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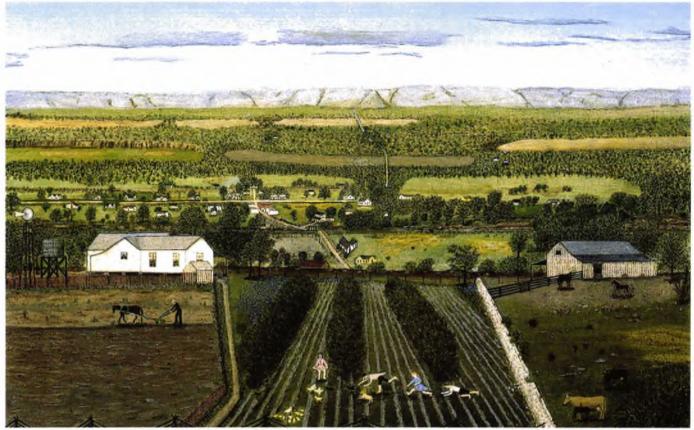
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EDUCATION FOR SUSTAINABILITY



Chicken For Dinner, painting by Clara McDonald Williamson (1875–1976)

COURTESY: VALLEY HOUSE GALLERY AND SCULPTURE GARDEN

WELCOME

Resurgence publish a special issue on 'ecoliteracy', a term coined by David Orr in his book Ecological Literacy: Education and Transition to a Postmodern World. Fritjof and Peter Buckley, together with their colleagues, took up the term and established the Center for Ecoliteracy in the San Francisco Bay Area, California, which inspired a number of schools to experiment with the practice of eco-centred education. The Center supported these schools financially, intellectually and practically. Now the Center has become a success story and we are delighted to cover the manifestation of their vision in this issue; thanks to Michael Stone guestediting the ecoliteracy section.

In addition, we have invited a number of British educationalists to write about the meaning and practice of environmental and holistic education, among them David Selby, Lindsay Clarke, Alan Dyer and Mary Tasker.

I have been involved in education for a long time. I worked in a Gandhian school where children cultivated the land, learned crafts, and developed their spiritual qualities.

In that vision of education, learning and livelihood are complementary. Gandhi argued that there is a fundamental difference between livelihood and living standard: the first relates to human need, and the second to human greed. Livelihood is about quality of life; living standard is about quantity of material possessions. Through livelihood we find fulfilment of spiritual as well

as physical needs, leading to a life of harmony, peace and true freedom, whereas in pursuit of higher living standards we become victims of unquenchable desires, leading to the loss of social and ecological cohesion.

Education aimed solely at raising living standards relates to concepts of employment, jobs and careers based on individualism and personal success. Education for livelihood is just the opposite. It is about relationships, mutuality, reciprocity, community, coherence, wholeness and ecology. The pursuit of livelihood enables us to discover our true calling, our vocation, leading to self-realisation, social equity and spiritual wisdom. The Buddha called it Right Livelihood. Education for sustainability needs to be based on this principle.

For a hopeful future of humanity and of the Earth we need an urgent renewal of education. Most schools and universities are dominated by materialist and consumerist goals. They have taken on the mission of literacy instead of meaning, information instead of transformation, and training instead of learning. Modern-day educators have become servants of the economy and they are oblivious to the catastrophic consequences for people and the planet.

It is my hope that this vision of ecoliteracy will draw the attention of mainstream educators and inspire them to make education relevant to the Age of Ecology.

'Education as usual' is no longer an option. •

SATISH KUMAR

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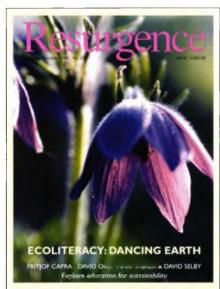
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CONFLUENCE OF STREAMS

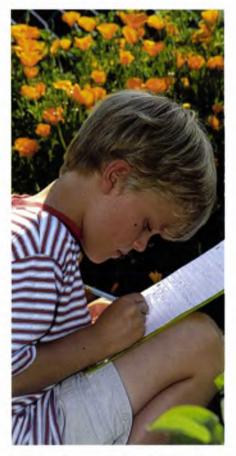
An introduction to the ground-breaking work of the Center for Ecoliteracy.

HAT COMPETENCIES of heart and mind do we need to nurture in children, to prepare them to participate fully as members of sustainable communities? How can schools become meaningfully engaged in the critical issues of food systems, watersheds, energy, shelter, and environmental and social justice? These questions have captured the attention of the Center for Ecoliteracy (CEL) for a decade. The practices that have emerged out of our process of discovery, which we call 'Education for Sustainable Patterns of Living', are chronicled here and in the six articles that follow.

First, we have discovered that there is no one-size-fits-all 'sustainability curriculum'. When people inquire about curriculum, what they envision is a binder of lessons, but 'curriculum' itself deserves a broader. more holistic definition. A team of educators from Yap, a South Pacific atoll, once visited the Center. Recognising in our work their own insights about the transformation of education brought tears to their eyes. As a parting gift, they left a poster proclaiming "Curriculum Is Anywhere Learning Occurs." We concur wholeheartedly with this succinct definition.

As we reflect on our decade of fostering ecological literacy, we can map sources of our vision for education for sustainability. Just as our work lies geographically at the confluence of the Pacific Ocean and the San Francisco Bay, our practice is situated conceptually at the confluence of four powerful streams: the theory of living systems, the wisdom of indigenous people, systemic school reform, and place-based pedagogy, all of which embody a perceptual shift to an ecological or systemic understanding.

In India the confluence of flowing streams has been recognised since ancient times as a place of great power and mystery in the landscape. Such a confluence, sangam in Sanskrit,



The garden at Park School, Mill Valley, California offers inspiration to a young poet in the River of Words programme PHOTOGRAPH: JAMES TYLER/BRIGHT MOMENTS!

implies another stream — a mystical river that runs beneath. In the work of the Center for Ecoliteracy, this deeper stream is spiritual, in the sense that the work evokes reverence. To us, profound respect for the mystery of life, the intricacy of the web of life, and our intimacy with it are essential dimensions of education.

The Theory of Living Systems. In his article, systems theorist and author Fritjof Capra, a CEL founding director, characterises systems theory as a scientific framework requiring a perceptual shift to a new way of thinking based on relationships, context, and connectedness. CEL was founded to apply this systems perspective to primary and secondary education. Author, educator, and CEL director David Orr extends this vision to higher education. Michael Stone illustrates the Center's application of a systemic framework in its food systems work.

The Wisdom of Indigenous People. This 'new way' of thinking, of perceiving the world in terms of context and connectedness, is also ancient wisdom. Indigenous peoples have sustained themselves over time in communities understood to include humans, other living beings, and the land. Jeannette Armstrong, an Okanagan wisdom keeper, artist and activist from British Columbia, who has been recognised for her leadership among indigenous communities, has guided the Center in its work, helping us to understand how ways of educating that were once seamlessly integrated into the life of a community must now be consciously reinvigorated, even in her own place, and to an even greater degree in industrialised and highly mobile societies. In sustainable communities, the engagement of the total community is understood to be essential to the well-being of all.

Systemic School Reform. The systemic school reform movement in education reflects many of the systems perceptions articulated by Fritjof Capra and embodied in the wisdom of indigenous people. The movement recognises the school itself as a system in which students are embedded and affected, at least tacitly, by the values of the wider culture of the school and community. Schools adopting these reforms become practising 'learning communities' in which leadership and innovation are distributed throughout networks of relationships. The perceptual shifts of emphasis in systems

thinking find parallels in the practices of systemic school reform.

Place-based Pedagogy. In an essay titled 'A Sense of Wonder', David Orr makes a compelling argument for why children need "organised engagement with living systems and the lives of people who live by the grace of those systems". Before students are introduced to more advanced disciplinary knowledge, he says, they should be immersed in habitats and communities as they occur, outside the constructed boundaries of classrooms — as rivers, mountains, farms, wetlands, gardens, forests, lakes, islands.

From such engagement grows reverence that is capable of transforming learning from mere knowledge to a passion for preserving those places. Pamela Michael, cofounder of River of Words, a CELsupported programme combining nature study with artistic expression, presents 2004 award winners for art and poetry in an international contest that grounds children in the beauty of their own places. The article 'Far and Wide' profiles programmes around the world that have found inspiration in CEL's work, which they have adapted to their own places.

Translating Theory into Practice. In founding the Center, we hypothesised that applying concepts of systems thinking (for example, networks, nested systems) as design coordinates for our work would result in tangible outcomes leading to systemic and sustainable change in education. We scouted for schools that expressed the spirit of school reform and were functioning as whole communities. We looked for places that yearned to experiment with environmental project-based learning. We supported these school communities through grants, convened networks of exemplary schools and educational organisations, and documented their stories in publications and on our website.

In one of these schools, Mary E. Silveira, everyone from students to janitors takes personal responsibility for the life of that campus. Student teams participate in roughly one hundred different 'jobs', including a fish pond team, a café climatology team, a team to escort visitors, an interior decorating team. The energy efficiency team writes little notes to

teachers, providing gentle reminders to turn off the lights when a class goes to the cafeteria. On a table in the hallway lies a two-sided sign crafted in the handwriting of a young student from the conflict-resolution team. One side reads "Talk" and the other side "Listen".

At another exemplary school supported by CEL, a fourth-grade class decided to "do something" about the problem of disappearing species and adopted the California freshwater shrimp. In preparation for their hands-on work, students learned about habitat destruction around the streams where shrimp once lived. They came to understand the context of the 'shrimp problem' as a habitat restoration challenge, and finally as a dynamic of the regional watershed. Before the Freshwater Shrimp Project was completed, the fourth-graders had demonstrated their ecological literacy in testimony before Congressional committees. won a national 'environmental project of the year' award, and raised \$100,000 for protection of their beloved shrimp.

"Curriculum is Anywhere Learning Occurs." Children find relevance and meaning in learning when they are knee-deep in a creek or measuring the effects of restoration on songbirds and willows. When school communities are deeply engaged in restorative problem solving, they practise a competence essential to sustainability, but sorely missing in many curricula: the capacity for compassion, extending caretaking to all life forms.

Convening Networks. Nature sustains life by creating networks. We understand that to solve problems in an enduring way, people addressing isolated and fragmented parts of the problem need to be brought together in networks of support and conversation. From its inception, CEL has convened exemplary schools and their allies in a pattern of sustainable philanthropy that relies upon networking to encourage the emergence of innovation.

Through networking, the Freshwater Shrimp Project morphed into STRAW, 'Students and Teachers Restoring a Watershed', a cluster of more than thirty schools and a hundred educators. Now songbirds nest in trees sheltering miles of creek beds that once resembled drainage

ditches. California freshwater shrimp — which experts predicted would need decades, if ever, to re-establish themselves — cling to the roots of willows planted just a few years ago by schoolchildren on ranchland not far from their schools.

The Edible Schoolyard, a programme envisioned by chef and restaurateur Alice Waters and supported by CEL, has inspired school gardens and cooking classes across the nation and encouraged our own engagement in food systems initiatives. Our Food Systems Project generated a Food Service Directors' Roundtable, a 'Fertile Crescent Network' of CEL grantees and their partners working on food issues in a six-county region of Northern California, and a Web guide, Rethinking School Lunch, available on the Center for Ecoliteracy website.

The North Coast Rural Challenge Network, in coastal Mendocino County, evolved from one rural school district into a multi-district collaboration, recognised as a model for community-based rural education that adapts technology and place-based learning to connect schools separated by wide distances and mountain ranges.

Widespread application of systems thinking, utilising wisdom learned from indigenous people and nature, could ignite a revolution in education. In the words of Center for Ecoliteracy co-founder Peter Buckley, "At their heart, the ecological problems we face are problems of values. Children are born with a sense of wonder and an affinity for nature. Properly cultivated, these values can mature into ecological literacy, and eventually into sustainable patterns of living."

For further information visit:
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Rethinking School Lunch
www.ecoliteracy.org
The North Coast Rural Challenge
Network www.ncrcn.org

ECOLITERACY: FRITIOF CAPRA

LANSCAPES OF LEARNING

Experiencing ecological relationships and community is the key to ecoliteracy.

VER THE PAST ten years, my colleagues and I at the Center for Ecoliteracy have developed a special pedagogy, called 'Education for Sustainable Patterns of Living', which offers an experiential, participatory and multidisciplinary approach to teaching ecoliteracy. We are sometimes asked: "Why all these complexities? Why don't you just teach ecology?" This article shows that the complexities and subtleties of our approach are inherent in any true understanding of ecology and sus-

The concept of ecological sustainability was introduced more than twenty years ago by Lester Brown, who defined a sustainable society as one that is able to satisfy its needs without diminishing the chances of future generations. This classical definition of sustainability is an important moral exhortation, but it does not tell us anything about how to actually build a sustainable society. This is why the whole concept of sustainability is still confusing to many.

What we need is an operational definition of ecological sustainability. The key to such a definition is the realisation that we do not need to invent sustainable human communities from zero but can model them after nature's ecosystems, which are sustainable communities of plants, animals and micro-organisms. Since the outstanding characteristic of the biosphere is its inherent ability to sustain life, a sustainable human community must be designed in such a manner that its ways of life, businesses, economy, physical structures and technologies do not interfere with nature's inherent ability to sustain life.

This definition of sustainability implies that, in our endeavour to build sustainable communities, we must understand the principles of organisation that ecosystems have developed to sustain the web of life. This understanding is what we call

'ecological literacy'. In the coming decades the survival of humanity will depend on our ability to understand the basic principles of ecology and to live accordingly.

We need to teach our children and our political and corporate leaders! — the fundamental facts of life: for example, that matter cycles continually through the web of life; that the energy driving the ecological cycles flows from the sun; that diversity assures resilience; that one species' waste is another species' food; that life, from its beginning more than three billion years ago, did not take over the planet by combat but by networking. Teaching this ecological knowledge, which is also ancient wisdom, will be the most important role of education in the twenty-first century.

THE COMPLETE UNDERSTANDING of the principles of ecology requires a new way of seeing the world and a new way of thinking in terms of relationships, connectedness, and context. Ecology is first and foremost a science of relationships among the members of ecosystem communities. To fully understand the principles of ecology, therefore, we need to think in terms of relationships and context. Such 'contextual' or 'systemic' thinking involves several shifts of perception that go against the grain of traditional Western science and

This new way of thinking is also emerging at the forefront of science, where a new systemic conception of life is being developed. Instead of seeing the universe as a machine composed of elementary building blocks, scientists have discovered that the material world, ultimately, is a network of inseparable patterns of relationships; that the planet as a whole is a living, self-regulating system. The view of the human body as a machine and of the mind as a separate entity is being replaced by one that sees not only the brain, but also the immune system, the bodily tissues, and even each cell, as living, cognitive systems. This view no longer sees evolution as a competitive struggle for existence, but rather as a co-operative dance in which creativity and the constant emergence of novelty are the driving forces.

Consequently, teaching ecology requires a conceptual framework that is quite different from that of conventional academic disciplines. Teachers notice this at all levels of teaching, from very small children to university students. Moreover, ecology is inherently multidisciplinary, because ecosystems connect the living and non-living worlds. Ecology, therefore, is grounded not only in biology, but also in geology, atmospheric chemistry, thermodynamics, and other branches of science. And when it comes to human ecology we have to add a whole range of other fields, including agriculture, economics, industrial design, and politics. Education for sustainability means teaching ecology in this systemic and multidisciplinary way.

When we study the basic principles of ecology in depth, we find that they are all closely interrelated. They are just different aspects of a single fundamental pattern of organisation that has enabled nature to sustain life for billions of years. In a nutshell: nature sustains life by creating and nurturing communities. No individual organism can exist in isolation. Animals depend on the photosynthesis of plants for their energy needs; plants depend on the carbon dioxide produced by animals, as well as on the nitrogen fixed by bacteria at their roots; and together plants, animals and micro-organisms regulate the entire biosphere and maintain the conditions conducive to life. Sustainability, therefore, is not an individual property but a property of an entire web of relationships. It always involves a whole community.



This is the profound lesson we need to learn from nature. The way to sustain life is to build and nurture community.

When we teach this in our schools. it is important to us that the children not only understand ecology, but also experience it in nature — in a school garden, on a beach, or in a river-bed and that they also experience community while they become ecologically literate. Otherwise, they could leave school and be first-rate theoretical ecologists but care very little about nature, about the Earth. In our ecoliteracy schools, we want to create experiences that lead to an emotional relationship with the natural world.

Experiencing and understanding the principles of ecology in a school garden or a creek restoration project are examples of what educators nowadays call 'project-based learning'. It consists in facilitating learning experiences that engage students in complex real-world projects, reminiscent of the age-old tradition of apprenticeship. Project-based learning not only provides students with important experiences - co-operation, mentorship, integration of various intelligences — but also makes for better learning. There have been some very interesting studies on how

much we retain when we are taught something. Researchers have found that after two weeks we remember only ten per cent of what we read, but twenty per cent of what we hear, fifty per cent of what we discuss, and ninety per cent of what we experience. To us, this is one of the most persuasive arguments for experiential, project-based learning.

COMMUNITY IS ESSENTIAL for understanding sustainability, and it is also essential for teaching ecology in the multidisciplinary way it requires. In schools, various disciplines need to be integrated to create an ecologically oriented curriculum. Obviously this is only possible if teachers from the different disciplines collaborate, and if the school administration makes such collaboration possible. In other words, the conceptual relationships among the various disciplines can be made explicit only if there are corresponding human relationships among the teachers and administrators.

Ten years of work has convinced us that education for sustainable living can be practised best if the whole school is transformed into a learning community. In such a learning community, teachers, students, administrators and parents are all interlinked in a network of relationships, working together to facilitate learning. The teaching does not flow from the top down, but there is a cyclical exchange of knowledge. The focus is on learning, and everyone in the system is both a teacher and a learner.

In the conventional view of education, students are seen as passive learners, and the curriculum is a set of predetermined, decontextualised information. Our pedagogy of education for sustainable living breaks completely with this convention. We engage students in the learning process with the help of real-life projects. This generates a strong motivation and engages the students emotionally. Instead of presenting predetermined, decontextualised information, we encourage critical thinking, questioning, and experimentation, recognising that learning involves the construction of meaning according to the student's personal history and cultural background.

Education for sustainable living is an enterprise that transcends all our differences of race, culture, or class. The Earth is our common home, and creating a sustainable world for our children and for future generations is our common task. •

Digging for bitter root in the Cultural Development class at the En'owkin Centre PHOTOGRAPHS: TAMMY ALLISON

ECOLITERACY: JEANNETTE ARMSTRONG

NATURAL KNOWING

Schooling and sharing the Okanagan way.

N MY OKANAGAN ancestral system, education occurred as a natural part of family and com-L munity in everyday living. Unlike today, education was not segregated into institutions of schooling separate from the family. Different families had different specialised skills and knowledge, which they transmitted from generation to generation with great pride, while embedding values necessary to sustain the community. Imparting skills and knowledge necessary for living well was as important then as it is today; the difference may be in how families presented sustainability principles in terms of communal behaviour necessary to maintain healthy resources and food systems. As with most peoples who have developed highly sophisticated systems of sustainable land use, Okanagan family systems, operating within village communities, placed a high value on collaboration and sharing among village members.

Sharing resources and labour for security and sustenance was an esteemed responsibility modelled most stringently by the Chief family, or galth, who spoke for the community and maintained peace. 'Sharing' means something quite different in the Okanagan language from what it means in English. It constitutes 'a manifestation or demonstration of how-to-be' rather than 'possessions being divided among others'. The clear imperative that individuals within the community must co-operate willingly to demonstrate sustainability values ensures the survival and wellbeing of the whole. Community exists to be shared with, rather than to be competed against.

In our language, we think of 'community' as a living organism. The whole community needs to be healthy for families to be healthy and for individuals to thrive. We recognise family systems, or qalth, as different parts of a body with different functions, just as the hands, the heart, and the head have different but necessary functions. One galth might be craft skilled, another galth might be skilled in herbal knowledge, another might study land and food systems, and so on.

Having identity as part of a qalth offered deep assurance and a sense of belonging to individuals. Qalth systems alleviated social pressure on individuals and established cohort systems supportive of learning the special skills necessary to the whole. All older members shared responsibility for transferring the galth's skills to its young. Mothers, fathers, older siblings, cousins, aunts, uncles and grandparents were all seen as teachers, modelling good practice. The eldest were the most treasured teachers because, as they became physically frail, they were more available for advice and guidance. Therefore, they enjoyed the constant attentions of younger people.

Survival knowledge and skills were acquired through real-world learning, modelling how the whole community must carry out work and sustenance with future needs in mind, no matter how difficult the conditions. The belief system, which celebrates life, places high value on careful taking of the land's resources. It demonstrates how 'sharing with community' extends to 'our relatives on the land'. We think of the plants, fish, birds and animals as relatives, who share their lives with each other and with us. Every day, elder galth members show how these relatives share their gifts with us, and therefore they require our respect, love and protection.

Learning useful skills and information, from that perspective, was as natural as learning to walk or talk. Children couldn't help but learn. They were guided into enjoyment of their family's work of gathering berries and roots, fishing, hunting, or making clothing and tools. Particular skills acquired by different family members were sources of pride and enjoyment to be lovingly handed down to the young as marks of identity.

The benefits consequently shared by the community included security and support for those who might be disadvantaged by age, physical limitation, or circumstance, since whole family systems compensated and produced all that was required by the community. Higher value was placed on how well individuals learned to share and their willingness to collaborate rather than on the mastery of everyday skills.

SETTLEMENT IN THE Okanagan occurred during my grandmother's



Digging for medicines

early adult years. The transition to ranching and farming occurred during our parents' early adult years, and the introduction of 'schooling' occurred during my older siblings' youth. Harvesting from the land as hunters, gatherers and farmers remains very much a central practice of traditional families of the Okanagan. I have been fortunate in having experienced all that which my ancestors learned, shared and practised. It is easy for me to see where the gaps are in our present social system. Living in a village community that has retained some of the practices and principles required for living sustainably makes my work easier. But the practice of 'schooling' has led to the loss of a good way of life which was embedded in good community and land-based values.

Forced assimilation into the colonising culture of schooling has taken its toll on many of our communities, but the remnants of our family and community values can be relied upon to reconstruct good practice, based on our tried and tested traditional system.

Our ecoliteracy programme at the En'owkin Centre attempts to reconstruct a way that shows how family, community and land must interact in celebration and appreciation of the gift of life. At En'owkin, ecoliteracy means that we must find ways to integrate academic and practical skills into a curriculum, demonstrating principles of collaboration, sharing, and sustainable land use. It means that we must strive to permeate all learning with opportunities for family and community to create

lasting systems. It means programmes that continuously give place for ritual and recognition of the individual within family and community. It means a curriculum consciously focused on experiencing happiness through meaningful service and on collaboration as the highest pleasures. It means that elders, parents and community members are continually engaged in all aspects of programmes and projects.

To meet these challenges, the En'owkin Centre has had to evolve in a way that is both organic and within a clear educational intent. We have the advantage of having good family and community culture to guide our work in developing curricula that serve our goals. 'Schooling' and 'academics' are connected directly to achieve healthy family, community and land. Because our programmes and projects are ecoliteracy-based, they must demonstrate real-world outcomes. We work on community-relevant projects that engage children, parents and elders in the restoration of land, culture and celebration.

For instance, EcoAction, one of our projects, restores a black cottonwood riparian ecosystem that is home to many endangered species. We bring children from various schools together with adult volunteers from our community and from environmental and civil organisations. The volunteers teach and share work and resources on restoration and stewardship. We organise work and outings to learn from our elders, who are our knowledge keepers. They teach us how to collect indigenous seeds at the right places and times of the season. Together, young people and old people propagate, care for, and transplant the seedlings. They learn and celebrate the work together.

While our resources are small, the Centre has profoundly strengthened our families and Okanagan communities, and has also drawn the surrounding community in, as a part of our practice of connecting land and people. The gatherings and celebrations are becoming traditions eagerly attended by huge numbers of new friends finding joy and peace in being. Our work is a fervent prayer for peace and sustenance of family, community, and land. •

For more information please visit <www.enowkincentre.ca>.

SK TEN PEOPLE to name the most promising opportunities for introducing education for sustainable living into school curricula. It's not likely that many lists will begin with 'lunchtime', but school lunch offers an excellent possibility, especially in countries such as the US, which faces a pandemic of obesity and nutritionrelated illnesses among children.

Lunch is an activity shared by most students. Health, nutrition and food are undeniably linked. Food is as basic as sustainability gets. Learning how food gets from seed to table requires understanding fundamental natural processes - energy flows, nutrient cycles, how one organism's waste becomes another's food. It also requires understanding educational, agricultural, economic, social and political systems.

As the Center for Ecoliteracy (CEL) learned during a five-year engagement with school food systems, efforts to improve school food can reveal some of the deep mental and social disconnections that frustrate attempts to think and act sustainably: actions disconnected from consequences, farms from communities, health from environment, schools' announced curricula from their 'hidden curricula'.

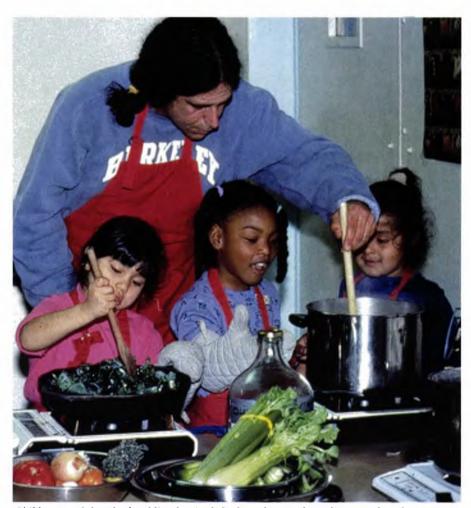
CEL didn't start by looking for involvement in school lunch. One of its early strategies consisted of identifying and supporting exemplary schools that functioned as apprenticeship communities, with holistic curricula organised around place-based projects. These schools had discovered that co-operation and learning increased, and grades and retention improved, when learning was integrated with hands-on natural-world projects such as watershed restoration and school gardens. They recognised that these experiences were instrumental in forming children's values and sense of responsibility for themselves, their communities and the environment.

In 1995, one of these schools, Martin Luther King Jr. Middle School in Berkeley, provided a chance to address food in a whole-systems way. King principal Neil Smith had met Alice Waters, the charismatic chef, founder of world-famed Chez Panisse restaurant, and evangelist for California Cuisine. "There are gardens in lots of schools," she told him. "There are kitchens. There are cafeterias. But there aren't gardens and kitchens and

ECOLITERACY: MICHAEL K. STONE

THE MENU

Uncovering sustainability solutions through school food.



Children aren't hopelessly addicted to junk food, as these students discover when they prepare delicious meals from fresh, healthy vegetables in a cooking class at LeConte School in Berkeley PHOTOGRAPH: JAMES TYLER/BRIGHT MOMENTS!

cafeterias that are of a piece. I started to get the idea for an ecological curriculum run as a school lunch program that could transform education." She presented a bold vision, given that King didn't even have a cafeteria at the time.

Eventually, The Edible School Yard (ESY) blossomed at King, garnering national attention. ESY combined garden work and cooking classes for every student. CEL funded a team of King's teachers to create an integrated curriculum, using these contexts. Even teachers who had initially viewed the kitchen and garden sessions as time away from the curriculum began to look for ways to make ESY lessons part of the curriculum. A Spanish class spoke Spanish while cooking Venezuelan food. A maths class costed a meal's ingredients. Children experienced the natural cycles, learned to compost, discovered the satisfaction of sitting down to eat together. ESY and other garden and cooking programmes exploded one widespread assumption: that children are irretrievably addicted to junk food. In fact, they

will eat — and love — nutritious fruits and vegetables, even unfamiliar ones, that they've grown and cooked themselves.

A Harvard Medical School-based study commissioned by CEL concluded that ESY students showed greater gains in ecological understanding, and greater overall academic progress, than did students in a comparable non-ESY school. Teachers reported better behaviour in class. impressive as ESY is, CEL took seriously what systemic school reformers had discovered in the late 1980s: systems don't exist in isolation. Classrooms are nested within schools, which are embedded in school districts, which reside within communities that are parts of bioregions and foodsheds inside nations within a global economy. Long-lasting change requires that we address multiple levels simultaneously.

An opportunity to work at the district as well as the school level arose in 1998. The Berkeley school district's board unanimously adopted the US's first district-wide school food policy. Among its goals were: "Ensure that no student in Berkeley is hungry; provide nutritious, fresh, tasty, locally grown food that reflects Berkeley's cultural diversity; ensure that the food served is organic to the maximum extent possible; maximize the reduction of waste by recycling, reusing, composting, and purchasing recycled products."

About the same time, as the lead agency for a network of seventeen Berkeley organisations and individuals, CEL received a US Department of Agriculture grant for a Food Systems Project. Many of the project's goals corresponded to those of the district food policies.

The Food Systems Project network and the district achieved several notable accomplishments (gardens in every district, kitchen and cooking classes in eleven schools, School to Farm Field Studies programmes that took urban students to farms and brought farmers to classrooms, a city food policy, a successful bond measure including funds for school cafeterias and kitchens). They have not yet realised all of their goals, including dramatically improving the food served at schools and 'reinventing' the district's food service.

School food services are hard to change, partly because they are embedded in larger educational, economic and political systems that in turn reflect much bigger trends — among them

centralisation, industrialisation, standardisation, and globalisation.

IN HIS ESSAY 'Solving for Pattern', Wendell Berry distinguishes between 'solutions' that worsen the problem they're supposed to solve, those that cause cascades of other problems, and those that "cause a ramifying series of solutions." A bad solution is designed for a single purpose. It acts destructively on the patterns that contain it. A good solution addresses the interlocking pattern in which it is embedded.

School food systems, at least in the United States, are rife with singlepurpose solutions that generate new problems. School districts 'solve' chronic under-funding by demanding that food services break even, or even generate surpluses, on minimal government subsidies for feeding poor children. The US Department of Agriculture 'solves' farmer income problems by buying surplus commodities (often high-fat cheese or meat) and offering them to schools. To save money, schools abandon labour-intensive fresh food preparation and 'solve' the problem of undernourished children by serving pre-processed and frozen food that's been shipped thousands of miles, burning fossil fuel and discharging air pollutants along the way. Processing leaches nutrients, and usually appearance and taste, from food, a problem that students 'solve' by dumping it into the trash, where it rejoins the same packaging (fifty per cent of food costs, some say) that it arrived in.

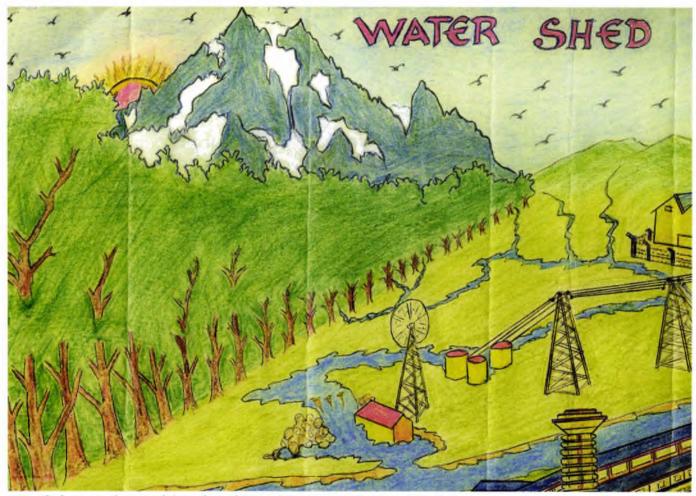
Schools 'solve' poor academic performance by mandating more standardised testing and more hours in class (sometimes by shortening lunch and exercise periods, though educators know that undernourished students perform poorly). The crisis of obesity and nutrition-related illness inspires classroom nutrition lectures and slick, colourful teaching materials, while cash-strapped schools install soft-drink machines in the hallways and Parent-Teacher Associations sell pizza and sugary snacks to subsidise art and music programmes and purchase computer equipment. Small farms, which could grow the fruits and vegetables that children lack, struggle to survive, while school food dollars support the mass agribusiness operations that are driving small farmers out of business. Farmland sold to developers when farms close is lost to agriculture, compromising communities' future sustainability.

BAD SOLUTIONS CAUSE cascading waves of additional problems, but Berry also says that solving for pattern can cause a ramifying series of solutions. CEL has joined with other organisations to support a 'farm-toschool' movement that links schools and farms, bringing local farmers income and giving children the chance to learn to love good food. The Center is also supporting efforts to create whole-school curricula that begin with serving meals that complement rather than contradict classroom lessons on nutrition and health. These curricula use gardens and kitchens as laboratories for teaching science, maths, art, social studies, and many other subjects.

Sustainability issues must be approached from many directions and at many levels. CEL's years of working with food systems culminated this year in a Web-based guide, Rethinking School Lunch. This project addresses ten interlocking areas, including nutrition, facilities, procurement, finances, waste management, and curriculum integration. It offers the wisdom and experience of experts and practitioners, and provides usable tools. For instance, in a recent poll school officials listed 'money' as the greatest obstacle to improving school food, but food service directors often lack planning tools to assess their operations or evaluate options for offering better food affordably. So the website offers an interactive spreadsheet for testing different scenarios. Other tools on the website include menus, architectural drawings, curricular plans, and extensive pointers to other resources.

CEL hopes that these resources will inspire and serve the nascent movement to redefine the role of food in schools and to reconnect farms with communities, food with public health, and school curricula with student experiences. Schools have the opportunity to educate for sustainability by what they teach in class and by how they serve as models of sustainability — redirecting the drift toward centralisation, industrialisation, standardisation, and globalisation, and moving consciously toward diversification, human-scale systems, biological and cultural diversity, and community-based economics. •

For more information: <www.edibleschoolyard.org> <www.ecoliteracy.org>



Watershed, painting by Mutember Javish, aged 17. Nairobi, Kenya. 2004 River Of Words finalist.

ECOLITERACY: PAMELA MICHAEL

RIVER OF WORDS

IVER OF WORDS has travelled a long way since 1995, when US Poet Laureate Robert Hass and I, along with a group of poets, educators, artists, activists and others, began a series of weekly meetings. We were motivated by studies indicating that most children in the United States could identify over a thousand corporate logos, but could not recognise and name more than a handful of the plants in their own neighbourhoods.

We sought to blend poetry, art, nature study, watershed awareness, community service, history and critical thinking into a flexible, simple and elegant curriculum for schoolchildren. Our project evolved into River of Words (ROW), a small educational nonprofit whose supporters

Inspiring children to intimately experience the web of life.

include the Center for Ecoliteracy. Today, in affiliation with the Library of Congress, ROW conducts the world's largest youth poetry and art contest. Each year, through our Watershed Explorer curriculum, we train hundreds of classroom teachers, park rangers, youth leaders and others to incorporate nature exploration and the arts into their work with young people.

We wanted to help children experience intimately the web of life and develop a rich and sustaining 'language of landscape'. ROW encourages students to explore their communities and imaginations weaving in natural and cultural history - and to synthesise what they've learnt and observed into line and verse. Finalists and winners from our International Youth Poetry and Art Contest, such as those shown here, demonstrate how well we have succeeded.

We've tried to add elements of wonder, discovery, interpretation, dexterity and surprise to learning. By focusing students' attention on their home regions, we hope to create space for them to develop emotional and cognitive intelligence, to come to understand and to love their home places, and to grow into engaged, effective citizens. We offer these thoughtful and heartfelt creations from the children of the world.



Watershed festival, painting by A. J. S. Lakshmishree, aged 7. Bangalore, India. 2004 River Of Words finalist.

Closed Ears

Now is the silence, that cool last Silence before

the mural's skewed, the music cut;

before my ears are abused by the rough, vulgar beep (whirr click) of everything else.

What sweet poetry is the spider's web: life without fanfare and death without tragedy

played among the deaf silver violin strings hung with dew, so tightly strung beyond our understanding.

The little septic pool flowing back of the house must babble and rush.

For all the water we don't have

it must be Styx, Nile, Yellow, Amazon with its extravagant filth.

TIFFANIE JONES, aged 18 Georgia, UŠA 2004 ROW Grand Prize Winner

My Stream

The stream has a name, she whispers it to me, while quietly gurgling past.

She tells me how big the world is, she tells me how small infinity can be, she talks about sadness, and about happiness. She tells me that we all die, but not her.

She tells me about the deer who drink with grace from her low banks. She knows each beaver, each fish, each human ear willing to listen.

The stream has a name, she tells me how small we really are. She has a voice. Listen.

MOLLY C. BROWN, aged 14 New Hampshire, USA 2004 ROW Finalist

Rain

Lightning dances beneath the tumbling surface of furrowed, thundering clouds and suddenly, the fever breaks droplets pour and collect in my hands. Of all the words in the English language these have fallen together to form one small gift.

BETHANY BERNARD, aged 18 Georgia, USA 2004 ROW Finalist

All poems © River of Words

For more information, contact: River of Words, 2547 Eighth Street, 13B, Berkeley, CA 94710, USA. Tel: +1 510 548 7636. <www.riverofwords.org>

ECOLITERACY: Compiled by MICHAEL K. STONE

FAR AND WIDE

The ecoliteracy network is growing around the world.

COLITERACY IS A concept that can be practised in as many ways as there are physical environments and cultures. The Center for Ecoliteracy (CEL) has focused its work in northern California, but meets and hears from people on every continent wanting to start ecoliteracy programmes in their regions. Here are a few members of its informal network:

Fundação Gaia (Gaia Foundation), in Porto Alegre, Brazil, was founded in 1987 by leading Brazilian environmentalist José Lutzenberger, an agronomist, activist and profound thinker who helped to lead Brazilian efforts to establish aboriginal land rights and disavow nuclear weapons development, and to organise the 1992 Earth Summit in Rio de Janeiro. Since Lutzenberger's death in 2002, the connection with CEL has continued through his daughter Lara, who now directs the Foundation.

Fundação Gaia promotes a new way of seeing the world, characterised by systemic thinking, understanding people's real needs, and recognising humans as a part, but only a part, of the natural world. It offers lectures and courses, develops environmental education activities, and consults with municipalities, corporations and NGOs on such topics as biodiversity assessment and organic agriculture. It also co-ordinates projects in which schools and communities conduct environmental analyses and create action plans for their local situations.

Recently the foundation helped bring the SEED (School Environmental Education and Development) programme to Brazilian schools. In this programme, created by New Zealander Robina McCurdy, the whole school - director, teachers, children and parents — imagines and implements a new school environment, for example using the school grounds as a classroom where the school community designs sustainable permaculture systems to grow its own organic food.

Rinção Gaia, the foundation's thirty-hectare headquarters on a restored basalt quarry, serves as a laboratory and classroom for children and adults. Physical restoration and agriculture work, games, art, personal reflections and classes help participants to experience the transformation of a devastated area to a place rich in beauty, biodiversity and productivity, and, in Lara Lutzenberger's words, "to perceive the majesty of Nature, comprehending Gaia as a huge living system formed by an intricate web of life."

Fundação Gaia, Street Jacinth Gomes No. 39 Santana, Porto Alegre 90040-270, Rio Grande do Sul, Brazil.

<www.fgaia.org.br>

For information about SEED: <www.context.org/PEOPLE/robina/</pre> seed.htm > .

Manitham Foundation, in Tamil Nadu, India. At the age of sixty, Barnabus Tiburtius left a position as president of a UK-based multinational to start a second career in social entrepreneurship. He founded the Manitham (Tamil for 'Humaneness') Foundation to promote the education of future Indian citizens through participative, value-based and holistic development of students' social, political, cultural, economic, spiritual and ecological intelligence.

The foundation's first initiative. the CREA Children's Academy, serves 225 children around the town of Tiruchirappalli. Tiburtius, its director, says that systems thinking is the school's "bedrock". He used CEL's work as his model for a comprehensive Eco-literacy Programme for students aged six to ten.

Along with teaching the principles of ecology and eco-awareness, the programme's hands-on activities led by children themselves — help students discover the beauty of nature and develop a sense of gratitude and responsibility. Children vermicompost, plant trees and harvest rainwater. CEL's work combining school gardens and kitchens inspired a special project, 'Nitrogenfixing Species Propagation Activity'. The children established and manage a nursery, seed bank and demonstration garden where they grow and maintain nitrogen-fixing species. Then they distribute the seeds to parents and other students to use in their own farms and gardens. In the process, students learn about soil chemistry, the nitrogen cycle, the roles different plants play in the ecosystem, and their region's native nitrogen-fixing plants.

Manitham Foundation, Barnabas Tiburtius, Managing Trustee, 6/18, II Cross Street, Dr. Radhakrishnan Nagar, Thiruvanmiyur, Chennai 600 041, India. <www.manitham.org>

Instituto Ecoar para a Cidadania (Ecoar Institute for Citizenship), in São Paulo, Brazil. Following the 1992 Rio Earth Summit and Global Forum, a group of professionals, academics and environmentalists convened to continue discussions around constructing a sustainable society in harmony with nature. They named their organisation Ecoar ('Echo'), to signify their vision of environmental education, ethical values and citizenship echoing through people's lives. Ecoar serves as an environmental think tank, and offers courses, lectures, workshops, books and videos for environmental education.

"Most people in Brazil, and elsewhere, understand environmental education as a subject taught to school children," says Ecoar's director, Miriam Duailibi. "At Ecoar, we understand environmental education as the means to a new way of living, thinking in a systemic way, understanding the web of life but also the social context, political scene, and reasons for disease, poverty, and violence. We work with schools as well as associations in neighborhoods, microbasins, and urban environments to articulate



Residents of Jardim Aliança, a favela of 10,000 near São Paulo, learn ecological principles while co-operatively improving their home place. Here they clear spaces to eliminate mosquitoes, rats and pollution before restoring the area as an organic garden for the community PHOTOGRAPH: ÄLVARO BUFARAH

and implement community visions for economic and environmental sustainability, human emancipation, and the survival of the Earth's species."

Most Brazilians, including teachers, have not been educated to think this way. "Teachers are obligated by law to introduce environmental education into their courses," says Duailibi, "but they don't know what environmental education means. They are always asking us for help."

Besides working with teachers, Ecoar adapts and distributes materials written for a wide range of educational levels. In co-operation with the World Wildlife Fund, it produced a colloquially written lesson and activities guide to help deepen environmental knowledge. It prepared material on the environmental and social impacts of all forms of energy, from fire to fuel cells. The Ministry of the Environment commissioned Ecoar to catalogue and evaluate all the printed and mediabased environmental education material available in Brazil.

Between 2001 and 2003, Ecoar created dialogues between Petrobras (the national petroleum company) and communities through which it proposed to build a fifty-kilometre pipeline. These dialogues empowered the communities, which were used to powerful companies imposing their plans without consulting local inhabitants, and influenced Petrobras to rethink its relationship with the communities it affects.

Ecoar connected with CEL through Fritjof Capra. In 2003, the Brazilian Environmental Ministry,

Capra, and Ecoar co-ordinated Dialogues for a Sustainable Brazil, gathering a dozen visionaries from around the world and forty Brazilian government officials, academics and civil affiliates. Ecoar translated three CEL publications into Portuguese and posted them on its website, where they are used by scholars, environmental educators, environmental NGOs and Ecoar staff members.

Ecoar is weaving a sustainability network of Brazilian individuals and organisations that share a commitment to systems thinking and ecoliteracy pedagogy. It is creating a Centro Ecoar de Educação para Sustentabilidade (Centre for Education for Sustainability), where activists, thinkers, scientists and educators can build a "learning community" in the spirit of Paulo Freire, one of Ecoar's heroes, to devise new ways to apply systems thinking to Brazil's problems and opportunities.

Instituto Ecoar para a Cidadania, R. Tomás Carvalhal, No. 551, Paraíso CEP: 04006-002, Brazil. <www.ecoar.org.br>

Arambh ('Beginning'), in New Mumbai, India, serves 1,200 slum children through informal learning centres. Initially envisaged for school dropouts, Arambh now also attracts children who have never entered the formal education system.

Arambh employs eclectic pedagogies to attract children to enrol and remain in school. Many children whose families migrated from rural areas in search of work arrive in the city with a knowledge of native plants, but they are losing it fast. An Arambh volunteer, Vijaya Chakravarty, a landscape designer and doctoral student at Mumbai University, where she is researching children and environment, introduces gardening, edible landscaping, medicinal plants and garden-based science projects into the curriculum. She has used CEL materials and consulted with CEL, adapting CEL's ideas for combining gardening and cooking classes to Arambh. "My interest in teaching children gardening is to bring back the joy of nature into their lives," says Chakravarty. "It is difficult for children to live in a concrete jungle with no access to greenery. For them to be with plants is a catharsis.'

Arambh c/o Ms Shobha Murthy, Gitanjali Bldg., Sector 17, Vashi, New Mumbai, India 400703. •

ECOLITERACY: DAVID W. ORR

THE LEARNING CURVE

All education is environmental education.

HE MOST IMPORTANT discovery of the past two centuries is that we are joined in one fragile experiment, vulnerable to bad judgement, shortsightedness, greed and malice. Though divided by nation, tribe, religion, ethnicity, language, culture and politics, we are co-members of one enterprise stretching back through time beyond memory, but forward no further than our ability to recognise that we are, as Aldo Leopold once put it, plain members and citizens of the biotic community.

This awareness carries both an imperative and a possibility. The imperative is simply that we ought to pay full and close attention to the ecological conditions and prerequisites that sustain all life. Because we seldom know how human actions affect ecosystems or the biosphere, we have every reason to act with informed precaution. And, because of the scale and momentum of the human presence on Earth, it is utter foolishness to assert otherwise.

There is also the possibility that in the long gestation of humankind we acquired an affinity for life, Earth, forests, water, soils and place: what E. O. Wilson calls "biophilia". That is more than a defensible hypothesis it is the best hope for our future. For real hope, as distinguished from wishful thinking, we should first look, not to our technological cleverness or abstractions about progress of one kind or another, but rather to the extent and depth of our affections, which set boundaries to what we do and direct our intelligence to better or worse possibilities. The possibility of affection for our children, place, posterity and life is in all of us. It is part of our evolutionary heritage. It is embedded in all of our best religious teachings. And it is now a matter of simple self-interest that we come to realise the full extent of the obligations that arise from an alert, thorough and far-sighted affection.

Perhaps biophilia helps to explain the rise of something that is beginning to look a great deal like a worldwide ecological enlightenment. The global transition to wind and solar energy systems has begun in earnest. Sustainable agriculture and forestry are gaining ground. The art and science of energy-efficient building are flourishing. The possibilities for transforming manufacturing and technology to mimic natural systems are revolutionary. The science of ecological healing and restoration has made significant progress.

The most exciting career opportunities that I know add the word 'environment' to fields such as design, planning, medicine, business, law, journalism, education, agriculture and development. Small nongovernmental organisations such as the Rocky Mountain Institute, the Center for Ecoliteracy, Schumacher College, Ecotrust, the Jane Goodall Center and Ocean Arks are influential worldwide. The internet is opening new possibilities for citizens of the world to co-operate, spread ideas, and hold governments accountable. Still, I think H. G. Wells had it right when he said that we are in a race between education and catastrophe. This race will be decided in all of the places, including classrooms, that foster ecological imagination, critical thinking, awareness of connections, independent thought, and good heart.

For its part environmental education is becoming well established in nonprofit organisations, public agencies, schools, colleges and universities. The words 'environmental education', however, imply education about the environment, just another course or two, a curricular outbuilding to the big house of formal schooling where the really important things go on. But we will have to aim

toward a deeper transformation of the substance, process and scope of education at all levels. The title of my 1992 book, Ecological Literacy, identifies that goal, which is built on the recognition that

- 1. The disorder of ecosystems reflects a prior disorder of mind, making it a central concern to those institutions that purport to improve minds. In other words, the ecological crisis is in every way a crisis of education.
- 2. The problem, as Wes Jackson once said of agriculture, is one of education, not merely in education.
- 3. All education is environmental education ... by what is included or excluded we teach the young that they are part of, or apart from, the natural world.
- 4. The goal is not just mastery of subject matter but making connections between head, hand, heart, and cultivation of the capacity to discern systems what Gregory Bateson once called "the pattern that connects".

An ecologically literate person would have at least a basic comprehension of ecology, human ecology and the concepts of sustainability, as well as the wherewithal to solve problems. Taken to its logical conclusion, the goal of making all of our students ecologically literate would restore the idea that education is first and foremost a large conversation with technical aspects, not merely a technical subject. Whatever the state of our pedagogical research, the life of the mind is and will remain a mysterious and serendipitous process only somewhat influenced by formal instruction (sometimes to no good effect). As a large conversation, we would restore to the subject of education the importance that every

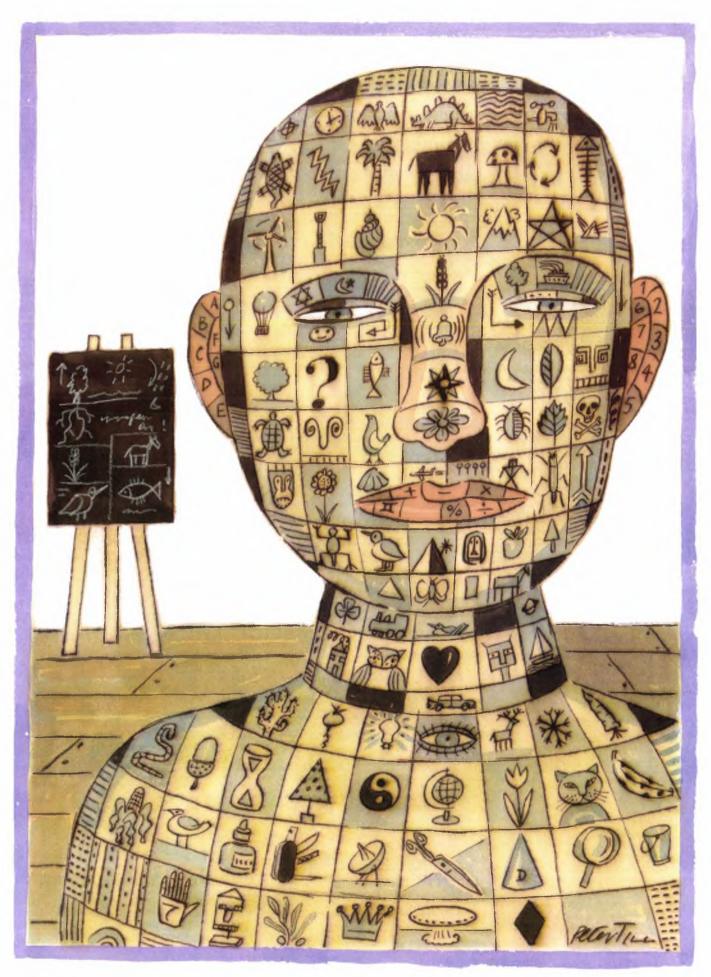


ILLUSTRATION: PETER TILL

great philosopher, from Plato, through Rousseau, to Dewey and Whitehead, assigned to it. Education, as they knew, had to do with the timeless question of how we are to live. And in our time the great question is how we will live in light of the ecological fact that we are bound together in the community of life, one and indivisible, now threatened by human numbers and carelessness.

THERE ARE FOUR conclusions to be drawn. First, if ecological education is confined to schools that function like islands within a larger sea of ecological ruin — malls, highways, urban blight, rural slums, and pollution -- they will eventually fail to transform anything. To be effective, education must engage the wider society. Second, non-governmental organisations, schools, colleges and universities can be catalysts to a wider transformation of the culture and society, all the more so because of the dereliction of governments and business. Third, if they are to be transformative, the educational environment, campus and curriculum must themselves be transformed to reflect ecological realities. Fourth, the goal of ecological literacy is not a passive kind of literacy to be confused with reading, as important as that is, but rather the active cultivation of ecological intelligence, imagination and competence, which is to say design intelligence.

A word about the third and fourth points: Thoreau went to Walden, he said, in order to drive some of the problems of living into a corner where he could study them. In like manner, might it be possible to drive some of the problems of sustainability confronting the rising generation into a setting such as the school or university, and to render them into courses, curricula, research, and eventually solutions? For example, beginning in 1995 I organised an effort with students, faculty and members of the public to design and build an environmental studies centre at Oberlin College. Students met in thirteen planning sessions and thereafter with a group of architects and designers to develop the concepts finally embodied in the Adam Joseph Lewis Center. The goals they selected for the project included energy efficiency, use of solar energy, waste-water recycling, elimination of toxic materials, and a building that would learn over time while functioning as a microcosm in which to study some of the challenges of building sustainability at a community scale. These also became central to the educational mission that evolved from the project.

The result is a building and landscape that have become a laboratory for the study of ecologically engineered solutions for waste water, solar energy, ecological restoration, ecological design, data gathering, analysis and display, landscape management and horticulture, and the

If ecological education is confined to schools that function like islands within a larger sea of ecological ruin, they will eventually fail to transform anything.

art of communicating these things to the wider public. But these subjects require mastery of skills different from those required to build an industrial society. We've aimed, accordingly, to foster in our students the specific capacities to appraise costs on a life-cycle basis, analyse whole systems, and master new tools such as geographic information systems, as well as the practical skills required to harvest sunshine, grow food, design buildings, restore landscapes, and initiate change.

The Lewis Center, in turn, was instrumental in catalysing the formation of the Cleveland Green Building Coalition, a seventy-five-acre community-supported farm, a \$13 million building project in downtown Oberlin organised by three recent graduates, and a new company consisting of three students and one faculty member focused on commercialising the art and science of the analysis and display of data such as the energy performance of buildings. The Lewis Center was also instrumental in encouraging college trustees to adopt a comprehensive environmental policy for the college that includes the goal of becoming climatically neutral. In other words, the building was a means to the larger ends of improving ecological competence and ecological design skills, and initiating real changes.

THE CHALLENGE TO us as educators is to equip our students with the practical skills, analytic abilities, philosophical depth and moral wherewithal to remake the human presence in the world. In short order, as history measures these things, they must replace the extractive economy with one that functions on current sunlight, eliminates the concept of waste, uses energy and materials with great efficiency, and distributes wealth fairly within and between generations. We will have to recast the systems by which we provision ourselves with food, energy, water, materials and livelihood, and by which we handle our wastes. These, in turn, imply the need to design organisations that are capable of ecological design. The particular skills of ecological design necessary to a future that is sustainable and spiritually sustaining are in turn means to a still larger end of fostering hope in a world of growing despair and anger, and its offspring, terrorism, whether by individuals, organisations, or governments.

A headline in the Science section of The New York Times dated 16th March 2004 read "Side by Side, Palestinians and Israelis Repair a Ruined River." Imagine that! To comprehend the ecology of a river and the human systems that impact it requires ecological intelligence emerging across the conventional boundaries of disciplines. For Israelis and Palestinians to join together in an endeavour to heal across the chasm rent by hatred, fear and violence is a still larger design challenge having to do with the connections between human ecology, natural systems, and the possibilities of forgiveness and redemption. Ecological design aims toward this kind of healing in the awareness that health, healing, wholeness and holy are one and indivisible. •

GLOBAL EDUCATION: DAVID SELBY

DANCING EARTH

Radical interconnectedness and its implications for sustainability education.

DUCATORS WITH transformative purpose, whether they call themselves environmental, global or holistic educators, generally characterise their work as rooted in a counterculture to mechanism and reductionism.

They reject a hegemonic Western worldview that locates mind within the human brain (and thus relegates body) and that arrogates mind solely to humans (denying the intrinsic moral status of other-than-human life forms which, as mindless machines, we allow ourselves unfettered licence to exploit).

They critique that same worldview for its 'distance, divide and dominate' compulsion. Human beings, distinct from everything around them, can understand the world through analysing things into their separate component parts and, through the process of reduction, achieve control and domination.

Located within the classroom, the compulsion hourly manifests itself in innumerable ways. Learning about a flower in the science curriculum focuses upon naming and identifying its separate parts and their respective functions. Knowing the whole flower is ignored. Flower as cultural and religious icon, flower as revolutionary symbol, the flower within its ecosystem, the smell, taste and feel of flowers, the poetry of flowers, flower as source of well-being and harmony, flowers in their personal life meanings: all this is forgotten. To consider such things would be to sacrifice science to the interdisciplinary and, through the intrusion of the personal, to divorce learning from the unquestioned objectivity that distance brings.

More broadly, these educators see school as engine houses of mechanism. Gregory Bateson asks, "Why do schools teach almost nothing of



Common hawker emerges from its nymph

PHOTOGRAPH: DAVID BAKER

the pattern that connects?" A reductionist mindset finds expression in the division of arts and sciences; separate subject disciplines; grade apartheid; individualised learning; the setting-down of strict and specific learning objectives to be performance tested with no allowance for unexpected or spontaneous insights arising from the learning experience ("first fire the arrow; whatever it hits, that's the target"); the strict delineation of who is the teacher and who is the learner; and the arm's-length relationship between the school and the world beyond the school gate. Such is the inhospitable environment into which transformative educators have struggled to introduce curricula, teaching materials, and learning experiences built upon the concepts of inter-human and human-nature interconnectedness, interdependence, interrelationship and justice. Seed scattered on largely stony ground.

THEIR VALIANT EFFORTS have been informed by the metaphor of the web (which they set against the metaphor of building-block or billiard ball employed to capture the essence of mechanism). Understood dynamically, the web captures insights drawn from ecological and quantum science. Everything is in dynamic relationship with everything else. Nothing can be fully understood save in relationship to everything else. Identity is multifaceted and includes significant nearand-far contextual elements. What happens somewhere will impact to a greater or lesser extent elsewhere, even everywhere. Local and global are dynamically nested entities. Global issues, such as environment, development, health, peace, and social justice, are interconnected. Past, present and future are entangled and, hence, co-creating and coevolving elements of time.

Life conceived of as web, they argue, is vital if learning programmes, processes and contexts are to foment real understanding and mindfulness of the complex interactions between elements within ecosystems, between human development and the environment, and between entities in the human world (individuals, communities, nations, civic organisations). Unless the concept of connection infuses both the foreground and background of learning communities, the transformative purpose is unlikely to be

The purpose here is not to debunk the web metaphor. Rather, it is to suggest that it has limitations for evoking transformative Earth consciousness and behaviours. If we see the mechanistic world of division into separate things as of strictly limited usefulness (useful for mending cars but not for understanding nature); if we see the web as a powerfully evocative metaphor, of wider sway and significance, for understanding the dynamic and interconnected nature of the world, I would like to propose dance (of the freeform variety) as a metaphor for the way we need to conceive of the world at a deeper and third level of bresence.

The overt and covert agenda of curricula offerings predicated upon the web of relationship is that the entities depicted remain, in the final analysis, primary, solid and separate (even though interconnected). For this reason, there is residual reductionism in world conceived as web. At the deep level of presence, entities are not primary, solid, or separate. The relationship becomes primary and the entity itself is a secondary manifestation.

As physicist David Bohm suggests, there is a world of "unbroken wholeness" underlying the world of separate things and the world of interconnections. Biophysicist Harold Morowitz uses the image of a vortex to convey very much the same thing. "Consider a vortex in a stream of flowing water. The vortex is a structure made of an ever-changing group of water molecules. It does not exist in the classical Western sense; it exists only because of the flow of water through the stream. If the flow ceases the vortex disappears."

All entities, including ourselves, are at one level of presence, flowthrough: momentary configurations of energy or local perturbations in the total energy field. Bohm writes of the "explicate order" of relatively separate things. Behind this level there is an "implicate order" in which everything is enfolded within everything else. Entities emerge into the explicate order, become manifest, only to re-submerge into the implicate order of being (which at one level of presence they have never left). We are ephemeral manifestations of a fertile no-thing-ness

from which all things emerge and to which all return.

At the third level of presence, where the web metaphor becomes unsatisfactory, we need to consider things as expressions of the dynamic unfolding, the being and becoming, of the whole. We need to see entities ourselves, non-human animals, rocks, nation-states, political groupings - not first and foremost as objects but primarily as processes or dances. Phenomena (people, otherthan-human life forms, places, countries) at this level are co-evolving manifestations of a multi-level and multi-dimensional dance of ultimately indistinguishable internal and external relationships. For the transformative educator, the key concepts at this level of presence, the level of radical interconnectedness, are embeddedness, enfoldment and interpenetration.

Radical interconnectedness helps us to shake off further vestiges of mechanism. For instance, it helps us to recall that the word individual has become distorted in modern times to denote she or he who is separate. It originally meant 'a person undivided from the whole', a meaning arising from an intuitive and spiritual understanding that richness and uniqueness derive from deep connectivity: that the more profoundly connected we are with the Earth and with each other then paradoxically the more we become special, distinct and ultimately unknowable. Deeper connectedness<>deeper mystery. Deeper connectedness<>deeper awe. It follows that, informed by the metaphor of dance, our bounded conception of self undergoes a radical shift so we are in new and revitalising ways in the world and the world in us. Interiority<>Exteriority.

WHAT ARE THE principal implications for education for sustainability? First, we need to question whether, in its eminently justifiable focus on critical thinking about the world out there, education for sustainability has given sufficient profile to interiority (inner journeying) and has, thus, to some degree colluded with mechanism by implying that the inner self is outside the universe. Through appropriate focus and methodologies, we need to enable those in our learning communities to know and experience the three levels at one and the same time: the discrete self, the relational self and the



This and next page show aerial photographs of Owens Lake, the site of a formerly 200-square-mile lake in California which was diverted to bring water to Los Angeles. The lake has been depleted since 1926 exposing vast mineral flats. For decades, fierce winds have dislodged microscopic particles from the lake-bed, creating carcinogenic dust storms. The lake-bed has become the highest source of particulate matter pollution in the US. The concentration of minerals in the remaining water is so artificially high that blooms of microscopic bacteria occur, turning the liquid a deep red. From **The Lake Project** by David Maisel (Nazraeli Press, 2004).

dancing self. Mainstream education is good at the first, weak at the second, and blind to the third.

To counter this imbalance, education for sustainability has to involve working with relational modes of knowing that address our inner connectivities of body, mind, emotions and spirit, and our deep connectivities with each other and nature. This would mean introducing new ways of enabling learners to explore their inner ecology, to cultivate attune-

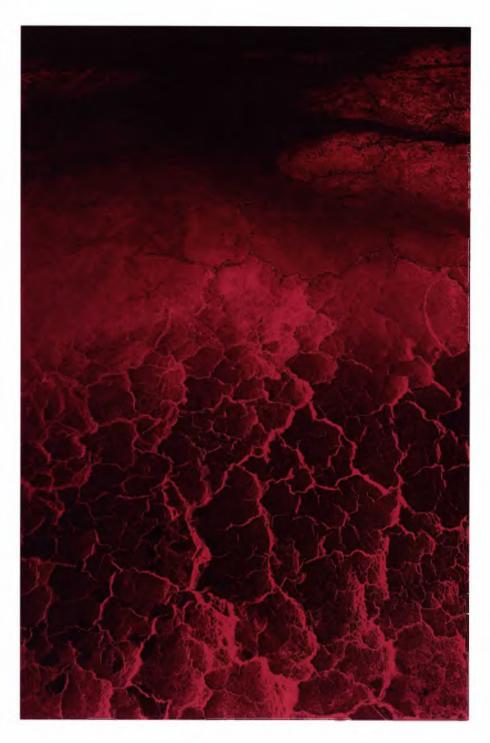
ment to their senses and body rhythms and, thus, to develop an embodied relationship to nature. Contemplative and therapeutic art, chant, dance, deep breathing exercises, yoga, meditation, relaxation, peer reflexology should all feature significantly in sustainable education. Such ways will clear the clutter of explicate reality, limit thought, bring together the physical, mental, emotional and spiritual aspects of our being, and open channels to an oceanic awareness of the oneness of everything. Such modalities also speak to mindful, still and slow learning as a counterbalance to the packaged rush and treadmill of transmissional learning and the often hurried quality of much progressive learner-centred learning. Slow learning also better allows for attunement to nature. As Gerry Mander points out, "The natural world is really slow. Save for the waving of trees in the wind, or the occa-

sional animal movement, things barely happen at all. To experience nature, to feel its subtleties, requires human perceptual ability that is capable of slowness."

Secondly, the radical interconnectedness of the dance calls upon sustainability educators to embrace multidimensional ways of knowing. Many educators of transformative purpose have been to the fore in trying to move learning away from an overemphasis upon reason, thought and analysis. Inspired by the metaphor of the web, they have called for intuition, synthesis, mutual sharing of subjectivities, and relational sensibility to be accepted as equally valid ways of knowing. But, perhaps to ensure a continued presence within the congresses of mechanism, they have not necessarily pushed these ideas with the conviction they might have brought to bear. The dance metaphor calls for a thorough reclaiming of emotion, subjectivity, bodily sensibility, intuition, empathy, caring and compassion, love, and relational and spiritual sensibility as means of knowing.

Thirdly, and last, the radical interconnectedness of the dance calls for a biocentric wisdom and humility that are both accepting and mindful of flux, instability, unpredictability and uncertainty. A free-form dance can take surprising, even startling, turns. Sustainability, on the other hand, seems to have inherited the 'steady state' or stability disposition that has marked mainstream ecological thinking from the outset. Ecosystems have been viewed as essentially orderly, waltz-like, mirroring a purring well-oiled machine. Hand in glove with this conception is the implicit assumption that humans have the capacity and understanding to steer social and economic development along the safe side of the limits of nature. The pack of cards collapses, however, if we take on board more recent ecological thinking that nature is inherently disorderly and liable to bouts of disturbance and chaotic turbulence; if we dare to restore the wild to nature.

Ilva Prigogine asks us to think of the pendulum. If we agitate a pendulum, we can predict that it will move inexorably towards minimal then no swing with its centre of gravity as low as possible. But what, he asks, if we turn the pendulum on its head? It is difficult to predict what



will follow. Fluctuating forces may make it fall to left or right, become entangled or even break. The outcome is difficult to control. The notion of the upturned pendulum, Prigogine avers, has been "ideologically suppressed" in that its message of instability is inconvenient for a culture that seeks to dominate and exploit nature. He writes: "In a deterministic world nature is controllable, it is an inert object susceptible to our will. If nature contains instability as an essential element, we must respect it, for we cannot predict what will happen." There is a close connection between embracing

instability and cultivating a sense of awe, wonder and reverence.

Sustainability, then, has not shrugged off mechanism. Its 'business as usual' paradigm, so attractive to government and the corporate sector, especially when put forward as 'sustainable development', is less than embracing of the dance of the world, so vital for deep transformation. The suggestion here is that recipes for education for sustainability, however admirable, should be diced with a goodly sprinkling of education for ephemerality, education for elusiveness, and education for ineffability. •

EARTH EDUCATION: ALAN DYER

The role of adults is to be Enchanters, not Enforcers.

A SENSE OF ADVENTURE

It is the Child that sees the primordial Secret in Nature and it is the child in ourselves that we return to.

The child within us is simple and during enough to live the Secret.

- Chuang Tzu

AM BY NATURE a happy person, an enthusiast, an optimist and an activist. So why am I feeling that my optimism is foundering as I write this article?

I spend lots of time sharing the wonders of the natural world with children and 'grown-ups' of all ages — exploring, wondering, getting wet and dirty, and dissolving in ecstasy and laughter.

So why do I not feel ecstatic now? There is so much to celebrate, so much to see and do, so much to share... So what is the source of my discontent?

Let's go back a little.

I have for many years taken Rachel Carson's 'The Sense of Wonder' as the words that guide my teaching:

If I had influence with the good fairy who is supposed to preside over the christening of all children, I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength.

If a child is to keep alive his inborn sense of wonder without any such gifts from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in. Parents often have a sense of inadequacy when confronted on the one hand with the eager, sensitive mind of a child

and on the other with a world of complex physical nature, inhabited by a life so various and unfamiliar that it seems hopeless to reduce it to order and knowledge...

I sincerely believe that for the child, and for the parent seeking to guide him, it is not so important to *know* as to *feel*. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow ...

Rachel's seminal essay — first published in July 1956 in *Woman's Home Companion* under the title 'Help Your Child to Wonder' — holds the clue to my current discontent. It emphasises the need for the adult to share the experience, at the child's level and with a childlike attitude: a sense of discovery, adventure and enjoyment.

So here we have the heart of the problem — Adults, Grown-ups, Big People! I hear so many adults lamenting that today's children watch too much TV, are seduced by computer games, grow up too early, are overweight, take no exercise, are rude, aggressive, never go out to play like we used to, etc. ... I hear very little from them about what *they* can do about it — and I see a disturbingly low number of good role models.

There was a great little book published in the 1980s called 50 Simple Things Kids Can Do to Save the Earth, filled with appropriate activities but the title says much about our abrogation of responsibility. Of course we want our children to be aware of the need to live lightly, and they need our help and guidance, but it's not really their job to save the planet — that's our work! It is we who have messed up the world and it is we who should take responsibility for it. How about renaming it 50 Things Children Can Do to Make Adults Realise There May be a Better Way?

Children the world over have a right to a childhood filled with beauty, joy, adventure and companionship. They will grow towards ecological literacy if the soil they are nurtured in is rich with experience, love and good examples.

SO WHY ARE the adults imprisoning our children? Why are they wrapping them in cotton wool and not letting them explore their boundaries and limitations? Why are they using them to exploit a litigant culture which can generate huge sums in compensation? Is the explanation as simple as money? Is it a growing abrogation of responsibility to teachers, carers and providers of experience who are paid for just like any other consumer commodity? I have just read an article in The Guardian saying that riding schools are likely to close because they cannot afford the huge insurance premiums now that so many parents are suing for negligence when their child falls. I thought you weren't a rider until you had fallen off seven times! Yes, horse riding is risky; so is crossing the road. What is wrong with taking risks and exploring your limitations?

We are coming close to an issue that is difficult to discuss — of course we want to protect our children from harm: we don't want them hurt. But the media will pounce on any incident, leaving people with the impression that these things are more common than is perhaps the case, and an escalation of protection is the result. As someone who is 'responsible' for groups and has a 'higher duty of care', as our legal friends would have it, I have to plan and prepare carefully, fill in a mountain of risk-assessment forms and be trained in first aid. I have no problem with this (apart from a dislike of forms!) because ensuring that children are safe and that health and safety rules are complied with is part of being a responsible adult.

But where do we draw the line so that the excitement and adventure



In their element

are not lost? Do we make it so safe it becomes boring? Do we want children in a sterile environment where they will forego the pleasure of getting dirty and therefore gain no immunity to disease? Do we want them afraid of every man in case he is a paedophile, afraid of every camera in case their image is used for some unimaginable purpose? Should children be closely supervised by an adult every minute of the day? (Sorry, two adults — just in case one should do something inappropriate!)

Enough of this! What can we do, we responsible adults? We can fight back by being those good examples, being heroic role models and sharing adventures with our children, grandchildren and those in our care. We owe them the time and the use of our wisdom and experience. And we promise to keep them safe (even if they do fall out of a tree now and again).

Our recent book, Let Your Children Go Back to Nature, aims to provide the tools to enable adults, be they parents or teachers, to take on the role of guardian elders — or

'Enchanters', as we prefer to call them, for our aim is to re-enchant our land in the imagination of children: to give young Adventurers the opportunity to enter the magical and perilous worlds of Nature, Landscape and Myth, and to become transformed by the experience. But first we must consider the background to childhood: the archetypal innocent and potential hero. Edith Cobb wrote:

The study of the child in nature, culture and society reveals that there is a special period, the littleunderstood, prepubertal, halcyon middle age of childhood, approximately from five or six to eleven or twelve — between the strivings of animal infancy and the storms of adolescence - when the natural world is experienced in some highly evocative way, producing in the child a sense of some profound continuity with natural processes and presenting overt evidence of a biological basis of intuition.

In archaic Greece, as in most tra-

ditional societies, it was the custom to subject young boys to a period of training, testing and questing in the wilderness. There are indications that this started when they were about nine, though Achilles began at six. The boys were taken from their mother's protective care to spend their time exploring and getting to know the countryside and its flora and fauna, playing hunting games, taking part in races and other sports, and fighting mock battles, with the training culminating in a challenging adventure. In Minoan Crete this process lasted two months, probably finishing at Midsummer.

Selected Greek girls of the same age were transformed into arktoi ('She-bears'), and they followed Artemis, goddess and 'Lady of the Wild Things', into the wild woods and hills for a similar form of initiation. This experience usually took place in forest surroundings where the children could learn to master their fears, develop new skills, and discover self-reliance. They faced a series of hazards and strange encounters prepared by their elders



PHOTOGRAPHS: ALAN DYER

who would act as guides, guardians and challengers.

Throughout the ages in all traditional societies the latter would sit them around a fire at twilight and recount the myths, legends and wonder-tales of the tribe: stories in which a hero or a heroine enters a Dark Forest and overcomes fearsome foes - wily dragons, threatening ogres, malevolent witches, or evil knights. In the stories they learned that the forest is a place of challenge, discovery, transformation and shelter, which provides the brave and virtuous with unexpected help, often in the form of magical animals who reward kindness with rescue from dangers.

This story-telling was an essential preliminary, offering warnings and helpful advice to the apprehensive novices about to embark on their first great adventure in life. Children today have few opportunities to adventure in the wild: the playgrounds which may be some children's only experience of the 'outdoors' can be sterile and vegetation-free — no place for nests, dens, tree houses or tunnels. If 'wildwood'

is nearby, it is often carefully protected as a nature reserve, in private hands with no access or in some other way off limits to adventurous children. So this is where they need the help of us grown-ups — to help them discover the hidden yet accessible places.

With a few notable exceptions around the country most children on educational visits to the countryside today make contact with nature only as detached observers, often insulated from the elements by cagoules, jeans and wellies, and armed with clipboards and questionnaires, so they have no opportunity to become physically and emotionally integrated with it. This is unfortunate, for while many children worry about the destruction that people are inflicting on the environment and wildlife, they, like the perpetrators, have been deprived of intimate contact with nature and at best only understand its processes in theory.

Yet when children, both boys and girls, from about six or seven to twelve or thirteen, whether from inner city or suburbia, from privileged or deprived backgrounds, are taken on a Dragon Quest, Sharing Nature, Earth Education or other wildwood adventure, they quickly forget their modern cultural conditioning and return to the primordial state of their distant ancestors: the thin veneer of civilisation falls away, and they exult in a new sense of freedom and wonder in the face of the beauty and mystery of the natural world. And, given the opportunity, they return again and again: the spirit of the forest has entered their souls and imaginations. It has become precious to them and they yearn to be at one with it. Ultimately some at least may be permanently changed by the experience.

Don't think this is a difficult or potentially disruptive situation for the parent or teacher — in our long experience, adults invariably have at least as much fun and as many moving experiences as the children! Perhaps for many adults it fulfils something missed from their own childhood.... Ah-ha! Maybe I have come full circle and found the root of my unease with adults! •

EPISTEMOLOGY: MARY TASKER

LISTENING CULTURE

What can schools do to develop a new theory of knowledge?

CHOOLS ARE ON the receiving end of the effects of government hypocrisy, corporate intervention and apparent public apathy. In the UK, the centrally imposed National Curriculum has no 'subject' entitled Environmental Education or Ecoliteracy these are aspects added on to the Science or Geography programmes of study. The Times Educational Supplement in its weekly jobs pages (which now have to be weighed by newsagents because they are so heavy) makes no mention at all of teaching posts for Environmental Education. Many schools have been driven into the arms of corporate interests because of financial deficits and as part of the Government's drive towards Public Private Funding Initiatives. Companies like Tesco and McDonald's claim to help schools with computers and reading materials but their motives are mixed, to say the least. They are rather more concerned with creating 'brand loyalty' than with environmentalism. Rudolf Bahro, the German political theorist and environmentalist, called industry's 'concern' with environmentalism 'greening the teeth of the dragon' - we now know it as 'greenwash'. While many parents are deeply concerned with their children's futures in a world that is increasingly environmentally compromised, and while growing numbers of students want to 'save the planet', they come up against seemingly immutable barriers in the way of achieving this.

The fundamental but largely unacknowledged reason for the blocking of environmental education in schools, and indeed for many of education's current ills, is epistemological. It arises from our view of knowledge - the nature of knowledge, how we justify our claims to know, and the limits of such claims. At the present time the school curriculum is grounded in 'the subject



The dominance of traditional subject knowledge in schools can be seen as a legacy of the eighteenth-century conception of knowledge PHOTOGRAPH: POPPERFOTO

disciplines' and conveys to the learner the message that knowledge is encapsulated in the separate packages of science, mathematics, history, and so on. The disciplines provide the means whereby the learner will be initiated into worthwhile forms of life that are essentially rational. The intellectual skills of analysing, classifying, predicting and assessing are highly developed and are more highly valued than the imaginative, intuitive and empathetic abilities of the learner.

When this particular view of knowledge, known as the liberal rationalist paradigm, was at its height in the 1960s there was controversy over how many disciplines there were: was geography a discipline, for example, or what was distinctive about religious education? Philosophers of education debated the specific concepts and modes of enquiry that pertained to each discipline. Today there is no longer any debate even at the academic nit-picking level of the last century. The subjects are accepted as the core educational experience and have been packaged into instructional materials for delivery in the class-

Where does this view of knowledge come from, and how suitable is it for the twenty-first century? These are the questions that should be asked not just by professional educators but by every concerned parent and by every intelligent student. The answers we might give affect us all.

THE DOMINANCE OF traditional subject knowledge in today's schools can be seen as a legacy of the eighteenth-century Enlightenment conception of knowledge. This was grounded in the idea of the universal applicability of reason and in the instrumental nature of rationality. Knowledge was to be used for the benefit of humankind and would sweep away the centuries of superstition which had gone before. Armed with Descartes' revolutionary scientific method, a reductionist process which broke down knowledge into separate and analysable parts, the foundations were thus laid for a mechanistic intellectual framework which has lasted for three hundred

From the point of view of environmental education this is a disastrous heritage. Descartes' mind/body split has led to a dualistic mode of thinking that enables human beings to see themselves separate from the natural world. The development of the mind and in particular of those intellectual skills of control and power enable Nature to be 'mastered', to become a 'resource' to be exploited, at best conserved. In the language of Francis Bacon, another founding father of the Enlightenment tradition, Nature is to be subjugated, 'her secrets tortured from her'.

Twenty years ago Fritjof Capra prophesied the demise of the Enlightenment paradigm in The



Fundamental to a reconstruction of educational knowledge is our relationship with nature photograph: elizabeth duff/green teacher

Turning Point, but in the world of education, as elsewhere, it still holds sway. Knowledge is still seen by many as 'out there' or objectified: abstract, absolute and unchanging; the key to technological mastery and progress. 'Man is the measure of all things', as we read in Plato, the ultimate source of the Western intellectual tradition.

The needs of young people and indeed of society are plainly not being met by the perpetuation of this tradition. There is massive switch-off from the traditional subject disciplines and the attitudes that go with them both in schools and in universities. Information and computer technology (ICT) have made knowledge

of all sorts available in ways that would have been inconceivable a generation ago. The postmodernist approach to knowledge and the intellectual challenges that this presents must bring about a new stance on epistemology. Arching over all these is the potent engine for change that is now in the foreground of our consciousness: the environmental crisis. It is this crisis which will force a re-evaluation of the purpose of education and a reconstruction of educational knowledge.

Fundamental to a reconstruction of educational knowledge is our relationship with nature. In a holistic relationship the individual sees himself or herself as part of nature in a non-exploitative and harmonious way and can learn subjectively and experientially. Such a relationship can emerge from a set of dispositions or a frame of mind that is the task of the educator, parent and society to help develop. The danger here is that yet again the teacher or adult will impose certain ways of thinking on the learner rather than helping these to emerge and take shape. To avoid this it seems essential that schools or learning communities be small and human scale so that a 'listening culture' can prevail and the learners' interests, predispositions and developmental needs may be known. "Holistic knowledge is accessible to the child only on a scale in which relationships, especially those of the child with everything else, can be meaningful," said Maurice Ash. It is also important that schools be democratic — and this is more likely in a small community - so that young people can have a sense of belonging and a sense of active participation and responsibility. Direct engagement with the environment, rural or urban, is fundamental to learning, and schools need to be embedded in the local community so that learning tasks can emerge out of real life contexts and both teacher and learner can work together.

There is much that schools can do. Eco-schools have demonstrated new ways of teaching and learning about the environment that challenge old assumptions. Capra's Ecoliteracy Project in California and the emerging theory of living systems provide the theoretical underpinning for ecoliteracy. Many teachers working within the confines of the National Curriculum are committed to environmental education and are seeking ways of integrating knowledge and finding diverse routes of learning which engage all their students. It is not necessary for them to start with a blank sheet — they have perforce to work within the existing school curriculum and within the dominant knowledge paradigm. But this does not prevent them from making explicit to their students the problematic nature of this knowledge and encouraging them to think critically. The purpose of this article is to help explain why their efforts are taking so long to come to fruition as well as showing how crucial their work is in helping to bring about the paradigm shift that is so urgently needed.

TRANSFORMATIVE LEARNING: EDMUND O'SULLIVAN

DEEP DIVERSITY

There is no one way into the future.

N THE SUMMER of 1982 I had the privilege of listening to Thomas Berry. He started his talk with the following three related sentences.

The glory of the human has become the devastation of the Earth.

The devastation of the Earth appears to be our destiny.

All human institutions, programs, activities and practices are to be judged by the 'great work' they will have to accomplish toward developing a viable human-Earth relationship.

He then made the challenge that the work of transformation must be carried out in all professions, citing theology, philosophy, the humanities, economics, law, geography and particularly education.

Thomas Berry challenged me as an educator. As a result I have embarked on a journey to help create a new vision of education based on transformative practices that will open a new vision for a viable planetary education. The challenges of twenty-first-century education are in the creation of educational directions that set the needs of the planet as the central concern for education at all

My journey over the last twenty years has been to engage with a movement within the profession of education to create an opening for a

planetary consciousness that links social justice with the larger concerns of the 'web of life'. An education that attends to the 'web of life' is attuned to the need for an Earth justice in tandem with social justice concerns. There can be no sustainable human justice that is not linked to Earth justice.

What does education have to do with this? When I started examining the concerns of contemporary education in the 1980s I was shocked by how tone-deaf it was to the serious ecological issues that the world was facing in those times. Social justice concerns did not fare any better. After careful stocktaking, I realised that education was much more a part of the problem than part of the solution. With few exceptions, it was in the business of advocating rather than critiquing a market-driven world. The educational system did not take the natural world into account. The natural world, within modern industrialist values, was, and still is, at the mercy of human disposal. According to the father of modernism, René Descartes, the natural world was a machine to be manipulated and controlled.

My colleagues and I at the Ontario Institute for Studies in Education have been attempting to create a space for a vision of transformative learning that attempts to forge a new vision of education. We are seeking to open a space in our institution for a holistic and integral education that will heal

Trees, painting by John Lane

the fragmentation of modernist education. The dream that drives the action is our desire to create an embodied space in a conventional educational institution that holds a planetary consciousness with deep ecological sensitivities. We hold this planetary context simultaneously with extensive sensitivities to issues of social justice in our contemporary

The space for these concerns is housed in the Transformative Learning Centre. This is an interdisciplinary centre that attempts to hold together the concerns based in critical pedagogy, peace education and



conflict studies, feminist approaches to learning, post-racist and post-colonial education, indigenous knowledge and ecological studies. Our Centre is a hub of diverse studies where we try to hold together in an integral and holistic manner these many concerns.

Probably the most outstanding feature of our Centre is our efforts to utilise our diversities creatively. We all understand that we are living in a time of deep transformation and we are all aching toward a new vision for creative and sustainable living. In honouring our diversities, we make a

point of not prioritising any one location. The work of my colleagues in the centre enters from many locations. We all share a desire to go into a post-modern world that will heal the deep disorders of our time. We are a collective of educators, both faculty and students, who see the need to help in building educational theories and practices that give us hope. There is no one way into the future. We take it as a given that our Centre dances with diversities. We share a deep affinity and co-operation with the Centre for Women's Studies in our desire to overcome

the institutions of patriarchy. We are working with the visions that are holistic, integral, artful and spiritual.

Spirituality for us has been an invitation to open again a door that was closed by modernist values. We believe that there is a place in the academy for a spirituality that honours the diversities of creative spiritual worldviews. Our philosophy of diversities is to "let a thousand flowers bloom".

For further information visit <www.tlcentre.org>.

SCHUMACHER COLLEGE: LINDSAY CLARKE

A CRITICAL **CRUCIBLE**

Exploring the new frontiers of education.



Schumacher College

IDWAY THROUGH Ted Hughes's powerful poem 1984 on 'The Tarka Trail' — 'the tale of a dying river' — there is a poignant moment, bitter with despair, when after dramatising the way in which the River Taw has been glutted by 'a festering olla putrida' of surfactants, ammonia and phosphates, the poet considers the good-natured young couple who are among those responsible for farming methods that have turned the river into a sewer. Asked why they do what they do, the lively young wife replies (her voice ventriloqual, her shoulders jerking on their strings) "But the children have to be edu-

And so they do; and so do we all when it comes to confronting the planetary scale of the environmental problems we have created. And the farmer and his wife are certainly no more wicked than the thousands upon thousands of us who do things that we know we ought not to do in order to gain some advantage in making what we consider to be a decent living for ourselves and our families. Yet are these not the small, insidious ways in which evil enters into the world? And isn't there something frighteningly obtuse in that caring young mother's answer? "Of course the children must be educated," one wants to shout back, "but how should they be educated, and what are we educating them for?"

Well, the poem was written twenty years ago, and environmental measures have been put in place since then, and no doubt the Taw is in a less wretched state than the poet once found it. What's more we live under a government that came to power declaring that it had three priorities — 'education, education, education!' And I know that there are many good teachers out there

who, against the countervailing pressures of a culture far out of touch with the natural world, are doing all they can to encourage in their pupils a lively apprehension of the crisis we are precipitating through our greed and ignorance, and of its potentially catastrophic consequences for our children's children.

Yet I emerged from watching a recent television programme (significantly entitled Failing the Future) with a depressing sense that the efforts of such teachers remain only a small voice within a debate still preoccupied with issues of class and selection, and where education is largely conceived as a training-ground for the production of increasingly efficient members of a consumer society in which economic growth is seen as the undisputed means to the good life. The government's stated ambition is to persuade more and more young people to enter higher education, yet in the absence of any serious state provision for Gaia education - which I take to be the kind of ecoliteracy required for a sustainable future — the increasingly urgent question awaits a satisfactory answer: what is education for?

Because much of my own life has been spent working as a teacher, that question has troubled me for years. Back in the 1960s, like many idealistic young teachers, I believed that by infiltrating the education system with the principles of a liberal-minded, rational scepticism one might eventually change society too. I hadn't yet recognised that conventional education is essentially conservative by nature and more likely to inculcate acquiescence in the prevailing values of the society that finances it (or a countervailing aimless dissidence, of course!), than the kind of radical imagination required to bring about change. As co-ordinator of a wideranging programme of liberal studies throughout all the departments of a large college of higher education, I worked with plumbers, printers, gas fitters, hairdressers, engineers and bankers, attempting to widen their horizons beyond the narrow vocational aims of their courses, but quickly found that everything I was trying to do was out-trumped by the values and structure of the institution within which I was trying to do it. Fortunately, I also discovered that there was something altogether too limited about the twodimensional, very masculine system of



Divine Comedy Schumacher College course, June 2003 with Thomas Moore (who sits with his family, on the front row, third from left) PHOTOGRAPH: KATE MOUNT

humanist values within which I was operating. So I began to explore what a different, more imaginative pattern of education might achieve.

THROUGHOUT THE 1970s I worked as Co-Director of the European Centre of Friends World College, an unusual exercise in experimental education inspired by a dream that came to an American Quaker. The dream was of a world college that would be based entirely on the idea of learning through cross-cultural experience. Its curriculum consisted of work towards nonviolent social change within an exploration of what world citizenship might mean in theory and practice. The college established study centres in North and South America, Africa, India, Japan and Europe, and to graduate with a first degree, students had to design a learning programme

with faculty advice and then pursue their studies through experiential learning projects in at least two cultural regions in addition to the one in which they were born. The record of their experience was kept in journals submitted for evaluation, and a final thesis on their specialist area of study was submitted to oral examination by an acknowledged expert in the field.

So for several years I supervised students on a range of extraordinary projects right across Europe. Among the many areas in which they were engaged were community development, alternative methods of education, mental health provision and legal services, organic farming, animal behaviour, and research into a field which was then still very much in its infancy: ecology and environmental science. The students were also required to keep an evaluative

account of the changes in their own growth and perspectives as individuals throughout their projects; so the focus of study was on both inward and outward worlds at the same time — and all of this in places far from home.

It was a demanding, innovative programme and, as such, it was not always successful; but when it worked, it worked brilliantly, and the college turned out some truly remarkable graduates. For me, it was deeply satisfying work - an imaginative form of education directly linked to social action in a manner that was consistent with my own deepest values. But it was private, of course, small-scale and not always adequately financed, and its ambitions were characteristically those of the heady and expansive sixties and seventies when a lively counter-culture of alternative activity prospered in many fields. That culture contracted under the Thatcherite and Reaganite pressures of later years and the college shrank with it.

IN THE MEANTIME, inspired by the courage and resolve with which my students pursued their difficult ambitions, I had decided to face another, long-evaded challenge of my own life by trying to write. It was the writing that brought me into contact with another group of spirited educationalists with a planetary vision who were assembling at Dartington to found what was truly to become an Institute of Gaia Education — Schumacher College.

Writing can often be a lonely business, so I consider myself deeply fortunate to have been invited to become a member of this radical learning community which now reaches out across the continents from The Old Postern at Dartington. For in a fissive world confused and infatuated by the spin and jangle of the times, Schumacher College is the kind of place that puts you in touch not only with the stimulating company of enquiring people but with a deep sense of the indivisible wholeness of the world and the richly unfolding patterns of meaning to be found within it.

Living and working together in community with such inspirational thinkers, teachers and activists as, among many others, Vandana Shiva, Arne Naess, Fritjof Capra, James Hillman, Theodore Roszak, Wendell Berry, Charlene Spretnak and James Lovelock, a time spent studying at Schumacher College leaves one in no doubt what a sane education is for in transitional times such as these. For since its inception fourteen years ago the college has created a culture of learning in which the inventive aspect of the human imagination, through which individual creativity is developed to its fullest, is constantly held in creative tension with its ethical aspect — the means through which we recognise the right of all peoples and species of the planet to live out their lives with the same liberty and respect. And at Schumacher College this process is conceived not simply in human terms but as an expression of the living soul of the world in all its abundant generosity.

To explore the implications of such a vision and to meet the hard challenges it presents is for me the

true meaning of ecoliteracy. Through its programme of short courses and the MSc in Holistic Science it now offers in conjunction with Plymouth University, the College brings imaginative and soulful intelligence to bear on the hard, practical issues — political, economic, developmental, scientific, psychological and, yes, spiritual — which cry out both for understanding and for action if we are to meet the overwhelming challenge of the times.

But it is not enough for an educational programme simply to provide a sound intellectual grasp of the issues presented by that challenge, nor even to furnish its participants with the will and courage to act on them as political endeavour. The demand is for transformation of a kind that involves the whole person. For teachers can teach and preachers can preach, and those who listen can nod their heads in eager assent, but nothing seriously changes until the learning becomes knowledge and the knowledge begins to inform all aspects of the person's perception and behaviour.

For this reason the designers of Schumacher College have insisted from the first that the learning programme should be grounded in a pattern of community life where, as well as pursuing their chosen course of study, all participants accept responsibility for preparing and cooking food and for taking care of the place in which they live and work together. In a world where domestic circumstances are often fragmented into small nuclear units, the experience of living for a time in a community typically made up of many diverse individual and cultural perspectives is itself profoundly educational. And while the seminars may stretch the imagination across the planet and off into the starry reaches of the universe, the daily round of practical duties always brings attention back both to the body's simple needs and to the dust that gathers in the corners. Thus time and again, though they may have been drawn to the college by the magnetic attraction of a particular thinker they admire, students at the college find their perspectives further enlarged by engaging mutual exchanges as they prepare vegetables in the kitchen, or through the meditative nature of necessary toil.

As a writer much preoccupied by

the myths through which we shape our sense of the real, my own work at the College has taken place at the imaginal end of the spectrum, encouraging the kind of creativity through which the individual soul opens itself up to receptive relationship with the Soul of the World. For, as Patrick Harpur (another associate of the college) puts it in his provocative book The Philosopher's Secret Fire: A History of the Imagination, "If we wish to reinstate the Soul of the World in her original glory, we will have to do more than introduce environmental remedies.... We have to cultivate a new perspective, or seeing through; and a sense of metaphor, a seeing double" and "we can always make a start by trying to develop a better aesthetic sense, an appreciation of beauty, which is the first attribute of soul." It's a tribute to the open-minded and wideranging vision of the College that it can accommodate such apparently fanciful endeavours along with the hard science of its MSc programme and its engagement with the developmental problems of a profoundly unjust world.

Such adventures into the meaning of education as have been made by Schumacher College, Friends World College and kindred experiments across the globe may not appear to provide immediate answers to the large-scale problems of converting the state system of education into something more flexibly adapted to the needs of the time. But as crucibles for truly humane experimentation, and seed-beds for the kind of values without which our decent survival as a species may prove impossible, they are beyond price.

So it remains my belief that those engaged with the problems of education in our society would do well to reconsider many of their own aims and methods in the light of what Schumacher College is achieving. For here is a working model of what education might become in this new century, and if we refuse to learn the kind of lessons it has to teach, we are likely to find that we have failed our children, and our children's children, in ways that they will find difficult to forgive. •

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A Small School student giving a class talk

CHILDREN'S CHARTER

The first principle of a new charter for children is to have schools which are caring communities and not knowledge factories.

Y EXPERIENCE IN education is focused mainly on The Small School, which I started in 1982. My son was ten years old at the time and was nearing secondary school age. The prospect was that he would have a journey of more than an hour each morning and evening to and from a secondary school fifteen miles away from our village. The thought of his two hours of travel time every day — a commuter's life at the age of eleven — led me to think that this was not the kind of education I wanted my son to have. Secondly, I came to Hartland in order to live in a rural community, and sending my child out of this community was not what I wanted. And once he went to that school, my son would have faced an education that was very academic, very examoriented and job-oriented - whereas I wanted education to be a discovery of the unique gift of each individual child. So for all these reasons I thought that I would like to educate my child in the community where I lived.

I called a meeting and about thirty people came to my house. We talked about the state of education in general, and about the nearest secondary school in particular. That school had 1,500 children, and each class had a minimum of thirty students. A child is just a number in a school of that size. By the end of our discussion, the parents of nine children were coura-

geous enough to say that if a new school were started in the village, they would send their children to it. So there we were: with nine children, we had enough to start a school. At that time, there was a Methodist chapel for sale in the village. Even though I had no money, I went along to the auction. Putting my faith in the project, I bid for the chapel and got it for £20,000 — which was not too expensive — and within the next six weeks I raised the whole sum. Seven months later, in September 1982, we opened the smallest school in the UK, with nine children. And we called it The Small School.

When we started The Small School we asked ourselves, "What kind of school do we want?" We decided to design our curriculum in three parts. One third would be academic and intellectual, including science, mathematics, English, French — all the things you need for an academic education. Another third would focus on imaginative themes such as art, culture, music and painting. The rest would be practical and ecological. It would include physical training, environmental education, and manual work such as gardening, cooking and woodwork.

We also decided that we would like our school to teach about three basic things that every person needs. One of these needs is food. Hardly any school in the UK teaches you how to grow, cook or serve food, or how to clean the dishes. If you do

not teach children to respect your dishes, it is not realistic to expect them to respect people, trees or neighbourhoods. But if children can cook and serve food and do dishes with respect, love and care, they can look after trees and animals with love and care, they can look after their parents with love and care, they can treat their neighbours with love and care. So, to ensure that every child would learn about food, our teachers and children worked together to turn a kitchen into a classroom.

Secondly, we all need clothing. But few schools teach students how to mend clothes, how to design clothes, how to spin, how to weave, how to sew. So we decided to teach children the practical skills of spinning, weaving, mending, designing and making clothes. A number of our children have since turned out to be great dressmakers and designers.

The third thing we need is housing. Yet, today, hardly any schools teach children how to lay a foundation, how to build a roof, and the basics of plumbing and electrical wiring. At The Small School, we included these practical hands-on skills

We were also concerned that mainstream education at that time was based almost entirely on classroom learning, which made it difficult to learn about the natural world. It was important to us that children



Cooking is a much-loved part of the Small School day

PHOTOGRAPHS: PAUL WILKINSON

learn not only about but from nature. To learn from nature, one must be in nature. Too often, education is anthropocentric. It teaches us about nature only in order to manipulate it or control it. We felt that nature should be as important a teacher as the classroom teacher. So we decided that at least once a week our classroom would be the outdoors. The nearby river, woodlands and birds would be our teachers as we learned how nature does things.

So the children would go out, often with a picnic lunch, and learn from nature. You can learn music by listening to birds singing — birds that didn't go to any music school. You can learn how to paint by studying the colours of butterflies. Georgia O'Keeffe learned to paint by closely observing flowers.

For me, it is important that educa-

tion be of a human scale. A school should be a community and not just a knowledge factory — a community of children, parents and teachers who all know each other and who work, celebrate and develop ideas together. But for that to happen, the size of the school must be modest.

The principle of human-scale education is the new charter all children need. Governments will say that small schools are uneconomic. First of all that is not true. The hidden costs of large schools have to be taken into account. But even if it were true that large schools are less expensive, my concern is about the long-term effect of mass education on the future of children. Is it right for society to sacrifice the interests of children at the altar of economic savings? The first principle of a new charter for children is to have

schools that provide a friendly, caring and supportive community to all. That cannot happen in factory-like massive schools. No school should have more than 200 to 300 children.

From nine children at the beginning of The Small School, we grew to fifteen, twenty and then thirtyfive, the maximum number of students that we could accommodate with our limited space and resources. For every eight children, we can have one full-time teacher, so that when we have thirty-five children, we have the equivalent of five full-time staff at the school. In addition, we have many local people experienced craftspeople, musicians, artists, writers, poets, painters and gardeners — who come to teach a class that might last from two hours to a full day each week.

To cover the cost of tuition, we ask

parents for a donation rather than a fee. If a farmer wants to contribute produce, such as potatoes or firewood, instead of making a financial donation, that's fine. If someone has the time to do voluntary work at the school, such as decorate the building, repair the roof or do some gardening, that, too, is acceptable. We also try to raise funds from non-profit organisations and charitable foundations; and we organise dinner parties and prepare and serve lunches or dinners for 200 to 300 people at public events such as the Schumacher Lectures. This is how we raise the money we need.

AFTER TWENTY-ONE years, the school is going from strength to strength and we are now finding that many other people are trying to start similar schools. At the moment, six schools are part of our Movement for Education on a Human Scale. This is the umbrella organisation that holds alternative education fairs and annual conferences and publishes a newsletter. We are now trying to persuade the UK government to give financial support to small schools. While we have managed for twenty-one years to run our school without state funding, we recognise that many people cannot do that.

Since The Small School began, about 300 children have passed through our school. We find that they are self-confident and have many practical skills. For my son it is no sweat to cook a meal for ten or twenty people, because he has learnt it at the school. Our aim has been to equip children not only intellectually, but also spiritually, physically, emo-

tionally and practically.

Children from The Small School have no problem in getting into universities — they can handle exams as well as other students can. My daughter gained a degree in philosophy at the University of Durham in the North of England, and after finishing university she travelled in India for eighteen months. Her selfsufficiency was a result of the selfconfidence that The Small School provided. My son went to university in London. Afterwards, he wanted to travel the world. But having learned about greenhouse gases and climate change he said, "I don't want to fly in planes." So he got a job on a yacht and sailed to the Caribbean, hitchhiked around Central and South America, and later sailed back home. He then decided to build a boat, and he built it. The Small School equipped him with that confidence and many of those skills.

Many other children who went through the Small School are doing similar things. They work in organic farming, woodland management or dress designing. They work for nonprofit organisations or they work overseas on sustainable development projects.

For us, education is not just about receiving information. It is about participating in the process of life. Conventional education assumes that children start with a certain ignorance, not knowing anything, and that we must use books filled with knowledge to put information into the child. My view is that a child is like an acorn. Just as an acorn is capable of becoming an oak tree, a child is capable of becoming a fully developed human being. We don't have to teach an acorn how to become an oak tree. It knows how. In the same way, a child knows how to be a human being. The job of a teacher and parent is like that of a forester or gardener, to support, encourage, protect, inspire and provide. In the case of the acorn, you provide water and some shelter. You provide a little support so the wind doesn't blow away the little seedling. In the same way, the school, the community and the parents provide children with support.

It is education from the inside out, rather than from the outside in. According to the Oxford dictionary, the word 'education' comes from the Latin educere which means to lead forth, to bring out, to develop from within and to evoke. Similarly, the oak comes out from the acorn. An oak is not put inside the acorn, but rather the oak is brought out of the acorn. In the same way, a poet, a painter, a writer, a musician, a gardener or a farmer grows out of the child: those gifts are not put into the child. This is fundamental to the pedagogical approach that we adopt in order to provide children with a more holistic education. Spirituality, intellect, art, culture, aesthetics — all form part of that holistic

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SATISH KUMAR

STUDY ABROAD: PETER BUNYARD

GLOBAL ECOLOGY

The International Honors Program, where experience is the best educator.

N EXCITED CHATTER: those gathered are wondering how they will get on with the students from the United States, shortly to come into their homes. Meanwhile, the students and their travelling faculty are arriving at their new destination. Everyone is waiting, and then the students appear, searching out the family with whom they will spend the next couple of weeks, before the entire rigmarole is repeated during the next leg of the students' voyage around the globe. Boston's International Honors Program (IHP) has arrived, whether it be in India, Japan, Thailand, Mexico, England, Tanzania, the Philippines, South Africa or Brazil.

Education on the hoof, if flying around the world can justify the metaphor, is basically what IHP sets out to do and has done for more than forty-five years. It all dates back to 1958 when, at Harvard's School of Education, Karl Jaeger hit on the idea of students travelling to places for experiential learning rather than hearing second-hand about those places and people from college lecturers.

Right from the beginning, homestays were considered an essential part of the learning process, to give students the opportunity to get firsthand experience of the cultural differences between their own country and that of the hosts, quite aside from the opportunities for establishing life-long friendships. Food, language, culture and how to behave may well be strange, as in the highlands of Fiji where, cross-legged on the floor while eating, you must never raise yourself above any women who may be squatted there, but keep yourself bowed low as you leave the 'table' and its repast. On the other hand, all may be beguilingly similar, so that you miss the subtle differences between, say, the United States and the United Kingdom.

In the early days, the idea was for a mentor to accompany students the majority of them graduates - in the study of culture and art around the world, choosing a select group of countries which, over time, included Argentina, Japan, Eastern Europe and Asia. He or she would invite the students to meet with protagonists in a particular field of study, such as theatre, architecture or photography, as they travelled to and through different countries. Over the course of the travel, the students would gather a rich tapestry of different ways of seeing, all valid in their own right. Mentors in the past included such eminent people as Gregory Bateson and Johan Galtung.

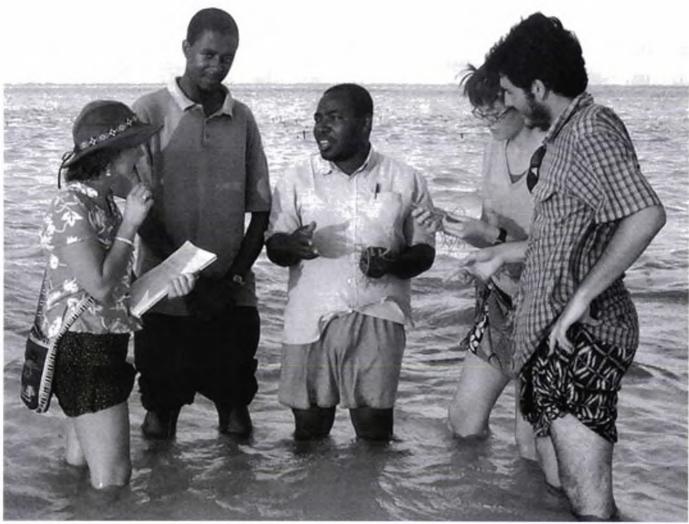
After 1990, the programme underwent a dramatic transformation. Instead of a year-by-year change in the field of study and in the accompanying mentor, IHP began a process of establishing accredited courses that not only would be repeated from one year to the next, but would provide continuity in the sense that core faculty and country co-ordinators could build on previous experience, while being ever ready to adapt to changing circumstances.

THE MOST ENDURING of all the study-abroad programmes under the aegis of IHP has been Global Ecology, now with its new title Rethinking Globalisation: Nature, Culture and Justice. The idea is to offer a holistic course that encompasses the 'ecology' of living: how we treat our local environment, how we consume natural resources, what is sustainable living and whether to attain it we must have corporate globalisation, as declared by governments in signing up to the World Trade Organization. Or should we be looking to radical alternatives, and if so, what social movements are currently arising in society to challenge the status quo and the orthodoxy of our times?

In short, the aim of the programme is to reflect a concern for the future of humankind through a process of deconstructing conventional ways of thinking so that new ideas, new strategies can be invoked which, paradoxically, may recall older traditions when a community was perforce living sustainably without ever having the need for such a word. In that regard, what can be more evocative than the Maori notion that you walk backwards into the future, keeping your gaze focused on the traditions and experience of your forebears?

Global Ecology was the brainchild of Teddy Goldsmith, founder of The Ecologist magazine. Together we had organised a succession of symposia in Cornwall during the late 1980s to discuss Lovelock's Gaia Theory and how the Earth and life evolved together as a dynamic integrated system. Our symposia dealt with the impact of the Gaia theory on how we should view the world; on how it affected the theory of evolution and how symbiosis and co-operation were as much part of the living world and its evolution as might be the neo-Darwinist's notion of the 'survival of the fittest'.

Karl Jaeger had been present at the last of our symposia in 1989 and he suggested Teddy Goldsmith as mentor for a course that would deal explicitly with the future of humanity on this planet — in other words, Ecology' writ large. We had a gathering of truly important scientists at the meeting, including James Lovelock, Lynn Margulis, Brian Goodwin, Mae-Wan Ho and Ron Brady. Consequently Teddy suggested that instead of just one mentor travelling the world, why not use some of those present at the meeting to act as a covey of different mentors to cover



Students learn about seaweed farming in Jambiani, Tanzania

PHOTOGRAPH: RACHEL BROCK

particular issues during the course of travel? The idea was that students would benefit from having some of the world's pre-eminent radical scientific thinkers on hand.

The first years of the Global Ecology programme were somewhat ad hoc in terms of the mentors following their noses as to where would be a good place to visit, such as in 1992 when Brian Goodwin, Adrian Barnet and I accompanied twenty-five students for ten days in Colombia's Amacayacu national park in Amazonas, even participating in a football match with a Tikuna community, during which we were roundly defeated. Or when, in the previous and very first year of Global Ecology, we managed to get a meeting with Ivan Illich in Mexico. He kept us spellbound, expounding his radical way of seeing, whether applied to education, medicine, energy use or philosophy.

Guest lecturers in the different countries to which the students travel are an essential part of the programme. As a result the students are indeed privileged, having encounters with such extraordinary thinkers as Ashis Nandi, Smitu Kothari, Gustavo Esteva, Teddy Goldsmith, Satish Kumar and Helena Norberg-Hodge, quite aside from enduring encounters with village elders and indigenous peoples, as when the students stay with Maori peoples in their *marae* or with a Brahmin community in the Spice Gardens of south-west India.

In general, the country coordinators teach, as well as organising the itinerary and the guest lecturers. They complement the travelling faculty whose responsibility it is to ensure that the curriculum and course-work are adhered to, such that academic standards are maintained and the students can be graded, applying standards that are acceptable to their colleges and institutions.

SINCE GLOBAL ECOLOGY was initiated fourteen years ago, the family of single-semester courses offered has grown and is still growing. The Cities programme began five years ago and has proved extremely popular. That was followed with the Indigenous Perspectives programme, and now we have Challenges of a Global Culture, which will visit Nepal and Tibet after beginning in Boston. Finally, this coming year will

see the launch of Global Health and Community, with visits to Cuba, South Africa and India.

IHP courses do not come cheap. Increasingly the aim is to provide scholarships and enable the participation of students from poorer backgrounds. By any standards, the IHP has been extraordinarily successful in providing a rich education that has a profound effect on the students' vision of the world.

The courses are not for the fainthearted. Living out of a backpack for the best part of eight months is not easy; trying to study in someone else's home, with your hosts' children clamouring for your attention, makes keeping up with assignments difficult; dealing with stomach bugs can truly be a pain; but almost without exception the students' comments at the end of the year are of an amazing, unparalleled experience that they wouldn't have missed for all the world.

For more information contact: IHP, Boston University, 232 Bay State Road, 5th Floor, Boston, MA 02215, USA. Tel: + 1 617 353 9888. <www.bu.edu/abroad/ihp>

JOIN THE DEBATE

EDUCATION

If you were Secretary of State for Education, what would you change?

DUCATION ALWAYS provokes passionate debate, far beyond the head teacher and the classroom. You can hear it being discussed in parliament and around the kitchen table. Most of a child's life is spent within the school environment, and what is taught, and how, can profoundly affect deverything — from the individual to the state of the environment — for generations to come. So, as well as inviting the experts in the educational field to write, we cast the net a bit wider and asked a range of people — a politician, a teacher, an activist, a writer, a campaigner and a recent university graduate — for their responses to this question:

"If you were appointed Secretary of State for Education, what changes would you make in education (the school environment, the curriculum, or teaching practice, for example) to bring about a more sustainable future?"

MICHAEL MEACHER

I WOULD MAKE teaching sustainability a standard part of the curriculum



at GCSE level, with deeper courses higher levels.

That would involve telling the story of the Earth, how it was created 4½ billion years ago, how unicellular life

evolved, then multi-cellular life 2 billion years later, then the Cambrian explosion of life-forms 540 million years ago. It would explain how the human race evolved only some ½ million years ago, and that current human civilisation did not even begin to emerge until some 11,000 years ago, at the end of the last Ice

This introduction is necessary to explain that the key to life lies in the relationship between living creatures and their habitat or environment. This is now threatened by the cumulative forces of technologically driven industrialisation, rapacious over-exploitation of key natural resources (water, croplands, fish, oil), destruction of biodiversity, and unsustainable growth of human populations. Teaching would end by

setting out what is necessary to bring human civilisation back into balance with the capacities of the Earth, particularly a world organisation to allocate development limits to each country on a per capita basis, just as the Inter-Governmental Panel recommends for the regulation of climate change.

Michael Meacher is a Labour Member of Parliament, and was Environment Minister from 1997 to 2003.

REBECCA MADDOCKS

AS A TEACHER it is my job not only to teach academic subjects, but also



to help all of my pupils to find and develop their special skills. But the reality at the coalface of teaching is that we, as teachers, currently prepare pupils to pass

one exam after another. We do not have the time to nurture and develop children's skills through life-long learning techniques.

As Secretary of State I would reintroduce the grammar school model across the country. All schools work on the basis of academic streaming, so why not give those who are academically capable the opportunity to learn with others of a similar ability? Streaming would allow us to concentrate our resources and our skills on the techniques most appropriate to each pupil's skills and ability.

While we need academic ability of the highest order to be promoted, we also need to develop each individual's most productive and enriching skills: this is not always achieved by forcing pupils through an inappropriate examination regime. Some pupils would benefit far more from the introduction of practical and social experiences into the school curriculum.

The pressure on teachers to concentrate on examination passes has been increased considerably by the introduction of league tables. As Secretary of State I would withdraw these from public access. League tables are divisive, creating a perception that there are good schools and under-performing schools. The effect on pupils is highly damaging. Pupils arriving at the 'under-performing' schools often display the typical hallmarks of low self-esteem and believe that they are incapable of gaining any qualifications.

I would seek to ensure that schools become far more community-centred. Primary and secondary schools should be on the same site and

should share some facilities. I would also seek to make school facilities available to families in the local community to try and reinforce the value that the community places on schooling and education. Everyone should feel comfortable in a school environment, including pupils, parents and teachers. Opening a library or computer suite for pupils and the community to use alongside one another would be a great start. Having a surgery, councillor, post office, after-hour clubs, education for the over-sixteens and other similar initiatives would also help to integrate the community and school environment.

Rebecca Maddocks is a teacher at Parkside Community Technology College in Plymouth, UK.

ANITA RODDICK

LET'S HELP OUR children to develop the habit of freedom. Let's encourage



them to celebrate who and what they are.

Let's stop teaching children to fear change and protect the status quo. Let's teach them to enquire and debate. To ask questions until

they hear answers. And the way to do that is to change the way of traditional schooling.

Our education system does its best to ignore and suppress the creative spirit of children. It teaches them to listen unquestioningly to authority, insists that education is just knowledge-contained subjects and that the purpose of education is to get a job. What is left out is encouraging sensitivity to others, nonviolent behaviour, respect, intuition, imagination and a sense of awe and wonderment.

If we develop a moral sensibility of caring rather than coercion then maybe we can stop the practices that have led to millions of child labourers, that allow armies to turn kids into killers, and that have created the fast-growing industry of child prostitution.

Anita Roddick OBE is founder of The Body Shop and author of several books including Take It Personally.

JOAN BAKEWELL

WE NOW HAVE enough league tables and tests. It's time to turn to



matters more concerned with the lifestyle the next generation will be leading. I would therefore develop the following iniatives.

I would seek to make children more

healthy. I would ban from school sponsored drinks and tuck-shop concessions held by commercial food companies. I would stop the sale of playgrounds and reinstate them wherever possible. I would insist on recycling practices in all schools, with explanations given to children as to why they are necessary. I would offer every student the opportunity to learn gardening and horticulture. I would reinstate music and encourage school choirs and orchestras. Thus would spiritual and aesthetic values come to govern their judgement, rather than money and success.

Joan Bakewell is an actress, TV and radio presenter and writer.

PATRICK HOLDEN

THE SOCIAL AND cultural sustainability of a nation are fundamentally



linked to its a t t i t u d e towards its food, but many of today's children are reared on a diet of h i g h l y processed food sourced globally from industrial farming systems. They have little or no

contact with nature, and have no idea where their food comes from, or how it was grown. This prepares them perfectly to become mechanical eaters, 'TV' consumers of junk food from anonymous producers who they will never meet or even think about.

To counter this appalling state of affairs I would make it possible for every child to visit a working (organic) farm by the age of eleven. I would complement this visit with curriculum-based back-up activities linked to the farm itself and ensure that all school meals were based on the Soil Association's Food for Life targets: 75% fresh, 50% local and 30% organic.

Rebuilding our shattered food culture must *start* in schools.

Patrick Holden is Director of The Soil Association. <www.soilassociation.org>

JONATHAN ROBINSON

I'D ARRIVE MONDAY morning and cancel a week's work for every head



teacher and civil servant. By lunchtime we'd be on a ferry to Denmark to visit the Kaos Pilot campus. Kaos Pilots have no lecturers: just mentors supporting students through the process of designing

businesses that respond to the challenges of the real world.

Bedtime reading is *Deschooling Society* by Ivan Illich, for a critique of how our imaginations are 'schooled' to serve warped ideas of progress. Next stop is the Michael Hall Steiner Waldorf School in Sussex, where students designed and built their own ecologically sound classroom. Then on to Wales, to Atlantic College, where students spend each afternoon in service to the local community, running a lifeboat coastal rescue service, and a soup kitchen for homeless people.

Finally, a train to Snowdonia to reconnect with ourselves and the universe in its unadulterated, untimetabled form. And there in the wilderness to co-design a form of learning that is playful, lifelong, inspired by nature, risk-taking, compassionate and focused on the whole person.

Jonathan Robinson is co-author of Careers Un-ltd and is setting up The Hub — an incubator for world-changing creative ideas. < jonathan.robinson@the-hub.net>

FRONTLINE

NEWS FROM THE GRASSROOTS



A mural made by children at the Bifrost School about Leonardo da Vinci's life. In the centre is Leonardo himself, holding an eye

DENMARK

A GLOWING **EXPERIMENT**

CECILE VERHEIJ

Bifrost: a new way of learning.

IN THE PROVINCIAL Danish town of Herning, there is a remarkable school for children (ages six to sixteen) named Bifrost. The word Bifrost is derived from Scandinavian mythology and means 'rainbow', a bridge between the Earth and heaven. The educational experiment, which has been ongoing since 1987, is attracting much attention.

Though the school radiates a mood of art and culture, it is not an art school. The core tenet of the school is that expressions of art and culture are an important source of inspiration in the learning process. The Bifrost approach aims to break away from the traditional, one-sided focus on cognitive learning processes and passive education. "We want to integrate different dimensions of learning. In that sense we are very much inspired by the American psychologist Howard Gardner," explains Bodil Abildtrup Johansen, founder and director of the Bifrost School. "Gardner claims that in Western education we overvalue cognitive learning, while human beings in fact have multiple learning capacities. He distinguishes for example emotional, social, sensual,

and physical capacities. Here at Bifrost we aim to enhance all these different ways of learning. We value aesthetic expressions highly. Throughout the building one can find a diversity of artistic creations. Children here learn to express themselves in many different ways, through painting, music, sculpting, theatre, writing and poetry. These are all different ways of communication. We take up the challenge of turning education into an exciting endeavour."

From the beginning the Bifrost approach was based on the innate inquisitiveness of children to learn. It is the teacher's task to cherish and stimulate these impulses, which can only manifest themselves if the children continuously have a say in and impact on their own learning processes.

At Bifrost, both children and teachers become 'investigators' and 'learners'. All education is related to cultural-historic themes, which we call inspiration themes. On average the teachers select two or three inspiration themes per year, with which the whole school works during an extended period of time. These themes include Van Gogh, Mozart, the Danish composer Carl Nielsen, M. C. Escher, the Olympic Games, Leonardo da Vinci, and the children's book The Mystery of the Playing Cards by Norwegian author Jostein Gaarder.

Johansen explains, "We want to provoke children and raise their interest for historical periods. Introducing new perspectives, breaking conventions, confronting and investigating: these are all important preconditions for learning." Since all learning is related to the direct experience of the children, standard learning books and methods are not suitable. Building on the ideas and proposals from the children, the

teachers are challenged to collect and compile all learning materials themselves.

Each theme brings along its own perspective or specific assignments. Where one theme seems appropriate for a more aesthetic approach, another might be more suitable for a natural or scientific or historical approach. This process of creating study material demands intensive preparation and inquisitiveness, and presupposes an extraordinary spirit of co-operation. The teachers consider this to be a very stimulating and inspiring process.

Another remarkable feature of Bifrost is that no assessments are made through grades or tests. "Creativity, flexibility and responsibility have become ever more important assets in current society, but it is exactly those qualities which are difficult to express in grades," says Johansen. Grades contribute to anxiety and add to an erroneous 'learning for reward' attitude. Learning should be considered as a personal

challenge, and not something one does to gain the approval of others. From an early age, children at Bifrost are trained to evaluate their own achievements, as well as those of others. These evaluations encompass much more than what could be expressed in grades, as they reflect both the process and the result. In close co-operation with the teachers, children review their acquired knowledge, mutual co-operation, interest, creativity, time scheduling, and so on. Bodil Johansen formulated very succinctly what Bifrost is all about: "All the time, both alone and together, we should have the courage and the will 'to be on the way' - not to reach a predetermined goal, but to experience new and different possibilities." •

For further information contact: Bodil Abildtrup Johansen, c/o Bifrost School, Kaj Munksvej 5, 7400 Herning, Denmark. Tel: + 45 97 21 36 11. <skoleleder@ofir.dk>

USA

REALISING POTENTIAL

BRIANTOKAR

The Institute for Social Ecology offers an inspired interdisciplinary approach.

SINCE 1974, the Institute for Social Ecology (ISE) has offered intensive summer programmes and student-centred degree programmes highlighting our interdisciplinary approach to ecological philosophy, politics, social theory and hands-on praxis. As we celebrate our thirtieth anniversary, we are affirming our close ties to ongoing campaigns for global justice, food sovereignty, and direct democracy, as well as our long-range reconstructive visions for

a free, ecological society.

It is the ISE's core belief that the human potential to play a creative role in natural and social evolution can be realised, and that we can help to foster communities free from hierarchy, social inequity and ecological degradation. We view the increasing centralisation of political and economic power, social and cultural systems of domination, and the alarming increase in social control as root causes of our current ecological and social crises. Social ecology envisions a directly democratic, confederal politics, and a moral economy that moves beyond scarcity and hierarchy towards a world that truly celebrates natural and cultural diversity. Thus, our curriculum combines theoretical and experiential learning in such areas as community organising, political action, social theory, and sustainable building and land use, helping students develop the skills, ideas and relationships that can help nurture vibrant, selfgoverned, healthy communities.

We offer intensive summer programmes in Sustainable Design, Building and Land Use, as well as our internationally acclaimed programme, Remaking Society, which offers a comprehensive overview of all aspects of social ecology. We offer both on-campus and offsite independent study-based programmes at the undergraduate level, in collaboration with Burlington College. Additionally, Prescott College and the ISE have recently launched a renewed Master of Arts programme in social ecology, which combines campus-based and off-campus study models, including guided independent study, experiential learning, and classroom-based activities at our exquisite Central Vermont campus. A host of shorter workshops and courses are also available throughout the year. •

For more information: <www.social-ecology.org> Tel: +1 (802) 454 8493. UK

A FAMILY AFFAIR

JONATHAN TAYLOR

Bedales school continues to push the boundaries of educational orthodoxies.

MANY SCHOOLS claim to 'educate the whole child'. We know that as a sophisticated economy the country needs a workforce that is highly specialised and skilled. But we also know, as teachers, parents and employers, that academic grades are only a small part of the story.

When John Badley founded Bedales in 1893, he wanted something more humane and inclusive than the public schools of his day. The decision to co-educate girls and boys in a boarding school was crucial to Badley's bold vision. His aim was to give both boys and girls "the same healthy life, and the same range of intellectual training", because doing this together would have a profound effect on the pupils' characters.

The education was broad: in the 1915 prospectus, the division of the day is outlined into a morning of 'brain work', an afternoon of 'handicraft' or outdoor work, and an evening spent in social activities such as drama or music. These would be interspersed with swimming, gymnastics or other exercise. Badley knew that education is not just the curriculum, but the structures that enable the curriculum - and what would be relegated in other schools to the 'extra-curriculum' - to be delivered. For Badley, writing in 1923, "the aim must be intelligence rather than knowledge, and the means employed, intellectual and moral discipline, but not merely authority." His model was not the army model of the nineteenth-century public school, but the family.

There are two particular ways in which Bedales continues to set the pace in the twenty-first century, and these are two strands of its founding heritage. First, relationships.



Building an oak-framed barn during 'Outdoor Work' at Bedales School

Although there is a constant danger that the school will fall into orthodox models of management and structures of governance, it is the life within the structures that really counts. Within the full boarding life of the school, 400 students aged thirteen to eighteen can still enjoy relationships of unusual trust and openness with their teachers. The first-name terms and the absence of uniform are merely signs of the deeper ethos of Badley's 'family' school.

And, through 'Outdoor Work', Bedales students simultaneously develop a tradition of the school, do something distinctive, and prepare themselves for an active life beyond school. Students can choose activities including baking bread, bee-keeping, making gates and garden furniture, looking after livestock, working the forge, and basket weaving. Recent projects include building an oak-framed barn by traditional methods, and creating and landscaping a lake. As Peter Coates, head

of Outdoor Work, says, "There is no set syllabus, no need for a public performance, and no competition; students and staff find it offers an alternative outlook on life and a good place to talk."

Critics might voice complaints that Outdoor Work is 'playing' at working with the land in an oldfashioned way: the gentlemanamateur dabbling in his estate. There is an arguable case here, and perhaps the school needs to take its environmental, and sustainability, programme further. But for a group of students increasingly from city backgrounds, Outdoor Work not only provides a range of new experiences, it enables exchange and sharing between staff and students in a way not obtainable in classroom transactions, and goes some way truly to educate the whole person.

For more information contact: Bedales School, Petersfield, GU32 2DG. Tel: +44 (0)1730 300 100.

NOTES FROM THE UNDERGROUND: DAVID NICHOLSON-LORD

ELEPHANT& CASTLE

TROLLING ROUND THE local park, I hear an unaccustomed noise: an insistent droning like a huge and aggressive bluebottle. Mystifying initially, but then a suspicion dawns - confirmed when a small boy in a crash helmet is spotted on his motorised scooter, whizzing round what is normally one of the quietest bits of the park. Sitting nearby on a bench, timing the boy's circuits round the tranquil splendours of the rhododendron gardens with a stopwatch, is a male adult who appears to have parental responsibility.

Intervention beckons. Small though the boy and his scooter may be, innocent though their pastime may seem, it is the kind of noise that drives people to rage and distraction. More pertinently, the noisy little two-stroke scooter is a motorised vehicle and as such has been banned from the park since last year. With a degree of forbearance, I point this out to adult male, who appears to understand and accept, albeit with a degree of resentment. Shortly afterwards giant bluebottle noisily exits park. It is surely only a matter of time before scooter-racing is an Olympic sport.

I seem to have been intervening a lot recently - asking people not to pick flowers in the woods, not to chop down trees,

"I'M TERRIBLY SORRY TO BOTHER YOU..."

not to use their mobile phones in the quiet bit of the train. Inexorably, I find myself turning into a kind of vigilante, albeit a polite one of the "Terribly sorry to bother you but did you know...?" variety. Though I think I have it in me to be the other kind, the red-faced, fistshaking, kind. When you've said, "Terribly sorry to bother you but did you know you can't use your phone/drive your car/pick the flowers?" and so on for the fiftieth time, the smile, and the politesse, can start to fray.

The years have taken the edge off vigilantism or interventionism, as it's probably more accurate to call it (the polite variety, anyway). When I was a kid, everyone did it. Intervention was a fulltime adult job. Merely being a child was sufficient reason for someone to complain about you. Now, we seem to have turned non-judgementalism into an art form. And although they're wonderful qualities in their way non-judgementalism, tolerance, empathy, a healthy disregard for authority - they have created a measure of unruliness, particularly in that area we call the 'public realm'.

One reason interventionism is on the decline is its unpredictability. Once, people — children, anyway — would have turned red and slunk away if upbraided. Now they're just as likely to reply with a torrent of abuse, the much-favoured one-fin-

ger salute (whatever happened to the two-fingered one?), or, if you're very unlucky, something concussive, staining and potentially viral. My partner remonstrated recently with someone abusing a dog in the local high street and was spat at with a mouthful of chewed-up hamburger. A friend of hers intervened in a schoolgirl fight and got punched in the face. Far easier to walk on by. Leave policing to the professionals.

Unfortunately, even the professionals are becoming leery. A decade ago, the local council introduced a new breed of ranger to our parks, with an impressively catholic job description, including, one thought, intervening. But the rangers decided to stay in their huts and write memos to each other. So they are now being replaced by an even newer breed of highly paid super-intervener called community wardens, who will stride round parks in brightly coloured jackets and, er, intervene. That's

the idea anyway. But already the wardens are being labelled 'whispering grasses', i.e. police narks, and it is said they won't want to intervene too much because of the threat of retribution from intervenees. What the next step will be is anyone's guess. A pre-emptive invasion of urban green space by a US-led coalition?

It would clearly be much better if more people were prepared to intervene more often, in a kind of non-confrontational, Gandhi-esque way, since this might ultimately wear offenders down. Fogevish though it may sound, however, one is sadly driven to the thought that, like state industries, hospitals, schools and many other institutions, responsibility has been privatised. We're so busy making money, advancing careers, consuming objects, that the wider world — the public realm — is forgotten. It's not just that we don't care. It's that we don't see what there is to care about. •



ILLUSTRATIONS: ANGELA WILKES

ART: KEITH GRANT

OVE OF CREATION

Interview by Peter Abbs

A celebration of nature through landscape.

OOKING BACK ON your work, what do you think you have achieved? I have remained true to my initial reason for following such a vocation - to have devoted my life and work to a continuous celebration of nature through landscape painting. I have developed a receptive and a retentive mind, and visual memories which are to me revelatory. I have not achieved this through field experience alone but through a humbling spiritual identity with the land, both seen and felt.

In the fifth decade of my work. awe in the face of elemental nature is replaced by a feeling of 'oneness' with my subject. It is as if I am a physical and spiritual part of the forms and moods of nature which I study.

I see your work dividing into at least three categories: the English landscape paintings, the paintings of the tropical South, and the paintings of the North. Do you think these divisions capture the range of the work?

There is a natural transition from my earlier English landscape painting to that of the North. The Equatorial Tropics are an interlude important for me now in one respect only: that of the difference between the vegetation and topography of the tropics and that of the North. That difference is simply one of sensation. In the jungle every movement counts and has to be verified, since so much that is dangerous is concealed. But also the space is so

close it is almost without scale.

The transition from England to the North is, firstly, a cultural passage. I was as prepared for the North as I was unprepared for the jungle. Nothing I encountered in the North was unexpected; everything in the tropics was. Yet my northern encounters reinforced an irrational love, the origin of which I cannot trace save it be in my enthusiasm for snow as a child and my fantasies of blond hair as a youth. But however the seed was sown, it flourished, and any significance accorded to my work stems from that fact.

Could you say more about the English landscapes? Is it true that Jacquetta Hawkes' A Land exerted a powerful influence?

To begin with, my interest in landscape was my reason for going to art school and deciding that my life would be devoted to painting inspired directly by nature. My first landscapes were profoundly influenced by Jacquetta Hawkes' book. I sought landscapes of geological significance and, later, those which bore the imprints of early human life. I developed an interest in archaeology. Many of my paintings at that time had references to tumuli, menhirs, oppida, and Celtic field systems; and in this work my reading of A Land and my admiration of the work of Paul Nash were inspirational.

I became influenced by Richard Jeffries, especially The Story of my Heart. I went to Pevensey Castle and to the Downs, attempting in my work to recapture the mood I found so compelling in his work. Thomas

Hardy was another early enthusiasm, as was the poetry of A. E. Housman. I made series of paintings, figure compositions or more accurately 'figures in a landscape' based on Jude the Obscure and A Shropshire Lad. I then came to the Icelandic Sagas and to the remnants of Anglo-Saxon literature and I knew that only in the true North would I be able to realise the vision I had compiled in my imagination from so many disparate sources.

Light is crucial to your work. Could you say something about your relationship to light?

I do not try to paint light because it is 'problematical in art' but because light is a dimension of creation which pervades consciousness, as is darkness. The counterchange of these opposites fuses into the profoundest ordering of life in which we are all participants. The nuances and variations between ultimate visual light and ultimate visual dark are the rightful properties of painting as they are of our psychological as well as physical being. No work of art dealing with colour, tone and space can have any meaning save through light.

And light relates to your love of the North which has always been your deepest inspiration. Can you say more about what draws you to the North and what your paintings of the North seek to express?

Earlier I was perhaps flippant in trying to explain what draws me to the North but the fact is I can't really explain it and, if I were to succeed, I



Evening in North Bay BAS base Rothera Antarctica, painting by Keith Grant

fear that I would have divested the North of its mystery for me. Perhaps I am touched by that same poetic idealism which Barry Lopez conveys in the Arctic Dreams. But though I recognise the importance of the flora and fauna of the Arctic it is more the inorganic foundation, the architectonic sub-strata of the Earth, and its interaction with light, darkness and space which motivate me. Perhaps I am trying to negate the fact of eventual oblivion by elevating a cosmic dispassion as an intermediary between life and death. But I am certain of this: that existence is a miracle of such magnitude that any thought of how accidental its beginning was is transcended by the fact that our lives are being lived connected to the lives of those who have gone before us and those who are to come, and that the colossal organisation of the cosmos is engaged in the verification of life. Nothing can ever change the truth of our existence.

I am therefore drawn to the North — like the compass needle, it has defined the direction of my life as no other place has. The rest is unexplainable.

Do you see your work relating to the current ecological crisis?

My work is inspired by the Earth and its many interactions and is therefore, ipso facto, related to eco-

logical issues. But the work is not because of the present crisis rather it concerns the Earth's ultimate invulnerability to ecological disaster and reflects those aspects of nature beyond the temporary disturbances created by human disregard.

Do you think we are in need of some kind of eco-aesthetics? How would you see such a movement?

We are in need, desperately in need, of an aesthetics code, not fixed but dynamic and capable of guiding objective judgement. It presupposes an 'eco' dimension. But I cannot see as but retrograde an attempt at ecopropaganda through art. The creative act in itself is testament to the existence of eco-consciousness.

Where would you say your work is taking you now? Is it a matter of further refinement or are there new themes?

I do not think in terms of further refinement. My main theme now is to relate my life passionately to the indisputable fact of my age. My realistic expectations of further progress in my art depend solely upon my continuing response to nature.

Where would you say your paintings belong in the current art scene in Britain?

They simply belong in the time they were created. They reflect all I wish them to as an artist. They are nature-inspired and they are anachronistic only in so far as fashion fitfully and periodically dismisses them. Despite this, I and my works exist and that is how I and my work fit into the current scene. However, I feel I am a part of a growing body of creative work which proceeds from a concern for nature, especially that work which takes its inspiration from landscape.

Could you speak about the relationship of spirituality to art?

Personally, I am uncertain about how to define spirituality and reluctant to feel it separate as a thing which can be considered apart from the life it defines. The great Western Christian masterpieces are interpreted by the faithful as spiritual, but spirituality in art goes beyond that. Art is a microcosmic expression of the miracle of creation itself. Not only does the act of artistic creation reflect this, but the spirit of the work of art points to the incontradictable purpose of life.

To be an artist capable of spiritual insight, and thus able to express it through creative work, presupposes a oneness with nature itself because the spiritual is beyond our own fashioning and can only exist when the opening in art for its presence is there. The artist must stand with humility before nature and the love of all creation. •



Bombay, india

PHOTOGRAPH:STEVE MCCURRY/MAGNUM

ART: SUZY GABLIK

MYSTERY OF COLOUR

TEND TO believe that things don't happen in life when you want them to, but when they are destined to occur. Synchronicity is an expression of 'harmony in time'. It was synchronistic that just as the war in Iraq seemed to colour the world emotionally, I happened to be writing about colour. Plumes of black smoke were still visible over Baghdad, and everything with colour, as if pushed out of a plane, had disappeared into the dull and dusty rubble of war.

"We live in dark times." The phrase took on new life as I began to think about how colour gets extinguished during a war. And then I understood something. Colour is energy. When you see it you feel like you are walking on a trampoline. In times of traumatic intensity, the psychological exuberance of colour is a force majeure, the great antidote, an

A life without colour is only half a life.

animating diffuser, trenchant and refreshing, like ocean air. It is decidedly unnerving when it disappears.

Consider this marvellous description by Rick Bass, which captures the intensity of psychic shock when colour suddenly returns to the world in fractured bits that sparkle, like cut glass, after the incredible abstinence of winter:

A single glowing bluebird, hurtling across the snow, would be too much; we would fall over backwards besmote. We have to start small, and slow; our bodies must ease back into a world of colour - emerald, topaz, cobalt, oxblood, sapphire. Too much too soon and our brains would be bruised by the sudden expansion

of colour into a place where for so long there has been an absence.

Colour touches on everything food, interior design, clothing, painting, gardens, flowers. In murky, dolorous times where everyone is adrift, the lushness and dazzle of colour may just be that special thing that can save us. One could even argue that colour is a fractal for letting the angel out. Yet in our Western culture we have largely stripped ourselves of meaningful rituals that needlepoint colours into the very air. I am still nudged toward intoxication merely thinking about a picture I once saw of a festival in Hyderabad, India. The teenagers showered each other with brilliant powdered cerise dye to colour their skin and clothing bright pink. Decades after the fact, I can still remember the thrill of walking through a crowded street bazaar in Old Delhi and revelling in the bas-



Untitled, painting by Ciel Bergman

kets of pomegranates and limes, the flower garlands and children's hats, the bananas, pineapples and cabbages. Compared with this collage of colours colliding, mingling, and multiplying indefinitely, the monotony of supermarket shopping doesn't cut the mustard.

I am a regular dingbat when it comes to colour — the more flam-boyant the better. Colour is total immersion and emotional involvement. Ornaments, tassels, textures, pompons, sequins, fluorescent hues galvanise my creativity. Just the vivid blue upsurge of indigo dye on a moving ruffle will turn me into a baby bacchante.

SO WHERE DID my culture lose me, exactly? Perhaps it was years ago, somewhere on Wall Street, as I stood among grey buildings and grey suits, in a place where there is hardly even a flicker of colour in anyone's

No sooner had these different ideas 'sparked', causing me to notice a symmetry between the contracted world of war and the expanding radiance of colour, than a gift arrived in my mailbox, like a personal omen. Inside the package was a small picture of a tree, painted by my friend Ciel Bergman, who lives in New Mexico. The tree was not an ordinary tree. Standing alone against a graphite sky (not unlike the one I'd been looking at in Iraq), this tree was blood red, a burning bush with tiny particles of light that infused luminous energy into the bruised and gloomy air. Immediately I saw the tree's mystical intelligence. I recognised it as a tantric adept, radiating diamond-like confidence over the entire world. And I could almost hear it speak these words by Huston Smith: "Can there be an understanding of life so staggering in its immensity that, in comparison to it, even gulags and the Holocaust seem like dropped ice cream cones?"

Then came the oracular answer. Only if we open to those wider circuits, through which life generates unusual and apparently miraculous effects. We need to focus our lens on the same spot, without interruption, at the right distance, until the object situated in the mind catches fire.

The truth is I had never really thought about how meanings gather around colour the way lint might collect on a coat. Red, for instance, can be dangerously Dionysian when it relates to the colour of blood, or love. But it is oddly perfunctory when it designates a traffic stop sign, or the knotty bureaucratic procedures associated with red tape. Are these interpretations 'arbitrary'? How do we begin to adjudicate among the 'play of interpretations' and conflicting claims? What gives any interpretation its legitimacy? Perhaps it is what Umberto Eco calls a kind of cultural Darwinism: certain readings prove themselves over time to the satisfaction of the relevant community. Can several interpretations be true at the same time, even if they contradict one another?

Exactly what it is that shapes our notion of colour? There are so many interesting questions to think about here. Should we consider colour as a moving creative force, or as a static thing? Are colours adjectival — merely signifiers or qualifiers — or are they rather, as Annie Dillard puts it in one of her poems, "the real foundation of everything"? As far as I am concerned, a life without colour is only half a life. The world is colour. So the question I would really want to ask here is: Why is the modern world so indifferent to the spiritual power of colour? And why are so many people willing to live without its inspiring presence? •

OPENED ACCESS

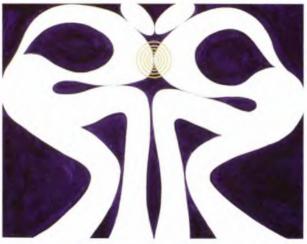
The Inspired Art Fair is bringing self-taught artists the recognition they deserve.

TAKING INSPIRATION from our surroundings can influence us in many different ways, whether it is for writers, songwriters, poets or artists. All artists are inspired in some form from being moved both spiritually and emotionally by the environment they encounter. The end result, a poem, song, painting or sculpture, then provides others with a view into the artist's soul and evokes a pleasure shared by both.

Artists come from all backgrounds and may take up a practice at any time of life. Founder of the Inspired Art Fair Jo George aims to provide these independent artists with an opportunity to exhibit their work to the wider public. The art world today revolves around gallery ownership and commercialisation, and many independent artists struggle to exhibit their work.

Being an independent artist herself, Jo wanted to help other selftaught artists to step into the art world, bypassing the gallery influence. However, it has taken Jo's fiveyear vision to get to this stage. During this time, she has built up a body of artwork, reflecting her career and her experiences of travelling to the Far East and practising Chinese Medicine. "Learning about Chinese Medicine has changed my perception of how we interact with our environment," she says. "My aim is to attract and absorb the viewer, creating a place where inner and outer worlds connect."

Jo started to receive many enquiries from galleries and art fairs, but she soon realised that the power of gallery artists was too overwhelming. Independent and self-taught artists are approached with apprehension despite the quality of their



Honesty, painting by Jo George

work. "I realised there were a great number of independent artists missing out on reaching wider audiences," Jo said.

Thus, the Inspired Art Fair was born. Jo was very specific in wanting to keep the art fair and the work in the control of the artists so that the public would have direct contact with them. Many self-taught artists are well known for their practice (for instance Beryl Cook and Vic Reeves) and have simply not gone through the conventional route in terms of their artistic training. In the wider sense 'self-taught' can apply to artists who have taught themselves, people with mental health problems taking up art, or self-taught photographers. Even some of the best teachers at art colleges are self-taught.

Jo understands that to gain recognition for any artist takes time and patience, but independent artists have a higher hill to climb. Often their work is labelled because of its simplicity and directness. It is this pure sense of art, however, that places it in a different category from the mainstream art world.

Today art is becoming more accessible to many people from all backgrounds, so more people are choosing to buy art based on its quality rather than on the artist's qualifications. This is exactly what Io and the selection committee will be looking for when choosing artists for this year's show. This year's Art Fair is different in that it is open to all independent artists, not just those who are self-taught. "It doesn't matter if the person has just graduated or started painting at fifty. As long as the art speaks for itself it is welcome. The quality and talent are more important than qualifications."

The fair, held in East London, is smaller and more intimate than the larger venues, thus enabling artists and buyers to have more interaction with one another. Independent artists have the opportunity to sell their work through a print-ondemand service; this is the only art fair to offer this. To encourage engagement between artists and public, the public are invited to nominate artists for a series of prizes, the highest of which is worth £3,000.

It is the inspirational attitude of both Io and the artists that has enabled the fair to grow, and for more artists to gain the recognition they deserve for the quality of their work. The variety of exhibits has generated a great level of interest in the work of independent artists. As the art world and society are beginning to see art for its quality, independent artists are gaining more freedom and the opportunity to show their talent within a less prejudiced environment. •

The Inspired Art Fair, 17th - 21st November, The Old Truman Brewery, 91 Brick Lane, London E1. Tel: +44 (0)208 374 7318, or email: < jo@inspiredartfair.com > . <www.inspiredartfair.com>

DIVINE RAPTURE

Sufism remains at the heart of Faruk's transcending music.

OW DID WE first come across our musical Lfavourites? Word of mouth, reviews, the radio, concerts, of course. But I have also found the arbitrary encounter very productive. The music of Omar Faruk Tekbilek I first encountered, incongruously, on the main street of the Greek island town of Naxos. The pavement was lined with baskets of beach-balls, the frontage an unbroken line of pastel-painted ice-cream parlours, garish boutiques and cocktail bars — but from somewhere amidst the tat came the haunting flute-like strains of a nev. Half hidden among the rainbow of shops was a small record store. They were playing Faruk's Whirling. I bought it at once. I have since acquired much of the rest of his work and it has endured. It is some of the most spiritually affecting music I know.

Faruk was brought up in provincial Turkey. As a boy he moved to Istanbul and then some years later to the US. All that time, under various teachers, he trained as a musician. His range of instruments is formidable: as well as the ney he plays the Arabian clarinet, Turkish lutes, the kanun (zither), and drums such as def and darbuka. He sings and composes. He is one of those musicians whose every touch seems both effortless and charged. When Brian Keane, his distinguished collaborator, first heard him play, he said the hairs on the back of his neck stood up.

It's not surprising therefore to find that Faruk spent many years studying as a Sufi. When he was in his teens he encountered the clandestine groups of Mevlana devotees in Istanbul. The influence of Mevlana and the whirling dervishes



Whirling dervish
PHOTOGRAPH: CAMILLE HELMINSKI

remains at the heart of his work. He himself says his playing is a kind of prayer, a direct route to God.

Apart from chants of the adhan (call to prayer) and the Koran, music plays no real part in Islamic worship. But it is central to the Sufi brotherhoods (one reason for the traditional tension between Sufis and orthodox Muslims). A sama is the gathering where Sufis perform the zihr, the commemorative rite which uses combinations of music, chant, dance, posture and breath control to induce in participants a sense of divine rapture. Such rituals help attain a state of fana (the transcendence of self, a passing away of the lower self).

Such is the power of Sufi music that it has spread far outside the sama. Purists stress that it cannot be divorced from its setting (just as it is argued that Sufism is meaningless without Islam). The appeal of Sufi music to non-Sufis, they say, can only be aesthetic.

Strictly, this may be true: Sufi music is part of an entire system, a particular path (tariq) towards revelation. But the work of Omar Faruk Tekbilek, who never actually joined a Sufi brotherhood, suggests that the distinction between the spiritual and the aesthetic can be a blurred one. The great qawwali performer Nusrat Fateh Ali Khan, who remained a devout Sufi, felt no qualms about extending his performance beyond members of the brotherhood. "Qawwali's real setting", he said, "is at the shrines of the great Sufis — in any other context it becomes merely a thing of entertainment. Even so, there is always hope that it will touch some of those listeners in a special way." His global following suggests it did. The wide appeal of Sufi

music is proof of its genuine universality. In his own work Omar Faruk Tekbilek has a stunningly broad range. His recent Alif album includes among the Sufi songs Greek, Turkish, Gypsy, Israeli, Azerbaijani and Bulgarian songs. Most display something of the same transcendent power. Listening to it in the right circumstances can achieve what the zikr aims to achieve — a remembering of God. As the early Sufi teachers recognised, music has the capacity to rid the mind of its distractions and, of all the arts, provides the clearest way to the divine. •

Omar Faruk Tekbilek:

- (with Brian Keane) Beyond the Sky (Celestial Harmonies, 1992)
- Whirling (Celestial Harmonies, 1994)
- · Alif (Narada, 2002)

The Rough Guide to Sufi Music (World Music Network, 2001). ARC Music Int. has a good selection of Sufi music. <info@arcmusic.co.uk>

Poetry

THE NIGHT SHE LEFT

My father moved as if he'd lost his place and then sat down; turned up his hands that rested on his knees, and looked into them as if they were in question. We had not heard their voices rise. Nothing visible was broken. The back door opened. Closed.

I see her walk, walking out, down the slope past windbreak pines — their tall darkness shifting with creak, ache, sigh. Paddocks crossed by day grew and lost their green without the sun, fences dropped as shadows on the land — acres under dark went wide and deep. He didn't follow. She didn't stop but turned for the road to the sea.

How far did she go, after the road, into the blackness on the stones of the beach below? We'll never know - the rough clod bank then rocks and knots of lupin before the plume and spree of foam, the breaking sea. Her footing lost, or hesitating. Her meaning to go on that brought her back The wind filling her mouth shapeless as tears. Unspoken — that night in all their years.

- Rhian Gallagher

SALMON

You are the Atlantic, the personification of currents and spates,

You are made of fathoms of water, Spring runs, Highland rivers — You have your life's journey ravelled inside you.

I have been to stand on rock ledges In the fierce rains of autumn: I have looked down on kettledrums of river Tumbled to white noise —

And there, up out of this tantrum, You leap, pouring the source of your being, The blunt thrust of your head, Into an impossible return, the river's beginning.

Kenneth Steven

HOSPITAL SCENE

I wasn't there while he was dying I was in another state. His heart slowed and stopped it was reported. I dream the hospital scene. Remember holding Daddy in his death, how the soundless spaces grew longer and longer between last breaths.

But wait. There would have been no life emptying hush. A laboring respirator, contracted to truck air, freighted and hauled in industrial-sized gusts. Not silence and sighs, but groans, squeaks, huffs. The beeps of cardiac overseer. That's the sound that slowed. Lost interest in the project. Let go. While still the production line cranked out manufactured air, made clamorous deliveries, oblivious there was no buyer for its wares.

- Suzanne Blair

WEEPING FOR LOVE

It is sometimes a spear in the chest. I gaze down at its polished surface, the close grain. I feel its ghostly pressure in the solar plexus And its exit wound between two vertebrae.

I suppose God knows how to be precise. He would know what size and weight to use, The appropriate spear-head, the type of barb And how to cast, to pin, in the moment of my turning.

And the spear is his Other in me, not-me, This storm of weeping that whirlpools my heart — His cancellation of all my debts, vibrant The voice and the lunge and the stop of his love.

I am left to admire his craftsmanship in me, This sign of his visitation, a calling card, An enigmatic signature or seal, the absolute Of his turning to my falling, to my calling.

- Patrick Bond



Sultry Evening, painting by Emil Nolde

CROWS

Slanting sun gleams on their feathers late in the day when sky pauses in its closing blue and breathing and even the grass is still and above, there is whirring, the soft crack of jointed bones folding, unfolding, the rustle of wind over their dark bodies' sleek cylinders, sculpted charcoal ravishing against the blue-violet of late afternoon.

In awe of them I notice their intent and purpose gift-wrapped in austere plumage, but shocking in their lustre, perhaps black magic raising my exultation to new heights for a moment while their passage stirs me to remember similar fragments of ephemeral splendour.

The wings' crushing of the airways leaves a vacuum in the passing and it is merely 5:00 o'clock now, the mundane fact one remarks on after having seen a flash of heaven and dealt with it by making a phone call and forgetting to mention God.

- Karen Eberhardt Shelton

DAFFODILS

They flurry over the first raw green of the hills, Trumpet the Easter fields; Bright flags with their orange yolks Bending under the flaying cruelty of April winds.

As if to prove that Calvin got it wrong, That dark-lipped Luther in the cold austerity of history Threw away the warm laughter of love For the bare bones of theology.

- Kenneth Steven

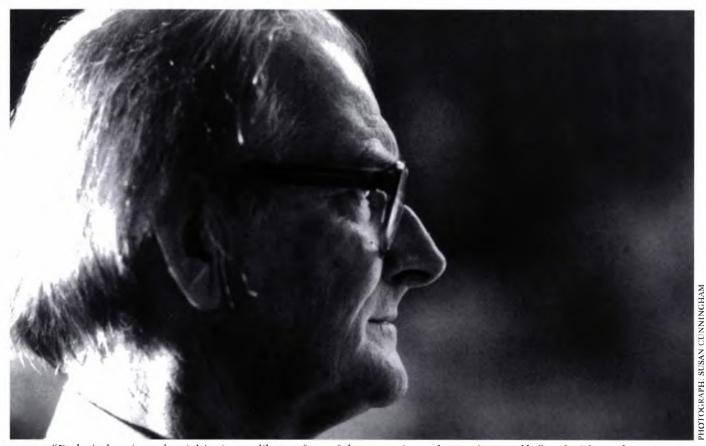
The Night She Left' by Rhian Gallagher has been previously published in *Salt Water Creek*, published by Enitharmon Press.

We apologise to Kenneth Steven for muddling his two poems *Daffodils* and *Salmon* in the May/June issue. We publish both poems here in their original form.

Edited by Peter Abbs

JOSÉ LUTZENBERGER

A voice of sanity.



"Ecological sanity and social justice are like two faces of the same coin — they are inseparable." - José Lutzenberger

OSÉ LUTZENBERGER will go down in history as an extraordinary visionary, genius and orator. Born in Brazil in 1926, of German parents, he was trained as an agronomist, and lived through the transition from culturally diverse regenerative agriculture to the predominance of industrial chemical agriculture. In his own words,

When I was a young man my home town of Porto Alegre in southern Brazil had 300,000 inhabitants. We had no slums. Then at the beginning of the 1950s there appeared almost overnight what we called the 'villages fallen from the sky'. They were slum communities that began to spring up everywhere around the edges of big cities.

Worldwide, over the last fifty years several hundred million people have been driven off their land as a result of industrialisation and modern agriculture. Today there are nearly six billion people in the world and about three billion are still rural, living in traditional social structures. If globalisation of the economy continues another billion people may be uprooted over the next twenty years, with unforeseeable consequences in terms of social and ecological havoc.

Lutz, as he was affectionately known, was a passionate man, with a deep sense of moral indignation at injustices inflicted on human beings, other species, or indeed the planet herself. He brought all these dimensions of vision, pragmatism, determination and compassion to every situation with which he engaged. He said of himself, "I became an environmentalist out of despair. I'm the kind of person who, when confronted with something that can be changed for the better, will get a very bad conscience if I do not act."

He lamented the fact that so many people are illiterate in natural history. "They do not realise what a unique and beautiful evolutionary story we are experiencing, which began four and a half billion years ago, when our solar system was born. It took hundreds of millions of years and many explosions to put the elements into the atmosphere that make life." He had a way of explaining this miraculous story, using his scientific rigour, that would bring himself and his audience to

tears at the wonder of creation. "Real scientific enquiry makes one humble and in awe of this beautiful universe," he said.

Lutz believed that our major challenge now is to break the technobureaucratic infrastructure set up by corporations. Technology ensnares us in ever more complex structures. We have a techno-dictatorial world governing system, controlled by corporations in all areas of human life. They promote technology that is good for technology, not for genuinely solving human needs. But they pretend that they are trying to solve the problems which technocracy created. Their answer: more technocracy. The technocrats claim that poverty is the problem and genetic engineering is the solution to feed the hungry. But it is industrial agriculture which created poverty in the first place.

We do not need mass production, but production by the masses. It is so much more efficient because production is close to the individual; thus it is more flexible, more adaptive, more complex and thus more intelligent. It implies Earth democracy in that there is a more equitable spread of decision-making, self-reliance, people thinking for themselves and taking responsibility for themselves, being closer to the Earth and living dynamics.

Lutz believed that

Most important is the necessary rethinking of our cosmology. The anthropocentric worldview has allowed our technocrats and bureaucrats to look at planet Earth as if it were no more than a free storehouse of unlimited resources to be used, consumed and wasted for even our most absurd or stupid whims. We have no respect for creation. Nothing in nature is sacred.

With very few exceptions indigenous people developed mythologies, taboos, rituals, and attitudes that made their existence compatible with the survival of the ecosystems they depended on, usually enriching them. In modern terminology we would say that their lifestyles were sustainable.

We need a new frame of reference, to put it in more technical terms. If I said "mythology" many

scientifically minded people might protest. James Lovelock suffered stinging attacks from people because he used mythological metaphors. But his concept of Gaia, the Earth as a homeostatic system that regulates itself, is both a strictly scientific interpretation and a mythological way of looking at the world, which is what most people need.

Lutz was also a successful businessman and he set up his own waste management company. His attitude with regard to pollution was to try and co-operate with large companies and change them from within. For many years he fought Riocell, a large cellulose and paper factory in southern Brazil, because of the way it polluted the environment, but he always remained on speaking terms with the factory's director. Eventually, he was hired as a consultant, with dramatic results. Previously, Riocell spent half a million dollars a year burying its (mostly organic) waste in huge pits, which polluted and devastated the environment. Now, the factory hands over its total waste to Lutz's waste management company, where it is processed, turned into fertiliser and other products for organic farming, and sold to a network of organic farmers. The environmental degradation has stopped, the factory saves half a million dollars a year, and 99.6% of the waste is sold. The waste processing involves low technology and thus is labourintensive, supporting fifty full-time jobs. And a park, created on the Riocell factory site, now has a fish pond, reeds and an abundance of birds. It is a thriving ecosystem, wrapped right around the factory.

Lutz died on 14th May 2002. These words from Melissa Holloway, a student of Lutz, profoundly sum up the feelings of all who knew him:

The sadness for us and the world is to lose such a shining soul. I remember the passion, the fire in his voice, the tears as he spoke of Gaia and what we have done to her. I like to think of Lutz as a giant, wise oak tree, who dropped many, many acorns in the fertile minds of those who listened to him. He is now gone, but a whole forest of people touched by his vision and wisdom remain. We now have a responsibility to carry his message forward to the next generation.

O MARK THE tenth anniversary of Tony Blair's leadership of the Labour Party, Anthony Seldon, a political historian, presented a portrait of the Prime Minister on Channel 4. He identified the two big commitments in Blair's life: to his wife, Cherie, and to God. The Prime Minister has a passion for social justice that derives from his Christian faith. He is described as a genuinely religious man who has thought deeply about the responsibilities of a Christian in terms of political leadership.

How, then, does this square with the war in Iraq? It squares because he believes the end justifies the means. And that is a misreading of Christianity. Blair is not alone in making this mistake: many have made it before and will again. And because, sometimes, the end is achieved, people allow the means to slip from their minds.

Jesus opens his ministry with a ringing declaration, taken from the prophet Isaiah:

The spirit of the Lord is on for he has anointed me to bring the good news to the afflicted. He has sent me to proclaim liberty to captives, sight to the blind, to let the oppressed go free, to proclaim a year of favour from the Lord.

That sounds like a political programme. It is not. As the Catholic theologian Hans Kung has written in his book On Being a Christian, "[[esus] does not give the signal to storm the repressive structures, he does not work from either right or left for the fall of government. He waits for God to bring about the cataclysm and proclaims as already decisive the unrestricted, direct world dominion of God himself, to be awaited

TOUCHSTONE: COLIN HODGETTS

SCREWTAPE'S TRIUMPH

Blair and war, means and ends.



ILLUSTRATION: AXEL SCHEFFLER

without violence."

The end does not justify the means, for two reasons. First, the end may not be achieved and one is left with only the means. Secondly, even when the end is achieved, the means remain as part of that end. Case 1: The Intelligence agency tortures the prisoner to elicit information. They get nothing useful. There is only the torture. Case 2: The Intelligence agency tortures the prisoner to get information. They are told of an arms cache. They get the arms, but the torture has not gone away.

The removal of Saddam Hussein from power is not a justification for killing anyone. In fact, going to war in Iraq helps justify the terrorists' use of force. How can you say with a straight face, "My killing is justified because it is for a good Christian end; your killing is not justified because it is to promote Islamic fundamentalism"?

I do not argue against resisting evil actions, but in favour of using moral, not physical force. Gandhi and Martin Luther King are the leaders who most convincingly apply the teachings of Jesus to the social and political spheres. They, like Jesus, do not hesitate to criticise those who wield power ruthlessly. But they do not call for the violent overthrow of such tyrants. Their call is to service and to dialogue, so that there is always the possibility that the tyrant's heart will be touched. Do not resist the evildoer, do good to those who hate you, bless those who curse, pray for those who persecute.

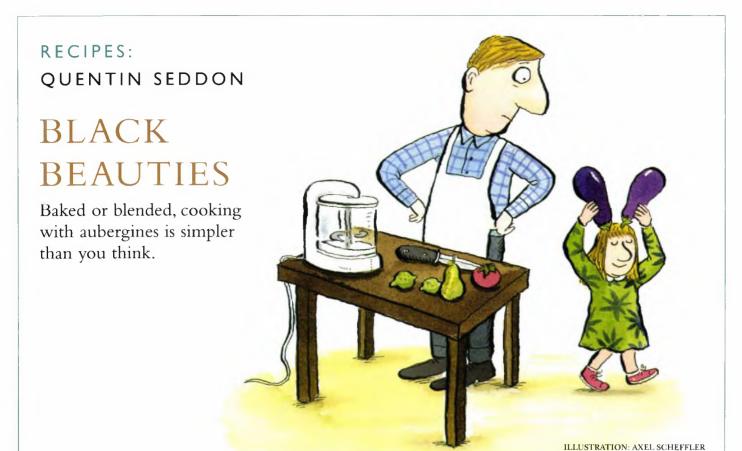
To bring about the transformation of an evil situation we have to take the suffering on ourselves. And we have to use our imaginations. One of the great things about Gandhi was his inventiveness. Who else would have realised that the making of salt from sea water could be such a threat to the British occupiers? We also have to have moral authority. Then we can ask protesters to march, unarmed, on a salt works defended by armed troops. And when these protesters were beaten to the ground. the British, as an American reporter declared, lost all moral authority, just as any moral authority the occupying forces had in Iraq was undermined by the torture of prisoners.

This raises the question, "Is it possible to be a politician and true to the teachings of Christ?" I cannot say that it is totally impossible but it is certainly extremely difficult.

The Gospel requires an unswerving commitment to truth. That does not accord with secrecy. In their resistance to transparency and openness governments show themselves willing to trade in limited truth when it suits them. "I did not tell a lie," claims the politician. No, but neither did you tell the whole truth.

To progress as a politician requires a certain ruthlessness. You cannot get to the top except on the backs of others. Again you claim that the end justifies the means. Maybe it does. But not in terms of Christian values.

Tony Blair may or may not be a good prime minister. Compared with his predecessors he may well be. I am sure he is sincere in religious and spiritual commitment. He is not, however, a good advertisement for Christianity. He is one of Screwtape's triumphs. •



HY ARE aubergines so much more difficult to grow than tomatoes? Start them in a propagator together, and the tomatoes demand to be transplanted long before the aubergines make an appearance. Then, warm as you can keep them through early spring, they nearly always go out to their final sheltered accommodation as poor, weak plants, assaulted by aphids. And that's how they stay until bio-controls like Aphidius and Encarsia arrive by post and start munching.

For us, the seeds of Black Beauty have been the most reliable, though we're still experimenting with different varieties. But somehow most of them struggle through, until they can be brought into the kitchen.

Choose the biggest ones, halve them lengthwise,

then slice diagonally both ways in deep diamond-patterned cuts. Make sure you don't break the skin while doing so. Then put them cut-side down in a fairly hot oven for 25 minutes, with a smear of oil underneath to stop them sticking.

Meanwhile, soften onions and garlic, and chop tomatoes into smallish pieces — one medium onion and three medium tomatoes for each aubergine. Add the tomatoes to the onions for the last five minutes, plus a quantity of chopped basil, and seasoning, including black pepper, brown sugar and a little mustard powder.

Take the aubergines from the oven, turn over carefully on their backs in the same dish, then ease the tomato mix as deep into the cuts as you can. Pile more mix on top, pour on some olive oil, and replace the lot in the oven for 15–20 minutes, or until

well cooked and slightly browned. Delicious as a centrepiece.

The smaller aubergines you can put in a hottish oven until well softened (30 minutes or more, depending on size). Let them cool enough to handle, halve them, scoop the flesh from the skin, and put it in the liquidiser.

Add quartered, cored ripe pears, garlic and lime juice (half a pear, half a lime and one clove of garlic per aubergine), a handful of sweet cicely if you've got it, and seasoning, again including pepper, mustard and sugar. Then whizz the lot, while pouring in olive oil as for a mayonnaise — which is what the final consistency should be like.

This is an excellent dip for eating with raw carrots and celery, or bread and biscuits. And it's a fine sauce with many vegetables: boiled or baked potatoes, beetroot, or mixed with sweetcorn kernels.

Aubergines also make an outstanding chutney. Chop them roughly, with onions, garlic and warm or hot peppers. For each 1 lb of aubergines, add 4 lb onions, two cloves of garlic and peppers to taste — depending how hot they are, and how hot you want the chutney to be. For this amount of vegetables you will also need ½ pt of cider vinegar brought to the boil with $\frac{1}{2}$ lb of brown sugar, 1 oz finely chopped fresh ginger and ½ oz mustard seeds. Add other spices to taste whole cardamoms are good, as are a few seeds of fenugreek.

If you double (say) the quantity of aubergines, double everything else as well. Put all the ingredients into the vinegar mix, and simmer very gently till well cooked — anything up to two hours. Add salt to taste, spoon into hot jars, seal, and store.

THE COLOUR OF CRAFTS:

SANDY BROWN

A WORLD OF THEIR OWN

Lucy Casson's creatures are born of a playful imagination.

THE PHOTOGRAPHS of Lucy Casson's work, clear as they are, do not in fact do it justice. I think it is because there is so much rich detail in her pieces. I saw a touring exhibition of her work in the Burton Art Gallery in Bideford last year and I could not stop smiling. She seems to be permanently in the state of a young playful child: 1 can almost hear her talking out loud to herself, saying "that piece goes there" and "this one goes here.'

She works in metal: bits and pieces, incorporating hammers, cheese graters, tin cans, bus tickets, chocolate papers and soft-drink cans. She is a magpie, finding things that



Creature and plastic ball, mixed media

glitter and sparkle, and she brings them back to her nest and sticks them all together to make things that could be figures, or birds, or a cross between the two.

Her work often represents crea-

tures, with long long noses, who occasionally have blue stand-up hair and wear clothes made of sardine cans. They might be going on a fishing expedition, taking nets and rods; or they might be cooking, wearing flippers on their feet and corrugated cardboard trousers. Sometimes there are several creatures together, having a dinner party, say, in which one or two of them will have slipped to the floor in an over-indulged stupor. With their colourful hair and feet, and their red stripy tin-can shirts, it is hard to take them seriously.

The delight and imagination and fun they express are endearing, and it is a liberating form of creativity in which the observer's own imagination is sparked into thinking, "Well, if Lucy does this, then I could do that."

Collecting and looking for interesting materials are part of the enjoyment, and Casson relishes the search for pleasing colours in the discarded metal. She uses as few tools as possible, to keep it simple, and likes to work low-tech, spontaneously, improvising as she goes.

She obviously looks around her life as she goes about, noticing people, and draws on everyday scenes which she then populates with her creatures. Sometimes parts of stories she has heard creep into the work, or her imagination can be sparked by hearing tales of explorers in faraway lands walking across totally new landscapes collecting things. More recently, for example, she made a piece called Inspiration which was triggered by a visit to a London garden that had been started in the seventeenth century by collectors of seeds from all over the world. "I loved the condition of discovery and these discoveries growing into plants in the garden. These creatures I make are the essence of people collecting, inquisitive and determined." That sounds a bit like Casson herself.

She lives the life of a contemporary craftsperson, exhibiting around the world, working with schools and community groups, giving talks, making things, selling things. It is



Creature and potato cutter, mixed media

clear that she has the ability to manage this lifestyle, and to protect her creativity and her child-like ability to start somewhere and go off until she arrives somewhere else. You can't do that if you're under pressure or stressed or stuck. You can only do it if you are genuinely feeling as free as the work is. Protecting that creative state is in itself almost as much of an achievement in our modern world as doing the work in the first place. •

Lucy Casson's work can be seen at the Rebecca Hossack Gallery, 35 Windmill Street, London W1T 2JS. Tel: +44 (0)207 436 4899. <www.r-h-g.co.uk>

A SENSE OF PLACE:

PETER ALFRED
PLEASE

THE POTATO HARVEST

Joining the gang of farm workers.

ATT SAID THAT they were picking potatoes every afternoon this week and he said it without a burden attached, without any guilt if I didn't come. I knew that the farm's livelihood depended upon it most of last year's crop had become waterlogged and had gone to the pigs - so I hesitated, thoughts fencing with each other, but I had to go. They needed me. I walked the long way round by Goose and Waterside meadows and sat on the stone I had placed on the banks of the old canal. There I idled, happy to be in silence. I appreciated the subtle autumnal lights, cool and glowing, picking out the red sheen of hawthorns, the inky lights in elder, chequered lights in sloes. A family group of cattle gazed at me sitting on the stone - and doing absolutely nothing - and I gazed back at them voicing to myself that I liked this place of animals, a still point to this day.

Then I appeared in the field—this side of the batch, the spoil heaps of a coal mine—and walked towards the workers, a washing line of figures arranged to my left and right, some kneeling with yellow buckets, others crouching over hessian sacks, or just standing still and blending with the blacks and greys

and broken whites of the ground. I didn't want to talk. I wanted the anonymity, to be part of this potatopicking gang this afternoon. Straight in with my bucket and bending over a bar that wasn't there, and reaching full-span with my arms, letting the fingers do the thinking. I rejected green ones, those with holes that you cannot see the end of ("I like that," said Matt, showing the span of his smile. "It's so uncomplicated"), or sliced ones if they were thin. I knew what to do and I enjoyed the stretching, the gentle repetition of plucking sackgold tubers, cool and buoyant as if pressure-filled with water. Some had rosy eyes or strange protuberances: in they went without ceremony, gold for the farm at £1.80 a kilo.

I preferred to work uphill, standing better against gravity and still keeping my own company. It was all right to stay silent, sharing the dumbness of the clods, dry and warm to touch. I understood the word 'clodhopper' — hard lumps almost without smell — yet the potatoes were moist and smelled of pink-cut mushrooms. Down came the tractor to lift another row, trailing a wave of dust, machining our ears with rumbles and rattledoom and wails disturbingly human, and all the time spewing another wave

of clods, hopping and leaping off the edge with potatoes. This I stared at, caught by the sudden animation. I welcomed the distraction, the excuse to stand upright. Sometimes my fingers recoiled from what appeared to be a rotten plum, wrinkled on the outside and suppurating inside; usually it was attached to the grey, fly-blown haulms, often side by side with robust potatoes. This was a seed potato, grimly hanging in there, its work done.

The reappearance of Matt and the tractor buried these thoughts. I sighed with relief and walked up the field tidying up the sacks, and sensing the stretch across my lower back. I had to place each foot as if I were learning to walk again. The last picture is of unloading the potatoes into the barn, wired and slatted to keep out birds and rats. Straw bales marked off three sections to separate the varieties, Milver, Sante, Cara and Remarka, the latter with a fine waxy flesh growing sweeter as it ages. Amelia with her bare feet enjoyed treading the potatoes into their strongholds. Matt, careful with his words, said he liked the way they knocked together before settling. We left them beneath their duvet of sackcloth, sunset seeds behind the bolted doors, once more returning them to darkness. •

Sense of place is not just something that people know and feel; it is something people do.

ALBERT CAMUS

LETTERS TO THE EDITORS

ENGENDERING CHANGE

Dear Editors

THANK YOU FOR your positive review of the book of sacred texts, God Makes the Rivers to Flow (Resurgence 222). In her final paragraph of this review, Marian van Eyk McCain warns readers of the paucity of gender neutral and feminine texts.

Meditators need to be tolerant of metaphors for divinity and gender usage from the past. I would not like to be prevented from enjoying and using the Bhagavad Gita, the Vedas, the Dhammapada, or the Psalms merely because of references to male pronouns. Would anyone?

In fact, Eknath Easwaran made new translations of many passages to make them more neutral for this last edition, and he changed many of the masculine singulars to neutral plurals.

Yours sincerely Margaret Purrett Voorschoten. The Netherlands

CARBON TRADING ALARM

Dear Editors

I WAS EXTREMELY concerned to read Antony Turner's article 'Healing the Air' in the May/June issue of Resurgence.

I am sure carbon/pollutant labels on travel tickets, household goods, etc. would help consumers choose wisely and the growth in sales of Fair Trade goods shows that many consumers are willing to change spending patterns when informed of good reason to do so. I am all in favour of this suggestion.

Turner also suggests a 'carbon currency' whereby individuals receive a carbon allocation. This also at first seems like a good idea, but alarm bells ring when Turner also suggests that such allocation — or quota — become a tradeable commodity.

Any tradeable commodity whether it be carbon quota, farm produce or monetary currency — guarantees profits for non-producers. Investors will accumulate carbon quota and rent/lease it out annually both to ensure excellent returns on their investment and to maintain ownership and control of it. And what an opportunity for the middle-men! If you need

extra quota, your friendly quota broker will help out at market price plus, of course, commission.

Turner says, "there will be plenty of people in the Third World who would be happy to sell their allocations at the market rate." Alarm bells are deafening. What a certain way to ensure the ongoing poverty of Third World producers who will find themselves in hock to first world carbon quota holders.

Carbon currency — what a fantastic way to allow control over a new means of production to slip into ever fewer hands and concentrate political and economic power yet further!

I do hope Antony Turner will think more on this and do all he can in future to protest strongly against any moves to turn any energy quotas into market commodities.

Yours sincerely Rosemary Middleton Lostwithiel, UK

WHEAT INTOLERANCE

Dear Editors

ONE OF OUR customers just gave us your article 'Kneading Time' (Resurgence 221). It was brilliant!

We started True Loaf Bakery three years ago in Lincolnshire. We mill all our own stoneground organic flour in a traditional tower windmill and we bake a range of fifteen organic breads which we sell in our shop and tearooms, and in local farmers' markets.

We also prove and certainly use bulk long fermentation methods and coax people to try our organic loaves, especially spelt (an old variety of wheat) bread if they suffer from wheat intolerance. It works: they do not suffer from indigestion and can at long last eat bread again — at least real bread!

Yours sincerely Marie-Christine and Mervin Austin True Loaf Bakery Lincolnshire, UK

CULTURE OF CARE

Dear Editors

NO-ONE COULD reasonably object to people who are suffering anguish and despair receiving support and comfort. But Charles Montagu 's article 'Mind Matters' (Resurgence 224) extolling the virtues of hypnotherapy cannot go unchallenged. There is now a vast literature amassed over several decades critical of the place of individual therapy in capitalist societies (see Dr Richard House's book Therapy Beyond Modernity, 2003, Karnac).

All cultures create healing professionals to repair the damage done within those cultures, for the purpose of maintaining the values and vision of reality of that culture. Capitalism is no exception. Notions such as the 'mind', subconscious or otherwise, contained within a separate self-determining individual, lie at the heart of both therapy and a ruthless capitalism, leaving people alienated and demoralised; or, to use Dr Cushman's term, with an 'empty self' free to fill its emptiness through futile and damaging consumerist behaviour.

I always thought that Resurgence represented alternative values, of the sort conveyed in such words as 'holistic', 'local', 'ecological' and 'community' (which at least was the basis of Mary-Jayne Rust's article on the same topic in the same issue). It seems to me that a culture representing the Resurgence vision of reality would be less concerned with therapy than with creating a culture of care where the need for individual therapy of any persuasion became unnecessary.

I have no doubt there are people who believe they have enjoyed benefit from therapy. That is its genius (as also occurs in marketing and public relations with which it is historically closely aligned): to persuade people who are disadvantaged that they have overcome a difficulty while maintaining the structures of harm.

There are times when an idea outlives its usefulness; when it becomes so distorted and corrupting that it ceases to have any value. I believe this to be the case with psychological therapies. The clinical psychologist Dr David Small once said of people drawn to or referred to therapy, "They are less people with whom anything is wrong than people who have suffered wrong." A culture of care and social justice for all is the only true remedy for that.

Yours sincerely Chris Willoughby Herts, UK



PHOTOGRAPH: ANNABEL ELSTON

ART AFTER DEATH

Dear Editors

I ENJOYED READING Larry Dossey's article on immortality (Resurgence 224), but was disappointed not to find anything about Ken Evans in the text of the article. It was the presence of his pictures used to illustrate the article that led me to read the article in the first place, and it felt like something was missing when there was no explanation or reference to his work in the text. Ken Evans' pictures and text in his book An Artist's Life After Death are like the chicken and the egg: you can have one without the other but your understanding is much increased when you meet both together! And as Ken Evans dictated his book to his wife after his death, it seems to me to be a good illustration of the idea of "local mind", as explained in the piece, and therefore worthy of mention. Perhaps we can look forward to a whole article on his work in a forthcoming issue? I hope so.

Yours sincerely M. Freake Ilford, UK

ESSAY COMPETITION

PLEASE VISIT OUR website www.resurgence.org to read last year's award-winning essays in the Resurgence and Scientific and Medical Network Essay Competition ('Evolution and the Human Spirit').

Entries are invited for this year's competition on the theme: 'Consciousness and Spirituality: widening the scientific perspective'. First Prize £1,000. Second/Third Prizes £250 each. Closing date: 31st December 2004. For further details write to: Resurgence, Ford House, Hartland, Bideford, Devon EX39 6EE, or visit <www.resurgence.org>.

THE BEST OF THE REST

AS A BI-MONTHLY magazine, we never have enough room in our printed pages to include all the excellent material that has been researched or commissioned by the editorial team. Therefore, we have decided to include a page on our website called 'Editors' Selection' where we publish the 'best of the rest': articles that for reasons of space didn't appear in the magazine.

Visit: <www.resurgence.org> and follow the link.

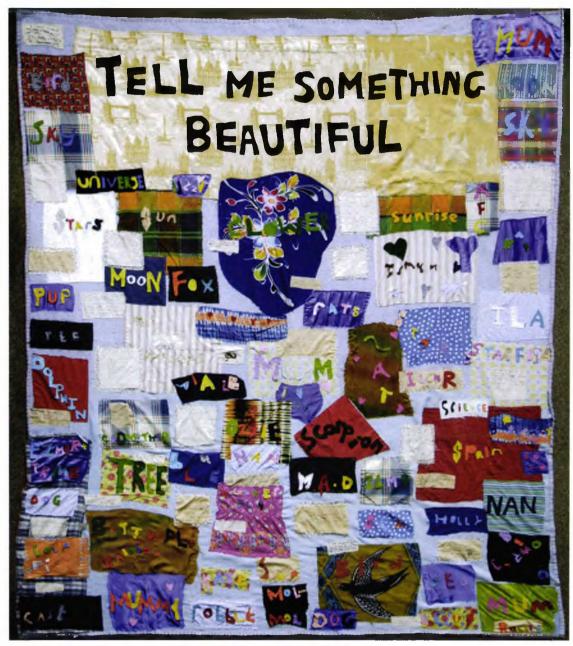
APOLOGY

Contact details for Miche Fabre Lewin's Kitchen Ritual were omitted from her article ('Cosmic Kitchen', *Resurgence* 225). We apologise for this. Her telephone numbers are: +44 (0)1865 511 058 and +44 (0)773 404 9407.

The Editors welcome letters from readers commenting on articles published in *Resurgence*. For reasons of space and clarity, letters may be edited.

Send your letters to:
The Editors, Resurgence, Ford
House, Hartland, Bideford,
Devon, EX39 6EE.
Fax: + 44 (0) 1237 441203.
Email:
<editorial@resurgence.org>

BOOK REVIEWS



Quilt by Tracy Emin and the children of Ecclesbourne School, London PHOTOGRAPH: SEAN SMITH/THE GUARDIAN

JOINING HEADS, HANDS, HEARTS AND PLACES

Caroline Walker discusses educational experiments that are reconnecting students with their environment.

> Place-Based Education: Connecting Classrooms and Communities David Sobel

Nature Literacy Series No.4, The Orion Society, USA, 2004, \$US10.00

RAVELLING IN NEPAL many years ago, I used to get irritated when curious locals crowded around me as I tried to get a photograph of the Himalayan peaks. An older, wiser traveller gently reminded me, "The people are part of the landscape."

This inspiring book describes a flowering of initiatives across the United States which link school reform and educational innovation with community regeneration, using the environment as the integrating context: grounding children and young people in the places in which they live, allowing them truly to see themselves as part of the landscape.

These 'place-based' education programmes can be found from Maine to New Mexico; and, as Sobel points out, just like Darwin's Galapagos finches each programme has evolved in its own locally distinctive and well-adapted way. Not content to stand and watch as "educational biodiversity falls prey to the bulldozers of standardization" the educators in this book develop learning opportunities that benefit their students, the community and the environment.

The book gives us examples of young people learning profound lessons about the places they inhabit: they engage in real-life problemsolving and 'act back' on the system to make genuine and beneficial changes.

An example: high concentrations of lead were found in an Alabama school's drinking water, and then in the local town's water supply. Students investigated, first as a chemistry project; this became a neurophysiology study into the connections between lead and learning difficulties; this then led the students to engage with local politics, economics and social issues. They interacted with health officials, engineers, local scientists and decision-makers. Result: the town got a new water system and the health of the community improved.

There is plenty of evidence that such meaningful educational experiences improve students' motivation, behaviour, attendance and test scores. David Sobel shows convincingly how school reform along these 'place-based' lines can be intimately connected with community regeneration in its widest sense.

THE EDUCATION SYSTEM in the UK faces many challenges as to its

relevance, sustainability and ability to provide a good start in life for the many, rather than the few. Educationists struggle with issues of disaffection, poor achievement, and curriculum change, and as a society we confront enormous environmental, economic and social problems. Further, a growing gap exists between rural and urban communities. The future holds many uncertainties, and this is true for rural areas in the United States also. The questions we need to be asking, the author suggests, are these: "How will we sustain our rural quality of life and develop a viable economy that will assure healthy communities for the twenty-first century?" and, even more interestingly, "How can school reform become a catalyst to revitalise our rural economies?"

In Cumbria a group of concerned citizens is asking just that question in the face of a local authority attempt to close a village school. They have a vision of a community co-operative running the school and also supporting a variety of social enterprises to bring prosperity to the area. I know from my own experience that a school can support the local economy by using locally produced goods and services, can contribute to social life by bringing in good quality cultural and educational resources, and can improve the local environment by undertaking conservation and restoration projects.

The book takes these concepts to another level by explaining how various inspirational education reform programmes across the United States have supported teachers in fully integrating such projects and policies into the curriculum development of the school. And yet another dimension emerges: in our individualistic, materialist culture, schooling is seen as a way for an individual to better him- or herself, get good grades, get a 'good' job and increase lifetime earnings. This needs challenging. If we agree with David Orr that lifetime earnings are only "a crude but useful measure of the amount of carbon successfully transferred by the scholar from the earth's crust to the atmosphere" then we might also add that the individualistic emphasis makes most schools the enemy of the environment as well.

Education is seen as a 'ticket out' of deprived, especially rural, communities. It should be seen as a tool for creating social capital. The book

describes many projects that enable students to be a "resource to the community". I can give you one such example from Somerset, where an enlightened primary school teacher took her class to the local landfill site to learn about household waste disposal. Fired with enthusiasm, and equipped with good information, they wrote to the local papers, put together an exhibition, and made a presentation to their village to encourage people to use the kerbside recycling service.

With the relaxation in England of the compulsory curriculum for the 14–19 age group, is it too much to hope that enlightened secondary teachers will now be able to put together programmes of learning for students that will, in Sobel's words, "simultaneously enhance economic vitality, environmental quality and school improvement"?

I know there are many groundbreaking initiatives flowering in schools across the US and the UK. I also know that these initiatives flower in spite of rather than because of prevailing educational assumptions. The Human Scale Education (HSE) movement has long campaigned in this country for rethinking schools and for recalibrating the system 'as if children mattered'. It has also called for attention to be given to the needs of communities and the needs of the environment, and argued strongly that educational biodiversity is as essential as natural biodiversity to a healthy system. These words of Paul Krapfel, quoted by Sobel, could easily have come from HSE:

Rather than requiring all teachers to teach environmental education, I would... give teachers the freedom to teach from their hearts and give parents the freedom to choose the teaching approach they want for their children... an education that studies the world right around us is superior to a standardized, generic education.

This book is, in Orr's words, about "a revolution in education that is connecting students to their neighbourhoods, communities, and ecologies. It is about joining heads, hands, hearts and the places in which we might dwell with competent affection."

Caroline Walker is former head teacher of the Small School, Hartland. She now works on rural community regeneration projects in Devon.

CIVILISATION AND THE FORESTS

N WALKING ON WATER Jensen tells stories: about being in nature, about being a student, about teaching writing to young people and to prisoners. He wants to understand what happens in schools and, by extension, what has happened to the way we think. He writes of his experiences in opening up spaces for people to think, feel, be imaginative, be themselves. Which makes the book about much more than writing: writing is the starting point.

Jensen is passionate about the natural world and about all that pertains to life, as opposed to the values of commerce, so by logical consequence he is furious with every aspect and expression of industrial civilisation. He believes the schooling of young people has both direct and indirect impact on maintaining this anti-environmentalism. The direct intentions of schools are to train people within this society, to allocate them an appropriate place on a cog in the wheels of industry, and to perpetuate established values: individualism, the pursuit of power, status and money; and for those who may develop doubts about these goals, there is cynicism, defeatism, 'realism', getwhat-you-can-ism.

Less directly, the majority of schooling undermines the instincts and intuitions of students, as they have to learn to be bored, to regurgitate rather than think, and to ignore their feelings in order to be successful within the values of the school. This kills creativity and self-confidence, and students learn to submit to what the institution says, rather than trust in themselves, while the skills needed for another way of living, for responding honestly and feelingly to problems which arise, which would perhaps enable a true democracy to emerge, remain seeds ungerminated.

Education, or schooling as it is more accurately described, is one of the great disappointments of our civilisation. The more we focus on literacy, numeracy and the ability to 'think', the less capable we are as a society to live in an equitable, healthy (psychologically and physically) and environmentally sustainable way. Where has all this thinking got us if our actions are so often destructive?

Maya Kumar Mitchell

connects the pulping of forests with the failure of schools and a civilisation in crisis.

Walking on Water

Derrick Jensen Chelsea Green, USA, 2004, \$US22.50

Strangely Like War

Derrick Jensen and George Draffan Green Books, UK, 2004, £,9.95

This book is aptly subtitled Reading, Writing and Revolution. What we learn in school, how we learn in general, and what we do with our learning form a huge part of where we are today. Perhaps if we learned to be empowered human beings alive to our feelings, our senses, and what we see around us, then revolting against the chronic injustices and exploitation of people and planet by a tiny elite would become a real possibility.

STRANGELY LIKE WAR is a bleak confirmation of the failure of so-called 'civilisation'. While our schools demonstrate apathy for real thinking and learning, this apathy becomes a terrible negative force when the business interests of multinationals meet the natural world: the majority of those out of power do nothing, those in power have learned not to care, while those carrying out the destruction develop a warrior's brutality.

That deforestation is happening at a drastic rate is already known by most people, while the hows and whys remain a vaguely sketched background. Jensen and Draffan are activists who know the inside story, from hours of research, from fighting for their own local forests in the US, and from listening to stories and gathering information from around the world. Their commitment to telling what they know enables us to block in the whole picture, detail by depressing detail.

A lot of what doesn't add up in the common representation of deforestation is the result of simple illegality. Whether in the US itself, where laws are believed to function, or in a Third World country where no-one

expects the laws to function, what little environmental protection laws exist are utterly flouted. Smuggling, fudging accounts, falsifying papers, assassinating or imprisoning those who attempt to protest against illegal logging — these are all par for the course. Selling trees far below their worth even in terms of timber (thereby doing the public out of its dues) and externalising the costs of logging (thereby ensuring the taxpayer ends up paying to deal with the subsequent crises) are further evidence that there is nothing 'competitive' about this market.

The facts and figures, names of companies and individuals, the legal cases, the corruption and the revolving door between industry and politics are all revealed, and no doubt the authors have many more cases they would like to publish. Nevertheless these sections make for heavy reading, at least for those unfamiliar with the names (for a US audience they may be more accessible), and there is a tendency to glaze over with the sheer quantity of corruption information. Nevertheless, the all-pervasive extent of the corruption remains with the reader.

The atrocities on every level are horrifying. This book leaves no room for naive optimism, and indeed its authors are openly waiting for the fall of industrial civilisation as the only end in sight to such senseless, even economically senseless, destruction.

It is a book to remind us again that none of the claims of industrial civilisation to be democratic, equitable, humanist, just, legal, guided by scientific evidence, or respectful of human rights is remotely defendable. The fact that most of the abuses and violations of people go on in nonindustrialised countries means little when it is the industrialised world perpetuating these crimes.

The powerful elites have got better at only one thing: hiding. There is a web of lies, and beyond that there is flippant disregard for those who seek to expose the lies. Even if we know everything, what will change?

Nothing, in a globalised context. This book gives an accessible analysis of globalisation and presents an overwhelming argument for localisation. The lies mean that you can never be sure wood has been cropped sustain-



Pupils planting trees in the school garden at the Centre for New Education, Andhra Pradesh, India Photograph: Mark Edwards/Still Pictures

ably unless you have seen the place it has come from. Globalisation equals power in the hands of we know not who, we know not where. Localisation means you know, you make the decisons, you suffer the consequences. It also enables people to prevent the devastation of their forests for the need or greed of people in another continent.

Forests are wonderful; our consumption patterns are destroying them. Human beings are wonderful; our schools are crippling their growth. In both books we are called to wake up and respond to what we know is crazy in our world. The authors are clear about the problems, convinced of the value of responding to them, and disarm-

ingly direct in all that they say. •

Derrick Jensen will teach at Schumacher College in November 2004. He is also the author of A Language Older than Words.

Maya Kumar Mitchell is co-editor of the Resurgence Craft Anthology, to be published by Green Books in October 2004.

LURE OF THE WHITE CONTINENT

E ALL HAVE our White South," said Ernest Shackleton. Indeed, this enduring longing to be somewhere truly wild, to experience the harshest nature has to offer, and to do it in the companionship of people you can trust and believe in, is something which tugs — however faintly — at us all. Peter Matthiessen has answered the call more than most, travelling to, campaigning on behalf of and writing about wild creatures as varied as the Siberian tiger and the Himalayan blue sheep in his long and distinguished career.

But it is birds that are his true love, and in his book *End of the Earth* Matthiessen leads two icebreaker expeditions south to the edge of Mark Lynas joins Peter Matthiessen on a shipboard journey to the ends of the Earth.

End of the Earth: Voyages to Antarctica Peter Matthiessen National Geographic Society, US, 2003, US\$26.00

Antarctica in search of the continent's famed bird-life. There is one species more than any other which has really captured Matthiessen's imagination, however, and that is the penguin. As his ship visits penguin

colonies on the Antarctic Peninsula, he delights in the cacophonous noise, the ammonia smells and the sheer sight of hundreds of thousands of breeding Adélie penguins. Although Adélies are the "classic headwaiter penguin in white tie and tails", it is the emperor penguin that really fascinates, and on Matthiessen's second expedition — to the Ross Ice Shelf and McMurdo Sound on the other side of Antarctica — this amazing bird provides one of the highlights of the book.

The search for the emperor penguin inspired one of the classic sagas of Antarctic exploration (Apsley Cherry-Garrard's *The Worst Journey in the World*), a story retold in loving detail by Matthiessen, who is almost

as fascinated by Antarctica's early explorers as he is by its wildlife. Matthiessen's own voyage is of a rather less taxing sort, as the author guiltily admits: "On our comfortable icebreaker, uncomfortably well-fed. lulled and cosseted by our hot showers and never out of sight of a skilled crew ... our Antarctic 'adventure' seems more than a bit spurious."

And since there's little point in trying to compete with the heroics of Scott, Shackleton and Wilson, Matthiessen lets the scenery and the wildlife be the stars of the show. His descriptions are wonderfully evocative, rather like a wildlife documentary film put into words: at one point the evening sun, glimpsed through binoculars over the Southern Ocean from the bow of his ship, "turns a brilliant molten gold, an igneous, unearthly gold, which instead of setting, melts to an oblong ellipse that flows outward along the horizon line like mercury".

The text is suffused with a penetrating ecological insight and commitment. Matthiessen laments the passing of the great whales — a reminder that the wholesale destruction of the natural world has not been confined to recent decades creatures which never recovered from the savage slaughter of the early twentieth century. Some 40,000 whales were being killed every single year by the late 1930s, resulting in population crashes and the virtual destruction of an entire oceanic ecosystem. The lesson is clear: despite the 1986 moratorium on whaling, these amazing animals have never returned in significant numbers. The author relates: "A solitary spout on the grey horizon west of South Georgia was the only one I saw in the open ocean during the thousand-mile voyage from Tierra del Fuego." A sad lesson indeed.

And not only were whales destroyed: in the remote island of South Georgia a population of 110,000 elephant seals was reduced to less than 1,000 by 1880. Once the seals had been wiped out, the humans turned to the penguins. "The birds were herded into pens

and clubbed, then heaped into steam boilers called 'digesters'." As many as 2,000 king penguins were put through the digesters a day, yielding about forty gallons of oil.

In this more enlightened era, direct attacks on Antarctic wildlife have been outlawed. Yet more insidious threats are now emerging: global warming and the ozone hole. Matthiessen relates that rockhopper penguins are now in drastic decline all around the Southern Ocean due to habitat disruption caused by climate change. Summer drift ice is retreating southward, and several ice shelves on the Antarctic Peninsula have collapsed completely in the last ten years. Perhaps Matthiessen's engaging and inspiring book can serve as a wake-up call to those who enjoy the natural world, but who do not yet fully appreciate the scale of the threat it is currently under. •

Mark Lynas is a writer and campaigner on climate change issues, and author of High Tide: News from a Warming World (Flamingo, 2004).



Emperor penguins and chick

PHOTOGRAPH: FRITZ POLKING/STILL PICTURES

CHANGING PERCEPTIONS

EING A SERIES of essays, lectures and other writings, this book contains so many ideas that it is not possible to give more than an indication of their full range. Primarily, it examines some of the strongest beliefs that humanity has developed over the last three or four hundred years concerning science, the nature of human identity, and our relationships with other species. By drawing attention to these beliefs and myths, which are often so embedded in collective thought as to be almost invisible, the author provides us with the chance to become more aware of them and thus to choose whether or not we wish to continue believing in them.

The first myths that Mary Midgley examines concern the idea of inevitable progress and the belief that the word 'scientific' has such power and prestige that it can become a justification for seeing people as machines and for valuing quantity over quality. She goes on to make a case for "scientific pluralism", suggesting that instead of looking to science for one infallible and unified explanation of how things are, we could instead see the world as a huge aquarium, which cannot be taken in all at once, but which can only be observed imperfectly and at different angles by peering in through a series of small windows. She then shows us the view through some of these windows by discussing various theories of human identity, and she reminds us that it is always dangerous to assume that any one of them gives a complete picture.

The book explores the rationalist, Enlightenment view that we are defined chiefly by our will and our intellects, with our bodies and feelings being essentially random and unsatisfactory. This contrasts with the early behaviourist belief that minds and consciousness are unreal and that only observable physical actions are important. The author questions the beliefs that we are either the passive products of our social, economic, political and cultural contexts or alternatively of our genes, and then she reminds us that the idea of a free and independent individual has often been thought to apply to only half the population,



Coiled snake, wall decoration Photograph: Henning Christophystill pictures

James Sainsbury reassesses the role of symbolism and collective beliefs.

The Myths We Live By
Mary Midgley
Routledge, UK, 2004, £10.99

namely men. She memorably elaborates on these points when she recalls seeing a mug inscribed with a remark attributed to Margaret Mead: "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it is the only thing that ever does." She suggests playfully but seriously that the mug is badly at odds with current thinking, which suggests instead that much broader impersonal forces determine history. She forcefully reminds us that we can always choose our own beliefs and that by rejecting existing myths we can help to bring about real change.

One myth which the author clearly rejects concerns the subject of bio-engineering, which she regards as resting on bad genetics and dubious evolutionary biology and as not having been shown by biology to be necessary. It is, she writes, "a powerful myth expressing a determination to put ourselves in a relation of control to the non-human world around us, to be in the driving seat at all costs rather than attending to that world and trying to understand how it works."

The final part of the book, which concerns our attitudes to other animals and to the Earth as a whole, is arguably the most significant and contains, as do the other chapters, a great deal of historical perspective. The author points out that Darwin's offence in the eyes of many of his contemporaries was not so much to have made an attack on God as to have attacked the dignity of man, by openly proposing "to break down the fence that shut off our own species from other creatures". She also writes about human fear of our own "animal nature" and about the way in which certain animals, for example pigs, rats and of course snakes, have long

been seen as being the very embodiment of particular vices. She suggests that it has often been considered more "scientific" to view other animals with an attitude of disgust and contempt than with affection and respect, but she points to the work of Jane Goodall as having transformed attitudes to the great apes. The author explains how we have always made up stories about other animals, wrapped them in symbolism and divided them into groups for those purposes either as vermin, species from distant parts of the world, domesticated animals or prey species, to whom we have often accorded particular respect. She writes of the immense self-confidence of Western culture over the past several centuries and of the recent beginnings of change and doubt.

Midgley suggests that we could do well to enrich our thinking about the social contract between government and society to include the rights of future generations and of all of nature. She ends by stating that we need to get rid of the idea that natural things have no value in themselves, to jettison our exploitative attitude towards nature, and to admit explicitly that in our relationship with nature we have got it wrong. Finally, in keeping with her insistence on the importance of symbolism and myth, she is adamant that this admission must not just be spoken but also spelt out in action and moreover in action "with a strong symbolism that bears on the offences that have been central to our crimes".

James Sainsbury is Associate Editor of Resurgence.

THE DOCTRINE OF CREATION

♦ HE TREE OF LIFE may surprise those who know H. J. Massingham only as a topographer and rural commentator. In contrast to his stylistically embellished, loosely structured essays on village life and the natural world, it is spare and concentrated, maintaining a clear line of argument as it examines the way that attitudes to nature have changed in Western Europe since the time of the Roman Empire.

Although the term natural theology' may sound outmoded, Massingham maintains that only a rediscovery of the natural theology found in the Christian tradition can recall our civilisation from its destructive path. The loss of a sense of God's presence in nature has resulted in the exploitation and rape of the Earth by commercial forces concerned only that it should yield them profit.

It is interesting to compare Massingham's thesis with that of the oft-quoted 1967 essay by the historian of science Lynn White Ir., who blamed the Judaeo-Christian tradition's attitude to nature for the gathering ecological crisis. Certainly White could point today

to the USA's so-called 'religious right', whose influence on the environmentally irresponsible practices of George W. Bush's government stems from the belief that nature is an enemy to be conquered.

While Massingham is well aware of, and strongly opposed to, the puritan strain in Christian thought, he demonstrates that there exists a more deeply rooted tradition in praise for the blessings of Creation. White ended his essay by proposing St Francis of Assisi as the patron saint of ecology; Massingham might well have agreed, although he says in The Tree of Life that a puritan would regard St Francis's celebration of nature as tantamount to paganism.

Massingham opens with a study of 'The Rural Christ', focusing on the divine craftsman whose parables celebrated the eternal, elemental sim-



Tree of Death and Life, medieval miniature by Berthold Furtmeyer

Philip Conford welcomes the reissue of a study in natural philosophy.

> The Tree of Life H. J. Massingham Jon Carpenter, UK, 2003, £,13.99

plicities in which all peaceful and creative life must be rooted. A similar closeness to the natural world was found in the Celtic Church, for which Massingham evinces deep affection. He is more ambivalent about the medieval period: a puritanical strain was evident in the Roman Church, but the achievements of Cistercianism, the vision of the nature mystics and the doctrine of Natural Law all helped to keep alive a reverence for the land.

The early seventeenth century provided, in Massingham's view, a poignant moment of cultural balance. He discusses the Metaphysical poets, who explored the relationship between God, nature and humanity, and shows how Shakespeare's tragedies locate the source of evil not in nature but in the provision of human free will.

Soon, though, the philosophies of Descartes and Hobbes took effect, sundering the spiritual from the material and conceiving nature as abstract and malign. The Romantics were powerless to reverse the decline of the peasantry or prevent the consequent industrial slavery; the Church, with a few brave exceptions, implicitly blessed an ideology whose values were diametrically opposed to its founder's teachings.

For Massingham, the Church's decline is indissolubly linked to its loss of concern for the natural world and its failure to challenge the economic system. It needs to rediscover its own "doctrine of Creation", a belief in both the goodness of, and the limits posed by, the God-given natural order. Massingham discerned theological implications in the writings of the organic movement's pioneers, believing that their scientific work demonstrated how respectful treatment of nature could enable humanity to survive and live more fully.

Despite some powerful apocalyptic passages, The Tree of Life ends on a note of hope, while the fact that its message has largely been ignored makes it no less relevant now

than it was sixty years ago. Frances Hutchinson proves the latter point in her forceful introduction, which is in effect a sermon on the text "Ye cannot serve God and Mammon."

Jon Carpenter must be congratulated on reissuing this rare text: it is the key to Massingham's later work and a major study of what the Christian spiritual tradition can offer to an environmentalist philosophy of nature.

Philip Conford is the author of The Origins of the Organic Movement (Floris Books, 2001).

Books reviewed in Resurgence are available from Schumacher Book Service/Greenspirit Books. Tel: + 44 (0) 1985 215679. Email: <alan@gsbooks.org.uk> <www.greenspirit.org.uk/books>

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BOOKS IN BRIEF

PATHWAYS TO CHILD FRIENDLY SCHOOLS

Fiona Carnie Human Scale Education, UK, 2004, £,7.50

If, as a parent, you are unhappy with your child's school and you feel that many things could be improved, but you are not sure exactly how to pinpoint the problems, what suggestions to make for specific improvements, or what are your channels for getting your voice heard, this is required reading for you.

Carnie believes that every school should strive to become optimally "child-friendly" and "parent-friendly". Each of these aspects has a separate section in her book, with chapters that define what these friendliness qualities are and precisely how they may be achieved. It is also essential that schools provide ample opportunities for parental involvement. and there are two sections dealing with that.

Scattered throughout the text are excellent examples of best practice, contributed by schools in various parts of the UK, plus two from abroad. A useful book.

LET THE CHILDREN SING

Leonora Langley The Book Guild Ltd., UK, 2004, £,16.95

Though I found her opening section on parenting a tad platitudinous ("A boy needs a father"), I soon got used to Langley's didactic delivery. It helped, of course, that I agreed with all her pronouncements.

By the time I reached the heart of her book which is about the need for a school curriculum rich with music, art, drama, dance, etc. - I finally understood why she writes like this. For there is immense passion behind her longing, which I share, that our world's children should be treated as the precious beings they are and given the very best we can give. As she says, why not make counselling skills training and a year of psychotherapy mandatory for student teachers?

The book is a counsel of perfection, but the author's fierce caring makes her prescriptive writing style strangely endearing.

DAMAGE LIMITATION

Roland Meighan Educational Heretics Press, UK, 2004, £10.00

When people mutter about the state of the British education system. it is usually in the same tones of disgruntled resignation that they use for grumbling about the weather.

Not so the authors of this book. I have not heard such forthright statements about the evils of state schooling since I sat at the feet of Ivan Illich and John Holt in the 1970s.

Those worthies are quoted here, of course, along with Bertrand Russell ("education has become one of the chief obstacles to intelligence and freedom of thought"), Mark Twain ("I have never allowed schooling to interfere with my education"), and many others.

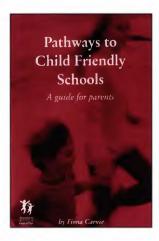
But for parents unable to opt for home schooling or other alternatives, this book — like its irreverent ancestor, The Little Red Schoolbook — offers ideas for ensuring that children survive their schooldays with minimal damage.

A PARLIAMENT OF **SCIENCE**

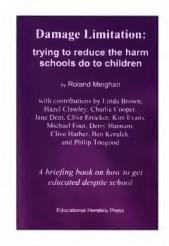
Michael Tobias, Teun Timmers & Gill Wright (eds.) State Univ. of New York Press USA, 2004, £13.50 In 1999, 6,000 scientists. of all stripes, from 150 countries, met in two "end of the century summits" — the largest gatherings of scientists ever held. Issues such as sustainability, ethics, ecological crisis and the social responsibility of science were high on the agenda.

This book is an hors d'oeuvre of edited interviews on these topics with eighteen of the participants, each from a different discipline but all in influential positions.

As in those TV shows where, just as you start getting deeply into a topic, they call "time' there was so much more I wanted to ask these people, especially ethologist Frans de Waal, who studies primates' peacemaking behaviour. For me, the best sentence in the book was ethicist Margaret Somerville's beautifully humble "We have to balance our knowing with a recognition of our deep unknowing."









MARIAN VAN EYK McCAIN

WILD LAW

Cormac Cullinan Green Books, UK, in association with Gaia Books, UK, 2004, £,9.95

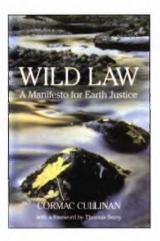
As a young, anti-apartheid activist in South Africa, Cullinan witnessed the death struggles of white supremacy and the attitudinal shift that millions were forced to make once the "white mist" had cleared.

He reports a similar feeling now, as the ruling paradigm of anthropocentrism begins to crumble. But how can we change the infrastructure that supports outdated thinking? And to what?

When in doubt, read the book of Nature, says Cullinan. He advocates a system of governance based on Earth Jurisprudence, honouring wildness, creativity and chaos as well as order and conformity.

It's a breathtaking vision. But if we begin in small ways - for example, by acknowledging the rights of indigenous people to their ancestral lands and the rights of salmon to their spawning grounds — then piece by piece we'll shift the paradigm.

An inspiring book by a gifted writer.



Deception OVERNMENT LIES BOUT THE SAFETY

SEEDS OF DECEPTION

Jeffrey M. Smith Green Books, UK, 2004, £,9.95

As we know, the blind eye turned by governments to a lack of proven safety in genetically modified (GM) food has enabled the biotechnology industry to use whole populations as unwitting guinea pigs. In the US, where there is still no legal requirement that GM food be labelled as such, the experiment continues.

Jeffrey Smith's meticulously researched exposé, which - as Michael Meacher says in his Foreword — "positively fizzes with the human drama of the cabals and conspiracies behind the scenes", may give pause to those Americans still unconcerned about what they may be eating.

Smith has the knack of explaining the technical details in terms that lay people can understand. With this understanding, it is easy to see the various ways in which the technology can go wrong, and in at least one case already has, with fatal consequences.

SOLD OUT

William Young Vision Paperbacks, UK, 2004, £.10.99

Whenever I see the crowded car parks around supermarkets, and I think about what this style of shopping has done to our local economies, our High Street shops, our small farmers, I find myself wondering why so many people don't join up the dots.

If it is because they don't understand all the connections, this book could set them straight. It could tell them - admittedly in a somewhat dry style - exactly how their shopping habits contribute to many of our current economic, social and environmental problems.

It would also reveal to them the shockingly shabby ways in which supermarkets commonly treat their suppliers. It would explain the true cost of the food in their trolleys and the sleight-ofhand methods used to fool them into thinking that they are getting bargains. Unfortunately, they probably won't read it.

LIVING WITH THE **FLUID GENOME**

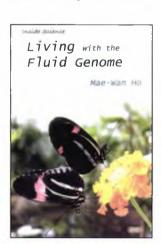
Mae-Wan Ho Institute of Science in Society, UK, & Third World Network, Malaysia, 2004, £,7.99 Genetic determinism rules. Textbooks still teach it; spokespeople for the biotech industry continue to parrot it. It is the notion that there is a simple, one-to-one correspondence between genes and outcomes. But it's wrong. Genes are more like letters of the alphabet plus all the rules of grammar. Even that is a gross over-simplification of a fantastically complex, fluid process. Furthermore, the Darwinian concept of mutations as purely random occurrences has now been proved false by evidence that in some circumstances genes mutate in response to environmen-

As usual, Mae-Wan Ho supports her arguments with dispassionate, scientific explanations.

tal conditions.

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Mariam Van Eyk McCain is an author and freelance writer.



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RESURGENCE ASSOCIATION

A number of readers of Resurgence are trying to co-ordinate Resurgence groups. People holding initial gatherings:

Jan Copely, Somerset /Devon border area, on Friday 29th October; for details tel. 01823 672880. Elaine Brook; Welsh borders, on Thursday November 4th; for details tel. 01981 550246.

These gatherings will include introductions, meditation, discussion and a shared meal.

SATISH KUMAR

will be speaking at the Poole Word & Book Festival on Tuesday 5th October at Poole Central library (Dolphin Centre) at 7.30pm. Tickets are £4 (available from The Lighthouse 01202 685222) or pay on the door.

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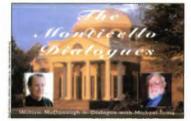
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Jane Goodall on a recent visit to the College.

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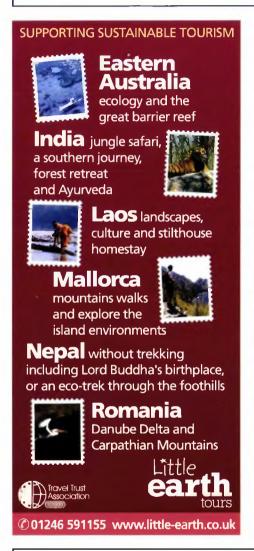
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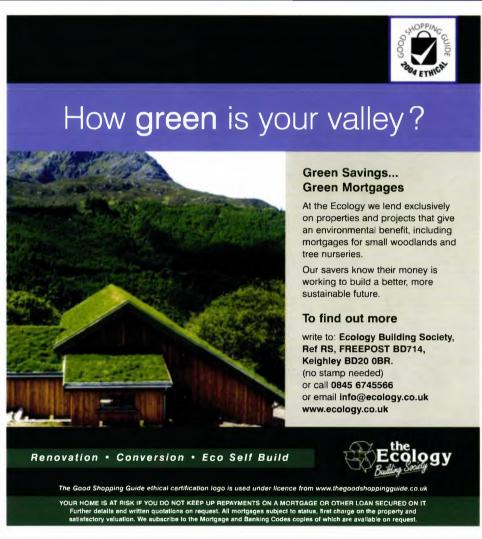
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