and other pressure groups to develop written criteria for selecting materials for educational use.

Teachers own preferences and those of students can make a difference. But some educationalists, including myself, have reasonable fears lest we impose on children one particular set of values. Such choices, should, I think, be qualified by open discussion about the wide range and variety of values so that students come to see that these values are richly variable, adaptable and evolving, and that values are imposed by the people who use them. This kind of thinking can be a safeguard against indoctrination.

Sometimes art works enter schools by serendipity. For example - children's card collections, a local exhibition, a new mural down the road, gifts of art or reproductions. And, there are always unknowns when students have access to libraries, images in the home, CD-ROMs, community resources and possibly the Internet. The point is, no teacher can anticipate all the art works which students will be drawn to when selecting images for study.

In noting these matters, the question of "who should decide" is not easy to answer. But, it would be a mistake to not consider questions of educational value when choosing art works for study. Indeed, the educational use of an image is probably more important than any specific selection (Chapman, 1995; Grumet, 1989).

However, there is no perfect ideal list of art works every student must see and study. Moreover, there are indications, in art education literature, of widespread disagreement about what images are appropriate for study. The continual modifications and persistent disputes within the art curriculum, characterise essentially disputed concepts. Perhaps a major concern should be what counts as art and to whom?

What counts as art and to whom?

Many people are accustomed to thinking about art from a purely personal, subjective view (Anderson, 1991). However, personal preference does not provide a basis by which to select images for study. As teachers of art we need to admit that some art works which we don't like are educationally valuable.

Second, museums and galleries are commonly viewed as the main place to see valued works of art. Efforts to re-contextualise such art works for learning take many forms - texts, maps, educational programs, even film and video dramas.

Third, there is a remarkable readiness to allow for the study of art by means of a reproduction - a slide, a poster, a film, a computer screen image and so on. Indeed, Australians are raised on art in reproductions, there being hardly any major works of art on permanent view, except those in the national and state galleries (Ash, 1994).

Art reproductions are most often used by teachers and they are likely to remain so. Reproductions are valuable resources for the art teacher in the primary curriculum. However, visual quality suffers in reproductions and the size and shape disparity between such stimuli and real works of art is great (Ash, 1994).

Fourth, clearly a number of values also influence what's been collected or preserved, and recorded as a valuable image that's circulated to the public and schools. Most instruction depends on Western, male, adult values. There are very

few reproductions of art work by women, minorities and other works of art thought to be of little interest or value to the pale patriarchal penis people.

Finally, many images and events lack certification as 'art' by accredited experts, according to traditions of practice and conventions, but still have educational value. Artistry and meaning can be found in the dimensions of daily lives; celebrations and ceremonies; and other events (Chapman, 1995). And, there is complex artistic meaning in video images, film and emerging virtual realities.

As aforementioned, no program of study can encompass all images. Where, then, do teachers find criteria for selection? The answer is obvious: In one's educational philosophy, the benefits one sees in the study of art, and how those studies ought to be informed (Chapman, 1995). I would now like to look at how research has informed art education concerning the topic of this paper. The following review does not exhaust the literature on the topic, but the authors mentioned are frequently cited in the literature of art education.

Suggested images suitable for study

Many art educators and researchers (Smith, 1987; Herberholz and Hansen, 1985; Hewett and Rush, 1987; Greer, 1984; Johansen, 1982; Landau, 1986; Piscitelli, 1988) argue that art teaching should enable one access to exemplary works of art known for the excellence of the aesthetic experience. They recommend critical judgment of gallery/museum exemplary works of art. However, such a position has been criticised for being elitist, traditional, or conservative, and even undemocratic (Greer, 1993; Nadaner, 1982).

Alternatively, existential assumptions in education may result in a context-specific selection of art works for study, based on students everyday art experiences (Hamblen, 1991). Such a position advocates that teachers start with images that originate within the popular culture and everyday experiences of students (Bersson, 1986; Chalmers, 1990; Chapman, 1978; Duncum, 1987, 1988, 1993; Hickman, 1994; Hicks, 1989; Lanier, 1980, 1986) rather than imposing constraints too quickly on what counts as 'legitimate' art. Hickman (1994) suggests students should choose for themselves art objects for study, rather than have them selected by the teacher. Pateman (1991) qualifies this further by advocating both teacher and student selected images should be presented in the balanced curriculum. This is not to say that fine art images lack significance; rather, other perspectives and art forms such as folk, popular, and design arts, are of equal importance to the lives of a multicultural populace (Australian Institute of Art Education, 1993; Berssen, 1986; Fehr, 1994).

Many trends in art and music are now international. Because of the planetary flow of information, national boundaries dissolve. We are vicariously exposed to a kaleidoscope of cultures and images. Thus, examples of art by artists from various cultures, both historical and contemporary, are recommended by some art educators for discussion (Anderson, 1993; Herberholz & Alexander, 1985; Herberholz & Hansen, 1985). Such practice also facilitates an understanding of the confluence of cultures which define what we call our own Australian culture. It is recommended that teachers should use the art of various ethnic and folk sub-cultures (Bersson, 1986; Duncum, 1993; Hicks, 1989; Lanier, 1986).

Most art educators recommend the use of exemplars from architecture, cinema, television, and non-art objects from the entire environment (Darby, 1988; Feldman, 1970; Herberholz & Alexander, 1985; Ragans, 1988; Risatti, 1987). The Australian Institute of Art Education (1993) recommend that both human and natural visual phenomena should be studied. Recommended images can be found in television shows, film and video, or comics and magazines (Chalmers, 1990; Hicks, 1989; Hirsch, 1990; Lanier, 1980; Nadaner, 1984), and advertising and poster design (Chalmers, 1990; Efland, 1990; Hicks, 1989; Hirsch, 1990; Lanier, 1980).

A socially relevant art education is committed to the study of art and design that influences everyday reality; for example, architecture and environmental design (Bersson, 1986; Chalmers, 1990; Duncum, 1993; Efland, 1990; Hicks, 1989; Lanier, 1986; McFee & Degge, 1977). Industrial and applied arts could also be considered (Bersson, 1986; Lanier, 1986). The combination of the above examples, have at best an uneasy status in the 'art world'. This supports one of the reasons offered by art educators for a wider selection of objects to be studied, that is, to meet the broad goals of developing a critical social awareness.

Some art educators believe children are more likely to identify with works of art that have something in common with their own work, be it art elements or subject matter (Darby, 1988; Herberholz & Hansen, 1985). By comparison, Risatti (1987) believes that art criticism should focus on modern and contemporary art rather than art from other periods. However, he concedes that historical examples may be used where they are particularly significant and relevant to an understanding of the present.

In order to elicit personal reaction, Smith (1989) recommends the use of expressive art works. However, selecting appropriate examples for study is not a simple matter. Feinstein (1989) warns that not all works of art are rich sources for children to construct metaphoric meaning. This view is supported by Parsons (1987), who claims that children do not recognise the symbolism that adults have learned. Salkind and Salkind (1973) suggest that care should be taken in choosing images for measuring artistic preferences. A preference for realism may also be influenced by children's previous experience. Herberholz and Hansen (1985) posit that a totally nonrepresentational art work may easily be rejected by a child who has never been exposed to this form of art. Although the literature of children's artistic preference indicates a general trend favouring realistic representations (Parsons, 1987; Wilson, Chapman & Silverman, cited by Lovano-Kerr, 1985), Ash (1994) found that children showed varied preferences ranging along a continuum from realism to nonrepresentationalism. It was clear from Ash's (1994) study that the children's perceptions were not so dominated by subject matter, as Bowden (1989) claims, as to lead them to eliminate abstract and nonrepresentational works altogether.

Conclusion

Let me finish with a brief recap and a warning or two. The broad concept of art discussed in this paper reflects how students experience art every day, where significant art is not necessarily 'great' art (Duncum, 1993; Chalmers, 1990; Hickman, 1994). Critical judgment should question the art world as an institution that promotes art as a precious commodity. By understanding the students' own, often culture-bound conception of the arts, the teacher is able to use the

involvement the student has already established with the arts, as a path to understanding and knowledge (Chalmers, 1990; Lanier, 1986). Teachers can point to particular examples of what is good, but not to a universal standard of the 'good' (Smith & Pusch, 1990; Timms, 1991).

Teachers cannot assume the social authority to name and classify, and control what counts as items of art or culture. This 'authority' has appealed continually to the great master works, the great artists, such as Michelangelo or Rembrandt, a fixed benchmark of cultural heritage against which contemporary artists, such as Warhol, are judged and shown to fail. There appears to be an evasion, when engaging in primary school art criticism, of the more difficult questions that arise from highly innovative art works or from the culturally exotic. However, only by dealing with contemporary art works that define students' subcultures, as part of wider inter-connected cultures, can teachers facilitate students' lively engagement with art and enhance the growth of critical thinking.

Upon a first encounter with a work of art, students might say, "This is not art!". Further, it may prove pointless to discuss the formal concerns of artists with students who are essentially bothered by abstract art objects. Yet the more varied art that students observe and study, the more discriminating they become and the more they enjoy the works they consider worthwhile (Ash, 1994). These outcomes, however, do not necessarily emerge in any coherent order, as found in Ash (1994).

This implies that children should be exposed to a variety of multi-cultural art objects, both historical and contemporary. But, encyclopaedic knowledge is beyond the scope of general education. In the long run, it is probably more

important for students to form their own artistic preferences facilitated through education.

However, the general issue of 'suitable' images for study is an important and largely overlooked problem in Primary education (Chapman, 1995). The difficulty of resolving this problem should not be underestimated. Moreover, extensive experimentation and study of this issue would be required to enable conclusive generalisations to be made.

There appears to be many factors that influence choices of art works for study in public schools. But, I wish to emphasise the importance of personal choice in the selection of images. Further, I urge every teacher to consider how and why one selects works of art for study. I hope this paper provides some food for thought in doing so.

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Generation of Fuzzy Reservoir Operating Rules Under Imperfect Streamflow Data Condition

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Abstract

The paper presents an application of fuzzy theory as a strategy to produce an operation policy of a single reservoir designed under imperfect data condition, which is a common feature in developing countries. The paper considers imperfection in streamflow data and water demand values. The technique is applied to Wadaslintang Reservoir in Central Java, Indonesia. It is demonstrated that incorporation of fuzzy theory in dynamic programming result in more straightforward analysis than the conventional method, and yield better values of system performance measures.

Introduction

Streamflow data of the main river and its tributaries at a reservoir site are vital in the analysis of water balance and operation planning of the reservoir. Unfortunately, reliable and long streamflow records are usually scarce especially in developing countries. Often, when data are available, only streamflow data of the main river are available, while the data of its tributaries and the surrounding streams are either not available or available as qualitative information.

In this situation of “imperfect” streamflow data condition, one common strategy of solving the crisis of inadequate data is to generate streamflow data from either physiographic information,

spatial interpolation, or spatial disaggregation based on the reference data from gauged neighbouring basins with similar hydrologic conditions. Since reliable streamflow data in developing countries with low accessibility to remote areas such as Indonesia are very scarce even from surrounding basins, this generation process itself is of questionable nature. The primary concern in this situation is the precision uncertainty of the reference data of the measured rivers, which is passed through and may be exaggerated in the generated data. The resulting analysis, therefore, inherits a bigger imprecision uncertainty, if not misdirected efforts.

The emergence of fuzzy theory (Zadeh, 1965) with its wide prospects of application in many fields bogged with imprecision and qualitative information (see for example Esogbue et al., 1992) offers some hope in properly addressing the problem of imperfect streamflow data condition.

The envisaged scenario in the sequel is reservoir operation analysis during the planning stage with unreliable and/or short record of streamflow data at the main river and the surrounding streams. In consequence, the water availability from the reservoir which can be obtained from water balance analysis would tend to result in qualitative information as well. Therefore, a rigorous statistical analysis under the condition of imperfect data may not necessarily be appropriate. The inherent imprecision of the data dictates the need to employ fuzzy theory which is capable of recognising imprecision in the data and making inferences from them.

Methodology

In general, the paper follows a methodological scheme as shown in Figure 1. It is assumed that streamflow data into the reservoir and water demands from the reservoir are adequately represented as fuzzy numbers. This assumption is justifiable considering that imperfect

streamflow and qualitative water demand data are the only information commonly found during the planning stage in developing countries.

Theoretical Background

1. Fuzzy Theory

A fuzzy number A in the universe “ U ” is defined as a group of elements in the universe “ U ” which satisfies the proposition of fuzzy number A with membership level in the interval of zero to unity. The membership function of A is represented as $\mu_A:U \rightarrow [0,1]$, where μ_A is membership function of the fuzzy number A in the universe “ U ” which is in the range between zero and unity. A subset of the universe “ U ” which has positive membership level ($\mu_A \{x_i\} \geq 0.0$) is called as the “support” of fuzzy number A . A ‘ p -cut’ of a fuzzy number is defined as the support of the number which has membership level $\geq p$. A trapezoidal fuzzy number A shown in Figure 2 can be denoted by four parameters such as $A = [\underline{m}, \bar{m}, \alpha, \beta]$, where \underline{m} and \bar{m} are lower and upper medians, respectively, which have membership level equal to unity, α and β are left and right spreads of transition membership level, respectively. Arithmetical operation between two fuzzy numbers A and B is approximated with the following operations (Kaufmann and Gupta, 1991) :

a. addition

$$A + B = [\underline{m}_A + \underline{m}_B, \bar{m}_A + \bar{m}_B, \alpha_A + \alpha_B, \beta_A + \beta_B] \quad (1)$$

b. subtraction

$$A - B = [\underline{m}_A - \bar{m}_B, \bar{m}_A - \underline{m}_B, \alpha_A + \beta_B, \beta_A + \alpha_B] \quad (2)$$

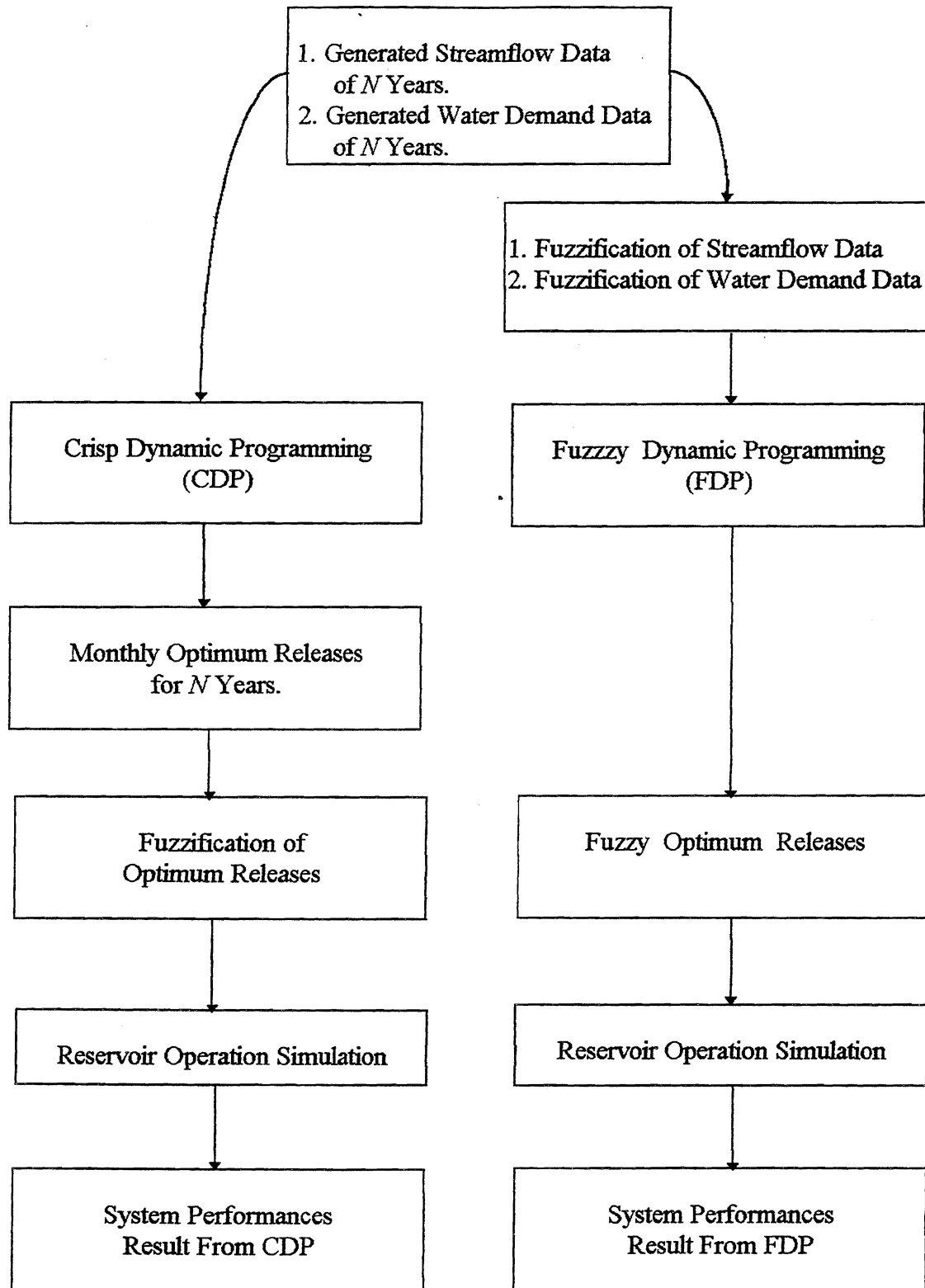


Figure 1. Methodological Scheme.

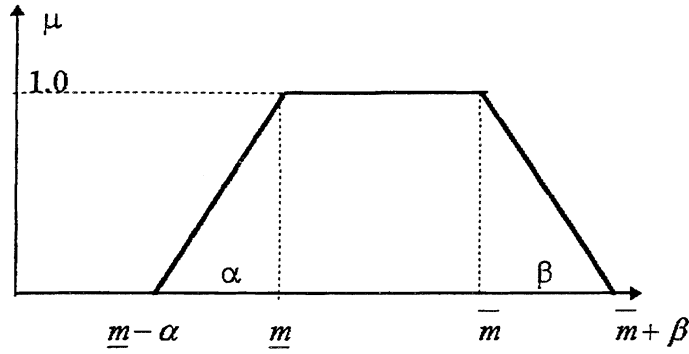


Figure 2. Trapezoidal Fuzzy Number.

c. Maximum

$$\max(A, B) = \begin{bmatrix} \max(\underline{m}_A, \underline{m}_B), \max(\overline{m}_A, \overline{m}_B), \\ \max(\underline{m}_A, \underline{m}_B) - \max(\underline{m}_A - \alpha_A, \underline{m}_B - \alpha_B), \\ \max(\overline{m}_A + \beta_A, \overline{m}_B + \beta_B) - \max(\overline{m}_A, \overline{m}_B) \end{bmatrix} \quad (3)$$

d. Minimum

$$\min(A, B) = \begin{bmatrix} \min(\underline{m}_A, \underline{m}_B), \min(\overline{m}_A, \overline{m}_B), \\ \min(\underline{m}_A, \underline{m}_B) - \min(\underline{m}_A - \alpha_A, \underline{m}_B - \alpha_B), \\ \min(\overline{m}_A + \beta_A, \overline{m}_B + \beta_B) - \min(\overline{m}_A, \overline{m}_B) \end{bmatrix} \quad (4)$$

2. Crisp Dynamic Programming (CDP)

One typical recursive equation of dynamic programming is given by (see for example Karamouz and Houck, 1982) :

$$f_t^n(k) = \min_l \left\{ f_{t+1}^{n-1}(l) + (R_{k,l,x} - T_t)^2 \right\} \quad (5)$$

$f_t^n(k)$ is the optimum objective function at the beginning of period t with n periods of the optimisation stages remaining if the current period storage state is in class k . This variable is also known as long term return, while the term $(R_{kt} - T_t)^2$ is called the short term or immediate return.

The continuity equation is given by (Loucks et al., 1981) :

$$R_{k,l,t} = S_{kt} + Q_t - LOSS_{kt} - S_{l,t+1} \quad (6)$$

where $R_{k,l,t}$ is the release at month t if the current period storage volume is in class k and the next period storage volume is in class l , Q_t is incoming inflow into the reservoir at month t , S_{kt} is the current month (t) storage volume which is in class k , and $S_{l,t+1}$ is the next month ($t+1$) storage volume which is in class l . $LOSS_{kt}$ is assumed as possible evaporation loss if the current month storage state is at k and the next month storage state is at l . In this paper, however, these losses are not being considered in order not to mask the primary scheme with incidental complexity.

3. Fuzzy Dynamic Programming (FDP)

The main difference of fuzzy dynamic programming formulated in this section from crisp dynamic programming is in the consideration of the storage classes, streamflow, and water demands as fuzzy numbers. As a consequence of fuzzy storage classes and streamflow data, the resulting $R_{k,l,t}$ in equation (6) is also a fuzzy number. In addition, the short-term return in equation (5) is to be reformulated as the square of fuzzy deviation. One index that can be used to measure fuzzy deviation is a “dis-resemblance index” as shown in Kaufmann and Gupta (1991). This index, as defined by Kaufmann and Gupta (1991), is denoted by $\delta(A,B)$ and has a value in the range from 0 to 1. This index is defined as :

$$\delta(A, B) = \frac{Aa + Ab + 2As - Ai}{2(R_1 - R_0)} \quad (7)$$

where :

- Aa, Ab = Area under the membership functions for fuzzy numbers A and B , respectively,
- As = Area of separation between the membership functions for the two fuzzy numbers A and B ,
- Ai = Area of intersection between the membership functions for the two fuzzy numbers A and B ,
- R_1, R_0 = lower and upper boundaries of the universe respectively, where the two fuzzy numbers A and B lie.

4. Fuzzy Release Rules

The monthly release rules derived from CDP formulation is denoted as $\tilde{R}_t[\alpha_t, R_t^{ave}, R_t^{ave}, \beta_t]$, where $\alpha_t = R_t^{ave} - R_t^{\min}$, R_t^{ave} , $\beta_t = R_t^{\max} - R_t^{ave}$ are the left spread, the median, and the right spread of the fuzzy release \tilde{R}_t , respectively. $R_t^{\min}, R_t^{ave}, R_t^{\max}$ are the minimum, the average and the maximum optimum releases at month t , respectively obtained from CDP formulation.

5. Simulation

A simulation run of a single reservoir was conducted for a period of 25 years which is equal to the length of 'reference' data generally used in small reservoir studies. Both streamflow and water demand data used in the simulation were generated. Streamflow data were generated using 3-parameters Log-Normal distribution, while the water demands were generated using Wilson-Hilferty transformation. In the operation phase, the reservoir was operated based on the standard operating rule defined as follows:

$$R_t = \begin{cases} S_t + Q_t - S_{\max} & \text{if } S_t + Q_t - T_t > S_{\max} \\ T_t & \text{if } S_{\min} \leq S_t + Q_t - T_t \leq S_{\max} \\ Q_t & \text{if } S_t + Q_t - T_t < S_{\min} \end{cases} \quad (8)$$

Where S_t is the simulated storage volume at month t , S_{\max} and S_{\min} are the maximum and the minimum storages, respectively. Whenever the simulated release R_t defined above falls outside the range of $[R_t^{\text{left}}, R_t^{\text{right}}]_p$ associated with ' p -cut' of the corresponding monthly fuzzy release rule, the simulated release R_t was adjusted with the following equation.

$$R_t' = \begin{cases} R_t^{\text{right}} & \text{if } R_t > R_t^{\text{right}} \\ R_t & \text{if } R_t^{\text{left}} \leq R_t \leq R_t^{\text{right}} \\ 0 & \text{if } R_t < R_t^{\text{left}} \end{cases} \quad (9)$$

The storage volume after releasing R_t' was calculated from the continuity equation (6).

The performance of the fuzzy release rules was measured by reliability of the fuzzy release rule denoted as γ , and by the average quality of resemblance of actual simulated release R_t' with the fuzzy release rule which is denoted as θ . These measures are defined as :

$$\gamma_p = 100 \frac{N_{in}}{N_{sim}} \quad (10)$$

and

$$\theta_p = 100 \frac{\sum_{i=1}^{N_{in}} \mu_{R_t}(R_t')}{N_{in}} \quad (11)$$

where γ_p (in %) is the reliability of fuzzy release rules at ' p -cut' level, θ_p (in %) is the average quality of resemblance of the R_t' with the fuzzy release rule at ' p -cut' level, N_{in} is

the frequency of R_t' in the range of $[R_t^{left}, R_t^{right}]_p$, $Nsim$ is the period of simulation, and $\mu_{\tilde{R}_t}(R_t')$ is membership level of fuzzy release rule of month t at the value of R_t' .

To evaluate the consequence of restricting the release to be in the range of $[R_t^{left}, R_t^{right}]_p$, the reliability of the system was also measured. The system reliability, denoted as η , is calculated as $\eta = 100(1.0 - fail)$, where *fail* is the frequency of failure. The reservoir policy is considered to have failed if either (a) the release R_t' is less than the water demand T_t or (b) the storage volume S_t is less than the minimum storage S_{min} .

System Description

Wadaslintang reservoir is located on the Bedegolan river in Central Java, Indonesia. The reservoir is mainly used to supply water demands of the surrounding irrigation area. Its purposes also include hydro power generation of 2x8 MW capacity, low flow augmentation, and to supply water to meet domestic, municipal, and industrial demands.

During the planning stage in 1978, there was not sufficient streamflow data of the Bedegolan river and the surrounding streams within the irrigation system. To conduct water balance analysis and the operation planning, the consultant had to generate streamflow data with reference to Jragung/ Tuntang watershed (ECI, 1978). In this paper, these generated data and the resulting water demands will be referred to as historical data which will be used to derive fuzzy streamflow data, fuzzy water demands, and stochastically generated data of streamflow and water demands.

Results of The Application

The comparison of the execution time between CDP and FDP programs for different values of NS is shown in Figure 4. It is shown that the FDP program requires much less time of

execution. This situation can be explained by the fact that the optimisation in CDP program is conducted for the whole time horizon of N years, while in FDP program, it is conducted in one year only. It is later shown, however, that this straightforward solution of this FDP program does not hinder a better analysis.

To avoid the ‘trapping’ effect of storage level as it has been shown, for example, in Goulter and Tai (1985) and the ‘overlooking’ of small water demand, the number of storage classes adopted in the further analysis is 200 intervals.

A straightforward comparison on the fuzzy release rules generated by CDP and FDP programs is shown in Figure 5. The figure shows the satisfaction level of the fuzzy release rules at the average values of monthly water demands. It clearly shows that the satisfaction levels of the fuzzy release rules generated by FDP program are higher than those from CDP program most of the time. This result shows that the adoption of the fuzzy release rule tends to result in higher possibility of supplying the demand, in this case, at its average value.

The summary of simulated performance measures are shown in Figure 6. The figure shows the measure of release rule reliability at ‘ p -cut’ level, the quality of release resemblance to the fuzzy release rule at ‘ p -cut’ level, and the reservoir reliability as a consequence of confining the release in the range of ‘ p -cut’ level of fuzzy release rule.

In general, the three measures resulting from FDP program always show better values compared to those from CDP program at all level of ‘ p -cut’.

Concluding Remarks

It is demonstrated that the application of fuzzy theory to the condition of imperfect data is beneficial and leads to more straightforward analysis than conventional methods, yet, resulting in better system performances. Fuzzy theory holds a great promise in the field of reservoir operation studies because of the great deal of uncertainty present in the system.

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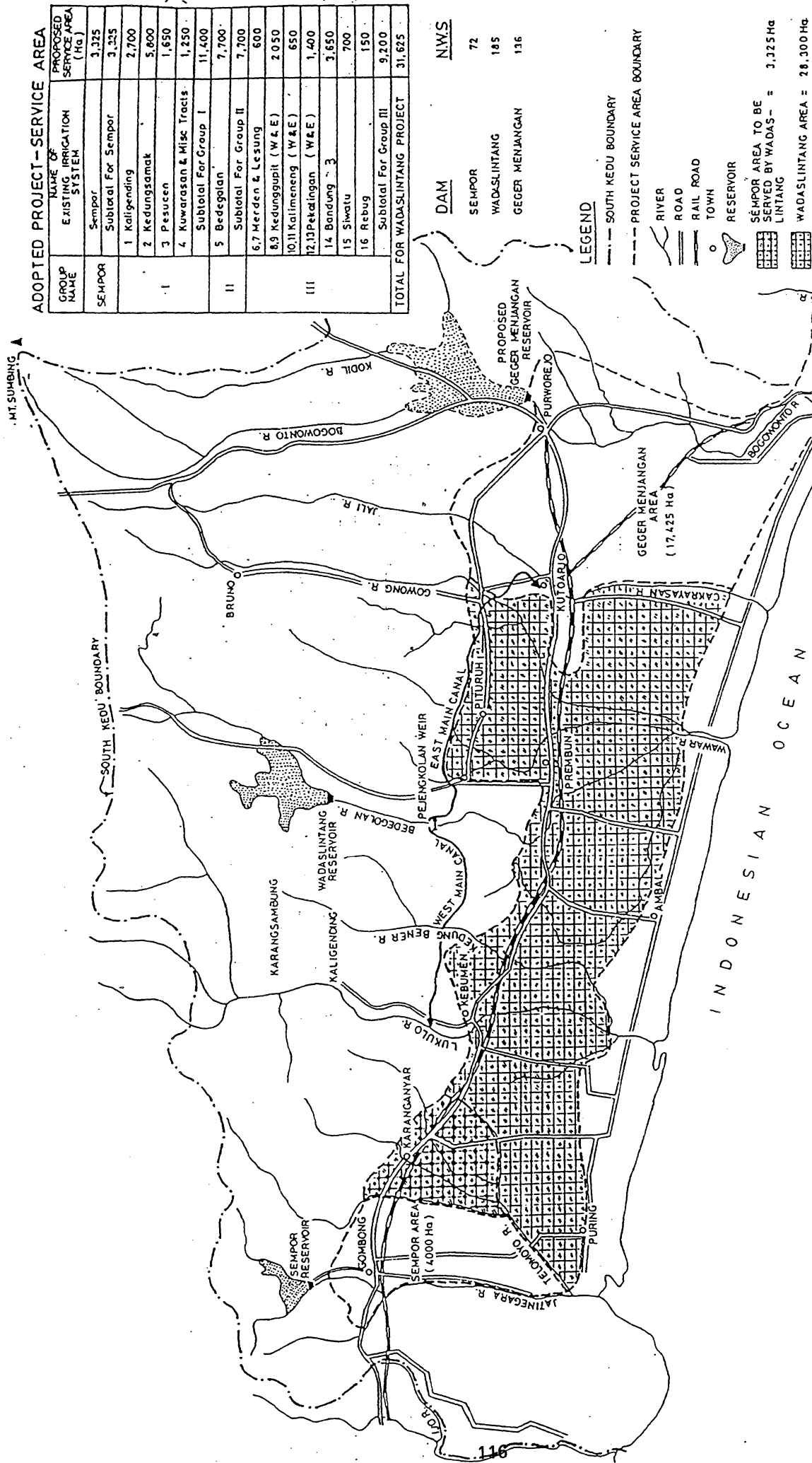


Figure 3. Location and Service Area of Wadaslanting Reservoir, Central Java, Indonesia (ECL, 1978).

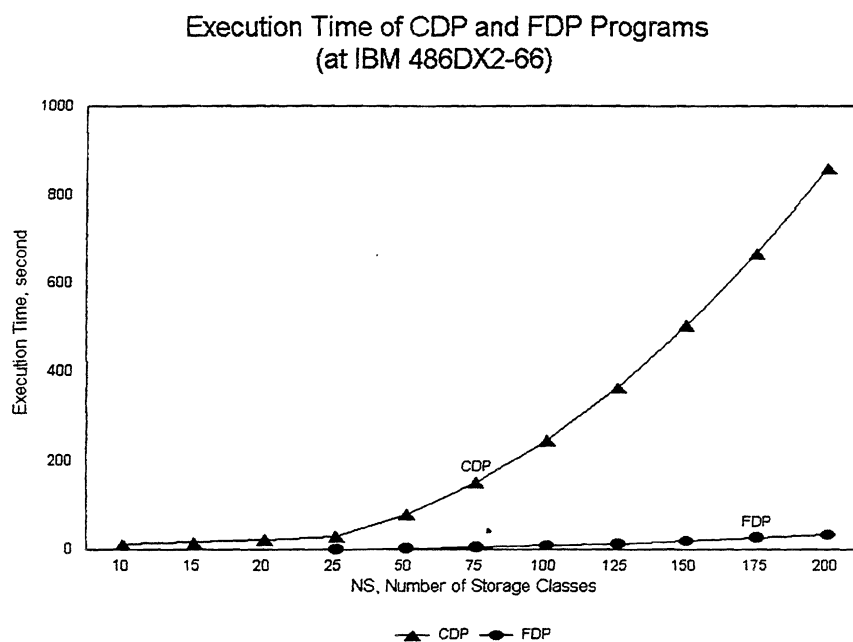


Figure 4. Execution Time of CDP and FDP Programs.

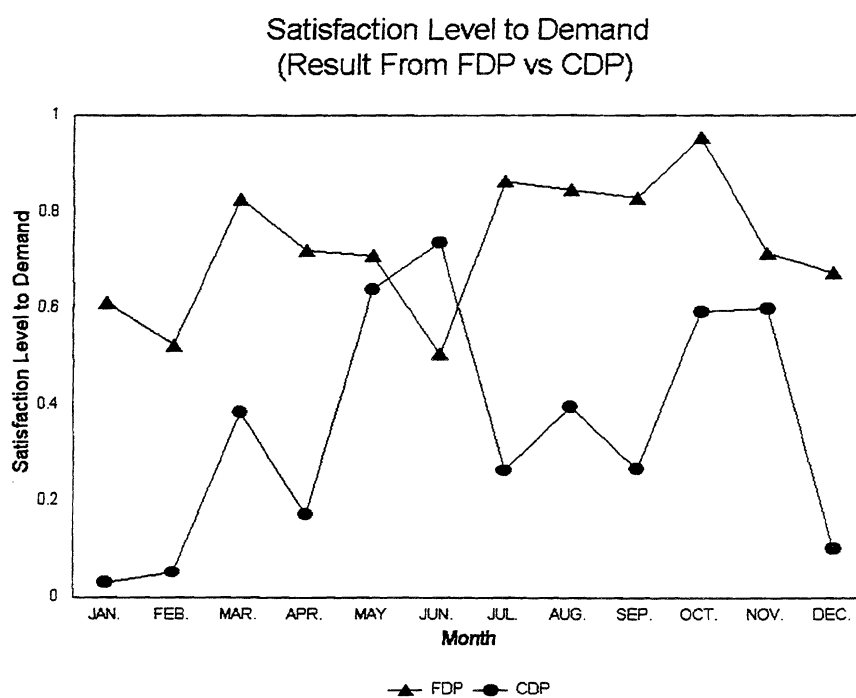


Figure 5. Satisfaction Level of Fuzzy Release to Average Monthly Demand.

Level of System Performances (Result From FDP vs CDP)

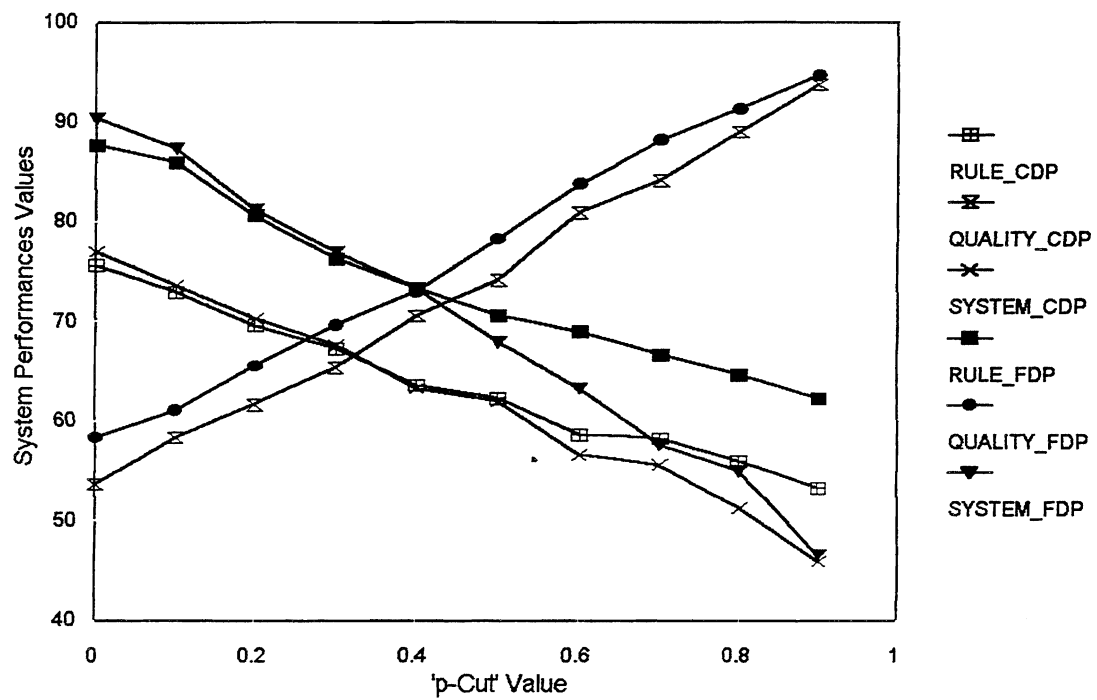


Figure 6. System Performances of Wadaslintang Reservoir Operated Under Fuzzy Release Rule.

Synthesis of Protoberberine Alkaloids and Analogues via Diels-Alder Reaction

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Centre for Molecular Architecture

Central Queensland University

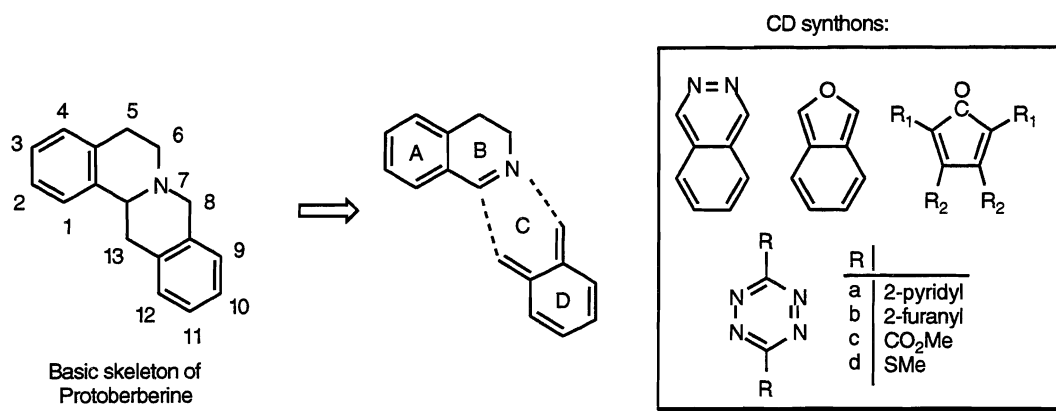
Abstract

Protoberberine alkaloids are widely distributed in a variety of botanical families and commonly used in folklore medicine as herbal remedies. The pure samples isolated or synthesised have been found to display a wide spectrum of biological activity. The synthetic methods *via* Diels-Alder reaction are discussed.

Introduction

Protoberberine alkaloids are widely distributed in numerous plant families, particularly Berberidaceae, Menispermaceae, Papaveraceae, Fumariaceae, Rannunculaceae and Annonaceae.¹ They are commonly found as active components in many folklore medicines as herbal remedies in China, Korea, Japan, India, and U.S.S.R. (the previous Soviet Union) either as pharmaceuticals or as extracts.^{2,3} They display a broad diversity of biological activities, such as antimicrobial, hypotensive, tranquillising, antileukemic and antineoplastic.^{3,4} Although berberine, a representative of this family, was isolated from *Berberis vulgaris* in 1837, the broad study of protoberberine alkaloids started from 1970's. There are some reviews about synthetic,^{1,5} pharmacological,^{3,4} transformation,⁶ biogenetic and culture development⁷ studies of the protoberberine alkaloids. Recently the structure activity relationships (SAR) of protoberberines as potential antileukemia medicine³, dopamine receptors inhibitor⁸ or adrenoceptors antagonist⁹ have been established to some extent. For the detailed study of biological activity, we develop the new synthetic methodology based on the Synthetic Transform outlined in **Scheme 1**. In this paper, the synthetic methods *via* Diels-Alder reaction will be discussed.

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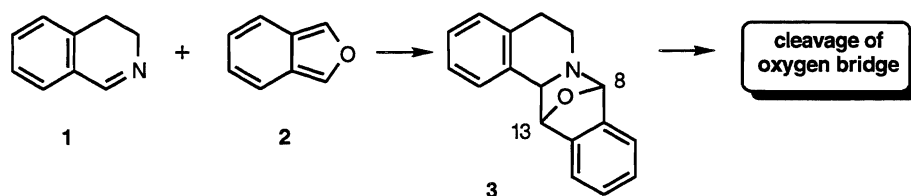


Scheme 1. Synthetic Transform in our study

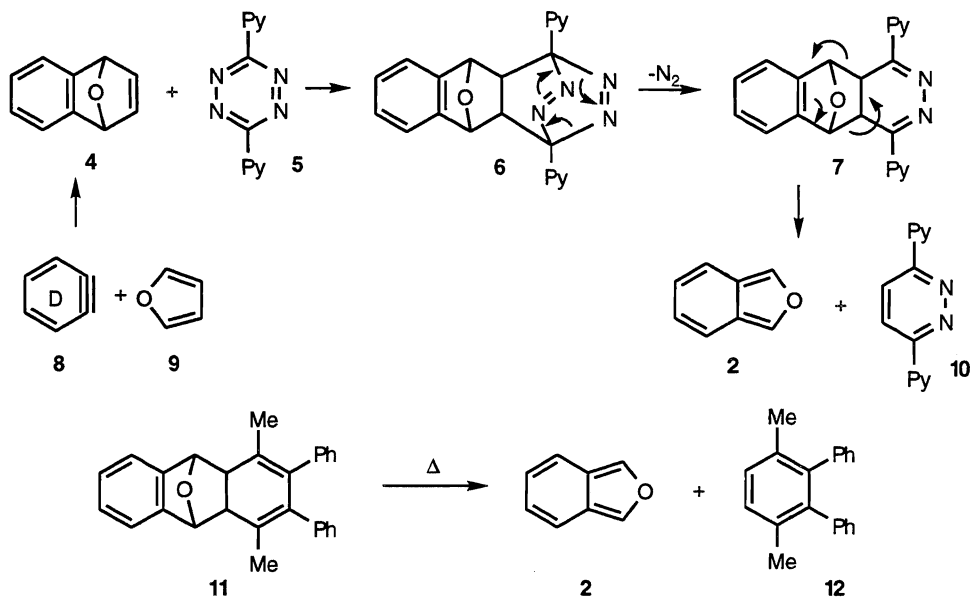
Synthesis based on Diles-Alder reaction

Diels-Alder reaction usually gives stereo and regio selective or specific products and has been successfully applied in the total synthesis of complex molecules. This reaction also features highly both in proposed biosynthetic pathways and in synthetic approach to natural products, especially in the total synthesis of stereo-specific alkaloids.¹⁰ Protoberberine skeleton was synthesised with 3,4-dihydroisoquinoline as dienophile and *o*-quinodimethane as diene, generated by thermal rearrangement of benzocyclobutene, *via* intermolecular cyclisation or intramolecular way.¹¹⁻¹⁶ The intramolecular Diels-Alder reaction with both dienophile and diene tethered in isoquinoline nucleus at position C-1 and N-2 gave directly D-ring hydrogenated protoberberine skeleton *via* formation of C and D rings in one step.¹⁷ The intermolecular benzyne cycloaddition with isoquinoline fused pyrrolinedione also gave protoberberines.^{18,19}

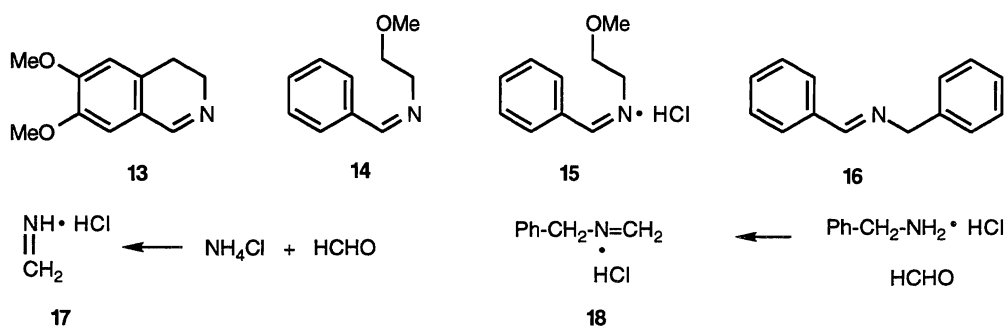
Our interest in Diels-Alder reaction leads us to study the reactivity of 3,4-dihydroisoquinoline (**1**, DHIQ) as aza dienophiles with different dienes. Isobenzofuran (**2**, IBF), generally a very reactive dienophile, was only reported to react with highly strained three-membered cyclic imines – azirines.²⁰⁻²¹ The IBF method provides a direct approach to the required 4-ring skeleton from easily obtained starting materials (**Scheme 2**). The starting material 3,4-dihydroisoquinolines (DHIQ) can be easily synthesised by classical methods.²² The isobenzofurans (IBF) can be generated by Warrener's *s*-tetrazine method under mild neutral condition (**4 + 5 to 2**).²³ The various methods for generation of benzyne (**8**) provide



Scheme 2. DHIQ-IBF method



Scheme 3. Generation of IBF



Scheme 4. Aza dienophiles

good ways to elaborate berberine D-ring. The cleavage of oxygen bridge in C-ring can be achieved by various methods under acid, neutral or basic conditions, which have been studied broadly in the synthesis of polyaromatic hydrocarbons.²⁴⁻³⁰ The possible problem of this method is the competitive reaction between IBF and tetrazine (5) with DHIQ. But this can be

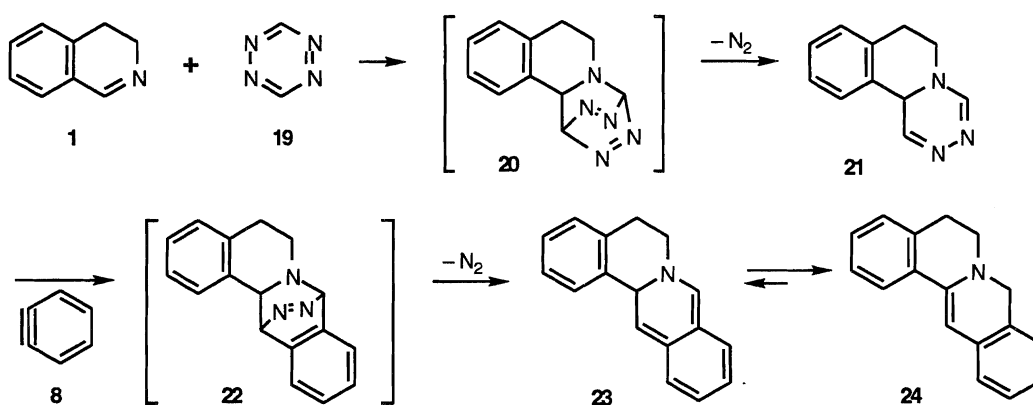
solved by generating and isolating IBF precursor (**7**) first and then adding it in the reaction, or by pyrolysis of another precursor (**11**) (**Scheme 3**). If the reaction between DHIQ and tetrazine happens easily, this leads to the tetrazine-triazine method. (see **Scheme 5**)

We ever tried the reaction of different imines, such as 6,7-dimethoxy-3,4-dihydroisoquinoline (**13**) and acyclic Schiff base (**14** to **18**). (**Scheme 4**) The IBF precursor (**7**) was generated *in situ* or added into imine solution after isolation with or without the presence of Lewis acid catalysts, such as aluminium chloride or hydrogen chloride (as iminium salt in case of **15**, **17** and **18**). Alternatively, the precursor (**11**) was heated *in situ* in toluene (110 °C) for two weeks or in 2-methoxyethyl ether (140 °C) for 3 hours until it disappeared. However, no desired products were observed by ¹H NMR in any of the above efforts. DHIQ **13** did not react with 1,3-diphenylisobenzofuran under high pressure (14 kbar) at room temperature for 18 hours. This indicates that IBF, normally a very reactive diene, is not a good and reactive diene in the reaction with cyclic or acyclic imine dienophiles.

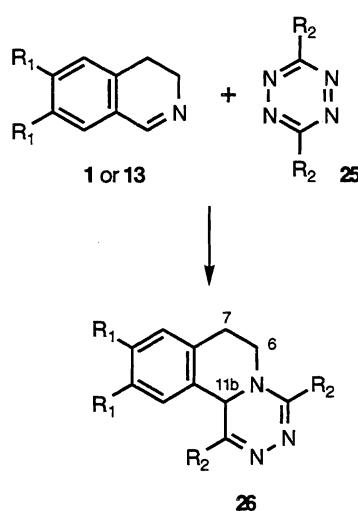
The reaction between acyclic imine (**14**, **16**, **17** and **18**) and furan (**9**) was also studied. But no reaction happened with any effort, such as adding lithium perchlorate catalyst, increasing reaction temperature or prolonging reaction time. When using more electron-deficient furan, diethyl furan 3,4-dicarboxylate, to monitor the reaction in deuterium chloroform at room temperature, no reaction was observed from ¹H NMR after 67h. Using Lewis acid to catalyse reaction gave undesired product, which is very difficult to purify. We tried to generate iminium salt *in situ* from ammonium chloride and aldehyde under aqueous Manich-like condition²⁰ (**17** and **18**), but only jam-like precipitate was obtained, which presumably results from polymerisation between aldehyde and furan.

Considering that DHIQ may be an electron-rich dienophile and really react with some electron-deficient dienes.¹⁶ Tetrazine-triazine method and phthalazine method should be possible ways to the potential berberine skeleton.

Tetrazine-triazine method is based on the sequence of aza diene and dienophile reaction. (Scheme 5) Diels-Alder reaction with *s*-tetrazine³¹⁻⁴⁸ or triazine⁴¹⁻⁴⁵ as aza diene to build up aza heterocyclic compounds has been applied successfully in the total synthesis of complex natural products and pharmaceutically important compounds.⁴¹⁻⁵⁰ In 1982, Berger and co-workers⁴⁸ reported the first and also the only Diels-Alder reaction between DHIQs and *s*-tetrazines (**26f, g**). But no systematic study was undertaken. We studied the different substituted DHIQs (**1** or **13**) and *s*-tetrazines (**25**) and the results were summarised in Scheme 6.



Scheme 5. Tetrazine-Triazine method



	R ₁	R ₂	Solvent	T (°C)	Time (h)	Yield
a	H	2-Py	CHCl ₃	60	0.5	82
b	MeO	2-Py	CHCl ₃	60	0.5	99
c	MeO	2-Fu	CHCl ₃	60	120	44
	MeO	2-Fu	toluene	110	17	50
d	MeO	MeS	CHCl ₃	60	216	low*
	MeO	MeS	toluene	110	15	low*
e	MeO	CO ₂ Me	CHCl ₃	20	0.25	52
f**	H	Ph	NA	NA	NA	25
g**	H	CO ₂ Me	NA	NA	NA	54

* Only detected by mass spectra

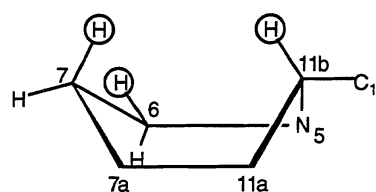
** Data from literature.⁴⁸

Scheme 6. DHIQ as aza dienophile – *s*-tetrazine as aza diene

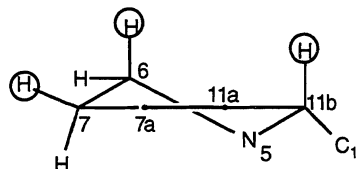
As expected, the electron donating substituents (such as MeO) in DHIQ made the imine double bond more electron-rich and therefore more reactive dienophile in the inverse Diels-Alder reaction.^{35,51} The order of the reactivity of DHIQs was: MeO > H. The electron withdrawing substituents in *s*-tetrazines facilitated the reaction. The order of the reactivity of substituted *s*-tetrazines was CO₂Me >> Pyridyl-2 > Furanyl-2 >> MeS. The low reactivity of 3,6-di(2-furanyl)-*s*-tetrazine led to the formation of many by-products. Moreover, 3,6-dimethylthio-*s*-tetrazine gave mess which was difficult to separate.

The adducts (**26b** and **26c**) were stable in solid state and the crystalline solids stable even when dried at 80 °C in vacuum oven overnight. However in solution they decomposed and made further purification *via* recrystallisation unsuccessful. This is because that the products are sensitive to either light or air. And the repeat of the reaction with all operation under protection of nitrogen gas in darkness gave good crystalline solid. The adduct **26a** was relatively stable either in solid state or in solution and gave good crystalline product after recrystallisation.

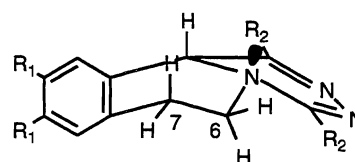
From ¹H NMR spectra, the four protons of two methylene groups in these adducts are magnetic nonequivalent and appear as four different multiplets. And all these adducts show the almost identical splitting pattern of this four protons. This suggests that this ring system is constrained to rotate freely and only one conformational isomer exists. From both Dreiding model and Semi-Empirical AM1 calculation (**Table**), two conformational isomers (**28a**, **b**) are possible and different mainly at the conformation of B ring. (**Scheme 7**) Conformer **28a** has a boat B ring and conformer **28b** a twist-boat. Therefore **28b** is dynamically more stable isomer (favoured by 1.25-2.53 kcal/mol) because of the partial release of B ring strain. The distances of proton H_{11b} with *cis* protons of two methylene groups at position 6 and 7 are very different in two conformers. In **28a**, proton H_{11b} is close to *cis* -H₇ and far away from *cis* -H₆. But in **28b**, proton H_{11b} is close to *cis* -H₆ and far away from *cis* -H₇. Our adducts (**26a-e**) all showed strong nOe enhancement between H_{11b} and *cis*-H₆ and no enhancement between H_{11b} and *cis*-H₇. Therefore our products have B ring twist-boat conformation **28b**.



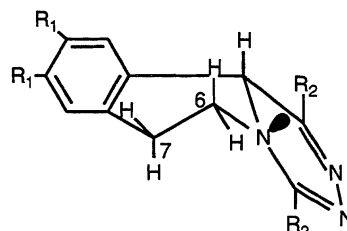
27a B ring boat conformation



27b B ring twist-boat conformation



28a



28b

Scheme 7. Two possible conformation of adducts 26

Table. Semi Empirical AM1 calculation of the two different conformations ^a

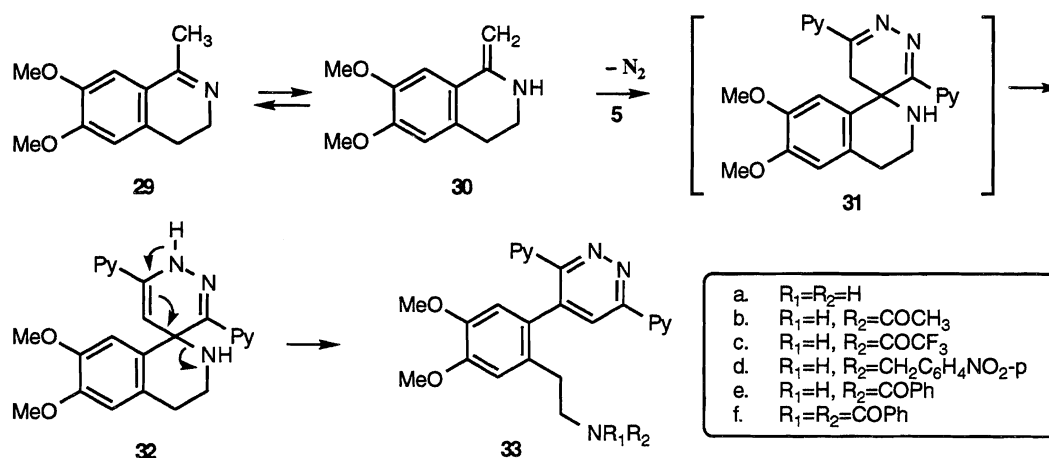
Structure	Conformation 28a			Conformation 28b		
	ΔH_f (kcal/mol)	Distance with H _{11b} (angstroms)		ΔH_f (kcal/mol)	Distance with H _{11b} (angstroms)	
		<i>cis</i> -H ₆	<i>cis</i> -H ₇		<i>cis</i> -H ₆	<i>cis</i> -H ₇
26b	106.209803	3.0742	2.5140	104.957969	3.3122	4.8297
26c	47.488899	3.1997	2.5475	46.027854	2.8567	4.5226
26d	16.337050	4.1050	3.9674	13.813755	2.4974	4.1249
26h	119.473579	3.2021	2.5546	118.097731	2.4880	4.1107
26i	90.814972	3.4269	2.7045	88.986535	2.8567	4.5226
26j	88.721402	4.1039	3.9565	86.450715	2.5042	4.1442
26k	18.697145	3.4253	2.6999	16.801270	2.8502	4.5193

^aData corresponding to fully optimised geometries calculated on SiliconGraphics Indigo Workstations using Spartan v.3.1 program from Wavefunction Inc..

26h. R₁=H, R₂=2-Fu. 26i. R₁=R₂=H. 26j. R₁=H, R₂=MeS. 26k. R₁=MeO, R₂=H.

Diels-Alder reaction of 3,6-di(2-pyridyl)-s-tetrazine (**5**) and 6,7-dimethoxy-1-methyl-3,4-dihydroisoquinoline (**29**) gave the unexpected adduct (**32**) from enamine (**30**), which existed in the equilibration with 1-methyl DHIQ (**29**). The original product (**32**) was an unstable syrup, which transformed to ring open product (**33a**) *via* both thermal and photochemical pathways or amides (**33b**, **c**, **e**, **f**) and secondary amine (**33d**) by treatment

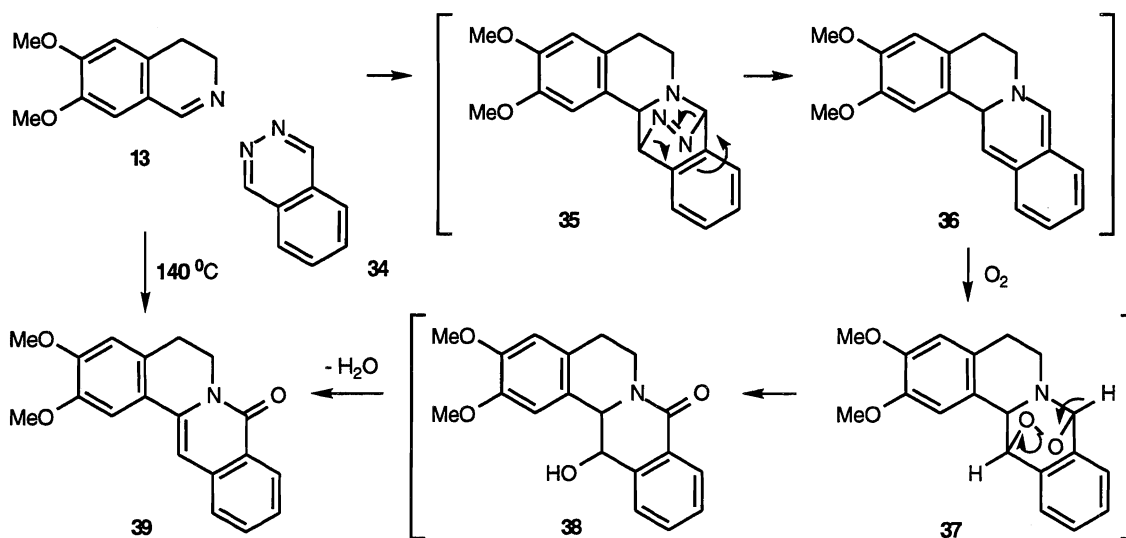
with the corresponding acid anhydride or ester and benzylbromide, respectively. All the efforts towards formation of crystalline derivatives were unsuccessful, which were out of our expectation. (**Scheme 8**)



The inter- or intra-molecular Diels-Alder reaction of 1,2,4-triazine is a active area in the past decade and successfully applied in the total synthesis of many complex natural products and pharmaceutically important aza heterocyclic compounds.^{41-45,52-63} As the reasonable deduction, the Diels-Alder reaction of 1,2,4-triazino[4,5-a]isoquinoline (**26**) with reactive benzyne (**8**) should undergo easily and give the desired protoberberine skeleton.

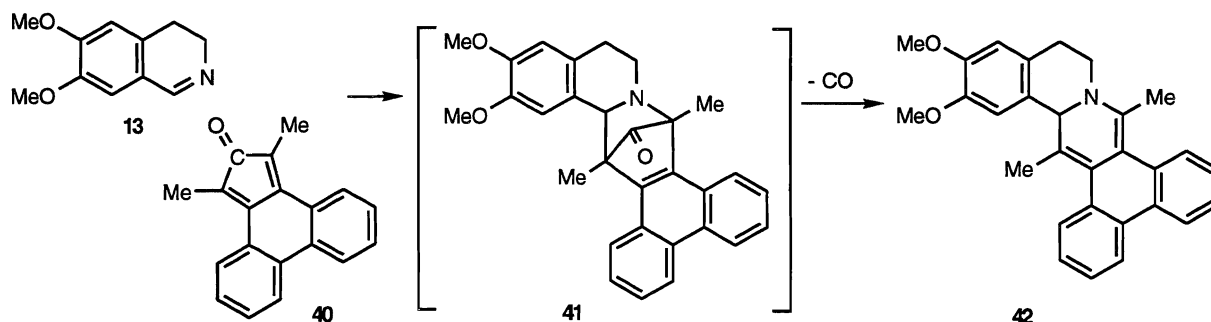
Although there are some reports about Diels-Alder reaction of aza dienes, such as tetrazine and triazine, there are scarce publications about diazine as diene.^{32,35,47,50} The reason is possibly because tetrazine and triazine are more electron deficient and therefore more reactive *via* inverse Diels-Alder reaction than diazine. As a model study, we took the reaction of 6,7-dimethoxy-3,4-dihydroisoquinoline (**13**) and phthalazine (**34**) in 2-methoxyethyl ether at 140 °C for two days. Almost all starting phthalazine was recovered and one pure product isolated, whose structure was proved to be 8-oxoprotoberberine (**39**) by spectra analysis and comparison with the authentic sample from the other synthetic route.⁶⁴ The possible mechanism is suggested *via* tandem Diels-Alder reaction first with phthalazine as diene and DHIQ as

dienophile to form protoberberine intermediate (**36**), which is attacked by oxygen to form peroxo bridged intermediate (**37**). Ring open followed by losing one equivalent of water gives 8-oxoprotoberberine (**39**). (**Scheme 9**)



Scheme 9

Diels-Alder reaction of 3,4-dihydroisoquinoline with cyclopentadienone is also studied for the possible way to protoberberine skeleton as shown in **Scheme 10**. Thus the model compound 2,5-diethyl-3,4-diphenylcyclopentadienone was refluxed with 6,7-dimethoxy-3,4-dihydro-isoquinoline (**13**) in toluene (110 °C) for 22 hours. A mixture is obtained and no desired cycloaddition product is detected by 1H NMR. Further study in this area is underway.



Scheme 10

Acknowledgment

I wish to express my great thanks to my supervisor Professor R.N.Warrener for his encouragement and guidance throughout my studies, and to Central Queensland University and Centre for Molecular Architecture (CMA) for financial assistance in the form of Post-graduate Research Awards.

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Towards the Synthesis of An Artificial Enzyme

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Abstract

An artificial enzyme template possessing two binding centres has been designed, and the processes of its catalysed bimolecular reaction are being investigated. As part of our approach to prepare this artificial enzyme, synthesis of a variety of model U-shaped cavitands has been conducted. The 15-crown-5 substituted isobenzofuran **20** has been generated for the first time using the retro Diels-Alder reaction of compound **16** using either Warrener's s-tetrazine or Fieser's cyclone route. An extremely important role of **20** is that it allows one or more crown ether moieties to be attached directly to the rigid ring system in order to permit construction of non-covalent binding sites between the receptor and substrate with individual size, shape, electronic characteristics and functionality.

Introduction

Molecular recognition and complexation play central roles in life processes. When a substrate binds to an enzyme or a drug sticks to its target, for instance, highly selective interactions occur between the partners to control the process. Supramolecular chemistry is concerned with the study of the basic features of these interactions and with their implementation in specially designed unnatural systems.¹⁻⁶ The development of artificial host compounds was triggered by the crown ether chemistry, founded by Pedersen,⁷⁻¹¹ followed by Lehn's "three dimensional crown ethers" (Cryptands)^{1-4,12,13} and Cram's cavitands which contain an enforced cavity "large enough to engulf ions or molecules".^{6,14-19} These pioneering studies laid the foundation of this field.

Supramolecular chemistry involves a molecular receptor which is itself held together by co-valent bonds, binding selectively ions and/or substrates by means of various intermolecular interactions leading to an assembly of two or more species. Thus synthesis of an artificial receptor system will involve traditional organic synthesis, albeit regioselective or stereoselective to produce the

host, followed by one or more binding steps using intermolecular non-covalent bonds to produce a multicomponent arrangement predetermined by the design of the receptor. The receptor molecule may display functions of molecular recognition, molecular catalysis or transport.²

The incorporation of fundamental catalytic features of biological transformation in the design of "unnatural" molecular catalysis is of contemporary interest not only for the elucidation of the origin of the efficiency and selectivity in enzymatic catalysis processes but also in the development of artificial enzyme-like catalysis.²⁰⁻²² Two dramatic features of enzymatic catalysis are molecular recognition and rate acceleration.²³ The *shape* and *electrical complementarity* of the binding surface of the enzyme are responsible for the specificity or recognition of the substrate, and the *mechanism* or *mode* of chemical catalysis is responsible for the large rate enhancement.²⁴ Although mechanisms of enzyme catalysed reactions are still not fully understood, one of the most important steps in enzyme catalysed reactions is the bringing of the reacting groups both on the substrate and enzyme into close proximity.^{23,25,26} Our studies in the artificial enzyme area have been focused on systems where cavitands provide enforced rigid concave surfaces which have convergent functional groups and binding sites attached and which can be used to bind two different substrates and catalyse their intermolecular reaction. We envision the enzyme-like catalysed reaction as shown schematically in **Figure 1**.

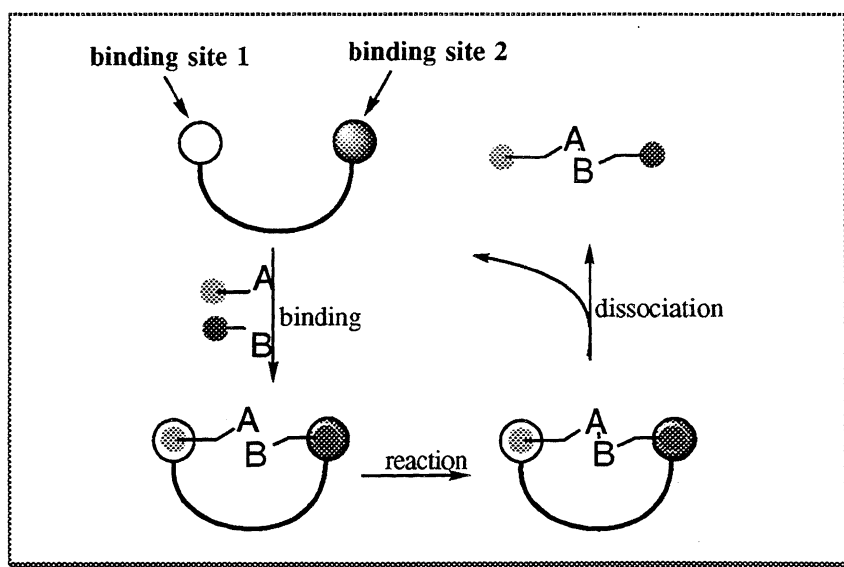


Figure 1. Schematic View of a Proximity Catalysed Bimolecular Reaction

Catalysis by this artificial enzyme will involve

(1) recognition and selectivity of the initial substrates bound by the synthetic receptor, thereby placing the relevant functional groups of the two substrates in a position conducive for the reaction to occur. As a consequence, the reaction between the two substrates becomes effectively intramolecular and reaps the kinetic advantages of intramolecularity;²⁴

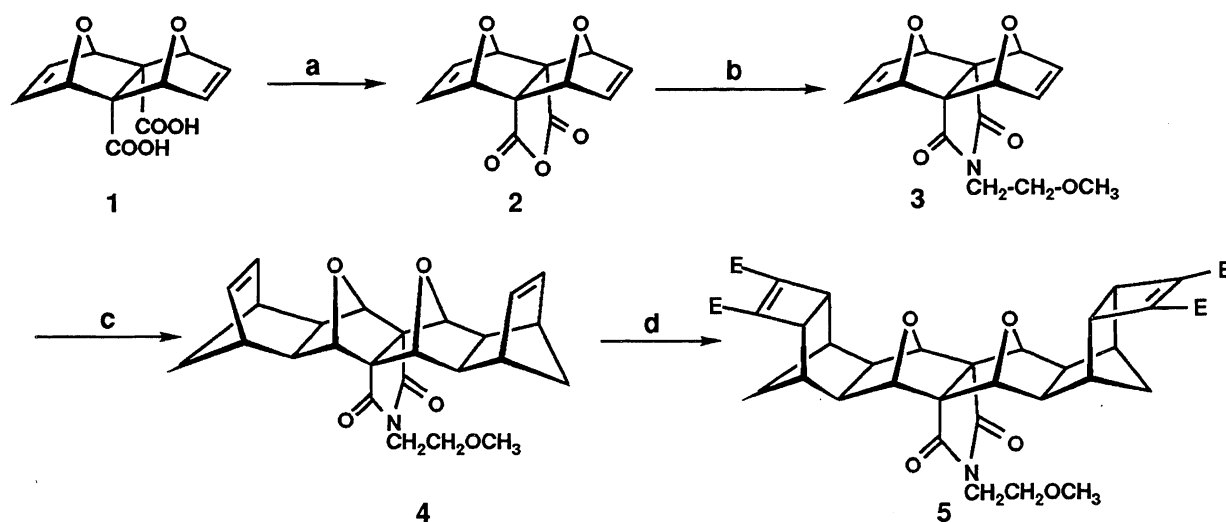
(2) dissociation of the reacting enzyme-product complex to furnish product, and release of the product to regenerate the catalyst for a new cycle.

In order for such catalytic system to be realised, a source of non-covalent binding between the artificial enzyme and the substrate and/or reagent must be established. In this context we have chosen the crown ether as an effective complexation partner for ammonium cations ($R-NH_3^+$).

Employing these guidelines, we have designed and synthesised various U-shaped cavitands and crown ether substituted IBF which permit the crown ether moieties to be attached to the rigid ring systems.

Synthesis of U-shaped Molecular Cavitands

The synthesis of U-shaped cavity molecules **4-13** is outlined in **Scheme 1, 2** and **3**.



a. $SOCl_2$, 60 °C, 64 %; b. (1) $NH_2CH_2CH_2OCH_3$, 0 °C; (2) $NaOAc/Ac_2O$, 60-70 °C, 60 %; c. cpd, $CHCl_3$, 60 °C, 92 %; d. DMAD, $RuH_2CO(PPh_3)_3$, benzene, 60 °C, 91 %

Scheme 1

Treatment of dicarboxylic acid **1** with thionyl chloride provided anhydride compound **2** in 64 % yield after recrystallisation.²⁷ This compound reacted with 2-methoxyethylamine and cyclised (NaOAc/Ac₂O) to produce succinimide **3**. To obtain a U-shaped cavitand from **3**, a $[4\pi+2\pi]$ -cycloaddition needs to proceed with *endo*-selectivity so as to introduce a double bent geometry. This was achieved by the cycloaddition reaction of cyclopentadiene (cpd) onto the double bonds of compound **3**. This reaction proceeded smoothly at 60 °C and resulted in a Alder *endo*-adduct **4** in 92 % yield. The structure of compound **4** was determined by its elemental analysis and NMR spectral data which supported a C₁ symmetrical structure. A single resonance observed at 5.90 ppm as a triplet ($J=1.6$ Hz) was assigned to vinyl protons H_{6,7,15,16} (see **Figure 2**). A resonance at 4.43 ppm as a singlet in the ¹H NMR spectrum together with a resonance at 82.12 ppm in the ¹³C NMR spectrum indicated four oxa bridge-head protons H_{1,3,10,12} and carbon C_{1,3,10,12}. The assignment of the doubly bent stereochemistry was based on the coupling present between bridgehead proton H_{5,8} and proton H_{4,9} (or proton H_{14,17} and H_{13,18}) ($J=2.4$ Hz), and the lack of coupling between H_{3,10} and H_{4,9} (or H_{1,12} and H_{13,18}). A molecular modelling experiment conducted at the semiempirical AM1 level suggested that the dihedral angle between H_{5,8} and H_{4,9} (or H_{14,17} and H_{13,18}) was approximately 45°, whereas between H_{3,10} and H_{4,9} (or H_{1,12} and H_{13,18}) it was 90°, which was in agreement with the above assignment. This was further supported by NOE difference spectroscopy. Irradiation of the proton H_{4,9} ($\delta=2.5$ ppm) gave a large positive NOE to the protons H_{21a} ($\delta=1.13$ ppm), confirming the outward-facing geometry of the methylene bridge protons H_{21a,b}.

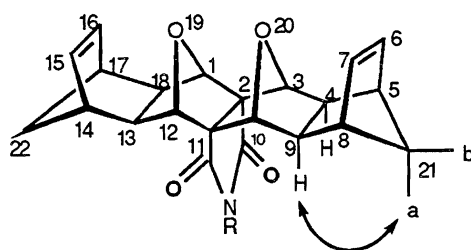


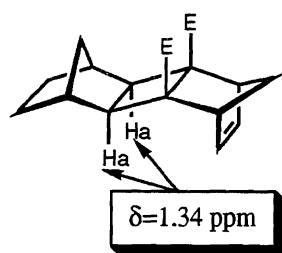
Figure 2. The Important NOE Effect Observed in Compound 4

Dimethylacetylenedicarboxylate (DMAD) approached **4** exclusively from the *exo*-face, as expected by known facts,²⁸⁻³⁰ in the presence of a ruthenium complex catalyst,²⁸ yielding a bis-[2 π +2 π]-cycloadduct **5** in 91 % yield. The lack of coupling of cyclobutenyl protons (δ =2.94 ppm) confirmed this structure.

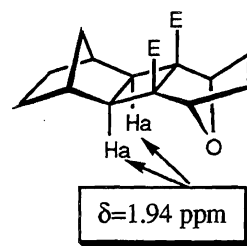
The U-shaped cavitands **6**, **7**, **8**, **9**, **10** and **13** were synthesised based on the cycloaddition reaction of various dienes with the cyclobutenyl π -bonds in **5**. Reaction of **5** with cyclopentadiene in the presence of catalyst aluminium chloride in methylene chloride resulted in formation of these 2:1-adduct compounds **6**, **6a** and **6b** (Scheme 2). Isomer **6** was readily distinguished from isomers **6a** and **6b** by its symmetrical structure shown in ¹H spectrum and NOESY spectra, which showed a NOE between proton Ha at 1.74 ppm and vinyl proton Hb at 6.50 ppm in compound **6**, supporting the inward-facing π -bond structure of cavity **6**.

The reaction between 6,6-dimethylfulvene and compound **5** in chloroform occurred at 60 °C, whereas under similar reaction conditions no reaction between **5** and furan was observed. This latter reaction could only be effected using high pressure (14 Kbr) or Lewis acid catalysts. The structure of compounds **7** and **8** was assigned on the basis of a comparison of their chemical shifts with those of model compounds (A)³¹ and (B)³⁰. The bridge protons Ha appeared at 2.35 ppm in compound **7** and 1.91 ppm in compound **8**, being similarly positioned with that (δ =1.94 ppm) in model compound (B). A possible explanation for Ha lower field chemical shift in compound **7** than that in compound **8** is due to the steric compression of neibough oxygen atoms.^{32 33,34} The absence of a NOE between protons Ha and vinyl protons also supported their structural assignment.

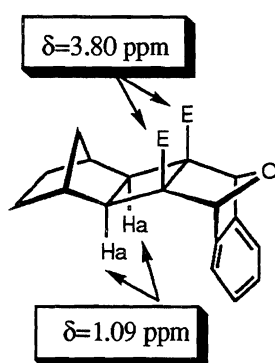
The structure of **13** was supported by spectral data and elemental analysis. The ester methyl proton resonanced in **13** appeared as a singlet at 3.56 ppm. This is in close agreement with the corresponding ester methylene protons in model compound (D), which occur at δ =3.54 ppm; in contrast, those in model (C) resonance at δ =3.80 ppm shown in Figure 3. The higher field resonance of the ester methyl protons in **13** and (D) arise as a consequence of strong anisotropic shielding by the proximate benzene ring. A similar shielding effect was also observed in cavity molecule **9**, where with the ester methyl protons appeared at 3.51 ppm. Due to the phenanthrene ring's greater shielding ability compared with the benzene ring, these protons in compound **10** were shielded even further up to 3.05 ppm.



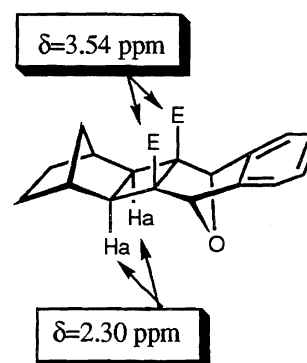
(A)



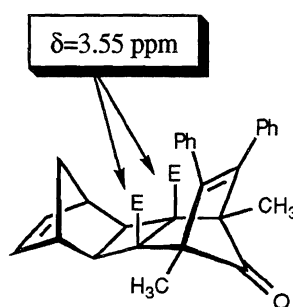
(B)



(C)

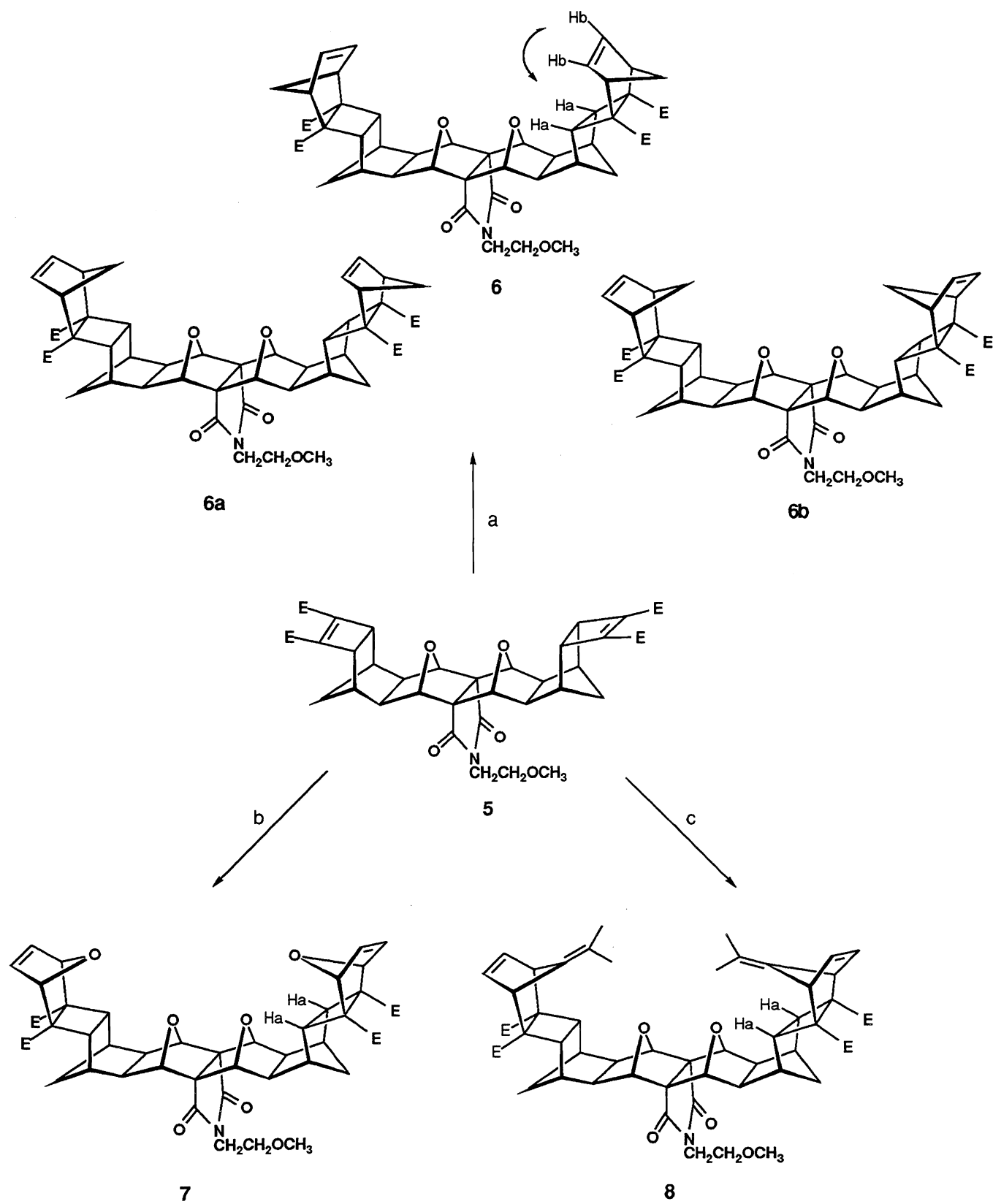


(D)



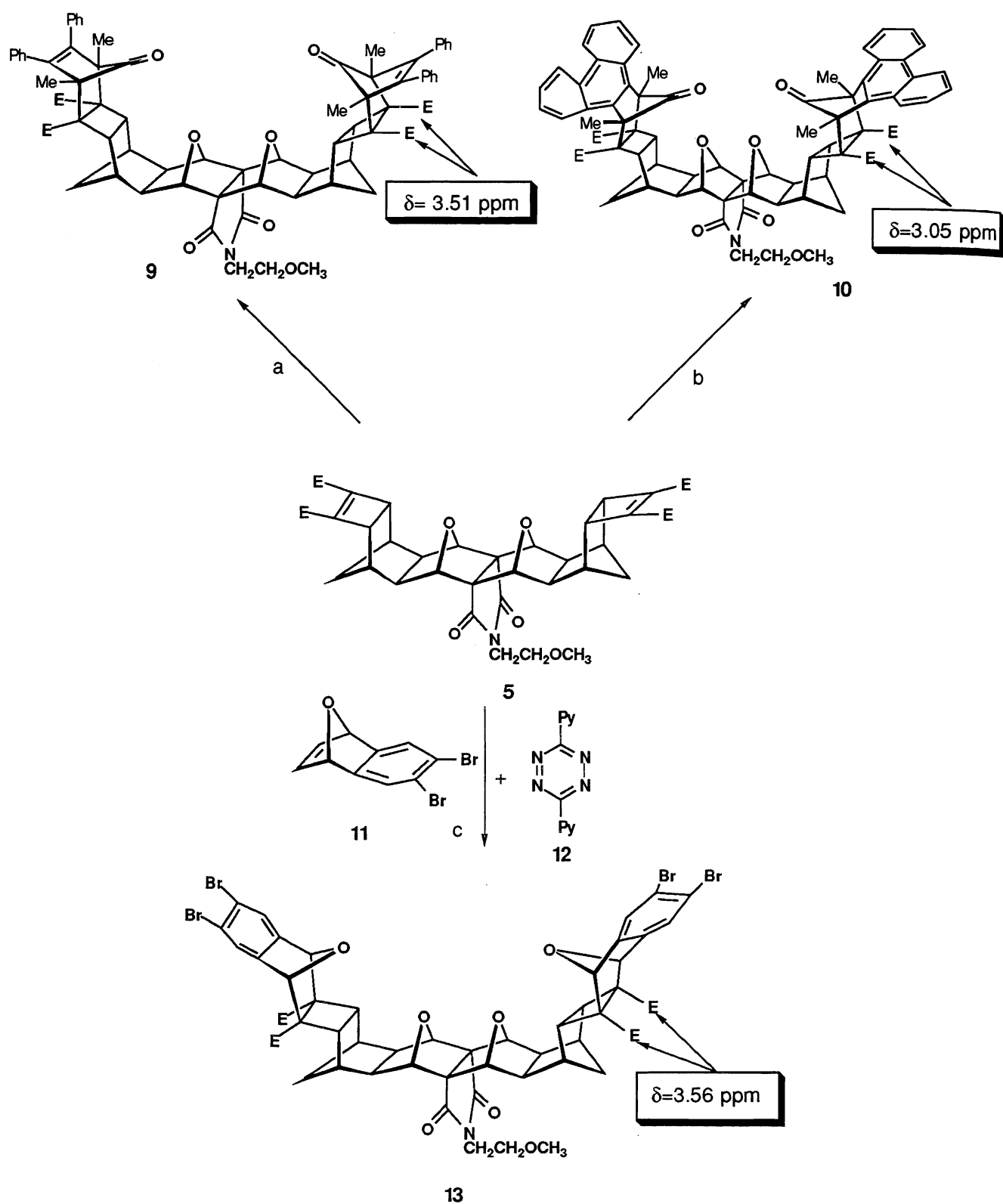
(E)

Figure 3. Some Important Chemical Shifts of the Model Compounds



a. cyclopentadiene, AlCl_3 , CHCl_3 , r.t., 92% ; b. furan, 10 KBr, 89%; c. 6,6-dimethyl fulvene, CHCl_3 , 60 °C, 30%

Scheme 2



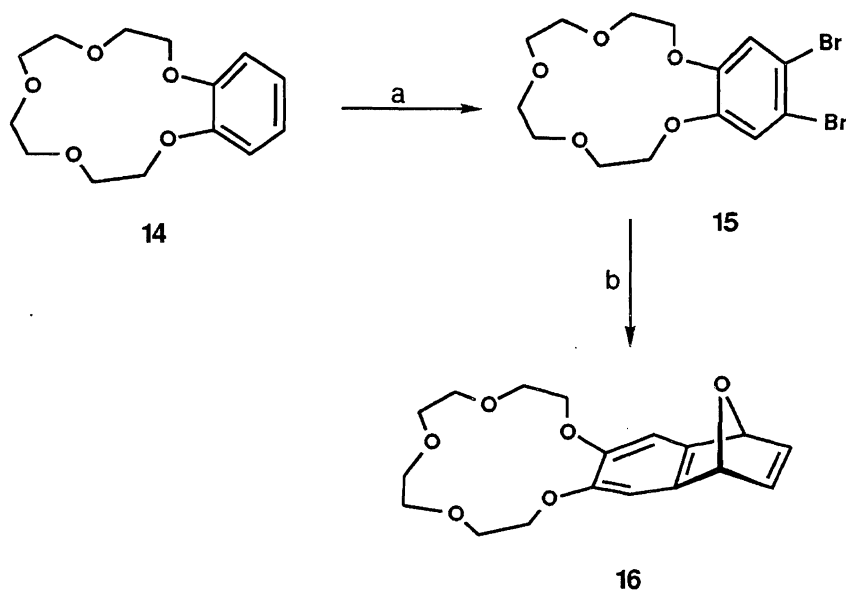
a. hemicyclone, toluene, 105 °C, 78%; b. phencyclone, toluene, 120 °C, 31%; c. room temperature, CHCl_3 , 30%

Scheme 3

Synthesis of Crown Ether Substituted Isobenzofuran and Relevant Cycloadducts

One of the most significant features of isobenzospecies is their high reactivity. Isobenzofuran (IBF), especially, is the most reactive isolable diene known.^{35,36} It can react with various dienophiles under mild conditions.

The discovery of crown ether by Pedersen⁷⁻¹¹ and subsequent development by others, particularly Cram^{5,6,14,37-43} and Lehn,^{1-4,44-47} has opened up an especially productive area of chemistry. Crown ethers have been shown to form complexes with metal cations, alkyl ammonium cations and a number of other species. In order to introduce the non-covalent binding sites into the rigid cavitands, we synthesised crown ether substituted oxanorbornene **16** (Scheme 4).



a Br, Fe, I₂, CH₂Cl₂, 0 °C, 58 %; b. n-BuLi/hexane, ether, -75 °C, 40 %

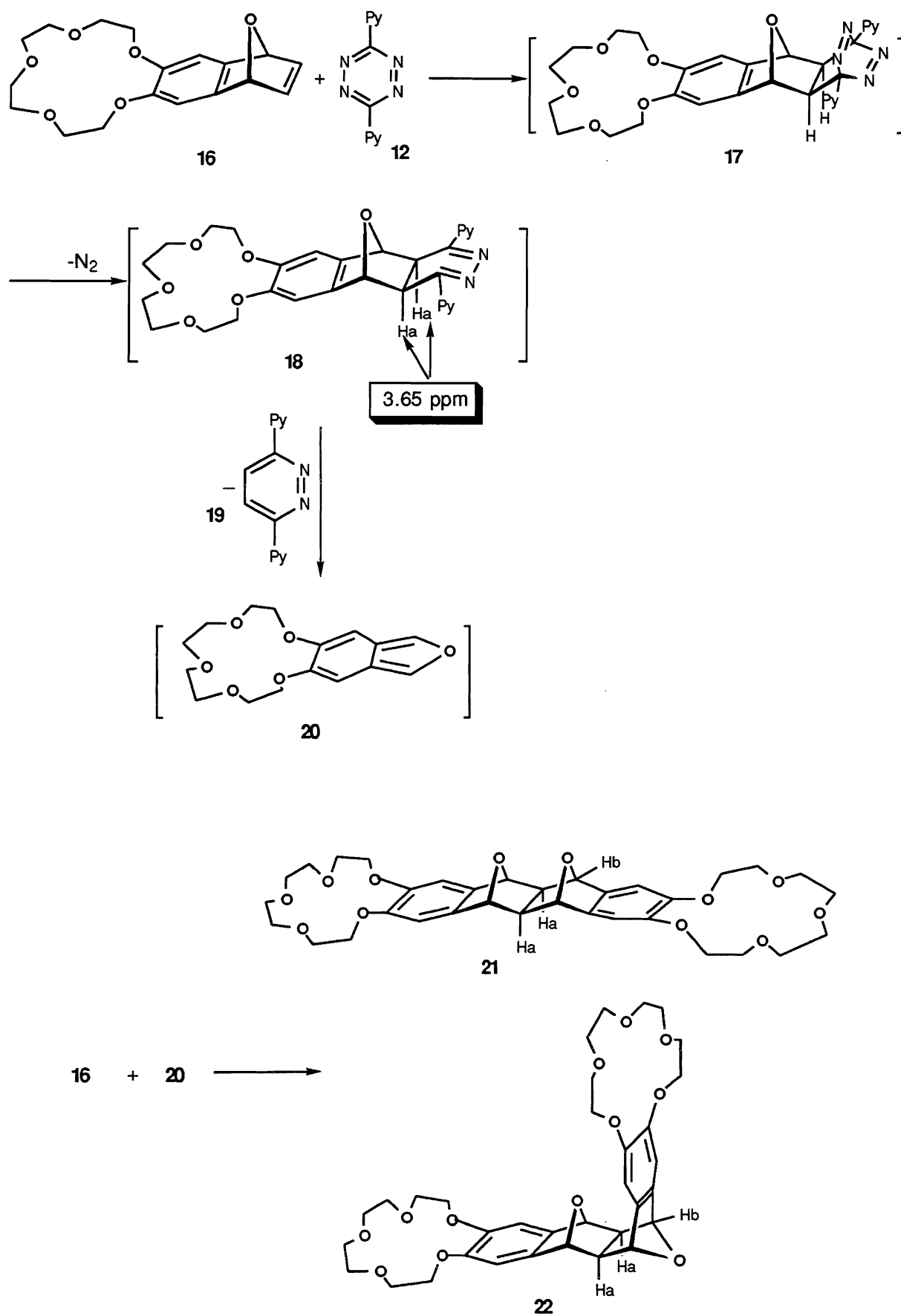
Scheme 4

The synthesis of benzo-15-crown-5 **14** and dibromobenzo-15-crown-5 **15** followed the procedures of Pedersen⁷ and Nolte.⁴⁸ Tetraethylene glycol in benzene was treated with thionyl chloride in the presence of pyridine at 70-80 °C to produce 1,11-dichloro-3,6,9-trioxaundecane as a heavy oil in a quantitative yield. The Williamson ether reaction between catechol and 1,11-dichloro-3,6,9-trioxaundecane in the presence of sodium hydroxide yielded benzo-15-crown-5 **14** in 58 % yield. Brominating compound **14** with bromine and iron provided dibromo benzo-15-crown-5 **15** in

58 % yield. Compound **16** was obtained when the benzyne, generated in situ by elimination of the bromine atoms in compound **15**, was trapped with furan.

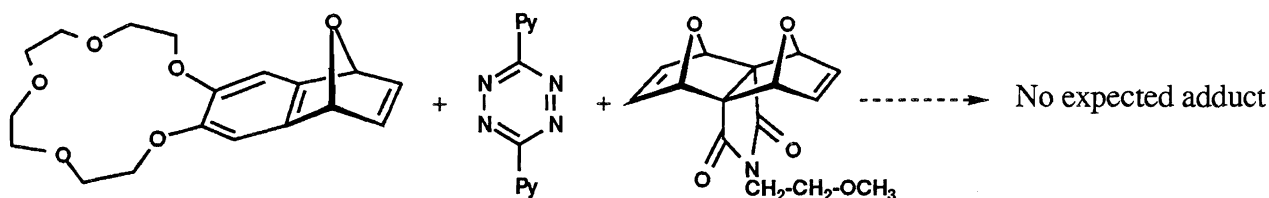
s-Tetrazine cycloaddition fragmentation reactions with benzooxanorbornene have been successfully employed in the generation of isobenzofuran (IBF).⁴⁹ The reaction sequence involves a Diels-Alder cycloaddition, with reverse electron demand, of a tetrazine with the benzooxanorbornene to give the azo-bridged adduct, followed by elimination of nitrogen and retro Diels-Alder fragmentation to the pyridazine and IBF.

Compound **16** was treated with half an equivalent of 3,6-di(2'-pyridyl)-s-tetrazine at ambient temperature in chloroform to generate a mixture of two isomers in a ratio of 1:1 (by ¹H NMR integration). These two isomers were readily distinguished; the ¹H NMR spectrum of the linear isomer **21** displayed an absorption signal at 1.96 ppm (Ha) as a singlet, whereas in the bent isomer **22** the corresponding resonance is coupled with Hb at 2.68 ppm as a doublet of doublets (J=1.7 and 3.1Hz). This reaction was presumed to proceed by initial [4 π +2 π]-cycloaddition to give an azo-bridged adduct **17**, followed by rapid elimination of nitrogen to produce **18** and finally retro Diels-Alder fragmentation to pyridazine **19** and IBF **20** (Scheme 5).



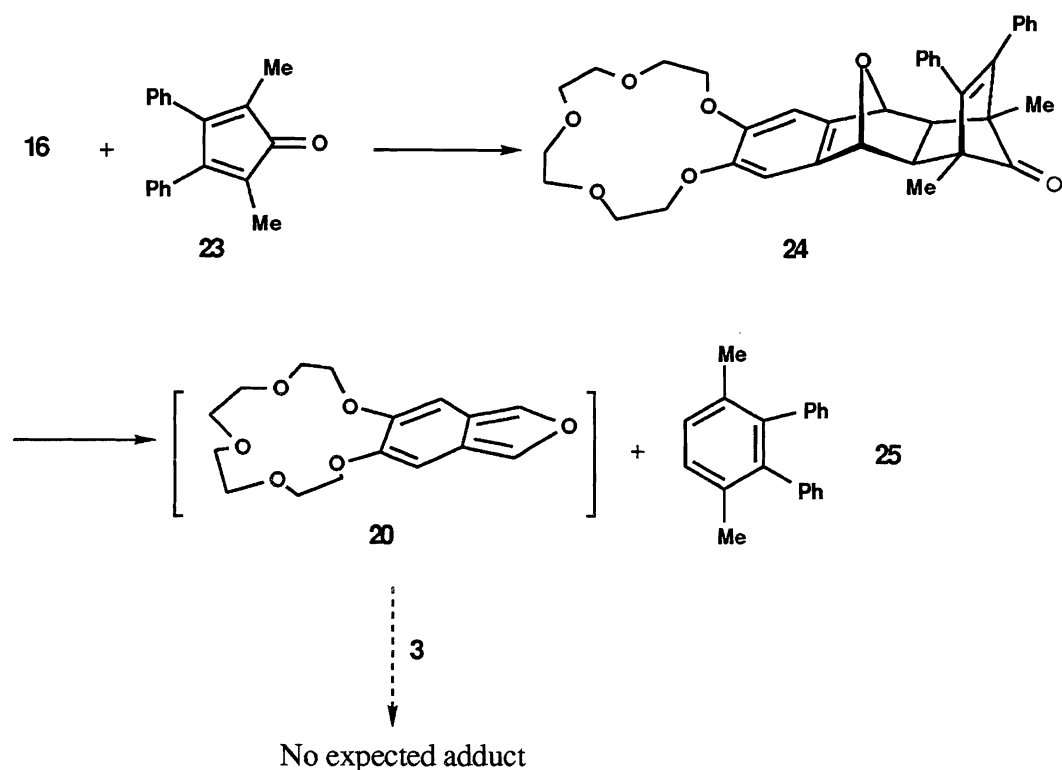
Scheme 5

When compound **3** was subjected to reaction with **16** and 3,6-di(2'-pyridyl)-s-tetrazine at ambient temperature, no expected adduct was obtained. When compound **3** was heated with **12** under the same reaction conditions, the brilliant purple colour of s-tetrazine **12** disappeared accompanied by the evolution of nitrogen. The ^1H NMR spectrum showed that the resonances of the two starting materials disappeared resulting in a complicated spectrum. This may be rationalised as the result of the reaction of the s-tetrazine with compound **3**, which takes place much more rapidly than that with compound **16**.



Scheme 6

The retro Diels-Alder reaction to IBF by Fieser's cyclone technique was a possible alternative procedure. A mixture of **16** and hemicyclone **23** was refluxed in benzene for 4 hrs resulting in **24** being produced as a colourless solid in 82 % yields. The elimination of carbon monoxide from compound **24** over 160°C and retro Diels-Alder fragmentation to the IBF **20** and **25** was expected. When compound **3** was subjected to the reaction with IBF **20** generated in situ from the thermal retro Diels-Alder reaction of **24**, neither adducts nor starting materials could be detected. It was assumed that compound **3** was destroyed under such thermal conditions.



Scheme 7

Treatment of compound **3** with isolated intermediate compound **18** at 60 °C led eventually to this reaction occurring. Compound **16** in DMSO was mixed with s-tetrazine **12** at room temperature. The brilliant purple colour of s-tetrazine disappeared, accompanied by the evolution of gas, and an orange coloured solid precipitated within 10 minutes. This was filtered off and washed with a small amount of cold ether to produce compound **18** in 66 % yield (**Scheme 5**). The principal evidence for the structure of this compound came from its ^1H NMR spectrum. The *exo*-configuration shown was assigned on the basis of a sharp singlet at $\delta=3.65$ ppm attributed to the Ha bridge-head protons and a singlet at $\delta=5.67$ ppm, attributed to the oxa bridge-head proton. This assignment was comparable to that of the model compound shown in **Figure 4**. Compound **18** was unstable, decomposing completely in less than 2 hrs in DMSO at room temperature. Compound **18** was added in portions to a solution of **3** in CHCl_3 while it was heating at 60 °C, and the solution was then refluxed further for 2 hrs to produce a mixture of three isomers with a ratio of 1:1:1 (^1H NMR integration) (**Scheme 8**). Complete isolation and characterisation is currently in progress.

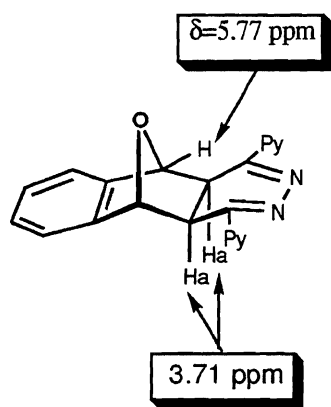
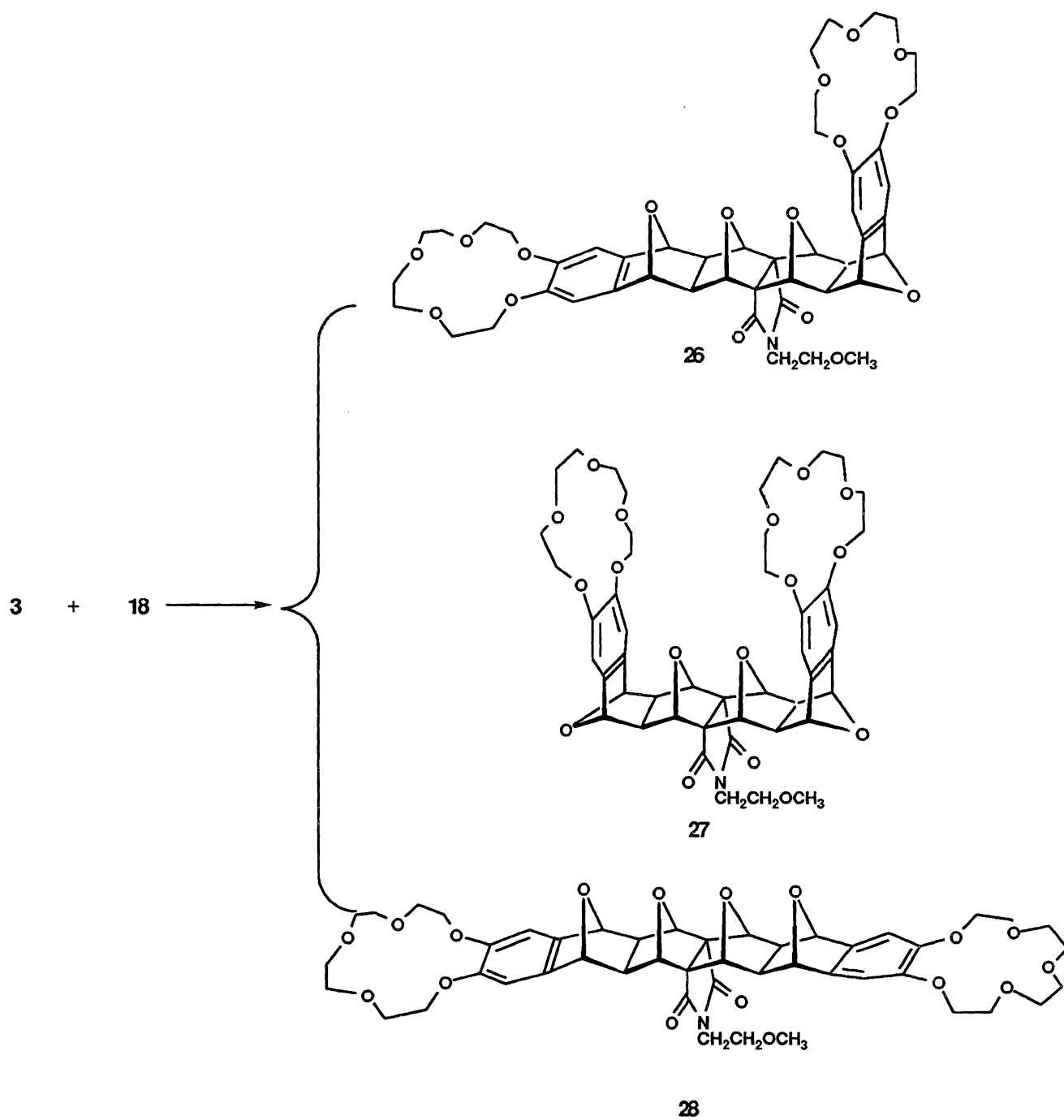
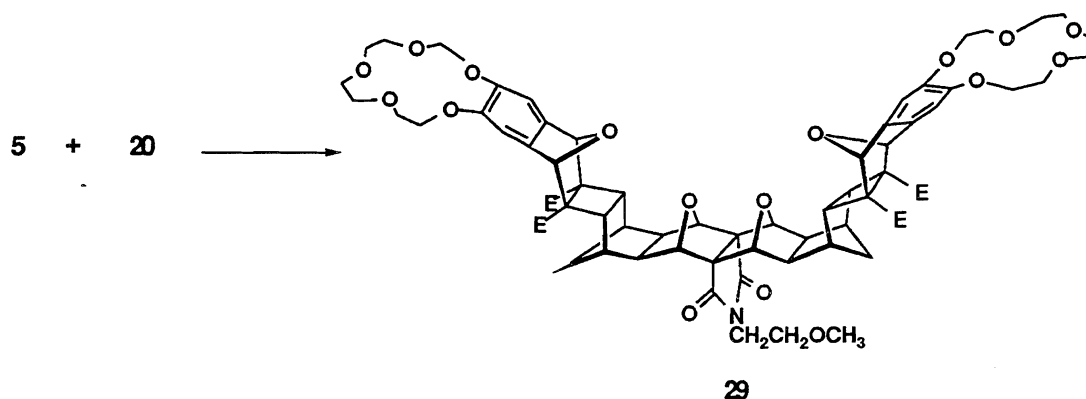


Figure 4



Scheme 8

The cycloaddition reaction of IBF **20**, generated *in situ* from the s-tetrazine method, onto double bonds of tetraester **5** proceeded smoothly at room temperature. Both 2:1 adduct and 1:1 adduct were isolated. The determination of the structure of compound **29** was on the basis of analysis of NMR spectral data which was similar to that of compound **13**.



Scheme 9

This series of compounds represent a new type of macrocyclic ligand: two benzo-15-crown-5 are linked by linear, bent or U-shaped rigid molracs. The rigid molrac maintains the two crown ether moieties at fixed distances and directions. Modifying the size of the crown ether moieties, or the length or shape of the molrac would change the size, shape and properties of these cosystems.

As an initial test, a complexation experiment was conducted on the compound **29**. Na^+ has been shown to form the most stable complex with benzo-15-crown-5.⁷ K^+ or Rb^+ would be too large to be accommodated within the internal cavity of the crown ether moieties. As a result, the formation of a sandwich dimer would be expected. In addition, molecular recognition-directed self-assembly of two molecules of **29** by including a metal ion would help to achieve the formation of co-facial dimer **30**. Cs^+ was added to a solution of compound **29** in methanol in a 1:2 mol equivalent of metal ion to host **29**. After stirring a few hrs, one mol equivalent of K^+ was added. This solution was stirred for a further 10 hrs. A complex was obtained, which displayed very different ^1H NMR chemical shifts from uncomplexed **29**. A proposed structure of complex **31** is shown in Figure 5. The structure of this complex, however, can only be established by X-ray crystallography.

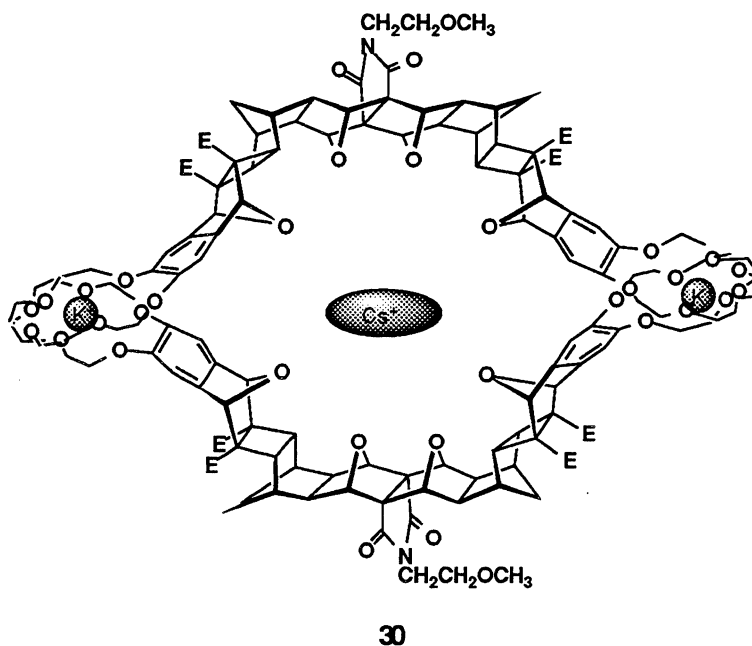


Figure 5. Proposed Structure of Complex 30

Conclusion

The design and synthesis of various of U-shaped cavitands have been successful. The cycloaddition reactions occur stereospecifically, proceed in high yields under mild reaction conditions. The introduction of crown ether moieties into the rigid molrac system as non-covalent binding centres has been achieved by the cycloaddition reaction between crown ether substituted IBF and various dienophiles.

The ability of this system to form complex with ammonium substituted bimolecules and catalyses of their reactions will be examined.

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'Making the Public Intellectual: A Case Study of Robert Hughes' *The Fatal Shore*

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Introduction

A principal effect of the dissimulation of liberal humanist ideology through various information flows over the last two centuries has been the dissemination of spaces which engage a performance of public intellectual discourse. Such spaces are performed by figures privileged as authorities empowered to pronounce judgements upon, and speak or write on behalf of, a particular body of people constituted by this discourse as a community.

These performance spaces of the public intellectual have played a significant role in the constitution of the Australian community. Their influence is demonstrated by the frequency and often piquancy of debates about national identity within Australian public discourse since European occupation of the continent at the end of the eighteenth century. On the one hand, this frequency points to an uncertainty about the capacity of the grand signifier, 'Australia', to exert control over its slippages in the context of an history as a colonised territory on the periphery of global influence: on the other, it invests cultural, political and economic capital in an elite group authorised as 'national imaginers'.

One such national imaginer is Robert Hughes: writer, broadcaster, art historian, and, as is often the case with Australia's public intellectuals, an expatriate. The expatriate status grants intellectuals like Hughes the perspective of an outsider looking in, able to comment on events in an Australia exoticised by such distance, fetishised as a curiosity. This process means that even while Robert Hughes is celebrated as a 'great Australian' whose books are regarded as significant contributions to the nation's civilisation, his *oeuvre* actively serves to reaffirm the Australian community's distance from civilised norms.

In this discussion of Robert Hughes' history of the Australian convict settlement, *The Fatal Shore* (1987), I will identify particular textual features in which the constituted author's

imagination acts as a bodily force configuring the text's (ideologically necessary) distance from the material it documents. Within the scope of this paper, I can only hope to discuss some of these features. Please regard what follows as less an exhaustive coverage of the forces of textual colonisation that characterise *The Fatal Shore* than selected examples which hint at wider practices.

Gothic horror

An assumption underlying *The Fatal Shore* is that the cries of the convict settlers who founded a European society in Australia have continued to haunt the country. This assumption is predicated on a consciousness of a convict stain, a moral blight which, in spite of long silences and determined acts of forgetting, still infects our national psyche and inhibits our growth. Such a consciousness should be understood as a discursive construction, a product of various narratives which present just such an image of a barely repressed moral stain, and which are imbued with the values of a humanist metaphysic. In opposition to the normalising trend in historiographic constructions of the convicts, *The Fatal Shore* determinedly invokes the discourse of horror and scandal in its treatment of the first settlement, suggesting that the spectres of the country's bloody beginnings still haven't been laid to rest.

The notion of ghosts returning to haunt a person or people has the status of both entertainment (ghost stories) and scientific inquiry (psychoanalysis). *The Fatal Shore* seems to aspire to the appeal of the former and the authority of the latter. The text negotiates a distinction between its desire to amuse and its mission to inform through the use of generic devices which construct an illusion of narrative distance. One such generic form discernible in *The Fatal Shore* is gothic horror. The gothic horror genre is conventionally associated with tales of things wild, bloody and barbarous which occurred long ago, with elements of mystery and the supernatural, intended to chill the spine and curdle the blood (Cuddon 1977: 189). As such, it is a narrative form concerned with colonising experiences which seemed to lie beyond the proper, rational values of the civilised society being constructed in western Europe in the eighteenth and nineteenth centuries, and bringing these experiences within the discursive order of that civilised society's literature.

That a novel exhibiting gothic horror values, Marcus Clarke's *For The Term of His Natural Life* (1874), was appropriated as the Great Australian Novel of the Nineteenth Century, as Hughes describes it (1987: 601), indicates a politics of symbolic capital

operating to construct the book's themes as somehow being representative of Australian experience as a whole. In this sense, it is significant that one of Australia's noted cultural historians, Sylvia Lawson, has gone so far as to describe *The Fatal Shore* as a rewriting of *For the Term of His Natural Life* (ctd Dutton and Williams 1993: 354).

In helping to provide *The Fatal Shore* with a generic structure, the gothic horror communicates certain textual values which enable the book to engage with particular themes. These values might be summarised thus: 1) the gothic has tended to turn to the most taboo of subjects in order to create its terrors, as such allowing those taboo subjects to be aired; 2) it often deals with scatological and bodily material; 3) the gothic is engaged with the grotesque, and is able to speak the unspeakable, making our everyday world seem strange; and 4) the gothic conventionally focuses on family life, set in crumbling homes with winding corridors and dark secrets buried in the dungeon. All of considerable use to historiography which sets out to uncover the secrets of Australia's 'shameful' past, with its attendant terrors and abuses. The gothic, then, enables *The Fatal Shore* to invoke certain metaphysical values associated with the construction of an exotic experience existing on the margins and threatening the secure order of normal society.

Moral and psychological selves

The preponderance of imagery associated with psychology and Christian morality is strikingly evident throughout *The Fatal Shore*. Hughes conceives people as being 'made' out of their psychological and moral selves in engagement with the social and physical conditions under which they live. Thus he begins by writing that English lawmakers wished not only to get rid of the 'criminal class', but if possible to forget about it:

Australia was a cloaca, invisible, its contents filthy and unnameable. To most Englishmen this place seemed not just a mutant society but another planet - an exiled world, summed up in its popular name, "Botany Bay". It was remote and anomalous to its white creators. It was strange but close, as the unconscious to the conscious mind (1987: 1-2).

From the first, Hughes establishes the parameters for a kind of amateur psychological study of Australia's origins; Botany Bay as Georgian England's subconscious, full of dark, depraved vices which lurk just below the surface. And what he regards as England's act of sublimation (which might be rather understood as a policy of oppression), "the largest forced exile of citizens at

the behest of a European government in pre-modern history", draws the sketch for "our own century's vaster and more terrible fresco of repression, the Gulag" (3).

The psychological image is not maintained throughout *The Fatal Shore*. The convict settlement is also considered from the perspective of Christian morality. Discussing the voyages in quest of a Great South Land, Hughes comments:

It made sense, of a kind, to assume that the further south one went, the more grotesque life must become. What demonic freaks, what affronts to normality, might the Southern Continent not produce? ... So there was a deep, ironic resonance in the way the British, having brought the Pacific at last into the realm of European consciousness, having explored and mapped it, promptly demonised Australia once more by chaining their criminals to its innocent dry coast. It was to become the continent of sin (44).

In terms of both the religious imagery and the psychological study, Hughes employs the authorising voice of the priest and the clinical examiner. As such he straddles the great divide between the age when meaning was based upon the authority of the First Speaker's law, and the modern disciplinary society which depended upon the scripts of the expert. This connection is made through the image of dirtiness: the uncleanness of the impure sinner and the squalid desires of the subconscious mind. Hughes describes Australia as a cloaca; similarly, Jeremy Bentham regarded the convicts as an "excrementious mass" (ctd Hughes 1987: 2). Hughes' study revels in such descriptions of 'filth'; the descriptions of squalor and debauchery are, for many reviewers, the most striking part of his book. Indeed they mark a fetishising of filth.

In this context, it is worth recalling the master of modern western historiography, Hegel's, description of the role of the fetish in African culture:

This is their *Fetich* - a word to which the Portuguese first gave currency, and which is derived from feitizo, magic. Here, in the *Fetich*, a kind of objective independence as contrasted with the arbitrary fancy of the individual seems to manifest itself; but as the objectivity is nothing other than the fancy of the individual projecting itself into space, the human individuality remains master of the image it has adopted (ctd Pugliese 1994: 177).

Joseph Pugliese (1994) has shown how Hegel's philosophy was characterised by its own fetishising of the Orientalised figure. From a liberal humanist perspective, bottom up historiography such as Hughes' might be read as a corrective to the crude orientalism characteristic of Hegel's discourse, in providing an historical voice for the (in this case criminal) other. I argue, on the other hand, that the authorising gaze of Hughes' historiographic discourse embodies the image of the corrupted body of the convicts within its colonising practice, operating as a form of writing which, as de Certeau argues in the context of the modern scriptural economy, becomes

science and politics, with the assurance, soon transformed into an axiom of Enlightenment or revolution, that theory must transform nature by inscribing itself on it. It becomes violence, cutting its way through the irrationality of superstitious peoples or regions still under the spell of sorcery (1984: 144).

Significantly, Hughes argues that at the height of transportation in the 1830s, the system gratified the deep social desires in respectable Britons for sublimation and generalisation, a desire expressed also in the act of flogging:

What happened was crude ritual, a magical act akin to the scourging-out of devils. All punishment seeks to reduce its objects to abstractions, so that they may be filled with a new content, invested with the values of good social conduct (164).

This quotation indeed serves as a succinct appraisal of Hughes' own methodology. That is, the embodied traces of convict experience are abstracted into *The Fatal Shore* in order that they might be filled with a new content, subject to the text's historiographic gaze, invested not so much with the values of good social conduct as with marks of corrupted otherness. The sorcery and violence of Hughes' historiography fetishises the tortured bodily traces of the convict as an image projected into the space of historical distance.

The 'treatment' of convicts

An historiographic technique which *The Fatal Shore* employs to simulate a distinction between the history and its representation is accumulation of detail. This technique is evident in Hughes' treatment of the instances of 'anti-language' people employed in response to the authority of the official discourse. While the contemporary tabloid press might appropriate examples of anti-language to construct a sense of shared community with its

audience, thereby effacing traces of political and institutional factors which enable it to construct and speak on behalf of this audience in the first place, Hughes' strategy is different. He enumerates examples of something he calls "gallows argot", contrasting it with the what he regards as the elevated and abstract language of the official language of hanging - a hanged man "paid the supreme penalty", "suffered the ultimate exaction of the Law", or was "launched into Eternity" (32). In comparison, the gallows argot drew upon a very different discourse. There are references to such terms as "died with cotton in his ears", "climb three trees with a ladder", "ride a horse foaled by an acorn", "dance upon nothing", "shake a cloth in the wind" and "to loll your tongue out at company"; and descriptions of the noose as a "horse's nightcap", a "Tyburn tippet", a "hempen casement" or an "anodyne necklace" (32, 33).

Throughout *The Fatal Shore*, there is copious evidence of the argot the convicts used, sometimes as a secret code employed against their guards; the effect of which is detailed in much the same way as an empirical scientist might list the details of specimens s/he has collected. (Later in the text, Hughes lauds Henry Mayhew as the "arch-reporter of the underworld" who "tabulated at least a hundred subspecies of London criminal by their argot names" (171)). What is being produced here is a knowledge of the exotic, and the manner of its detailed presentation places the historian in a position from which he might synthesise the material to reach conclusions such as: "This is not the language of the penitent thief. Its brusque, canting defiance reminds one that hanging meant one thing to the judges but another to the poor and the 'mob'" (33). The sense of authority thus established means that Hughes is able to write in the following paragraph: "The idea that condemned men could draw solace and support from the crowd at their hanging offends our deepest sense of propriety about death. It seems unspeakably grotesque" (33).

The text thus progresses from providing examples of the official discourse about hanging compared to the argot of the condemned, to a synthesising conclusion about the meaning of execution to both these sections of the eighteenth century community, then to a point where Hughes might 'properly' speak on behalf of the feelings his audience, and distance them from the impropriety and 'unspeakable grotesquerie' of eighteenth century England. The audience of *The Fatal Shore* is thus privileged as informed, knowledgeable and possessed of a sense of moral propriety. The treatment of the material simulates not merely a temporal but also a moral and intellectual (indeed a phenomenological)

distance between the audience and the material; and by implication, between the audience and the others in the contemporary global community who might not share "our deepest sense of propriety": those who inhabit the ghettos of American cities or practise barbarous behaviour in less civilised parts of the world, for example. While the tabloid newspaper appropriates anti-language to fabricate an imagined community of the people, Hughes 'treats' anti-language, and, in so doing, creates a morally and intellectually privileged readership who might, like him, speak on behalf of the people.

Indeed, *The Fatal Shore's* manipulation of its intertextual elements has the effect of situating its author as an elitist who can pronounce upon the more sensational aspects of the construction of narrative history at the same time as invoking them. This is evident when Hughes writes:

Port Arthur is the only major example of an Australian historical ruin appreciated and kept for its own sake (although local entrepreneurs have tried, and so far failed, to refurbish it as Convictland). It is our Paestrum and our Dachau, rolled into one. Far more than Macquarie Harbor [*sic*] or even Norfolk Island, Port Arthur has always dominated the popular imagination in Australia as the emblem of the miseries of transportation, 'the Hell on earth' (1987: 399-400).

This passage is significant in authorising the right to pronounce, which is an assumption constitutive of a text claiming to provide the convicts' own history of their experiences. In the same passage as he refers to popular constructions expressed in 'Convictland' and 'Hell on earth', indicative of crass entrepreneurial opportunism and the sensational pleasures of the popular press, Hughes distances his history from them with allusions to Paestrum and Dachau, thus appealing to a panoptic understanding of the broad sweep of history far beyond the narrow frame of reference informing popular experience. The use of 'our' is also interesting; it defuses any suggestion of condescension by invoking the author's citizenship (if not residency), while at the same time connecting Australian experience to the world. In such a way Hughes seems to be performing a civic duty for his compatriots by informing a history which seemed parochial and populist ('Convictland', 'Hell on earth') with a universal dimension (Paestrum and Dachau). Thus it is in terms of a linguistic strategy of extending the frame of intertextual reference that the historian establishes himself as an expert who might write in the name of the real.

In this paper I have examined various textual strategies evident in *The Fatal Shore* which help to situate its author, Robert Hughes, as an authority, a public intellectual who is valorized as performing a privileged role in the constitution of an Australian community. Hughes' historiographic discourse serves to variously exoticise and pedagogically treat the experiences of the convicts, such as to simulate a phenomenological distance between these experiences and the writing of them as history. In this way, the text performs the ideologically necessary act of disavowing its complicity with the violent forces which colonised its convict subjects. It seems appropriate to end by suggesting that the stance we as readers might adopt to the body of public intellectuals who define who we are is less that of grateful genuflection than critical intervention or shake-up. In an Australian context, such a move might be configured as part of the the move from the colonial cringe to the post-colonial tremble.

Notes

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