The Botanic Garden

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A Newsletter for the Botanic Gardens of Australia and New Zealand Issue no. 10 – November 2004

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Editorial Committee:

John Arnott, Tim Entwisle, Bryan Gould, Robin Nielsen, John Schutz.

Managing Editor: Virginia Berger

Editorial

The October meeting of the Council of Heads of Australian Botanic Gardens (CHABG) was held in Perth and chaired by Dr Kingsley Dixon, Acting CEO, Kings Park & Botanic Garden. The meeting welcomed several new attendees:

Lesley Kirby, Director, Royal Tasmanian Botanical Gardens

Graham Phelps, Acting Director Bioparks & Manager Alice Springs Desert Park Marcelle Broderick, Acting CEO, KPBG and

Mark Webb, Director, Botanic Garden, BGPA Perth.

A full day's meeting covering CHABG matters was followed by a half day discussion on the future directions of BGANZ, the newly incorporated association representing and promoting the interests of botanic gardens.

Topics covered at the CHABG meeting included:

- developments for the newsletter, including possible employment of a list server and the setting up of an access link;
- discussion of how Global Strategy for Plant Conservation issues might be moved forward into a national forum;
- Career Development Grants, which next year will be used to encourage wide participation in the BGANZ Congress in Hobart:
- the development of policies and risk assessment methods for environmental weeds;
- discussion of the BGANZ Congress 2005, concentrating on the composition of streams and further details of the proposed program;
- the Millennium Seed Bank Project.

The day ended with a tour of Kings Park and Botanic Garden, looking particularly beautiful at the end of the Wildflower Festival. A heavy downpour curtailed the tour but did not dampen enthusiasm for this beautiful place, in its spectacular situation overlooking the city of Perth and the Derwent River.





Fraser Avenue, Kings Park & Botanic Garden



Graham Phelps (Manager, Alice Springs Desert Park)
Leslie Kirby (Director, Royal Tasmanian BG)
Stephen Forbes (Director, BG of Adelaide)
Kingsley Dixon (Acting CEO, Kings Park & Botanic Garden)
Tim Entwisle (Exec. Director, Botanic Gardens Trust, Sydney)
Mark Webb (Director, Botanic Gardens, BGPA, Perth)
Philip Moors (Director, RBG Melbourne)

Robin Nielsen (Director, Australian National Botanic Gardens) Marcelle Broderick (Acting CEO, Kings Park & BG)





Advance Notice BGANZ Congress 2005

Here are some dates for your diary. The 2005 Biennial BGANZ Congress is to be hosted by the Royal Tasmanian Botanical Gardens (RTBG) in Hobart from 28 October - 1 November 2005.

The draft congress title is: *Impacts & Influence – The Environmental Potency of Botanic Gardens*? This theme will be explored through a number of different streams which are currently built around the following draft titles:

Taming the Backyard – Weeds & Urban Ecology

20/20 Foresight – Collections into the future

Cultivating Minds – Environmental education

Managing Water or Managing Without It

Stimulating international and local speakers will make this a unique and engaging congress. In conjunction with the Congress there will be a choice of field trips into some of Tasmania's spectacular National Parks to discover the diverse and distinctive plants of the state.

Keep an eye out for more information over the following months including the opportunity to involved in the Congress. It is sure to be a great experience.

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People

New Director of the Royal Tasmanian Botanical Gardens

Lesley Kirby has been appointed the new director of the Royal Tasmanian Botanical Gardens. Her appointment, from a strong field of candidates, is believed to be the first time a woman has been selected director of a state botanic gardens in Australia.

Ms Kirby is a specialist administrator in cultural and natural heritage. She has been the deputy director, Public Programs and Operations at the Tasmanian Museum and Art Gallery for the past two years and previously was a member of the senior executive team at Port Arthur Historic Site Management Authority.

The Chair of RTBG, Rod Moore, says Ms Kirby has developed a comprehensive understanding of the challenges and opportunities facing publicly owned cultural heritage institutions, in particular those involving the development of visitor services, collections, public programs and events. Ms Kirby sees her long-term aim as encouraging and developing public awareness, understanding and respect for the unique cultural heritage assets in Tasmania.

Changes at George Brown Darwin Botanic Gardens

As the result of a restructure in July, the NT Herbarium and George Brown Darwin Botanic Gardens have been split. The Gardens have been placed with the Alice Springs Desert Park and Territory Wildlife Park as a 'Living Collections' group. The herbarium has moved into a 'Biodiversity/Wildlife' group.

Dr Greg Leach, formerly Principal Scientist, Botanical Services, Department of Infrastructure, Planning & Environment, Conservation & Natural Resources Group, has been appointed head of the Biodiversity group, and as a result will no longer be involved with the Gardens.

Greg's contribution to CHABG has been

considerable and his experience and constructive input will be greatly missed. He is to be thanked most sincerely for his leadership on many issues and for his commitment to CHABG.

Meetings and Conferences

Moving Gardens

A series of three linked international conferences about the art of the garden is to be held in three different venues and countries over three different times. The first conference is to be held in California in December, the second will be held 29 - 31 March 2005 at the Australian National University in Canberra, the third is to be held 8-10 July 2005 in Cambridge England.

Each conference will pay particular attention to local issues, dilemmas and resources. Each will be interdisciplinary in nature, bringing together plant scientists, garden historians and practitioners, social historians and art historians, literary scholars, artists, writers and others.

Further details at

http://www.anu.edu.au/hrc/conferences/conferences_2005/Gardens.php

Items of Interest

Opening of the Ian Potter Foundation Children's Garden – RBG Melbourne

The child in every visitor now has a new destination at the Royal Botanic Gardens Melbourne, with the opening on 23 October of the Ian Potter Foundation Children's Garden.

Hundreds of eager children joined the Acting Premier of Victoria, John Thwaites, and Lady Potter, Life Governor of The Ian Potter Foundation, to open the Garden. During the day a program of family events, entertainment and a live broadcast by ABC Radio 774 took place in and around the Garden.



l-r: Jack Thwaites (son of the Hon John Thwaites) Dr Philip Moors (Director, Royal Botanic Gardens Melbourne) Mr Charles Goode, AC (Chairman of the Board of Governors of The Ian Potter Foundation)

The Hon John Thwaites (Acting Premier and Minister for Environment)

Lady Potter (Life Governor, The Ian Potter Foundation) Mr David Adam (Chairman, Royal Botanic Gardens Board Victoria)



Delights and discoveries are packed into the Children's Garden's 0.5 hectares, including a Ruin in the Rainforest, a Bamboo Forest, a Gorge with mist, the Magic Pudding sculpture, the Children's Kitchen Garden, and an education pavilion beside a frog pond. Plant tunnels lead to hidden places, a gurgling stream is perfect for stick races, water spurts unpredictably from a spiral fountain, and a stately 5,000-year old River Red Gum stump presides over a shady grotto.

The Garden is an oasis where children of all ages, abilities, backgrounds and cultures, together with their families, can immerse themselves in plants and nature. Children are encouraged to explore and create their own fantasy worlds through touch, sight and smell, and to make the place their own by creating play areas and hiding places. They will also be able to participate in educational programs with

themes such as biodiversity, sustainability, and interactions with plants and animals.

The Garden has been created by an RBG Melbourne design team headed by Andrew Laidlaw, a horticultural team led by Matt Howard and Izabella Meriviglia-Crivelli, and an education programs team led by Chris Joy and Ros Semler. These groups were assisted by an external reference panel, and also through special practical advice from children at St Joseph's and Toolangi Primary Schools – they 'road-tested' various ideas for activities and garden features early in the design process.

The Ian Potter Foundation Children's Garden sets new directions for children's spaces in botanic gardens – plants are there to be touched and investigated, exploration is made by the children themselves, and there are no formal playground structures. Judging from the responses of the children (and their parents!) exploring the Garden since its opening, it's already a magnet for fun and learning. The Garden is open to general visitors from 10.00am-4.00pm, Wednesdays to Sundays; booked school groups use it on Mondays and Tuesdays.

Philip Moors Royal Botanic Gardens Melbourne

Christine Joy, Co-ordinator, Education at RBG Melbourne, has written an article explaining the educational philosophies behind the Ian Potter Foundation Children's Garden, which appears later in this Newsletter.



A newly incorporated organization with relevance to Botanic Gardens was launched earlier this year in Canberra. Steve Corbett, Director, Centennial Parklands (NSW) and Board Member of Parks Forum, explains its purpose.

Introducing Parks Forum

The Parks Forum's purpose is to support the development of a strong, vibrant and cohesive park industry, to provide leadership in parks management and to improve the standing of the industry within the community. As an association for organisations, the Parks Forum will complement the role and work of industry associations, who focus on the needs of individual members.

The parks industry includes public and private local, regional and nationally significant urban and natural area parks, botanic gardens, gardens, estates and cultural precincts and venues.

Parks Forum Launched and Work Gets Underway

The Parks Forum was formally incorporated in April 2004 and launched in Canberra by our Patron, Sir Edmund Hillary, at the inaugural Conference 'Parks In Society' held in Canberra in May 2004. The two-day conference attracted about 100 senior park industry delegates with keynote speakers from the UK and USA.

The first Board Meeting was also held in May, which saw the commencement of critical tasks such as business planning, creation of Standing Committees for key program areas, establishment of secretariat support and governance frameworks for the operation of the Parks Forum.

The Board Members are drawn from parks agencies across Australia and New Zealand to guide the development and success of the region's first Association committed to represent the parks industry and provide leadership in research, innovation, best practice, networking and promotion of industry standards. If you want to know more about the Board Members, have a look at the web page for full details at MACROBUTTON HtmlResAnchor www.parksforum.org.

Our eight initial Board Members are:

Neil McCarthy (Chair)

Parks Victoria (VIC)

Lance Vervoort (Vice Chair)

Auckland Regional Council (NZ)

Stephen Hughes

ACT Urban Services Department (ACT)

Neil Ward

Adelaide City Council (SA)

Steve Corbett

Centennial Parklands (NSW)

Vince Haining

City of Melbourne (VIC)

Stephen Forbes

Department for Environment and Heritage (SA)

Grant Baker

Department of Conservation (NZ)

An additional four new Board nominations are being progressed.

The Secretariat of the Parks Forum is currently based in Melbourne and is staffed by Carol Sweatman, General Manager and Sophie Chandler, Executive Officer. The Secretariat provides support to the Board, its Standing Committees, members and the business development of the Parks Forum. It also provides critical support to the delivery of key Parks Forum activities and programs.

Sarah Dinning, Centennial Parklands has been appointed as the Company Secretary.

Activities so far

Highlights of the many tasks completed during the first three months include:

- Building the website;
- Development and distribution of Member Information Kits;
- Welcoming to new members from Australia and New Zealand, with membership now 15 organisations;
- Building partnerships with key national and international organisations and institutes such as Parks and Leisure Australia, the New Zealand Recreation Association, GreenSpace (UK) and the USA's City Parks Alliance;

- Development of a draft three year Business Plan highlighting priority projects; and
- Establishment of Standing Committees, incorporating nominations from member organisations, which will commence work in the four key program areas:
- Networking and Conferences (Chair Neil Ward, Adelaide City Council);
- Leadership and Relationships (Chair Steve Corbett, Centennial Parklands);
- Values and Research (Chair Stephen Forbes, Department for Environment and Heritage, SA); and
- Best Practice and Standards (Chair Vince Haining, City of Melbourne).

Activities for the Second Quarter

Activities are now focusing on delivering benefits to our members and commencing key projects. Key activities for the next quarter are:

- Further enhancement of the website, including the development of a membership portal designed to provide direct access to privileged information and networking for members.
- Seminars and workshops. Planned activities include national Healthy Parks Healthy People seminar/workshop in December 2004 – invitations will be out soon and a series of seminars in New Zealand in late March 2005.
- Collection and distribution of case studies.
- Standing Committees will meet and commence work on critical activities.
- Further relationship development with other parks and related associations.
- Commence planning for 2006 international conference

Contact us

If you would like further information on any of the items included in this update, please don't hesitate to contact the Secretariat staff, who helped with the above update. Contact details are:

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Steve Corbett

Parks Forum Board

A bold and innovative program will create provincial botanical gardens in Indonesia.

(Please note that since this article was published in the Jakarta Post, there has been a change of government in Indonesia.)

Source: The Jakarta Post, August 12, 2004 By Fabiola Desy Unidjaja

President Megawati Soekarnoputri recently launched a nationwide re-greening program that will require each province to build a botanical garden to conserve rare plants from within their jurisdictions.

Megawati said the botanical gardens would help the country protect its natural resources. "By developing these botanical gardens, we will be safeguarding the country's biodiversity. Every governor should pay attention to the effort to conserve natural resources," the President said in her speech, which was given to mark National Technology Day. Currently, there are only three botanical gardens in the country – one each in West Java, East Java and Jambi -- while Banten province has what is termed a "biodiversity garden". The government has set no time frame for those provinces that lack botanical gardens to start work on establishing them. However, provinces in Sumatra and Borneo islands will be urged to immediately start implementing the program. State Minister for Research and Technology Hatta Radjasa said the funding for the gardens would have to be provided by each provincial

government out of its own resources, while the central government would play an oversight role. "The Indonesian Institute of Science (LIPI) will help us oversee the project, while the Bogor Botanical Gardens will provide seeds and plants, if necessary," Hatta said. The country has lost millions of hectares of its tropical forests due to uncontrolled illegal logging and mining in recent decades. In November last year, the forestry ministry issued a decree on reforestation aimed at expanding the country's forest cover by 2.4 million hectares in five years. The project will cost the country Rp 15 trillion (US\$1.6 billion).

Articles

The Australian Arid Lands Botanic Garden



The Friends of the AALBG was founded by the efforts of Mr John Zwar, OAM, Port Augusta's first Parks and Gardens Superintendent, who instigated the concept of an Arid Lands Botanic Garden for Port Augusta in 1981. The supporters of this idea led to the formation of 'The Friends' in 1984, becoming incorporated in 1985 and now with about 500 members.

Mr Zwar's idea was to highlight the fact that Arid Land Flora endemic to Australia provides many thousands of species of plant life which are unique. He had a passionate desire to ensure that these unique arid land species would be preserved for future generations within the Garden.

The Garden covers more than 200 hectares and includes many soil types and remnant local vegetation. Funding has come from The City of Port Augusta, some state and federal grants, Western Mining Corporation (WMC)

Resources and the Friends support group. Stage one of the Garden was officially opened in September 1996

The concept of the garden is to preserve only Southern Australian Arid zone plants. This has been achieved by seed and plant collection trips into the Gawler Ranges, Nullarbor, Northern Flinders Ranges and other arid regions of SA. The Garden has been divided into sections representing various botanical regions to specifically showcase the plants of each arid region of SA. A research area is available free of charge to anyone involved in researching arid zone flora.

Another feature is the Eremophila Garden, which is claimed to be one of the largest collections of the genus in Australia. This garden is specially placed to surround the Bluebush Café and visitors centre, thus acting as a wonderful welcoming area for the public to appreciate the beauty and perfume of the plants with a backdrop of the Flinders Ranges.

We are proud of the way that the development of this beautiful garden in such a dry area has enhanced the tourism potential of Port Augusta. The popularisation of Eremophilas as a home garden plant is largely due to the development within our Garden of this feature Eremophila Garden.

Tours with trained volunteer guides occur each weekday and as requested. Our Propagating group meets weekly, and the volunteers grow cuttings of arid land plants such as Eremophila, Olearia pimeleoides, Templetonia retusa, Crotalaria cunninghamii, Sturt's Desert Rose, Alvogyne (Native Hibiscus) etc. As well, seeds of Acacia, eucalypts, casuarinas, Senna, Salt Bush etc. are grown. During propagating mornings, members of the public visit the Nursery site, for sales of local native plants and to discuss planting advice. The Friends also provide tours for visiting school groups and help in other ways as there are only two gardeners employed. An overseas Friend, an IT expert, has developed and maintains the Garden's website, his way of volunteering from afar.

Every two years, (September 4th this year) the Eremophila Festival is held. This year

will be the fourth Festival, and readers are encouraged to attend on that day, or whenever passing through. Port Augusta's Arid Lands Botanic Garden is situated at the Crossroads of Australia and many travelers pass the Garden's front gate on the Stuart Highway. The Garden is open from dawn to dusk, but the Visitor Centre opens 9-5 weekdays and 10-4 on weekends. An Interpretive Centre, Blue-Bush Cafe, Gift Shop and Meeting Room are housed in the Award winning Visitor Centre positioned in the heart of the garden.

Every month or two, a meeting is organised by Friends President John Zwar, with interesting guest speakers. The last speaker was Lorraine Edmunds who spoke about the effect that feral plants are having on the nearby Flinders Ranges, and the methods and strategies being used to counteract those weeds.

Some of the peaks of the Flinders Ranges can be seen from the Garden and through the windows of The Blue Bush Café, adding to the beauty of the Garden, which although adjacent to the city presents an outback bushland feeling.

Shirley Mundy.

Volunteer Propagator and Committee member. 25 May 2004.

shirleymundy@hotmail.com

The Friends of the Australian Arid Lands
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The Editorial Committee of The Botanic Garden decided at a recent meeting that where possible, each issue of the Newsletter should have a theme. The Australian National Botanic Gardens' approach to education and the philosophy behind the recently opened Ian Potter Foundation Children's Garden at RBG Melbourne, provide thought-provoking perspectives on our theme for this issue:

Education in Botanic Gardens.

Education at the Australian National Botanic Gardens

The Australian National Botanic Gardens Education Services offer a range of education programs about Australian native plants and how we use them. The greatest asset at the ANBG is the extensive living collection of Australian Plants.

About 90% of education programs are currently designed for schools, particularly primary and lower secondary students, and we are finding increasing demand from the early childhood area. The Education Services philosophy is to provide activities that are centered around:

- Inclusivity of age, gender, ability and race
- Discovery-based learning
- Providing activities that focus students' observation, pose questions or encourage questions.
- Recognition that responses are not as important as the process that leads to them. There is not necessarily one correct answer. This is in keeping with the Multiple Intelligences approach to student learning.

Our emphasis is on

- · Child-centered learning
- Activities which are fun and challenging
- Activities in which hints are provided but no answers are given
- Making sure that children need to consciously participate and think in order to achieve.

Self-guided activities require minimal reading and writing, so that most of the time is taken in observing, pondering and absorbing the ambience of the venue. Questions are intended to be open-ended/extended response questions, where the students answer to the depth accorded by their current levels of understanding and skills. Some is overt learning, but much is subliminal science.

Visiting teachers and support persons are provided background information in which student booklets are embedded. These provide pre and post-visit activity ideas, curriculum context and further research options.

Curriculum-based resources include:

- Web page <u>www.anbg.gov.au/education</u>
- Rationales
- What to do on the Day
- Curriculum mapping of more relevant Key Learning Areas
- Incorporation of selected NSW curriculum Units of Work
- Australian Academy of Science "Primary Investigations" activities.

Environmental education, together with aboriginal education and Torres Strait Islander education are across-curriculum perspectives.

School Planning Days are held, especially in January, "Keys to Canberra" for new teachers is held in February, and teacher professional development training is held regularly throughout the year.

Web Pages

Teachers are directed to the Education Web pages to view program information and download teacher notes and worksheets where relevant, and the booking form.

Education Services has moved to electronic access to its educational resources over the past three years. The Education Web pages are directed squarely at teachers and as such are plain and designed for teachers to access and download information and resources quickly. The site is constantly upgraded.

Self-guided activities are targeted at interstate school groups and visiting families. A range of self-guided walk leaflets is available, designed

for children from about three years onwards. The leaflets are available as **pdf** and **Word** files free of charge from our Web pages.

Groups who have booked for self-guided activities find information about the Gardens, some basic rules and a little direction on the Web pages as well as at the bus stop shelter. There is no charge for these activities.

Explainer-led activities: Explainers were introduced to the Gardens in 1999 to deliver ad hoc activities to booked school groups. Explainers are employed on casual 'intermittent and irregular' contracts and trained to present programs for visiting schools. Numbers are maintained at a functional level (currently 12) and recruitment is undertaken from time to time as required. They were initially recruited from the Volunteer Guides (who are also members of the Friends of the ANBG). Guides undergo a rigorous selection process as well as five days of training, which ensures that they make a long-term commitment to the program. In 2003, recruits were accepted from outside the Guides, but this approach was not as successful. Explainers undertake a further two days of training related to working with children and delivering educational outcomes.

Explainers are required to attend a proportion of monthly meetings, and trips and visits are arranged from time to time – to the Aboriginal artifacts collection of the National Museum repository at Mitchell in 2003 and to the Kosciusko snowfields for two days in 2004.

Explainers currently deliver designated activities based on specific student learning outcomes. Targeted at both local and interstate school groups of middle Primary to Secondary students, these activities are usually limited to 10-12 students and take one hour. The activities currently on offer to visiting groups are:

- Around Oz in an Hour an introduction to the diversity of Australia's plants and landscapes
- Using Bush Plants from traditional Aboriginal to contemporary uses

- Adaptations of Australian Plants, and
- Threatened Species and Plant Communities There is a charge of \$4 per student for these activities to cover costs of Explainers.

The Gardens Classroom is designed to accommodate local schools (primarily K – year 6) for an "all day" excursion to the Gardens. Group sizes of up to about 75 students can be considered. The Gardens Classroom is regarded as a work base, with most activities taking place in the wider Botanic Gardens. A typical all-day excursion would have the students divided into three groups with three one hour rotations between two technical activities run by Gardens staff and a self-guided activity run by the visiting teacher/support person. Activities can be chosen from the whole of the Education Programs offerings, plus activities that they or we might especially develop. The charge for these activities is currently \$5.50 per student.

Since October 2004 we have moved to themed school terms. We run regular teacher PD afterschool sessions to allow teachers to become familiar with our education facilities, resources and update them about our themed activities. From February 2005 we will be conducting Twilight Forest Adventures for group bookings.

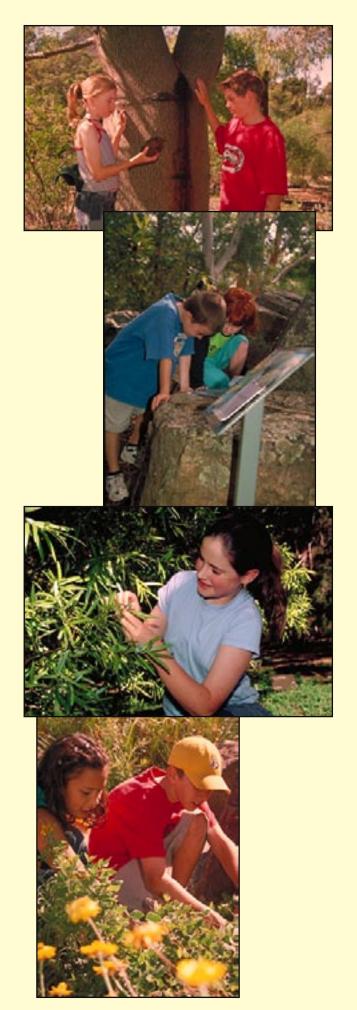
Special Events:

Education Services works in conjunction with Public Programs and Marketing, Friends of the ANBG, and in partnership with external organizations and others to provide activities connected with such events as:

- NAIDOC Week
- Herpetological Exhibition in January
- School Holiday activities
- Special days like World Environment Day, Wattle Day, National Threatened Species Day
- Science Week

Further information: See the Education Web pages at www.anbg.gov.au/education

Peter Lehmann and Jennifer Hemer Education Officers



Royal Botanic Gardens Melbourne Ian Potter Foundation Children's Garden

Three years ago I found myself in the right time and place to be involved in a very exciting project. In 2001 a grant application to the Ian Potter Foundation was successful and suddenly a design group of RBG Melbourne staff members met for the first time. I was lucky enough to be included as a member of the IPFCG design group, and along with 2 horticultural staff, a visitor services officer, landscape architect and an artist, made up our group of six.

As a member of the RBG Education Service I was thrilled to be able to bring our experiences with children in the Gardens into the design process. It seemed the children were constantly teaching us about how they respond to plants and landscape and nature, *teaching us about learning*, in their simple and beautiful messages confirmed in their verbalized 'I love this place' or 'I love you!' and 'This is the best day of my life' etc.

How and why was the garden, combined with what we were doing, meeting their needs so powerfully and emotionally? The children were providing us with constant clues and I felt honored to be able to bring this experience to the design of a garden for children.

It was also wonderful to be a part of a process that brought the diverse, although at times we discovered, very much related, areas of expertise together. Passion was the predominating motivator and our integrated approach to planning confirmed for me the value of this approach. Integrating areas of expertise into a design process is not always easy or straightforward however, it can raise many challenges. We discovered that although we were united on many fronts, the struggle between 'plants and people' raised its head on several occasions. Nevertheless we found that without doubt our discussions and resolutions brought us closer to the essence of our hopes for the project, beginning with the creation of a vision statement:

The Ian Potter Foundation Children's Garden

will be a place where children can delight in nature and discover a passion for plants. It will be a garden that celebrates the imagination and curiosity of children and fosters the creative nature of play.

As an educator I was delighted to have key words here such as *passion, imagination, creative, delight, play, curiosity* and of course *children*, as the key to the life and essence of the garden. Our planning seemed to immediately identify many exciting coincidences and connections between effective pedagogies (learning styles and philosophies) and creatively designed or rich plant landscapes. Simply, it was as if by the creation of stimulating and beautiful landscapes for children you could cover all your hopes and dreams for optimal learning experiences.

For example, we found that Howard Gardener's Multiple Intelligence Theory would provide us with ongoing confirmation that we were on the right track. In his theory Gardener identifies a range of intelligence types (mathematical, verbal, visual, musical, bodily, interpersonal, intrapersonal, environmental) and suggests that every normal person has degrees of all types that vary in strength. He recognizes the need for learning opportunities that cater for varying strengths, and therefore our goal was to create spaces where children, with all ranges and combinations of intelligence types could be stimulated. A complex and interesting garden/ landscape just seemed to meet these needs of its own accord; bamboo, among a multitude of plants, is musical, play is inherently interpersonal and intrapersonal, gardens should all be stimulating visually and physically etc. The list was long and growing. The Education team constantly witnessed, in sessions in the wider RBG, children responding to diverse and stimulating landscapes. We could just recreate the most magical of these experiences. This was going to be easy!

The Reggio Emilia education movement in Italy helped us identify that besides needing stimulating environments, children need stimulating 'tools' that give them opportunities to express themselves and they need freedom/time to follow their own investigations.

Teachers taking this approach not only create inspiring environments but support children in their investigations while documenting their learning. This documentation leads directly to the ongoing provision of new learning experiences. Perfect! We were also providing 'tools' of many types, from ropes for cubby building to watering cans, to aquaspheres for looking at plants that grow in water and we were very keen to document children's activity on the site with the objective of supporting their investigations and guiding our planning. Reggio Emilia theorist Malaguzzi had already provided us with a guiding motto for education planning;

'nothing without joy"

We were definitely on the right track. The delight factor is a vital element in all education experiences, and how easy to apply the same principles in the design of a garden for children. Nature, the willing participant, provides the 'joy and delight' opportunities in magical amounts. All of us in the IPFCG design team were convinced of that. We had all been lucky enough to have childhood experiences playing in rich landscapes. So what's so difficult about this? I began to feel a sneaking suspicion that perhaps it was all too easy, perhaps we had ticked off all the right ingredients, but had failed to include some vital binding element.

People Passion

As we continued to work together we identified other common beliefs that provided the keys to our planning. 'People Passion' would connect children with horticultural and scientific staff of the RBG and the opportunity to learn about the work they do. Both the landscape and the programs would provide opportunities for family members to connect through the delights and wonders of plants. We were aware of research (Chawla, 1999) that showed us that people who were actively engaged with and committed to caring for the environment had two main sources for their interest; positive experiences in natural areas as a child, and family role models who demonstrated their respect for the environment.

We planned so that 'people passion' would be an active player in communicating delight (and therefore care and respect) in the plant landscapes and also in allied programming. It was vital that planning for both programs and the landscapes were integrated, that one was enhanced by the other, that together they made a whole, and that people and passion were the active agents in bringing them together.

Integrated approach

Simultaneously, in designing learning experiences for children the Education team felt strongly that an integrated approach to curriculum was the key to not only providing programs to school groups visiting but for their role in providing support for teachers. An integrated approach allows learners to explore, gather, process, refine and communicate without the constraints imposed by traditional subject barriers (Maths, Science, The Arts, English etc.). It also allows learners to delight in the connectedness of the world we live in. Plants not only connect to all subject areas, but to all forms of human experience and expression. Taking an integrated approach is more likely to respect a holistic approach which acknowledges the importance of the learner as an emotional, physical, spiritual, intellectual being. It was exciting for the Education team to be able to confirm a movement in recent years away from presenting plants in the scientific and social studies realms of understanding which had historically characterised many learning experiences under the umbrella of environmental education. As a member of the design team I was completely satisfied that the new garden for children would provide opportunities to plan for learning experiences across an integrated curriculum. It was also going to provide the Education team with a wonderful tool for illustrating to visiting teachers how applying effective pedagogies and outdoor learning experiences go hand in hand.

Power of story

Inspiration for the design team (besides our own childhood memories of playing) was also supplied by memories of stories and the role landscape, particularly plant landscape, played in literature. In fact it seemed for us all that there was a powerful link between literature and landscape, between landscapes both real

and imagined. Furthermore I felt, and observe daily with the children who visit, that landscape (both real and imagined) plays a powerful role in creating emotion and therefore memory.

Is it because of the powerful sensory immersion that rich plant landscapes provide, or is it more complex in that these diverse and dramatic landscapes in our memories feed the imagination, feed the creative impulse? Whatever the answer, in the Education branch we witness that when immersed in rich landscape, children respond emotionally, imaginatively, creatively. We have no doubt that in these delight-filled moments, memories are being made.

But there was no reason for surprise here; rich landscapes, their plants and animals, have been creating wonderful stories in the human mind since the beginning of human history.

But would the IPFCG design elements give the small child at play opportunities to respond to powerful archetypes that rich landscapes and their stories provide; for example, the wildwood, the wild space where lurks (our fear of) the unknown, the river where journeys begin, the ancient ruin where discoveries are yet to be made, and the tunnel, our passage to a new world? Would the design create a space where stories are waiting to come alive?

All who create gardens hope to use nature's richness as inspiration; but our hope was that natural landscapes, as the best play spaces possible, could help us, inspire us, to *create a space* for the creative nature of play.

Now with a month from opening there is a sense of satisfaction and of excitement.

The landscape and plants have now manifested into 3-D reality and the excitement of waiting is to do with imagining the children at play. What will they be floating in the rill next month, and where will they find to hide in the Rainforest Ruin Garden? What will they decide to grow in the Children's Kitchen Garden?

But then, there was still that curious feeling again that I was missing something vital... something on which, the integrity of my involvement in the design of the garden hung. Then I happened across a quote in my reading

that made me sit up with excitement. A feeling that I was closer to what had been eluding me.

Belonging to the mental structure as the sciences do, it is not surprising that research regarding children and nature has overwhelmingly emphasised cognition through this form of consciousness, with a focus on environmental reasoning, knowledge and attitudes (Kahn, 1999; Wals, 1994; Zimmerman, 1996). Important as knowledge, reasoning, and attitudes are as children seek to understand the world and their place within it, they do not form our deepest levels of connection with the natural world. The qualities of our attention and movement through the sensory world, our sense of agency and identity and the play of emotions they engender are at least equally important.'

(Chawla 2002)

It was the words 'our sense of agency and identity' that jumped out of the page for me. It immediately reminded me of a conversation I had had a couple of months ago with Jason Tamiru, one of the RBG Aboriginal Heritage Walk guides. I had asked him what the word Belonging meant to him (because we were planning for the Jeannie Baker's Belonging exhibition at the time) and he spoke the following words;

My home is my past my present my future
My land my home
Every tree, water, earth, animals, air
Everything that has been created is my tradition
Home is powerful
Home is comfortable
Home is Yorta Yorta Land
My life.

I realised that the meaning of his words **powerful and comfortable** were closely related to Chawla's **agency and identity.** Power did not imply 'power over' and **comfort** did not have to do with a comfy chair, did not imply softness or 'easiness'. Here was something far more exciting. I felt that Jason spoke to me of a **power** to speak, to be heard, to be involved in a decision-making process, to create, to be oneself, power to communicate. Not power

over but power with and within. An inclusive power, perhaps connecting to the power of or spirit of place. And without doubt the power of land/landscape to speak to your emotions. And *power* to feel, recognise and respond to one's own feelings, to think one's own thoughts, to work with others.

I thought then how similar the two words were in meaning and how I could have easily have written 'comfort' in place of 'power'.

Could we aim to create a place where children can feel a *sense of agency and identity*? A rich landscape won't automatically provide children with a sense of belonging; our challenge is that through landscape *and* people *and* the programs that we design, we will.

A more succinct summary of our aims might be encapsulated by the top rung of the **UNICEF Ladder of Participation** (Hart, 1997).

'Youth initiated, shared decisions with adults: is when projects or programs are initiated by youth, and decision-making is shared among youth and adults. These projects empower youth while at the same time enabling them to access and learn from the life experience and expertise of adults.

I believe that we are sitting somewhere about the fifth rung of the UNICEF ladder (where *children are consulted and informed*) and I am excited by the hope that we can keep on climbing; and that in doing so we continue to find connections between play, landscape and giving children a sense of belonging. It occurs to me that we have been saying that the children's input (gardening, imaginings, play, constructions, artworks etc) will be the most significant layer over the canvas of the garden. Now I hope not for recognition of the 'layer' of children's input over landscape, but recognition that each is inextricably linked to the other and is therefore a part of the very same thing.

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