FOOTPRINTS OF THE **FUTURE**

RICHARD NEVILLE'S HANDBOOK FOR THE THIRD MILLENNIUM







the future can no longer be taken for granted.

it needs rescued.

The sea level is rising 10 times faster today than it did 50 years ago.

By 2020, carbon dioxide emissions are expected to rise by 33 per cent in rich countries and 100 per cent in the rest of the world.

In the last 100 years we have used 50% of the world's oil.

75% OF ALL STATISTICS ARE IGNORED.

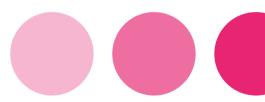


A quarter of all mammals (1,130 species) are threatened with extinction ... and a website.

Across the globe on land and sea, epidemics are striking down wildlife.

What the future holds for us depends on what we hold for the future.

As well as an ecological policy, we need to create an ecological self.



The deeper goal of business is the common good.

4 footprints

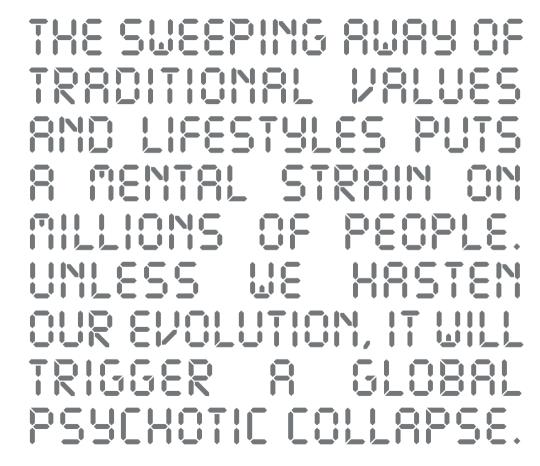
More original information will be created in the next two years than all the facts in all the books.



As the pace of change quickens, time shrinks, forcing us to extend our capacities.

We live in a perpetual state of emergency.

As the pace of life accelerates, we need to see further down the road of the future.



After Agriculture, Industry and Knowledge, the next revolution is Sustainability. By 2010, fish farming will overtake cattle ranching. Plants bloom earlier in spring and autumn comes later. Butterflies & mosquitoes fly further afield. Exxon Mobil continues to deny Global Warming.

DISAPPEARING: childhood, time, certainty, fresh water, loyalty to institutions, distance, privacy, secrets, jobs for life... If who we are is based on what we do & what we do keeps changing, then...

who are we?

We are all temps.

Strange that 50% of new inventions come from individuals outside the field. The more stuff we acquire to save time – the laptop, the mobile, the palm top – the more our time is annihilated. **Down trends:** Glorification of selfishness, the manicured lawn, packaged tours, an eye-for-an-eye, heaven uptop. **Up trends:** Feminisation of leadership, childlessness, Chinese & Indian backpackers, planetary consciousness, heaven within.

The future is not at the end of a trend-line.





What if Socrates had been in a hurry? Would his name be known today?

The array of technological knowledge at our disposal today represents about 1% of the knowledge that will be available in 50 years.

50 years ago we could identify two galaxies. Since then we've found two billion galaxies and 24 solar systems. Siemens is among the top ten electro-engineering companies in the world. 75% of its revenues come from products that are less than 5 years old.

This percentage is rising.

In organisations, power is shifting away from those who possess title, status and financial clout, toward those who share new knowledge and creativity.

Third and fourth careers will become so common that they will no longer be preceded by a mid-life crisis.

For some Japanese companies, the amount of time allowed from the birth of a new product to the introduction of its replacement is four months.

The rise of religious fundamentalism is matched by the rise of *spiritual customisation:* a dash of Hindu (yoga), a touch of Halloween, Ave Maria at Xmas, Qawwali on the Discman, the Dalai Lama on the dashboard.

Creativity is an emerging interface between commerce and art.

Uncertainty inspires collaboration, which is the catalyst of creativity.

The fastest growing sectors of the global economy are the creative industries. Entertainment is a bigger money spinner than defence.

The economic goal of work will need to be balanced with the promotion of human potential.

Masses of data from science and engineering can now be expressed in 3-D images, freeing us to think in a new way. In this immersive, mathematical world, our wildest imaginings can be brought to life on a screen and in the laboratory.



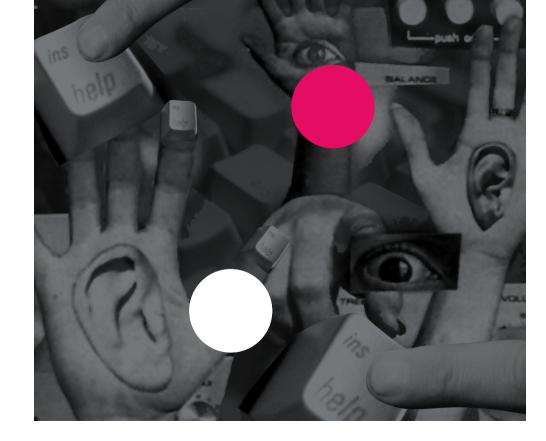
MILLENNIAL SKILLS (II) ADAPTABILITY, CREATIVITY, FORESIGHT, THE SAVOURING OF PARADOX

As information expands our attention span contracts. **Pop culture** seems to be dumbing down. Yet IQs are increasing.

THE MORE CONNECTED WE ARE ELECTRONICALLY, THE MORE DISCONNECTED WE ARE IN REAL LIFE.

We touch our keyboards more than we touch each other. The West reveres the individual, the East seeks consensus. The culture of me, me, me ... against the tradition of we, we, we. As we upgrade our lifestyle, so we downgrade the eco-system.





The citizens of the world's richest economy suffer the world's highest rates of clinical depression.

The world inches towards sanity, as it hovers on the brink of breakdown

The more triumphant the march of globalisation, the more it kicks up its own backlash.

The globalisation of commerce (fast food, CNN) is exceeding the globalisation of consciousness (World Court, Kyoto, arms reductions).

In kindergarten we're taught to co-operate. In business school we're taught to rip out each other's hearts. Children need to be seen and known, rather than scheduled or psychologised. But who connects to the core selves of our children: mothers, fathers or the enveloping world of junk culture?



Vanishing Boundaries (1) childhood & adulthood left wing & right wing East & West wholesale & retail.

The disappearance of time means that the shelf life of management knowledge is down to a year, and shrinking. The impact of globalisation is not only on the globe we inhabit, it is on the globe between our ears. If you're not a bit schizophrenic, you don't know what's going on.

You can't cost-cut your way to a sustainable future.

We are caught between our trust in technology, and our trust in nature.



MILLENNIAL SKILLS (2) GROUP EMPATHY, DECIPHERING PATTERNS BENEATH THE BLUR, FUNCTIONING WITHOUT A JOB TITLE.

Competitive advantage among firms includes the ability to learn faster than anyone else and act on that learning. This means reading the footprints of the future in the sand.

TRUE EDUCATION BEGINS WITH KNOWING WHO YOU ARE ... THEN SUSPECTING THAT YOU AIGHT BE WRONG ... AND STARTING OVER.

At its core, education is about transformation

In the Knowledge Age, it is not the knowledge that matters most. It's creativity, imagination & foresight.

Developing an eco-self is about healing the alienation between humans and the natural world. The mystic Meister Eckhart taught "we progress by stopping."
The Ministers of Finance tell us "we progress by shopping".
Why does tertiary education lag so far from the fray, when it could be leading and inspiring culture?
Interaction with animals encourages empathy. Pets & Me will be taught in schools. The qualities we seek are part of us, not abart from us.

School buildings are monuments.

The school of the future will no longer be a fixed place, but a multitude of spaces: lab, gym, workshop, workplace, net café, a 3-D virtual reality zone, museum, a movie, a rainforest, a family holiday, your grandmother. It is rare for an individual to make an impact on society of lasting significance. But the way we raise our children will make a difference for the next 50 years and down through the generations.

The scarcest resource is not investment. It's i m a g i n a t i o n.

IS YOUR ORGANISATION A CREATIVE HOTHOUSE?

TICK THE SQUARE.

Ideas flow freely in all directions. Any process can be challenged & improved.
Conflicts are allowed to surface and be resolved. Anyone at any level can offer solutions or raise objections (boundary crossing).
There is a continual analysis of operations looked at from a variety of perspectives – social, political, philosophical, the long term future.
Brainstorming is a habit. There's a focus on each person as learner, producer creator, visionary. The culture of socialising goes beyond booze ups.

Instead of looking for "the big idea", create a capacity for continuous innovation. This is as fundamental as book-keeping.

The Industrial Age marketed consumer goods, the Networked Age will market cultural resources.

SESTERDRY: Competitors are the enemy, the game is to win, the world is a jungle. Competitors are our benchmark, the game is perpetual evolution, world is our the community. A key Cabinet post will be the *Ministry of* Consequences. Its brief is to prepare scenarios on the long term impact of new policies. The consequence of this is unpredictable How can we match our ideals with our source of income?

Most adults can recognise over a thousand brand names, a hundred celebrities but can't name five butterflies.



Vanishing Boundaries (2) day & night mind & body mass market & customisation place & space real & artificial science & art.

The hottest trends in medicine are cosmetic surgery and age reversal. The tweaking of a single gene from a fruit fly doubles its lifespan. By the end of this century we are expected to live to 180, meaning five more people on Earth for every one we have now. This could devastate the environment and start a war between generations. By 2020, half of India's billion-plus population will be under 18. Around 150,000 people in the world are currently estimated to be aged 100 or over. In fifty years the number of centenarians is

projected to reach 2.2 million.

Tomorrow's "elder cars" will be fitted with big-print speedometers, automatic doors and bedpans. Some worry about the impact of the elderly on a nation's sense of adventure, but biozapped boomers with laser facelifts are likely to kick away their Zimmer frames and hit the road with a stash of viagra, looking for trouble. Hearing aids will be fashion items. Health conscious boomers will extend the most expensive years of their lives on a

most expensive years of their lives on a fixed income. Cooking at home will catch on. The sewing basket will return to the hearth. Past extravagancies will be recalled in wistful bemusement.

Are you ready for the wrinklies Woodstock?

Unlike machines of the twentieth century, which conquered nature, Living Machines of the sustainable economy will partner nature. 95% of the radioactive waste in a pond near Chernobyl was cleaned up by sunflowers.

The Green Revolution was supposed to feed the third world. It caused pollution, dependence and the decline of variety.

"There were so many kinds of rice in my father's village, we couldn't name them all".

Trade laws devised in the West by anonymous WTO officials working in secret are threatening to enforce a global monoculture.

Hazards from genetically-modified food are not easily tested.

You can recall a defective automobile. Not defective food.

Have GM crops become another arm of US foreign policy?

hungry?

It takes an industrial food extruder two minutes to turn almost anything into bite size snacks.

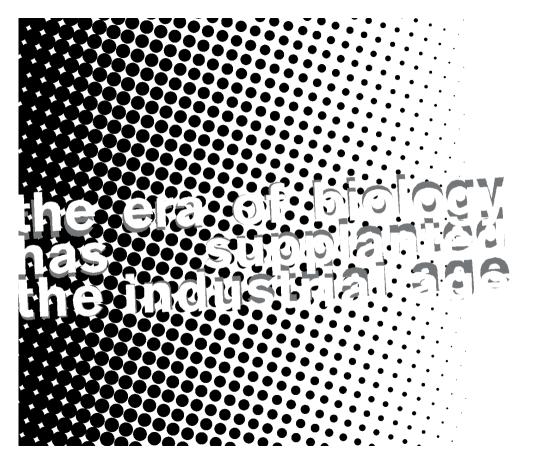
McDonalds fodder: Those unaware of the connection between food and the landscape, a passive consumer, an Industrial Eater.

The problem of fast food is not only the food. It's enslavement to speed, sameness, the quick fix.

In the future, food crops will not be exposed to weather, disease, insects or pollution because they will be raised in climate controlled factories. These can be located anywhere – desert, mountain, city or slum.

There are now 2.2 billion more mouths to feed than in 1972, and there will be more than another 2 billion in the next 30 years.

Vanishing Boundaries (3) product & service fact & fiction men & women tool & toy original & the copy shareholders & society-as-a-



Now that Genetics puts the levers of evolution in the hands of humans, God has been downsized.

Meat derived from collagen & algae is growing in Petri dishes.

Animals will no longer to be slaughtered for food.

We are starting to re-design our own species, blurring the ancient boundaries of our coming to life and the leaving of it.



But not against poverty. When the rich genetically engineer their kids to be smart, it will create another layer of oppression.

Conflicts in the distant future will be biological battles fought between different conceptions of what it means to be human.

The data stored in our brain as units of memory will be transferred to a computer and downloaded to another brain, extending our life beyond bodily death.

Putting a peanut gene into a lettuce has an ethical dimension. How do you protect those who are allergic to peanuts?

Ethical terror at Enron destroyed thousands of futures.



OILLENNIAL SKILLS (3) PRRTINUOUS PRENTION.

Philosophers are tomorrow's Rock Gods.

The nano-manipulator allows scientists to see atoms and molecules in 3-D, as well as to push, prod and probe them. This has triggered an explosion of research on the strength of new materials, how plastics melt, how DNA works and the nuances of blood cells. Scientists say they will design fabrics which maintain our body heat regardless of weather, build a jet at 1/50th of its present weight, develop a drug that can kill cancer cells before they strike.

If nature can arrange the atoms in coal to produce a diamond, then so can nano-technologists. This applies to the replication of bones, the spinal cord, even the human heart.

Meanwhile, nanobots in toothpaste will eradicate plaque.

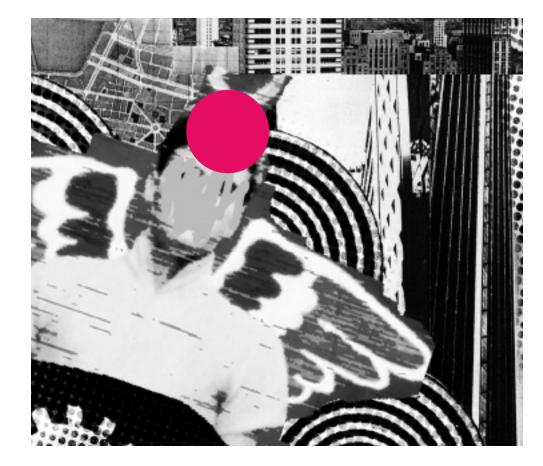
don't believe it all.

In an analysis of 789 papers in medical journals, a university professor found that more than a third of the authors had a financial interest in the subject of their studies.

Each year, 2 million people pay for their flesh to be sliced to improve their appearance. A high profile plastic surgeon is ready to graft wings onto our re-jigged rib bones. "Let people explore the possibilities", he says. It will happen.

The macro engineers are waiting in the wings, ready to manipulate the world's oceans, forests, grasslands and water supplies.

For whose benefit?



As an offshoot of the self-help industry, tomorrow's malls may offer a "personality makeover" – a periodic adjustment of attitudes and manners to make us more desirable.

An artificial counterpart will become available for every key human function.

An experimental brain implant has allowed a monkey to control a computer by thought alone.

Plastic will be certified organic now that it can be secreted in copious droplets from mustard trees, thanks to a DNA fix, then disposed of with ease, like rotten bananas, to dissolve into the grateful soil.

SPORT FIENDS WILL CONTINUE TO ENHANCE THEIR PERFORMANCE WITH DRUGS, NUTRACEUTICALS AND EMBEDDED TECH, THE LEGALISATION OF WHICH IS INEVITABLE. COMING SOON: THE FIRST BIONIC OLYMPICS.

Tomorrow's smart party wear will detect when a wearer is attracted to another person and emit a 'come-hither' fragrance.

Some of us will become composite beings - part biological, part mechanical, part electronic - with the means to adjust our IQ, to filter pain and intensify pleasure. A super-elite of cyborgs could end up ruling the world, or be rounded up and dismantled.

Long rid of its gender and racial fetters, Love will embrace non-human beings. Self-learning, skin encapsulated robots will simulate a repertoire of cuddly emotions evoking desire.

After Sexism, Racism, Ageism - what lies ahead? Robotism.

A social invention is a new way of tackling old problems. A museum in Scotland provides a wall for the display of exorbitant invoices, caustically annotated.

By 2020 three quarters of the world's population will be urbanised.

The city of the future will roll back the asphalt, unleash its visionaries, intensify social interaction and inspire the re-animation of communities.

Immigrants will dominate the outskirts. The centre will be defined by singles, gays and the childless.

The net – an electronic agora – is accused of dulling the vitality of the town square, of city life. As the well-off can live anywhere, the virtues of location will count more than ever. Cities which capitalise on their own essence will thrive.

Neighbourhoods will be both virtual and geographic — our heads in cyberspace, our elbows at the downtown bar.

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Expect the international recognition of dual geo/cyber nationality.

In less than a decade, the average laptop will be 100 times more powerful than it is now, and as light as a quill.

You can opt for instant translation on the net as you speak to your palmtop in English while a soulmate in Shanghai watches your mouth move and hears Mandarin, frowning at an attempted joke.

PUBLIC THERRPY BUSES STAFFED BY PSYCHIATRISTS WILL PATROL THE STREETS.

Most of the million people killed on the world's roads each year are pedestrians.

The Asia Pacific region, with less than 16% of the world's vehicles, accounts for almost half the world's road deaths.

5 died as a result of the post 9/11 anthrax attacks; each day 115 people are killed on US roads

Transportation is the fastest growing source of carbon emissions.

Bicycles are on the decline... even in Asia

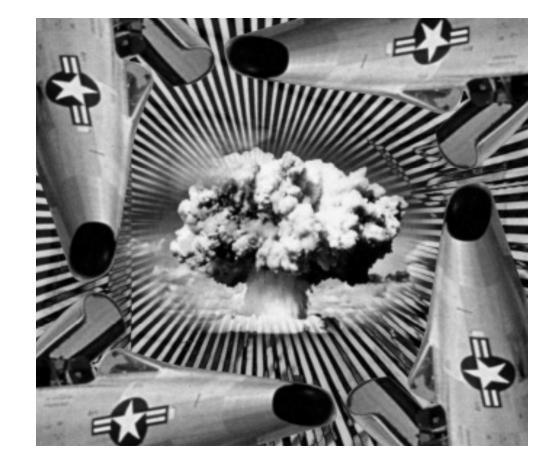


In industrial countries car use has overtaken trucking, shifting energy consumption away from production to pleasure. At current rates of congestion, use of main roads will soon require r e s e r v a t i o n s . Many of the 11 million cars annually added to the world's fleet are located in the developing world, where hunger is common and roads replace cropland. When China's car ownership matches that of Japan (one for every two people), it will have paved more than half its rice land.

Rica, which has already abolished its army, plans to rely entirely on renewable energy.

A quarter of America's GDP is derived from military oriented output. The world's biggest-by-far arms trader is the Pentagon.

275 million firearms – half the world's total cache – are legally owned by private citizens. 250 million of these are in the U.S.



u can't act on?

Of what use are facts yo

Hollywood is to arms sales what Madison Avenue is to car sales.

How can National Governments concentrate on restoring the environment, when they still prepare for war?

Tourism degrades tourism.

The vapour trails from jets add to climate change, as do their copious emissions of carbon dioxide. Flying off to a distant eco resort is a contradiction.

Tomorrow's tourist industry will need to offer hands-on participation, new knowledge, fun, authentic emotion & spiritual uplift.



Instead of paying millions of people to keep on doing what they're doing, a way must be found to pay them to stop.



Virtual reality is the tangible replication of a world that has been with us all our life – in our imagination, in literature and dreams – but it costs a bomb.

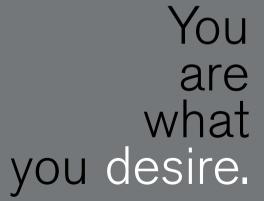
Foreplay followed by coitus is a routine as dated as the rumba. Future pleasures will colonise the whole body, expand into cyberspace, download from a storehouse of digitised sensations and draw on a range of fleshy electro accessories which stimulate every nerve.

Has the world ever found a more congenial environment for creative work than small free enterprise?

Economic growth favours the few at the expense of the poor. Much of the frantic activity amounts to wheel spinning and empire building, rather than true wealth creation.

Revenues of the world's top 20 companies exceed the gross domestic output of the 80 poorest countries. This is bad news for millions of non-unionised workers and darkens the prospect of global stability.

S6| footprints footprints | S7



The corporatisation of the world is starting to impose a conformity of pleasures.

in franchise chains.

Advertising aims to make you unhappy with what you've got.
Cameras disguised as products sit on the shelves of supermarkets, recording your eye movements and reactions to packaging.
200 years ago, shoppers had access to less than 300 products. Today we can choose from over a million. What's next?
Born free, we are everywhere

The future of advertising will be about helping to improve the quality of life, and not just that of the people at the agency.

INSTEAD OF PAYING STARS TO PRATTLE ABOUT PRODUCTS THEY DON'T USE, TOMORROW'S BRAND WILL SPONSOR

A CLAPPED OUT VILLAGE
AN ENDANGERED SPECIES
THE LIBRARY IN A POLITICAL PRISON
A SEWAGE SYSTEM
A N A T I O N .

Where does Microsoft want to go today? To Dacca, and prop up the electric supply.

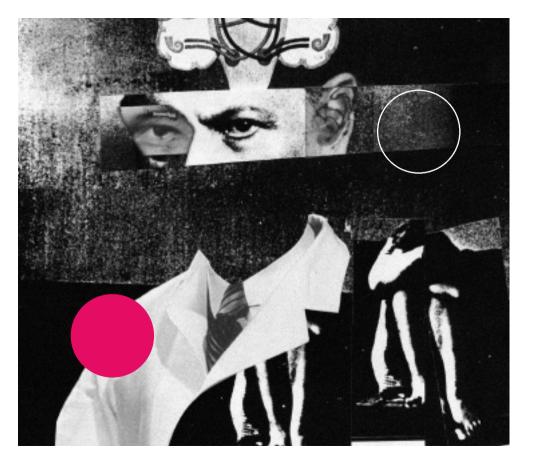
Could advertising become the human face of globalisation?

Supermarkets will offer cloned & organic meat, leisure drugs, surgical facials, 3-D internet. Community bulletin boards will promote tantric singles nights and robot swapping. Some futurists depict nano-tech machines on street corners spitting out speed boats and cornflakes at the flash of a credit card, though never in Calcutta.

IDEAS ON THE RISE: Corporate conscience, everything is connected, the worth of the wild, work as a journey, compassion for all living beings, the ethics of enough, holistic everything.

IDEAS ON THE DECLINE:

technology is neutral growth is good scientific objectivity a fixed address the primacy of print the GDP as a barometer of health three meals a day.



The assets of the world's top three billionaires surpass the combined GDP of all the least developed countries & their 600 million people.

What the industrial economy calls growth is usually plunder from nature & the poor.

Global companies exploit traditional knowledge of medicinal plants by lodging patents and refusing to pay royalties.

In the last fifty years the rate of depressive illness in the West has increased tenfold.

Now that history and fantasy can be blended with seamless conviction, where does it leave the concept of truth?

The cost of destroying the earth and damaging society is absent from the market price.

The invention of the flushing lavatory led to a state of denial. We ceased to worry about the disposal of waste.

Belief in continuous, unlimited economic growth is a religion; a substitute for genuine politics and wealth sharing.

We are addicted to growth because we are beyond caring about the huge inequalities in income, status and wealth.

Many people believe things should be different.

Most believe they are alone
in this belief.

Slowly dawning is a new openness to spiritual guidance as a basis for "private" behaviour and "public" policy.

WHAT LIES BEYOND THE INFORMATION AGE? AN ESCAPE FROM INFORMATION.

Our mental state is not entirely dependent on the past or genetics. It is work in progress.

How can a state of emergency be converted into a state of emergence?

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The Penan people of Sarawak have just one single word which stands for he, she & it; and they have half a dozen words which stand for we.

Boundaries that keep us from evolving into something greater than the sum of our parts will dissolve. But not without conflict.

The primal religious myth needed for the future will not be divisive, nor confined to a privileged society in a bounded field. It will speak to the world, for all people, all life. The first planetary myth.

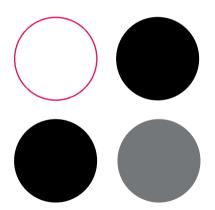
Reports of bizarre encounters with UFOs will escalate, as will the credibility of witnesses. The question of whether or not UFOs are "real" will be overshadowed by speculations on the significance of the sightings. Could UFOs be a cry from the collective unconscious, a plea for magic in a materialist age? Or the first tremors of a cosmic hallucination, designed to lure us

Once the heart was the ego centre. Now it's the brain. The future seat of the self will be projected into cyberspace, attaching itself to virtual bodies. This could enable us to see the world through another's eyes, and enlarge our frontiers of compassion.

from earth into the twinkling nightscape?

RECLAINING THE FUTURE REQUIRES THE EDUCATION OF DESIRE

Now that Nike has launched its first yoga shoe, can we stop running around in circles?



The future equivalent of real estate and money will be spiritual health and social panache.

Consciousness will become primary and matter secondary.

Unwanted situations and people keep presenting themselves until you have learned the particular lesson they have come to teach. Then you can move on to n e w c h a l l e n g e s.

An act of altruism reduces cholesterol.

The energy it takes to liberate hydrogen from other elements will come from renewable sources. Germany has already harnessed 6,000 megawatts of wind (= 20 medium-sized coal-fired plants). Ireland is planning the world's largest offshore wind park. America's prospect is limitless — it is the Persian Gulf of wind.

Iceland plans to launch the world's first hydrogen economy, replacing petroleum in its cars, buses and fishing fleet over the next 40 years.

Zero emissions manufacturing — a "closed loop bio system" — fosters an array of vital organic products (eg, beer) and provides marketing oomph: "get pissed, save the planet".

Hospitals will disappear. Miniature instruments, targeted drugs & remote operations put an end to surgeons hacking away at the human frame, the major cause of prolonged recuperation.

Genes are passive & boring, as they are only code for proteins, whose interactions we'll manipulate to determine the behaviour of cells. To treat diseases from cancer to depression we'll inject "designer cells" to correct the behaviour of cells responsible for the illness.

70 footprints

Hydrogen energy is decentra cell in every home. This syste will be computer linked with hydrogen energy web. The m drivers, information & energy, lised – a fridge-sized fuel m ("distributed generation") other users, creating a erging of these major futurewill create a new economy. To turn a deaf ear to the third eye is dumb.

futurism is in danger of becoming a religion; a yearning to flee from the present into a state of rapture over the glories to come.

A Post Material economy
will cater for intangible desires
nostalgia, meaning, stories, self-esteem,
adventure, philosophy, astral travel
and spirituality.

States with access to space will dominate the next century.

T4| footprints footprints footprints

HOW CAN YOU SANE SOCIETY MADE UP COMPETITIVE, SELF-INTERESTED INDIVIDUALS ALL TRYING TO GET AS RICH AS

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No-one owns the truth.

about me, Richard Neville.

Travel-worn author, stirrer, futurist & windbag, now living in Sydney.

my sources are so many there isn't space to list them all. Tidbits in papers and mags are circled and stored. Stray comments at corporate conventions are captured, then twisted to my purpose. The weirdly misnamed World Future Society, which has never held its annual conference outside the US, churns out texts which stir my juices.

Then there is *Futures*, a journal of terrifying density, resplendent with global data and high ethics. Numerous books. A dark horse with a light touch is *Fast Company*, a stew of futurism, rebellion and neo-philia, a fanzine of capitalism in transition.

Many thanks to Jan Lee Martin, who invited me to help set up the Australian Futures Foundation, thus connecting me with a slew of social engineers.

Oz Futurists leave me floundering in the shallows, though too polite to mention it, as I seize upon their insights: Richard Slaughter, Peter Ellyard, Friedmann Wieland, Ted Trainer, Oliver Freeman, Peter Saul, Tony Stevenson, Sohail Inyatullah, Susan Oliver, Attracta Lagan, Andrew Campion and the mysterious Miro...

Meanwhile, through all this, Oliver Freeman and I were living parallel lives, often uniting to help clients conjure alternative futures. Suddenly we're associates, fulfilling a wish to move beyond seminars, think-tanks, trainings and talk-fests; wanting to help innovators bring their ideas to fruition. Oliver urged me to scatter these crumbs to the wind, and enlisted the midnight graffiti-ist Michael K, to turn them into cream puffs.

yum yum. on with the journey .