

Summer 1996

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USE YOUR HEAD

SYNAPSIA

THE INTERNATIONAL

BRAIN CLUB JOURNAL



Rikki Hunt:
Managing Director of
Burmah Petroleum Fuels
and Polar Explorer

ON TOP OF THE WORLD

THE ULTIMATE CHALLENGE

MAXIMISING CREATIVITY OF TEAMS

OVERCOMING DYSLEXIA

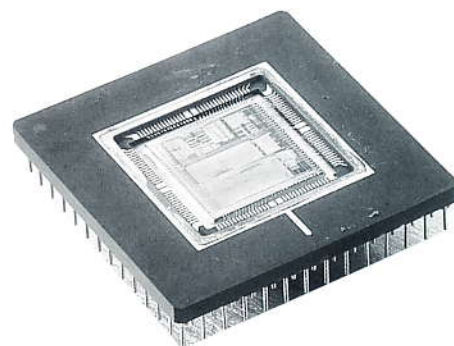
MEMORIAL '96

Man v Machine

The ACM Chess Challenge: Garry Kasparov v IBM's Deep Blue

'Kasparov wrestles a machine. Civilisation hangs in the balance.' Charles Krauthammer,
Time Magazine.

'There are different types of thinking, but I would call what Deep Blue does thinking.' Dr
Herbert Simon, winner of the 1978 Nobel Prize for Economics.



At the start of 1996, the attention of the world's media was gripped by an event that seemingly questioned whether human beings were the most intelligent entities on Planet Earth. This book relates the history of a 200-year-old quest; a quest which culminated in the grand chess match between World Champion Garry Kasparov and IBM's Deep Blue. Facing each other were the strongest chessplayer in the history of the game and a computer that could analyse over 500 million moves per second. This match sought to test the truth of Goethe's assertion that chess is the supreme 'touchstone of the intellect'.

International Grandmaster **Raymond Keene** O.B.E. is the chess correspondent of *The Times* and *The Spectator* and is the author of over 100 books on chess.

International Master **Byron Jacobs** is chess correspondent of the *New Statesman and Society* and is a recognised authority on all forms of computer chess.

Tony Buzan is the founder of the Brain Foundation, inventor of the thought-organisational technique of MindMapping® and author of the best-selling *Use Your Head* and *Buzan's Book of Genius* (with Raymond Keene).

The co-authors, along with computer expert David Levy, were pioneers in organising and publicising the world's first Man v Machine Championship. This was the celebrated match in London, 1992, where draughts world champion Dr Marion Tinsley defended his title against the Chinook computer program.

Man v Machine, The ACM Chess Challenge: Garry Kasparov v IBM's Deep Blue is available for £11.99 post free from B. B. Enterprises, 23 Ditchling Rise, Brighton, Sussex BN1 4QL (tel: 01273 686507)

USE YOUR HEAD EDITORIAL

Practice Makes Perfect

It looks as if we are in for a long summer of sport. Items on the agenda include the European Soccer Championships, the Olympics, the Wimbledon Tennis Championships, the cricket test matches between England and India, the Open Golf Championships, numerous motor racing Grands Prix, and so on. Such a glut of sporting activity may not be welcomed by everybody, but the fans amongst us are in for a treat.

However, the men and women competing in these events could prove to be the focus of attention for people other than hard-core sports fans. Neurologists, keen to uncover hidden clues about how the brain controls movement, are turning to top performers to help them in their researches. They are asking themselves the question: 'What is it about their thought processes that enables them to perform certain skills so much better than the rest of us?'

Top tennis players, for example, can instinctively position themselves correctly in order to play their shots. The less talented amongst us might have as much knowledge as the professionals as to what we are supposed to be doing, but we cannot co-ordinate ourselves to perform the actions as easily as they can. Obviously, they practice more than we do, but what is the neurological result of this practice? - What is going on in their brains that is not going on in ours?

Recent research in this field suggests that different brain regions are activated during the learning process as compared with those used when the process is performed automatically. Furthermore, the neural pathways that deal with these 'automatic' actions are much more efficient and focused than those that deal with learning. Once the skill has been acquired it thus requires fewer brain cells to carry it out.

A key, and perhaps surprising, discovery here is that mental (as opposed to physical) rehearsal of an action also reinforces the connections essential to automatic performance. Therefore, repeated visualisation of how you intend to hit, kick

or throw a ball can help you to perform the action more competently.

Training the brain in this way is rather like trying to clear a path through a forest with an axe. The first attempt will be slow and laborious as the wood is cleared and the basic plan of the route is laid down. However, subsequent attempts will gain in speed and efficiency by capitalising on the earlier work. Eventually, the path will have been cleared so well that it can be traversed effortlessly. All that is then required is some occasional pruning to keep the path neat.

This is encouraging news for those of us who like to dream of sporting success, but it also has important implications for stroke patients. Victims of strokes often suffer damage to areas of brain tissue. They therefore have to train new areas of their brains to perform functions that can no longer be carried out as previously. This new evidence suggests that by imagining the movements that they want to perform, stroke patients can speed up their own recovery.

So, next time you are watching Andre Agassi or Steffi Graf firing the ball across the net with pin-point accuracy, do not watch passively. Visualise yourself in their shoes and you could improve your game from the comfort of your own armchair.

THE BRAIN CLUB CHARTER

The Brain Club was incorporated on 15 May 1989. Its official charter states the Club's formal purposes:

- A. To promote research into the study of thought processes, and into the investigation of the mechanics of thinking as manifested in learning, understanding, communication, problem-solving, creativity and decision-making.
- B. To disseminate the results of such research and study.
- C. To promote generally education and training in cognitive processes and techniques.
- D. To develop and exploit new techniques in cognitive processes.

The editor welcomes contributions to Use Your Head. Please contact: Byron Jacobs, 23 Ditchling Rise, Brighton, Sussex BN1 4QL, fax 01273 675486 or e-mail 100045.1752@compuserve.com

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SYNAPTIC FLASHES

Latest Brain News

The Godfather Part Two

On 21 June 1998 a computer program will be run at Manchester's Universal Machine exhibition. Computers are such an integral part of modern life that one could be forgiven for wondering why this would be of interest to anyone. But this computer is different: it is an exact replica of 'Baby', a 1200lb behemoth which was the first calculating machine to run a program stored in its own memory. The original program will be rerun at the exhibition to mark the fiftieth anniversary of its pioneering run.

It will take a team of engineers from the Computer Conservation society two years to put Baby together again, replicating its pioneering valve technology. The end product will be capable of executing a program that requires more than 3.5 million operations and can store 1024 bits of memory (a record in 1948, but less than that held on a bank card nowadays).

French Angst

According to a recent report in *The Sunday Times*, France is currently undergoing an extreme bout of soul-searching. Whether this can be attributed to the nine months that Eric Cantona spent out of football or a general disenchantment with modern society is not clear. However, this malaise has already spawned a television soap opera about a young man searching for the meaning of life, entitled *Philosophy According to Phillipe*, and every Sunday morning French cafes are packed with people attending 'philosophy brunches'. There are often long queues for debates at the Cafe des Phares near the Bastille, for example, consisting not only of aspiring writers and students, but also office workers and taxi drivers.

In some ways this interest in philosophy can be seen as an alternative to psychotherapy. According to Marc Sautet, a specialist in Nietzsche who chairs some of the meetings, 'People in France are fed up. Philosophy makes them feel they have more control over their lives.' Perhaps the French will cheer up if they win the European Football Championship, even though they have omitted enfant

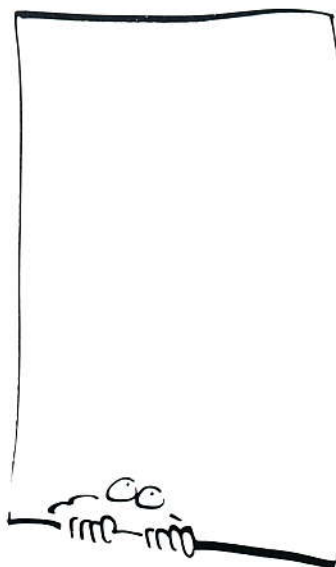
terrible Monsieur Cantona from their squad.

Science Book of the Year

The winner of the prestigious 1996 Rhone-Poulenc Science Book of the Year award is due to be announced soon. The initial shortlist of six comprised the following: *Nature's Keepers* by Stephen Budiansky (a controversial treatise on the use of animals by humans), *The Faber Book of Science* edited by John Carey (an anthology of science writing spanning several centuries), *About Time* by Paul Davies (a comprehensive review of every facet of the enigma we call time), *River out of Eden* by Richard Dawkins (an exploration of the flow of genetic information that is locked up in DNA), *Plague's Progress* by Arno Karlen (a social history of man and disease) and *Nature's Numbers* by Ian Stewart (a discussion of 'real mathematics', i.e. how nature forms shapes and patterns). We will be reporting the judges' decision in the next issue.

T-rex's Big Brother

According to a recent report in the *Daily Telegraph*, paleontologists have just discovered the largest ever flesh-eating dinosaur in Morocco. This shark-toothed reptile was more than 45 feet long, larger than a *Tyrannosaurus rex*. Known as *Carcharodontosaurus sahiricus*, it lived, as its name would suggest, in the Sahara around 90 million years ago. Its fossils were found by a team led by Dr Paul Sereno from the University of Chicago and has caused a big stir in palaeontological circles. Previously evidence of large carnivorous dinosaurs had only been found in North America, South America and Asia, but this new discovery shows that these animals were lived in several different continents. Dr Sereno offers several insights into its lifestyle: 'It is a stockier, heavier animal (than the T-Rex). This was a bruising animal with a wrestler-like neck and a narrow, slicing skull. While *Tyrannosaurus* chomped with round puncturing teeth. *Carcharodontosaurus* easily cuts off pieces of flesh. These animals don't process the food. They bite, rip and swallow.'



POLE POSITION: THE ULTIMATE CHALLENGE

Rikki Hunt, Managing Director of Burmah Petroleum Fuels, has gained a reputation for his innovative and distinctive style. Here, he talks to Brain Clubs Co-ordinator Justin Coen about conquering the Ultimate Challenge - a scientific expedition to locate the Magnetic North Pole.

Rikki at Heathrow Airport, being welcomed back by Lady Mary Tovey.



JC What was the Ultimate Challenge?

RH It was a scientific expedition, conducted by the Canadian government, to locate the Magnetic North Pole and was led by David Hempleman-Adams, repeating his historic journey of 1984 when he became the first man to walk unsupported to the Magnetic North Pole. However, on this occasion he was being accompanied by a team of sponsored 'novices' from the UK, all of whom have been rigorously tested, both mentally and physically, for their suitability for the task. This expedition broke new ground, as we brought state of the art communications technology that enabled live broadcast (TV) coverage of the trip via satellite: on day 26 I spoke to Sean Hodgets of Wiltshire radio and Mike Spearman, Chairman of Swindon Town FC.

What were your feelings on departure?

I am very close to my young son, Martin (6) and Richard, still too young to know what dad was doing. It was important for me that Martin would not be afraid for my life, so I told him a lot about the trip and reassured him I would be alright. It was also the first time I would be away from him for so long (40 days). That was hard. Strangely, I was not apprehensive about the expedition - I just wanted to get on with it. Saying goodbye was difficult for me.

How did the Ultimate Challenge come about for you?

Last Autumn, David Hempleman-Adams

was a guest of Swindon Town FC, where I am a Director. After watching the game David made a remark about footballers being soft.

Before I knew it I had a challenge. Two months later I was leaving Heathrow for Geneva, where we were to climb Mont Blanc. On the second day of our climb, Hempleman-Adams said to me that I had acclimatised exceedingly well on my first climb, and that he thought I would be capable of an expedition to the Magnetic North Pole next April, if I would like to go. Just before Christmas David called me to see if I was going on the Ultimate Challenge. I was uncommitted until he challenged my fear of such an expedition. I saw this as an opportunity to grow and learn, so I threw down the gauntlet once again.

Four hundred people applied for just ten places. I had to go through rigorous psychometric tests, army assault courses and long walks to see if I had the necessary mental and physical stamina. I was proud to have succeeded in all of these, but they did not prepare me for the harsh and sometimes treacherous environment of the North Pole.

Did you prepare mentally?

Absolutely. When we were doing the army assault course, the start point and

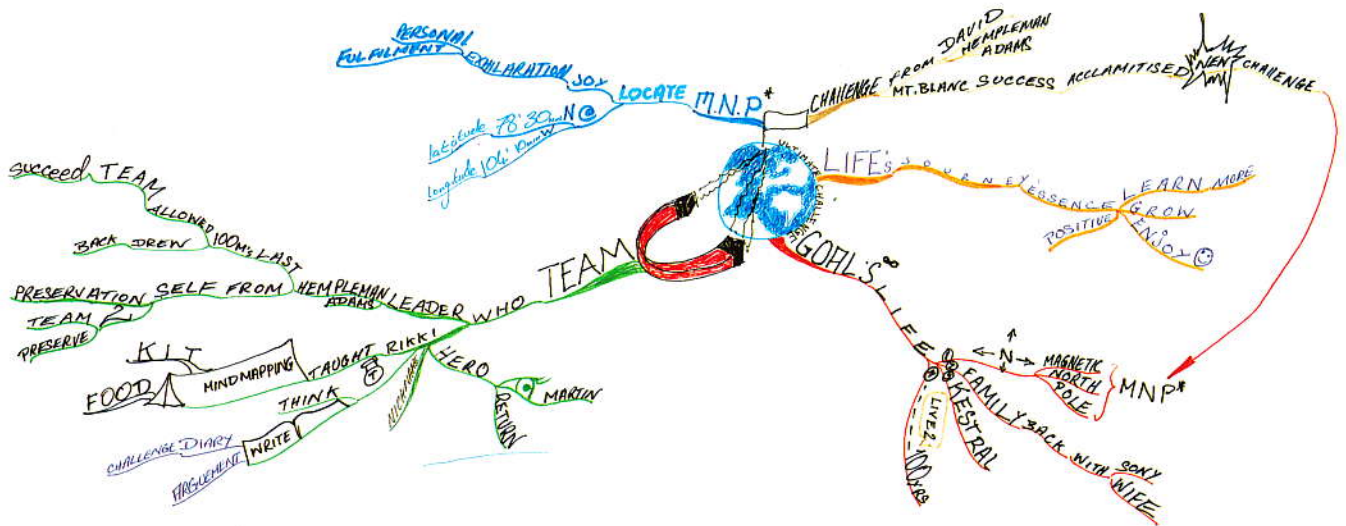
finishing point were the same - on opposite sides of a single barrier. I believed my body could do it; I would just have to leave my brain behind and go on automatic pilot. On completing the course I would receive this fabulous gold medal with number 1 on it, so I visualised my hand clasped around the medal. I would also get my brain back. These were the goals I visualised. Thus I was always going to succeed - I had to get my brain back. These images were constantly on my mind while I was on the assault course.

In the North Pole environment, what was your mental set?

In this cold environment, our collective goal was to locate the magnetic goal. For me personally, in a broader context, I had a further series of goals - the first of which was to return to my family. I was also raising £10,000 for charity and the boys and girls who would benefit from this were another reason for me to succeed.

I found that I had an immense amount of time just to think. My colleagues later said to me that I had a certain walk while I was thinking and this indicated to everyone that something was going on inside my head - so they did not disturb me. Indeed, there was a lot going on. I was writing a book - every day being a new chapter. The book, for children, is written

Rikki's preparation for the Challenge, in Mind Map form.



in fable fashion and is about the experiences of two young boys and a group of polar bears in the North Pole. It discusses the ineffectiveness of arguments between people. I have begun reading it to my son Martin since my return and he loves it.

I also kept a diary that I wrote each evening about what the day's events brought. One notable entry was on a day when conditions were not good. We were progressing slowly but it was -15° with a -5° wind: 'I was reflecting on what Tony Buzan had taught me about the importance of a Master Class of people. These are people of great historic stature who can be positive mentors - you study their lives and then try to model them. I chose Socrates, as he seems to have been more interested in people and everyone in the educational world knows him through the writings of his pupil, Plato. From today I would choose Tony Buzan himself. If 10% of his ideas were listened to, education would be fun and effective. I would further choose two other colleagues, David Ellis-Jones and John Alibone, because of their beliefs in, and liking of, people.'

I also thought about what has made me successful. The overriding fact is that I have sought to grow. I value older people,

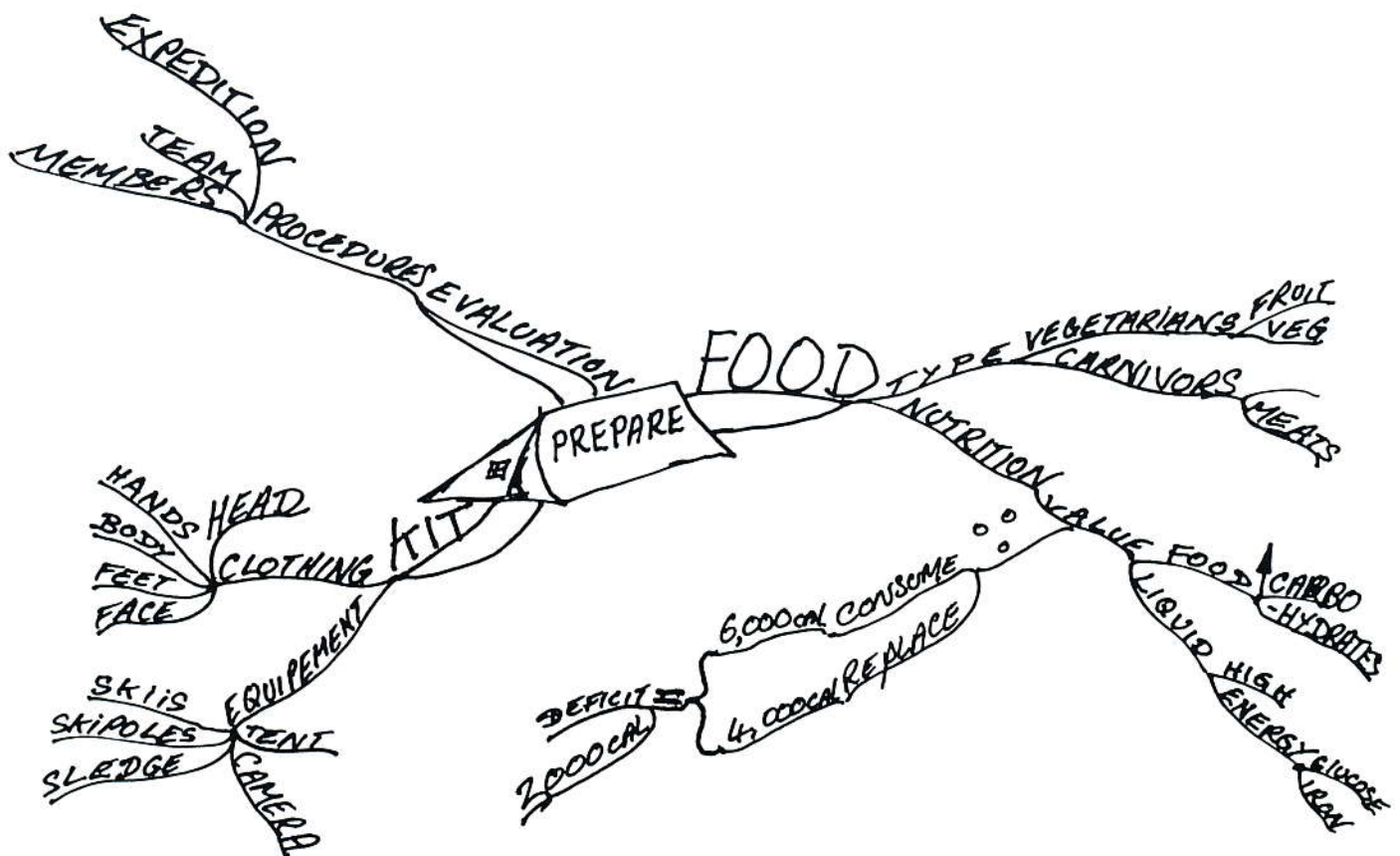
their wisdom and experiences. I have never accepted that what I am is what I will be. I believe that I can grow, I can change, I can become better (Tony Buzan says that your brain is a muscle and with exercise you can improve it). I would like to add to this the need for belief in yourself, the essence of desire to achieve a worthy goal and the need to have a positive attitude to life. Everything happens because I make it happen, whether the result is good or bad. 'Failing' per se is not in my vocabulary. This attitude has allowed me to grow. When something goes wrong I take control and do something about it. When something goes right, I copy it. What is important to me, for myself and for my boys, is that to try your best, you do not have to be the best. This is well summed up by: 'If you believe you will fail, you will. If you believe you will succeed, you may ... Worth going for, don't you think?'

How did you come to teach Mind Mapping at the North Pole?

One day we were snowed in and my team asked: 'What is the International Brain Club anyway?' In explaining about the Brain Club, I was led on to discussing Mind Maps. They all laughed, at first.

'If you believe you will fail, you will. If you believe you will succeed, you may ... Worth going for, don't you think?'

Rikki's food Mind Map.



So, I said I would show them. I asked them to think of a couple of problems we had been having recently and did they think we could have been better prepared. We began with 'Preparation' as the central theme. There was a branch for food, kit and selection procedures. When you are skiing you burn off 6000 calories a day. The food supplements and snack bars only replenish 4000 calories (and on top of this I am a vegetarian, so I lost more weight than the rest of the team). We also needed to drink a great deal.

I asked my colleagues what the problems were with the food. Once we began to use the Mind Mapping technique to question the preparation in this way, they were all amazed, especially our group leader, who had been involved in a previous expedition.

The food branch on the Map (see the previous page for my illustration) helped us find out about food groups and the importance of the nutritional content of food and liquids. We had brought tea, when we could have had high energy drinks. This was a magnificent insight as, at the beginning of the challenge, each participant had been allocated a job. Our team leader had brought the food for the trip, never conceiving of the needs in the North Pole environment.

Were there any moments when the expedition was threatened and who showed leadership?

After the first five or six days we were still not a team. However, our interdependencies increased after we got news that another expedition had been airlifted out, due to a fatality. Between days 16-20 my attitude to 'our expedition' was radically altered. Our daily routine was under great time pressure and this became a worry to everyone. Then a team member told me not to see the expedition as a dangerous trip, rather consider yourself as a traveller; you are on a journey between Resolute Bay (base camp) and the Magnetic North Pole. All of the daily happenings, good or bad, and weather conditions are small parts on this journey which should be enjoyed and coped with. In changing the context of how we perceived the expedition, we changed our experiences from being worry-driven to enjoyment of each new challenge.

Hempleman-Adams is a real leader. In the early days he was clearly the intrepid explorer, able to look after himself in the worst conditions. However, having to live

closely with other people, he quickly became aware of their needs and changed from focusing on his own self-preservation to the team's preservation. For example, on one occasion we were facing difficult conditions with strong headwinds. Hempleman-Adams walked up and down the line, alongside each member in turn, asking them to tell him about their companies or their families. It didn't matter that he probably never heard a word. What mattered was that he asked and walked alongside each of us, motivating us to continue. That was real leadership.

What were your thoughts on return?

Between locating the Magnetic Pole and arriving back at Heathrow was a frustrating period of seven days. After achieving our goal, my sights had focused on my next goal of returning to my loved ones. When I got to the tunnel at Terminal Two I got this incredible feeling of what was just beyond the tunnel - like when a soccer team enters the tunnel at Wembley Stadium on Cup Final day. You know that once you get to the other end there will be an almighty roar.

Remember that we were, of course, totally unaware of the coverage we were getting. In our eyes we had achieved our goal; in the eyes of the public and the press that had turned out to welcome us back, we were heroes. I had a gut feeling of what was to unfold. As we came out of the tunnel there was indeed a huge roar. There were so many children there - I was asked for my autograph and normally I only sign my name in the company cheque book.

My sister had come down from Liverpool and she was the first to get through to me. The reunion with my son was emotional: we saw each other through the crowds and I managed to reach him and we just hugged and hugged. When the journalists asked to take photos I insisted that I should be with my family, not by myself.

What now?

I have agreed, provisionally, to participate on an Everest expedition - another of my life goals. We have a place for 2002. I will need to raise £40,000. I have just established Kestrel Consulting, to coach people how to create a 'Thinking Organisation' and, as mentioned earlier, have a book I aim to publish. I will continue to learn and grow and take on new challenges to live life to the fullest.

BUSINESS BRAIN

**Maximising Creativity Of Teams:
Anthony and Michael Dottino suggest a new Approach.**

How many times have we heard that re-engineering requires starting with a 'blank sheet of paper' to stimulate the radical redesign of existing processes? Reengineering is supposed to offer the best possible process or product because reengineering substantially improves the existing process through the elimination of unnecessary work activities. As any reengineering consultant will tell you, most of the costs squeezed out of a reengineered process are supposed to come from breakthroughs caused by its radical redesign, not from its incremental improvement. The question is: Just how realistic is it to be able to create breakthroughs when your starting point is blank paper?

The consistent application of several creative thinking principles can propel a reengineering work team (defined here as a group of between four and seven cross-functional experts) towards certain success. 'The challenges to a reengineering team become: How do we maximise our creative abilities, and how can we use them to radically alter a process?

To answer these questions, it will first be necessary to explore some thinking about creativity. A popular perception is that creative thinking is a 'black box' from which bursts random brilliant insights. A similar perception is that creative thinking is something which is limited to only a handful of 'creative' people.

Contrast this with the belief that every person possesses enough natural creative ability to contribute new ideas and that breakthrough thinking does not happen through sudden leaps of insight but rather through a deliberate process of consistently and persistently focusing on the achievement of a goal. Of these two contrasting viewpoints about creativity, what if the latter were true? Could organisations create a natural process of innovative idea generation, thus giving them-

selves the ultimate competitive advantage?

According to current research about the human brain, the skills used for creative thinking are similar to those used for everyday activity. The critical factors that will determine your success in producing creative thoughts are your ability to clearly visualise the desired outcome in measurable terms, your skill in storing and retrieving information from your memory and your domain-relevant experience (knowledge about a specific subject matter), coupled with your drive and ability to handle adversity. Aren't all of these abilities we naturally possess? Let's examine each of these factors.

Clear Definition Of Success

The first critical factor in successfully developing creative thoughts is to have a clear definition of what a successful outcome will be. Your brain is a success-driven mechanism; the definition you give it of a successful outcome will guide its thought processes. Your definition of success provides a roadmap which your brain uses to give it direction. The more precise and consistent your definition is, the greater opportunity you give your brain to develop an effective number of alternatives. Determining where your creative focus should be will have the greatest impact on the quality of the ideas your brain generates. Furthermore, describing your desired outcome clearly enough so that it can be visualised allows you to measure your progress. Although this seems obvious, failure to do this probably causes more people to have their natural creativity short circuit than any other factor.

After you have defined success, your brain will automatically begin searching its existing experience for potential solutions. Each idea will be tested for its ability to meet the success definition. This part of

Anthony Dottino, the managing partner of Dottino Consulting, specialises in process improvement, creativity, team building, and reengineering. Mr Dottino is a certified Buzan Radiant Thinking Instructor and Mental Literacy coach. He has twenty-seven years experience with companies in the information services, manufacturing, pharmaceutical and electronics industries.

Michael Dottino is a Certified Public Accountant and is currently a financial planning manager for a Fortune 500 retail company. Prior to this he spent three years with Arthur Andersen & Co. in their audit and operational consulting practices.

the brain's natural thinking process explains the importance memory has in fostering creativity.

Memory, Relevant Experience and Creativity

The ability to store and recall information assists creative thinking by providing a large source of potentially relevant life experiences. Try to imagine your collection of memories as a large tree with many branches. Each stored memory bank becomes another branch radiating out from the trunk. The more detailed your memories are, the larger number and length of branches your memory tree possesses. An area where you have *considerable* experience will have a density of branches; areas with little experience will be sparse.

A tool which mirrors the way the brain stores and retrieves information is the Mind Map. Mind Maps, created in 1970 by world-renowned brain expert Tony Buzan, are graphic representations of thought patterns and can be used to enhance memory, organisation and creativity. The central thought or idea is drawn in the centre of a blank page, with major branches radiating out from the centre.

Each branch can be a path your thoughts travel when searching for new ideas that satisfy the defined goal. By increasing the number of branches, you give your brain more opportunities to find a good fit. Expecting to develop creative insights about a domain where you have few branches is unrealistic. Without a base of domain-relevant experience, you will have limited ability to consistently produce creative ideas. You must have relevant life experiences combined with domain-related knowledge to unleash your brain's powerful synergetic potential. With both experience and technical knowledge, your brain will automatically link and associate current and historical information with the purpose of generating a different future outcome. The brain's associative nature allows it to take unrelated stimuli and link or associate them to its existing knowledge base, with the resulting combination creating a new idea.

Persistence and Focus

Another key ingredient for developing creativity is the role persistence plays in reaching your goal. The first ideas that you create may not lead you very far towards your goal; if you give your mind time to continue working on the

achievement of the goal, it will consistently generate better ideas. Each idea becomes a building block for a future idea. By continuing to focus your mental energy on developing a successful resolution of your desired outcome, you create more building blocks. These blocks create a foundation upon which innovative thinking will occur more consistently and naturally.

Major breakthroughs do not usually occur through large, unexpected jumps but instead result from the factors discussed earlier: the clarity of the desired outcome, memory, experience, and, most importantly, the amount of time spent trying to develop a creative idea. The scientists who discovered the structure of DNA did not do so through sudden creative leaps but rather through a carefully planned, thoughtful pattern of discovery. The first part of the discovery process was to clearly define success (an accurate description of the structure, dimensions and chemical composition of a DNA molecule). The scientists then proposed a theory which they tested against reality. When the feedback from their experiments indicated that certain test results differed from the expected outcome, the scientists adjusted their theory to explain these differences. The process began over again and continued until the scientists and their theory met their pre-defined goal (the correct DNA structure).

Since creative thinking is an iterative process, the best way to increase creativity is to increase the number of iterations; that is, the number of small refinements made in the individual thought process. Each small change results in a thought which is slightly different from its predecessor. Increasing the number of refinements made to the original thought helps to create a thought which becomes more significantly innovative.

As you can begin to see, experience and memory provide a critical role in the creative process necessary for successful reengineering. The experience of the functional experts will lead a cross-functional team towards a better choice. Without this experience, a team may waste valuable resources and time investigating unfeasible suggestions before finally concluding that these will not work.

As important as experience is for high-level issues, it becomes even more crucial when looking at the details. To really understand both the efficiency and effectiveness of a process, a team must have

'The scientists who discovered the structure of DNA did not do so through sudden creative leaps but rather through a carefully planned, thoughtful pattern of discovery.'

'... the most common cause of a lack of creativity on teams is that its members switch too quickly from generating new ideas to evaluating the ideas already generated.'

some reasonable standard against which to measure progress. Furthermore, this standard will become the starting point for the brain's natural creative process. The farther the starting point is from the eventual solution, the more creative iterations will be necessary to get there. Experience can provide valuable insight into knowing where to start and, even more significantly, it can provide links and associations for other ideas. More than any other reason, this is why starting with a blank sheet of paper for reengineering a process leads to wasted time and effort and a less than optimal solution. The brain does not have a core knowledge base from which to link new ideas.

Fostering Creativity On Teams

So how do you spur creativity? You must first keep in mind how the brain works and remember that it is unrealistic to consistently expect sudden quantum leaps. Similarly, it is also unrealistic to expect to reengineer a process about which the team does not have a working knowledge. The fresh perspective of someone unfamiliar with a process can help spur creativity by asking the right questions (Why do we do things this way?) but can also waste time by asking the wrong questions (Can we eliminate the accounting function?). The foundation for any future innovations will come from in-depth knowledge possessed by functional experts. The challenge for these experts is to *decide* to be creative. If they choose to actively search for creative alternatives, their experience gives them an enormous head start over a novice. If they choose to support the status quo, their experience will limit their ability to be creative by providing them with more reasons to justify why something new won't work. In either case, their creative output will be in direct proportion to their defined goal and to their persistence.

This is the major reason why some people become less creative as they achieve success; they lose their motivation to challenge the status quo. Achieving success for these people causes them to become defensive because they see themselves as having much more to lose. Their energy becomes focused on playing 'not to lose' rather than on generating creative ideas.

Because creative ideas are the result of the association of new inputs or perspectives with existing knowledge, to maximise creative potential a team should

have members with a variety of experience and skills. This team should have a balance of 'left brain' people (analytical, logical, with strong numerical and verbal skills) and 'right brain' people (imaginative, free-spirited with good 'big picture' and visualisation skills). At least one team member should have a good working knowledge of the process being reviewed. By providing the broadest possible base of knowledge and perspectives, you greatly increase the number of potential associations, links or connections your team can make between new data and existing knowledge. The challenge for the team is to demonstrate flexibility and tolerance for differing viewpoints while the creative process occurs.

Creativity Requires Time and Patience

Because of the iterative nature of creativity, team members must develop patience when attempting to be creative. Because improvement may occur in small and uneven gains, the team must guard against the frustration of 'we're not getting anywhere'. For a complex process, many creative iterations may be necessary before the team generates an acceptable solution. The challenge for the team is not to short-circuit the process before it has produced the inevitable success.

An important corollary to this idea is that the more time a team spends thinking about a process or problem, the more likely it becomes that the team will generate creative ideas for its resolution. Although this may appear self-evident according to at least one expert on creativity, the most common cause of a lack of creativity on teams is that its members switch too quickly from generating new ideas to evaluating the ideas already generated. The additional time and effort spent by a team beyond when they first believe they are 'done' developing new ideas greatly increases the probability that an unrelated outside stimulus will trigger an insight (an AHA!) by one or more of the team members.

Another consideration is that a team must learn to effectively manage differing viewpoints from its members. The different viewpoints offered by people with different experiences, personalities and interests can be both an asset and a liability. The team members must learn to tolerate disagreement and manage conflict to fully utilise the creative abilities of its team members. When used properly, the

rich diversity of experience creates a synergy which makes a team's creativity superior to the sum of the creative abilities of its members. When poorly managed, this diversity can lead to arguing over whose viewpoint is 'right'.

Can a reengineering engagement work if the team members want to start with a blank sheet of paper? Yes, but the concept of starting from scratch can be deceptive. Even when attempting to 'start over' with a process, past experience will always form the foundation from which new ideas are generated. Blank sheet design only works when the team is able to substitute someone else's experience for its own. Without the signpost of experience, it becomes easy for the reengineering team to travel down the wrong path. The knowledge base of team members lays the foundation for any major breakthroughs. In many instances the only roadblock to creative thinking is an inadequate or unclear definition of success or satisfaction with the status quo.

Essential Components For Creativity On Reengineering Teams

As you can see, for a reengineering team to have creative ability it will need to have several components:

- **A clearly defined goal shared by all team members** which provides the roadmap to guide the creative process.
- **Persistence and focus** which is the fuel that drives creativity.
- **Domain relevant skills by at least one team member** (at least one finance person on a team which will reengineer the financial reporting process) which provides the driving skills necessary to navigate the creative course.
- **Team members with a diversity of perspectives and abilities** which is the vehicle through which creativity reaches the defused goal.

Why The Blank Paper Approach Fails

A reengineering team which tries the blank sheet of paper approach is likely to fail for these reasons:

- **The blank sheet of paper does not really exist.** All ideas are based directly or indirectly on prior experience. Team members trying to use a blank sheet of paper will still be using their prior experiences as the launching pad for creating new ideas.
- **The blank sheet of paper process is inefficient.** Because new creative ideas are based upon domain relevant knowledge, trying to design a process from scratch is much more time-consuming and wasteful than trying to synergise new ideas with existing ideas that already work.
- **The blank sheet of paper concept contradicts the way the human brain works.** The human brain uses its memory to form a 'tree trunk' from which new ideas branch out. A new idea is formed from a connection, linkage or association with information already stored in the human brain.

When weighing all the evidence, creativity and creative ideas will be best generated by work teams that recognise the unlimited potential of people to link, associate and connect different thoughts into new patterns. Effective team leaders must be able to tap into the dynamics of left and right brain thinking, manage disagreement to effectively resolve conflicts, and staff teams with members with a variety of experiences, perspectives and thinking skills. Companies that have employees that apply the principles of creativity to their reengineering teams will have a competitive advantage few can match.



INTELLIGENCE ABOUT INTELLIGENCE

Are we all born Synaesthetic? Andrew Kinsman investigates.

'The work of the poets Arthur Rimbaud and Charles Pierre Baudelaire in the early nineteenth century and the composer Olivier Messiaen in this century, was strongly influenced by their synaesthesia.'

Many readers may already be familiar with the idea of synaesthesia, a condition whereby the senses are mingled so that, for example, taste is mixed with touch, numbers with colours and so on. Synaesthesia is not a disease or a psychological disorder, merely a different perception of the senses to that which most of us experience. Synaesthetes experience a blending of the senses rather than each sense being separate from the others.

A recent *Horizon* documentary included interviews with scientists who are studying synaesthesia and several people who experience it. Rosie Young's story is somewhat typical: 'I've been seeing numbers and colours since I was a very young girl. My parents owned a hotel by the seaside and I remember each room had a colour because of its number. Two was always yellow, three was bright green, four was deepish red and number six was really blue. These numbers have stayed the same colour: they are the same today as they were then.' In Rosie Young's case, it is not only numbers that are associated with colour, but also letters. Each letter of the alphabet has its own colour, and words have a mix of colours made up of the letters that comprise that word, but with the letter that starts the word being the strongest influence.

Synaesthesia has been known about for over 300 years, since when the idea of sensory fusion has always appealed to artists. The work of the poets Arthur Rimbaud and Charles Pierre Baudelaire in the early nineteenth century and the composer Olivier Messiaen in this century, was strongly influenced by their synaesthesia, but perhaps the best-known synaesthete was Vladimir Nabokov, the author of *Lolita*. Nabokov told his son, Dmitri, who also experiences the same condition, that from the age of seven he had associated many of the letters of the alphabet with a distinctive colour. Indeed Nabokov also refers to this in his autobiography *Speak Memory*: 'The long **a** of the English alphabet has for me the tint of weathered wood, but the French **r** evokes polished ebony. Dull green combined somehow with violet is the best I

can do for **w**. **b** has the tone called "burnt Sienna" by painters, **m** is a fold of pink flannel, and today I have at last perfectly matched **v** with rose quartz.' Although the authenticity of Nabokov's synaesthesia has been questioned as it owes so much to imagery and metaphor, he himself regarded it as a true form.

Synaesthesia is believed to be hereditary, and is more common among women than in men, for reasons that have yet to be properly explained. However, its existence has caused scientists to re-address the issue of how normal perception works, and even to ask themselves: are we perhaps all born with synaesthesia? There are currently two schools of thought on this issue, which are in direct contrast to one another. The conventional theory, that the brain processes the senses in entirely independent modules, is supported by Simon Baron-Cohen from Charing Cross Hospital. His theory is that in synaesthetes, these modules may be connecting in a way that never happens in a normal person, or in other words, that synaesthesia is caused by abnormal links in the brain.

A more controversial perspective is offered by Richard Cytowic, a neurologist from Washington DC, who claims that synaesthesia is caused by the ability of the limbic system, operating below the cortex, to combine the senses. This combination, he reasoned, is only possible in the emotional side of the brain and cannot be carried out in the more analytically oriented cortex: 'Synaesthetes are very certain about what they experience; and there is an emotional, pleasurable aspect to the experience itself. And I feel that this is very strong evidence that limbic aspects have got to be involved,' says Cytowic. He claims that we are all synaesthetes, but that only a handful of people are conscious of this union of the senses.

Cytowic has conducted numerous experiments to discover more about synaesthesia, most notably on synaesthete Michael Watson. One typical test involved ten different tests and shapes. Every time the Watson tasted something sweet it

would be associated with one shape, while sour tastes were associated with another. A mixture of sweet and sour tastes led to the identification of a shape that was a combination of the two. These results could not be replicated by a control group of non-synaesthetes, but re-enactments of the same test with the same subject at periodic intervals produced absolutely identical results. As Cytowic says, 'By noting synaesthetes associations and then re-testing them years later, what you find is that they stay the same, so if a given word or letter or music is blue, it is always blue. And this has been shown to be constant over their lifetime.'

Further evidence for Cytowic's theory that the limbic system is the source of synaesthesia, was provided when he experimented with stimulants. He found that Michael Watson's synaesthesia was least strong in the mornings, when he drank coffee, which stimulates the cortex, and highest in the evening when he drank alcohol, which depresses the cortex.

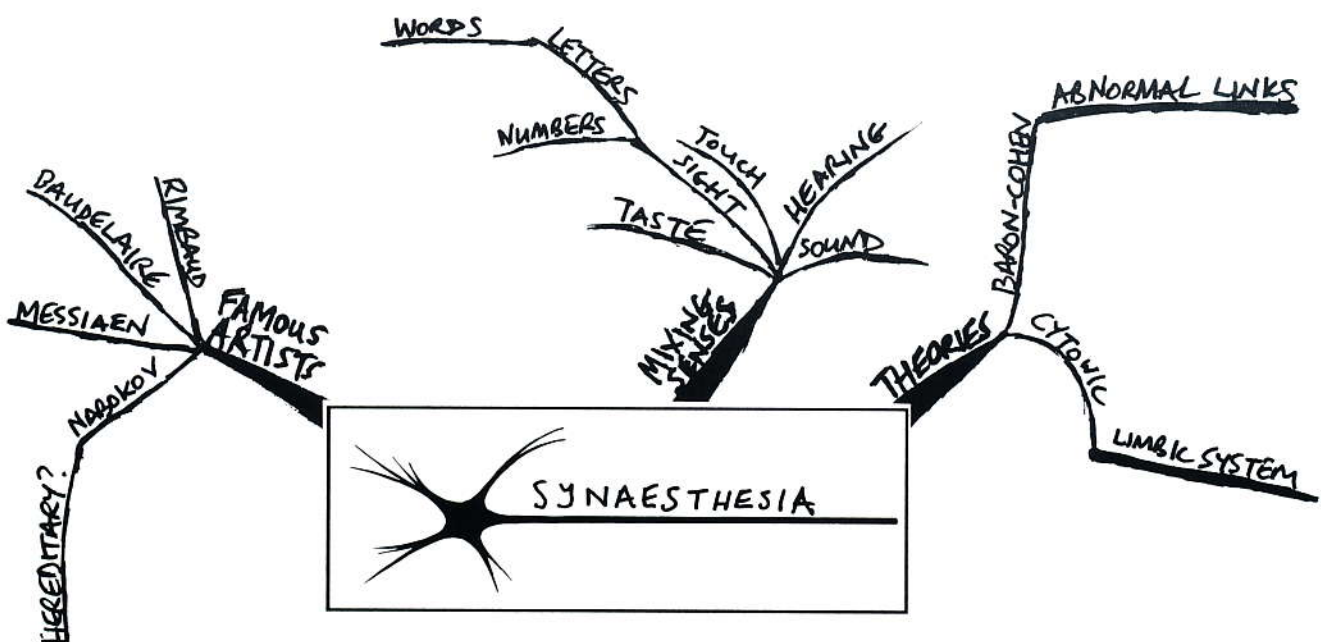
However, Simon Baron-Cohen is less convinced, 'One possibility is that the limbic system is indeed playing a role in connecting modules that aren't normally connected, but we haven't found any evidence of limbic involvement in our own studies.' He suggests that Michael Watson's associations of taste and shape were caused by abnormal neural connections within the cortex itself, and argues that

during evolution these associations have usually been removed: 'It may be that in evolutionary terms, there was an advantage to having the senses separated, maybe that produces more efficient processing, and that when the senses are mixed this produces disadvantages, even confusion.'

Baron-Cohen suggests that the reason synaesthesia may be hereditary is that it is perhaps caused by a genetic abnormality that allows the development of abnormal connections in the brain at a young age. In other words, we may all be born synaesthetic, but in most of us these connections soon become defunct. Only in the synaesthetes are the neural connections developed and allowed to flourish. This argument is supported by Dr Daphne Maurer of McMaster University, Ontario, who believes that 'the way the brain develops is to produce too many connections, and those connections then become pruned by experience. Those transient connections are not just there anatomically, they actually can function.' She suggests that in adult synaesthetes the pruning has not occurred in the normal fashion, so that some of the initial connections are retained.

Whatever the final outcome of this debate, the study of synaesthesia has already provided some important insights into the workings of the brain, and is likely to continue to do so.

'It may be that in evolutionary terms, there was an advantage to having the senses separated, maybe that produces more efficient processing, and that when the senses are mixed this produces disadvantages, even confusion.'



OVERCOMING DYSLEXIA

Janet Cooke recalls her Experiences

Janet Cooke was diagnosed as dyslexic in 1994 at the age of 44. Here she charts the improvements she has made following this diagnosis, by following a specific learning programme which incorporates many of the Buzan methods.

When I was younger, if anyone ever asked what I thought of school, I would always answer 'alright'. Well I was lying, the truth was: I hated every minute.

My memories go back to infant school. I can remember the saga my mother had to endure everyday. It must have been a nightmare for her. On waking, dressing and having breakfast, I would devise as many obstacles as possible to the trip to school. If eventually my mother succeeded in getting me out of the safety of the house, I would start another ploy, which involved clinging to every tree or lamppost along the journey, forcing my mother to physically pull me off as I held on, frantically screaming, 'I don't want to go'. On eventually arriving at school, my mother would have to hand me over directly to the teacher, or I would just up and run away. Once in the hands of the teacher my mother would return home very upset and physically drained after her daily ritual.

Junior and senior school weren't any different, I just learned to put up with it. There were lots of subjects I enjoyed, e.g. Art, Games, Cookery, Music, Science and Biology. Unfortunately I found

any written work hard. In class I could answer any question verbally, but putting pen to paper or reading was extremely difficult. I remember one particular teacher would always say 'Janet put your hand down, you don't know the answer.' This particular teacher took great pleasure in shouting and physically shaking me on numerous occasions, giving the other children something to laugh at and more ammunition with which to taunt me.

Story-time was something every child in class enjoyed, except me. The teacher would start off the story and every child in turn would stand up and read a section. When it came to my turn every child would start to fidget. I would stand and wait for the onslaught. Timidly I'd start to read, stumbling and stammering over every word, obviously made more nervous by the thought

of what was coming next. The teacher, true to form, would start shouting. My friend at the next desk would desperately try to help by whispering the words, but to no avail, only succeeding in getting into trouble herself.

Unfortunately in all this time no one considered the possibility that I might be dyslexic. I used to wonder why I had this problem, as I felt sure I wasn't, as we say, 'thick'. After years of being told you are thick and useless, your confidence takes a battering; this in turn makes mixing with people very hard, for fear they will think the same.

My problems didn't only affect school life, but life in general. For instance, going to parties was a problem, because most games involved the need to read or write. I avoided things like dancing as I have two left feet. So at parties I would just sit there and wish that the floor would open up and I would disappear. If you did join in you would be the focal point of everyone's amusement and if you didn't you were being miserable. I just couldn't win.

Upon leaving school I took the first job offered, which was as a machinist, and I enjoyed it! I had a good work record, but deep down inside I wanted more. I used to watch people and think, 'I could do that', but applying for jobs was hard because of the paper work involved. I had various jobs before getting married and having two sons. When the boys were old enough I started work again, this time in a school kitchen. From there I moved on to work in an elderly people's home, whereupon I started college, with great trepidation of the unknown.

The first course I embarked upon was my hygiene certificate, without which I would be no longer be able to work in the kitchen. So off I went, pen and paper in hand. I succeeded in gaining my hygiene certificate - I don't know how but I did. From there I had to take a one year course in Hotel and Catering Studies. Now I was really nervous, because so far in my working life I had been able to keep my inability to read and write a secret.

On starting college I was terrified, not only about the course but about being



found out. I was worried what the other students might think. Throughout the course I worked hard and again succeeded in successfully completing the course and gaining my certificate. Again through work I had to return to college, this time for two years, to gain my BTEC National Certificate in Hotel Catering and Institutional Management. At this stage it crossed my mind to give up work, because I wasn't sure I could achieve anything higher. This decision was taken out of my hands as I was then made redundant.

As work had already paid my college fees, I had a choice to leave well enough alone or to continue. I decided to continue, fearing I must be mad. This time I took another step and enrolled at Broxtowe College on a Adult English Course, where I found the staff extremely helpful.

During the following weeks my abilities were assessed and the tutor considered the implications of dyslexia. With the help of Broxtowe College I was assessed at the Dyslexia Institute and diagnosed as being dyslexic. With this news I embarked on a new, carefully stretched learning

programme. With all this help I completed the course with flying colours which included 11 distinctions, six merits and one pass, and I also received the honour of being awarded 'Student of the Year'.

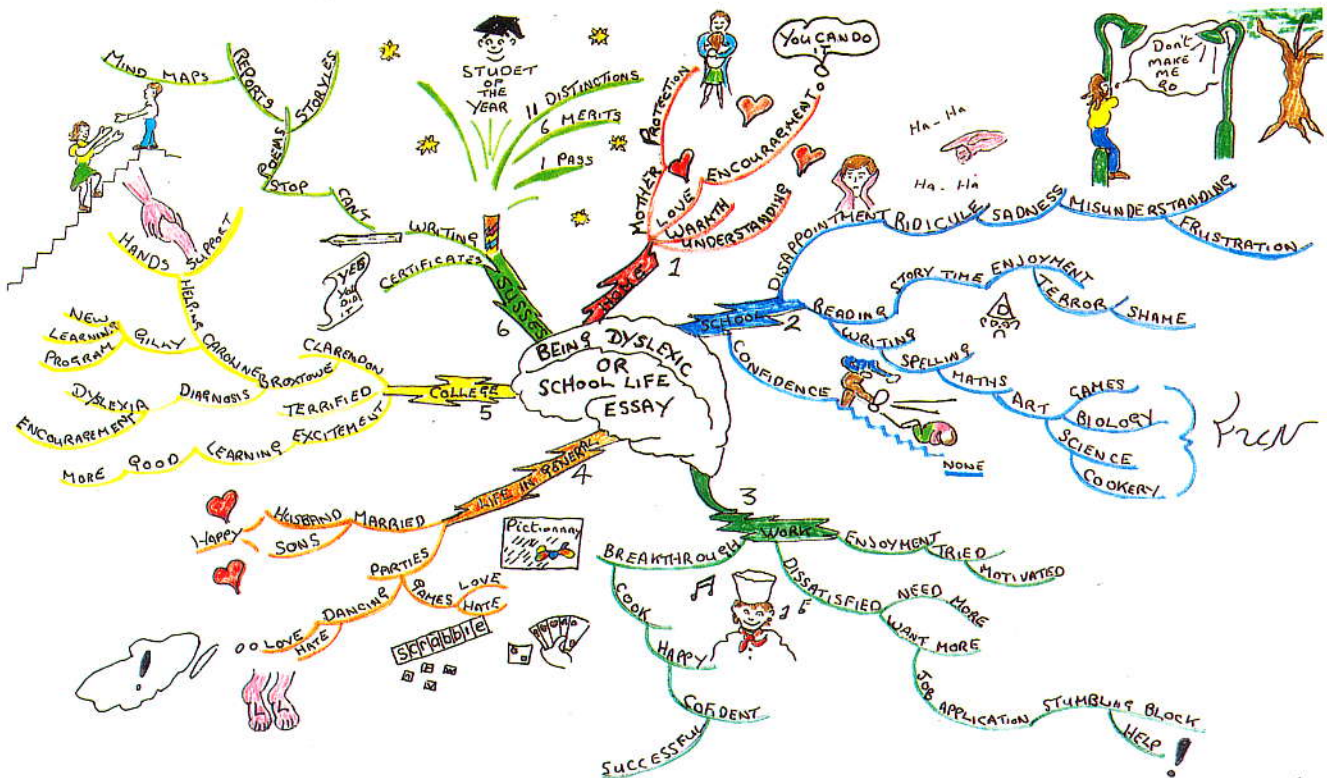
I would like to thank everyone for their encouragement and support. 'What's my next step?' Well at present I'm considering going on for a further two years to take my HNC in Hotel Catering and Institutional Management.

I hope this account helps to encourage people with a specific learning difficulty to understand that with determination, dedication and the will to learn, you will succeed. I'm not saying it's easy because it's not, but don't be afraid to try.

Nowadays dyslexia is more readily recognised, accepted and understood. There are also many approaches to teaching which specifically help dyslexics. The new Equal Opportunities Policy now in force, means that schools, colleges and places of work must offer as much help as possible and not discriminate against people with a disability. Many colleges have a learning centre which can offer courses of study to meet your individual needs.

'... with determination, dedication and the will to learn, you will succeed. I'm not saying it's easy because it's not, but don't be afraid to try.'

Janet Cooke's Mind Map on 'Being dyslexic'.



1995 S.M.C



DREAM ON

I was fascinated by the article on dreaming in the Spring issue of *Use Your Head Magazine* and, as you requested information on other peoples' experiences, I would like to share the following observations on this interesting topic.

I used to have a recurring nightmare as a young child (7-10 years of age approx.) and I 'learned', or taught myself, to know I was only dreaming and that I could wake myself up. This I did by shaking my head in my dream (it got easier and easier each time I did it) which was translated into a real-body head movement against my pillow, which woke me up.

As a child and teenager I was convinced that I only dreamed in black and white, and this conviction strengthened as, in my 20s I occasionally had dreams where there was just **one** coloured article (the time I still remember being a soldier's tunic).

These items were always bright red and stood out from the background rather like the FT adverts where the newspaper was pink, in a black and white film.

Colour gradually increased in my dreams over the years to the point that I believe I now (in my forties) dream in full colour, at least in all my recalled dreams.

I definitely hear in my dreams, in the normal way as I often recall speech from others on waking.

In my dreams I act and react in my own body, but I often (not always) find I am apparently observing myself from above when I recall the dreams.

I have recent dream sequence that may be of interest:

I dreamed that I was standing in a crowd in front of a curtained off area with Wendy (a close colleague from work), standing, visible to me, just behind my

right shoulder.

A fanfare sounded and the curtains lifted and parted to reveal a metallic red sports car. Strangely, it was the back of the car which was revealed and, although I wouldn't have a clue which model it was, it had a 'Jaguar' badge on it.

Somebody shouted 'Jean's won a car!' and I was aware that 'Jean' was standing just behind Wendy, although I could not turn to look at her.

Then I woke up, looked at the clock (3am), went to the loo and went back to sleep.

I then had a second dream in which 'Jean' won a car (different setting) - and I turned to Wendy in the dream and said 'It's strange because I *dreamt* that Jean had won a car!'

I would observe that I could not see who this 'Jean' was in my dreams, and have no close friends/colleagues of that name, but several weeks later I still recall a good deal of these two dreams, especially the image of the car revealed by the parting curtains.

I hope you find some interest in the above - good luck with your experimenting!!

Yours Sincerely,
Loraine Lindsay (Mrs)

MEMORIAD REVISITED

I read with great interest Kenneth Wilshire's article 'Mathematical Inclusion and Other Thoughts' (*Use Your Head* - Autumn/Winter 1995).

I am indeed extremely flattered that he believes me to have an innate ability for the memorisation of pictures, but I'm afraid that I'm too honest to let this go uncontested - like so many other memory feats it was merely a technique coupled with lots of practice.

During the year I had worked towards

'In my dreams I act and react in my own body, but I often (not always) find I am apparently observing myself from above when I recall the dreams.'

the 1500 memory belt by memorising information contained in Tony's book *Master Your Memory*. One of the categories I memorised was the section on artists. This necessitated studying famous paintings in detail for the first time in my life. What I did was to find some distinguishing feature in the picture and then, letting my imagination run riot, I tied in all the factual bits of information of the artist to that feature. It was great fun and certainly the most enjoyable bit of memory work that I have ever done. The work undoubtedly increased my visual awareness and also made me aware of the technique of 'homing in' very quickly on a salient feature which helped me at the Memoriad.

And so the myth of my having some innate ability has been destroyed! I only wish I did! I would dearly like to know what technique Natacia Diot and Patrick Colgan employed when they wiped the floor with the rest of the competitors in the text memorisation game, during the 1994 and 1995 Memoriads respectively. I am convinced that some technique, perhaps done subconsciously, was involved.

I also believe that both of these games should be retained in future Memoriads. They add variety, present different memorising skills and so make the two-day event more interesting. The audience must find it very boring watching us all memorising numbers and cards, with the exception of the speed pack of cards in the last event. At least they can have a go at the text and painting events, as well as the names and faces.

Although I was a mathematician, I would not welcome the inclusion of a mental arithmetic exercise along the lines proposed by Ken. Other skills would have to be used which would give certain of the competitors an unfair advantage and this would culminate in diverting people's attention away from the whole point of Memoriad - to find a memory champion. Perhaps there could be a separate event, lasting for a half or full day, devoted to this topic. I have already seen one very impressive demonstration by Dominic O'Brien along these lines.

I also believe that the travel event should be allowed to die a natural death. The event was included for the first time in 1994 as part of our sponsor's advertising campaign. It was a fun thing to do and it was certainly very interesting in the way it appeared to throw in a wild card which completely changed the results of the 1994 Memoriad. In practical terms it

turned the Memoriad from a ten competition to an eleven competition event. There are thus several time pressures on that final day and by the time all the presentations are done, instead of finishing in time for lunch, it is mid-afternoon, and all the competitors are nearly passing out through lack of food! (Two of the competitors ended up having to eat the remains of my mid-morning snack!)

I wait to see what delights are in store for us at the 1996 Memoriad with both anticipation and trepidation!

Yours,
Sue Whiting

PERILOUS PYLONS?

Do sub-stations and high voltage electric cables pose a potential health threat not only to humans but animals as well?

I believe there is a new and deadly affliction stalking the land in the guise of a poisoned potion comprised of an electromagnetic and electro-chemical brew. I call this 'Pylonalgia'.

By far the most destructive on human health is the electromagnetic factor as radiation penetrates every part of our brains, whereas electrical influence stops at the skin.

Prof Leif Floberg, of Sweden's Lund University, and other reputable British, American and Japanese researchers have repeatedly pointed out over the years that the great danger lies in the alternating current which passes through overhead pylons at 50 times per second, thereby inducing a corresponding rapid, repetitive change in our brain cells.

Is it any wonder that such a shaking of closely packed cells should injure them all continuously for weeks, months or years, producing the characteristic aching which is the trademark of patients suffering from these effects? Arnica is the obvious choice of palliating remedy for such cellular insults.

A frightening *Panorama* programme and aptly named *Live Wire* counterpart portrayed the plight of the Studholme family whose son, Simon died of leukaemia two years ago aged 13 in what I call 'The Bolton Magnetic Electric and Chemical Triangle', perhaps not altogether dissimilar to the famous Bermuda Triangle.

The case history of this most unfortunate family began when its members, father Ray, now 46, mother Denise, 40, Simon, daughter Debra, 14, and another son Philip, went to live in a house adjacent to an unscreened electric sub-station together with the cables supplying it.

'By far the most destructive on human health is the electromagnetic factor as radiation penetrates every part of our brains, whereas electrical influence stops at the skin.'

From time to time, these have been seen to emit flashes and sparks, especially in the evening when there is an extra high surge of electrical power or if there is thunder.

Simon was perfectly healthy for five years until the family moved. His bedroom, where he slept for 22 months, was close to the sub-station.

As soon as he entered the house, Simon told his father he sensed that 'terrible things will happen here'. When he was close to dying, Simon begged to be taken away from the house so that he would not have to die there.

Both his father and mother, who was already suffering from gynaecological problems, were otherwise quite healthy. But shortly after moving, they began to feel ill, with headaches, nausea, giddiness and extreme fatigue.

The parents also suffered from sleeplessness, which had never bothered them before. When leaving the house for a few days they felt better, but fell ill again immediately upon returning.

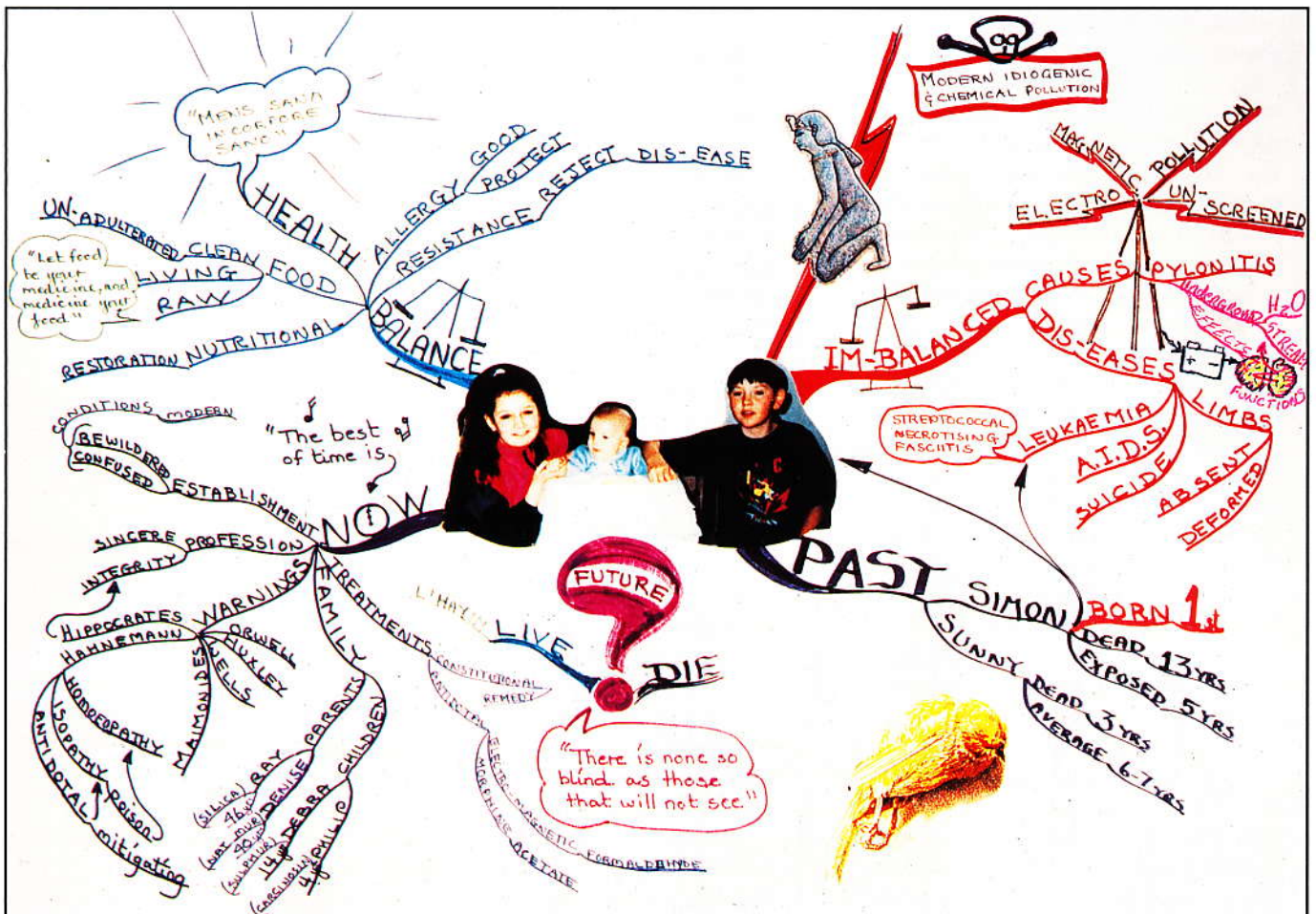
Debra developed epilepsy within 18

months of moving to the new environment whilst Philip was found to have an increased white blood cell count. No further tests were performed on him until they were recently reinstated at monthly intervals. All family members are now being tested.

Their canary, Sunny, died in March when, according to Debra, sparks and flashes were emitted from the sub-station at around 8.30pm. Canaries are ultra-sensitive to toxic vapours, hence their traditional protective alarm mechanism in mines.

By now the whole family, who sleep on the ground floor in the part of the house furthest from the side where Simon slept, felt particularly ill.

The canary, whose natural expectation of life was six or seven years, was bought after Simon's death, aged about six months. Sunny had been ailing for some time, huddling in the corner of his cage. An autopsy showed gross loss of weight, inflammation, congestion and crusting of his nostrils, characteristic of canary virus.



However, in my opinion there remains more than a suspicion that his death was precipitated by the environment which killed Simon, and to which the whole of the family remains exposed, the children being the most vulnerable.

Electromagnetic readings in Simon's room were very high. The family's elderly car - habitually parked close to the sub-station and immediately over electrical cables - has rusted away much more rapidly than would be expected in a vehicle of its age.

My recommendation is that the family should be evacuated immediately into an area removed from overhead pylons and a sub-station. These, in my opinion, render the house uninhabitable for human or animal occupation. Removing the sub-station would mitigate the risks significantly.

Homeopathic treatment can, at the most optimistic estimate, mitigate the incipient dangers that threaten the children in particular. It is gratifying to realise that even when living in a hell-hole, their plight was considerably mitigated by the homeopathic treatment, which is continuing for the time being.

After five years suffering, the family was finally liberated and enabled to leave their uninhabitable house by the provision of a motorised caravan. They have been advised to continue their homeopathic treatment.

Yours,
Dr Ronald Livingston

WHOLISTIC

The word 'wholistic' has become very popular in the last few years and many of us in the healing world make a living out of helping fellow path-walkers towards 'wholeness'. But what exactly does that mean? How can we define wholeness?

To some it would be when everything inside of us is working in harmony, in a mystical sense it could be described as the Dance of Shiva when we know we are linked to every atom and rhythm in the Universe, perhaps it is what Bob Beamon felt when he made that spectacular long jump record which has taken years to be broken. Perhaps it cannot be defined because it means something different to everybody and depends on where they see themselves at any given time on their journey through life. One thing I am sure of is that however much people like me intone about various parts of ourselves such as 'inner teacher/child/warrior' et al, the one bit which is the most vital is given

no credence whatsoever. Indeed this part of ourselves is frequently seen only for its stupidity not its intelligence, for its boredom not its infinite capacity for creativity, or for its wrongly perceived degeneration rather than its limitless potential for growth.

So what is this missing piece? It is our brain. The brain is the smallest and most complicated computer ever created. Professor Anokhin of Moscow University researched the information processing capabilities of the brain and found them to be 'limitless'. Mathematically he calculated the number of possible patterns your 1,000,000,000,000 (million million) brain cells could make as one (1) followed by 10.5 kilometres of typewritten '0's. That is about as close to infinity as you are ever likely to get.

By the way have you ever been taught how to:

- maximise the potential of this incredible bio-computer?
- organise your thoughts in a brain compatible way?
- improve your memory by using the natural processes of your brain?
- make learning, thinking and studying FUN!?
- gather a lot of information on one page so that you can see the relationship of any piece of information to any other?
- weigh many opinions and make a decision?
- prepare a speech of any length on one piece of paper and in 1/4 of your usual time?
- let your thoughts flow, so you can see how much you know on any subject?
- direct your brains resources to maximise your own potential for wholeness through boundless creativity?

NO?????????

Well, don't panic: there is an excellent remedy for M.B.S. (Missing Brain Syndrome!). This treatment has no side effects, is great fun, is very constructive and is very cost effective. Thanks to a Superman named Tony Buzan we have Radiant Thinking® and Mind Maps® - the tools which you will need to learn to realise *your full brain potential* and move closer to 'wholeness' than you ever thought possible.

Yours,
Frances Taylor

'So what is this missing piece? It is our brain. The brain is the smallest and most complicated computer ever created.'

ANIMAL INTELLIGENCE

'C'mon Baggy, Get with the Beat'

'They have found that ... classical music ... seems to soothe the chimps and that music in general tends to make the animals less nervous and less likely to be alarmed by unusual noises.'

There can be few children (or indeed adults) who have never seen Baloo the Bear educating Mowgli in the arts of the 'bare necessities' in Walt Disney's *The Jungle Book*. Baloo's love of music is one of the key motifs that run through the film as he sings, struts and sambas through the film. And most pet-owners have a story to tell about how their dog, cat, parrot or goldfish reacts to a particular song or piece of music. But is there any real evidence that animals can appreciate music?

Popular belief has always suggested that animal behaviour can be affected by music. One only has to think of Orpheus using his lyre to charm ferocious beasts or the Pied Piper of Hamelin ridding the town of rats. The founder of Methodism, John Wesley, tried an experiment at the Tower of London in 1764 to see whether the lions and tigers would react to music. According to Wesley's journal, one of the lions 'came to the front of his den and seemed to be all attention,' and then a tiger started jumping over the lions back and running underneath it.

Perhaps the first place to look the effect of music on animals is with our closest relative, the primate. At the Gorilla Foundation in Woodside, California, Francine Patterson and her team have

been studying language abilities and have discovered that one of their gorillas seems to prefer live music to recorded music, and classical music (particularly Pavarotti) to pop. They have even seen him tapping his foot in time with the music. Staff at Twycross Zoo have noticed a similar preference for classical music with their chimpanzees. They have found that it seems to soothe the chimps and that music in general tends to make the animals less nervous and less likely to be alarmed by unusual noises.

Some farmers use music for precisely the same reason, to calm the cows in the milking shed and thereby improve the flow of milk, and perhaps because they also believe that it keeps the cows at the optimum level of arousal. In March 1993 a Belgian musician, Christian Leroy, staged a concert for 3000 cows in a town called Ciney, but it not recorded whether he milked them all himself afterwards.

Dog-owners frequently report that their pets howl when they hear certain kinds of music. This is probably a throw-back to their lupine origins, as wolves often howl when they are in a pack. The dog just has to join in with the music, even if it is only accompanying a stereo system.

But can animals actually make music? According to Francine Patterson, their gorilla likes to drum and tap, and has made a rattle from nutshells in his experiments with making musical sounds. One chimpanzee at Georgia State University likes to join in when the staff sing, producing a stream of 'waah' sounds, although apparently his vocal abilities are not quite sufficient for him to join the university choir.



AMAZING MEMORY STORIES

Memory Experts Through the Ages

We are used to reading of the increasingly amazing accomplishments of modern day memorisers, but their success is built on a long tradition of memory techniques that have been developed through the ages. In the following material, based on extracts from the *Book of Genius*, we learn of the exploits of some of the most influential memory figures.

Antonio di Marco Magliabechi, born in 1633, was able to read entire books and memorise them without missing a single word or punctuation mark. He eventually committed to memory the entire library of the Grand Duke of Tuscany.

Daniel McCartney, a 19th century American, could tell, at the age of 54, what he had been doing on every day since early childhood. Among other things, he could remember the weather conditions and what he had eaten for breakfast, lunch and supper on any given day.

Christian Friedrich Heinecken was born in Lubeck, Germany in 1721. At the age of 10 months, he was able to speak and repeat every word said to him. By the age of three he had memorised most known facts about world history and geography at that time, and had similarly learned Latin and French. He is also said to have predicted his own death, which occurred in 1725 when he was still less than four-and-a-half.

Themistocles (c.523-c.458 BC) was a Greek soldier and statesman, who was able to remember the 20,000 names of the citizens of Athens.

Xerxes, King of Persia from 486 to 465 BC, was reputed to be able to recall the names of the 100,000 men in his armies.

Cardinal Mezzofanti, a 19th century linguist, was able to memorise the vocabulary of over 70 languages, including Latin, Greek, Arabic, Spanish, French, German, Swedish, Portuguese, English, Dutch, Danish, Russian, Polish, Bohemian, Serbian, Hungarian, Turkish, Irish, Welsh, Albanian, Sanskrit, Persian, Georgian, Armenian, Hebrew, Chinese, Coptic, Ethiopian and Amharic.

Seneca (c.4 BC-c.65 AD), Roman tragedian and philosopher is said to have recalled 2,000 words after a single hearing.

Petrarch (1304-74), the Italian poet who was himself a memory expert of repute, states in *Rerum Memorandarum Libri* that one of his friends had a virtually perfect memory: 'It was enough for him to have seen or heard something once, he never forgot; nor did he recollect only the subject matter but also the time and place where he had first learned it.'

Simplicius, a misnomer if ever there was one, was a friend of St Augustine (AD 354-430) who recalled: 'An excellent man of remarkable memory who, when he might be asked by us for all the next-to-last verses in each book of Virgil responded in order quickly and from memory. If we then asked him to recite the verse before each of those, he did so. And we believe that he could recite Virgil backwards. If we desired a common place concerning any topic we asked him to make one and he did. If we wanted even prose passages from whatever of Cicero's orations he had committed to memory, that also he could do; he followed in order however many verses were wanted, backward and forward.'

By the age of three he had memorised most known facts about world history and geography at that time, and had similarly learned Latin and French.



INTERNATIONAL ALLIANCE FOR LEARNING

Bridget Hanna reports

The International Alliance for Learning (IAL) provides a rich pot-pourri of innovative ideas and experiences to inspire and challenge all members of the teaching profession. Here Bridget Hanna describes the 1996 conference and explains its history and philosophy.

Ten years ago Vanda North, President and founder of Buzan Centres, was President of the IAL (then still known as SALT - the Society for Accelerative Learning and Teaching), and in this capacity she invited the inventor of Mind Mapping (a certain Mr Tony Buzan) to come and talk at her conference in Florida. Ten years later Mr Buzan was back in Florida - this time with Vanda - to teach, train and motivate the teachers and educators of America at the 1996 conference. During the past ten years Mind Mapping has become one of the premier tools of Accelerated Learning. It is now advocated by almost every book on learning and was clearly regarded as one of the best learning techniques ever by everyone I worked with during the conference.

Indeed, the IAL described Mind Mapping as *the* thinking tool for the 21st Century, and exhorted its members to attend in order to prepare themselves with the 'originator'. The general session was attended by virtually every delegate. Despite buses waiting to leave for an evening at EPCOT, many attendees stayed late to hear Tony talk about the development of Mind Maps. Much to the consternation of those who had booked on the

evening excursion Tony then agreed to extend his session to cover more about the nature of genius for those who had not come along to his pre-conference workshop. The American RTI contingent (assisted by myself) decided to give Tony a bit of a surprise and composed a short celebration of Mind Mapping to the tune of Edelweiss. The verse that sticks in my mind goes something like this:

Mind Mapping
Mind Mapping
Left and right sides united

Bold and Bright
Lines and light
Use your imaginations

Combining these Tony found
The central image we go around

Mind Mapping
Mind Mapping
We'll be Mapping forever

Congratulations go to Fellow RTIs and apologies to the originator of the true lyrics.

Tony Buzan also ran a full day pre-conference workshop entitled *Genius and How to Obtain It*. The main theme to this day was that genius is not a 'natural' gift. It is a learned series of intelligences developed to a specific formula. The true nature of genius was explored in depth (for more information get hold of *The Genius Formula* by Tony Buzan and Raymond Keene) and Tony took the audience on a ride through their own intelligences and natural genius. Vanda's own special session on MMaplications for Life Enhancement was also extremely well received. As a past president of the IAL, this was a very significant event for Vanda.

One of the other highlights of the conference was a talk by Dr Jeanette Vos,

International Alliance for Learning - a History

The International Alliance for Learning began in 1975 as the Society for Accelerative Learning and Teaching (SALT). Founded by Dr Donald Schuster and Charles Gritton, and based on research by Bulgarian scientist Dr Georgi lozanov, the society applied the use of suggestion, relaxation, and music to teaching and training. The organisation has grown and now embraces a wide range of successful technologies aligned with current research on the brain and learning. In 1994, the name of the organisation was changed to the International Alliance for Learning.

co-author (with Gordon Dryden) of *The Learning Revolution*, talking about Mind Mapping as one of the world's top techniques for learning. A new subscriber satellite television channel called The Peoples Network filmed both authors during the conference. TPN will run 240 hours of programming each month devoted entirely to personal development. Its arrival in the UK is planned for 1997.

Throughout lunch that day I was bombarded with people who wanted more information on Mind Mapping and the Buzan Centres exhibition stand was inundated by would be Mind Mappers. Delegates and presenters alike crowded round to hear the latest developments and buy the books and tapes that would help them to learn the techniques.

The conference was held at the Hyatt Hotel, Orlando Florida. Despite some of the worst weather in many years (including a ferocious storm) and frost alerts for the Florida oranges, most of the delegates and speakers managed to arrive. Airports and trains were delayed and cancelled and for a moment those involved with the organisation of the conference held their collective breath. The National Guard were sweeping roads clear in Washington and New York had six foot snow drifts. With over a 1,000 delegates coming from around the globe the conference was one of the most successful

yet. The 1997 conference is scheduled for January 10-13 and will be held at the Hyatt Regency in San Antonio, Texas. For more information, contact the IAL (address below).

This year Binky Greene, Head Learner at Woodville Elementary School in Leon County, Florida recorded all the general sessions and selected concurrent sessions onto Mind Maps, which were then offered to delegates for a nominal cost, providing an overview of each lecture and a wonderful (and memorable) review for those attending. The Mind Maps can be purchased direct from the IAL, while the recordings of Tony Buzan's sessions can be obtained through:

Magnemedia, Inc.
6420 Orange Bay Avenue
Orlando, Florida, 32819
Telephone (407) 351-1119

All opinions in this article are highly personal, and are biased accordingly!

For more information on featured people and products, please contact

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See page 29 for a photo of some of the RTIs at the IAL Conference in Orlando, early in 1996.



International membership of the IAL costs \$80 and includes two double issues of the *Journal of Accelerative Learning and Teaching (JALT)*, three newsletters and conference information.

IAL
PO Box 1298
Cardiff, California 92007
United States of America

The UK version of IAL is known as SEAL (Society of Educators in Accelerated Learning). For more information, contact:

Grethe Hooper Hansen
49 Henley Road
Ipswich Suffolk IP1 3SJ

Tel/Fax 01473 289813

THE FIFTH WORLD MEMORY CHAMPIONSHIPS

Simpson's-in-the-Strand, 3-4 August 1996

Memoriad '96 - the fifth World Memory Championship - is being held at Simpson's-in-the-Strand, London, on Saturday and Sunday, August 3 and 4. This year, the organisers are expecting to see the shattering of even more mental world records. Competitors are flying into London from every corner of the globe for this Championship of the Mind.

The public (especially International Brain Club members) are very welcome and will be encouraged to take part in a series of events including: an audience memory sprint; simultaneous chess displays to challenge Raymond Keene OBE, international grandmaster and chess and

mind sports correspondent of *The Times*; and interactive lectures on how to improve your memory. The latter will include a session with Memoriad founder Tony Buzan, the creator of Mind Maps and the concept of mental literacy.

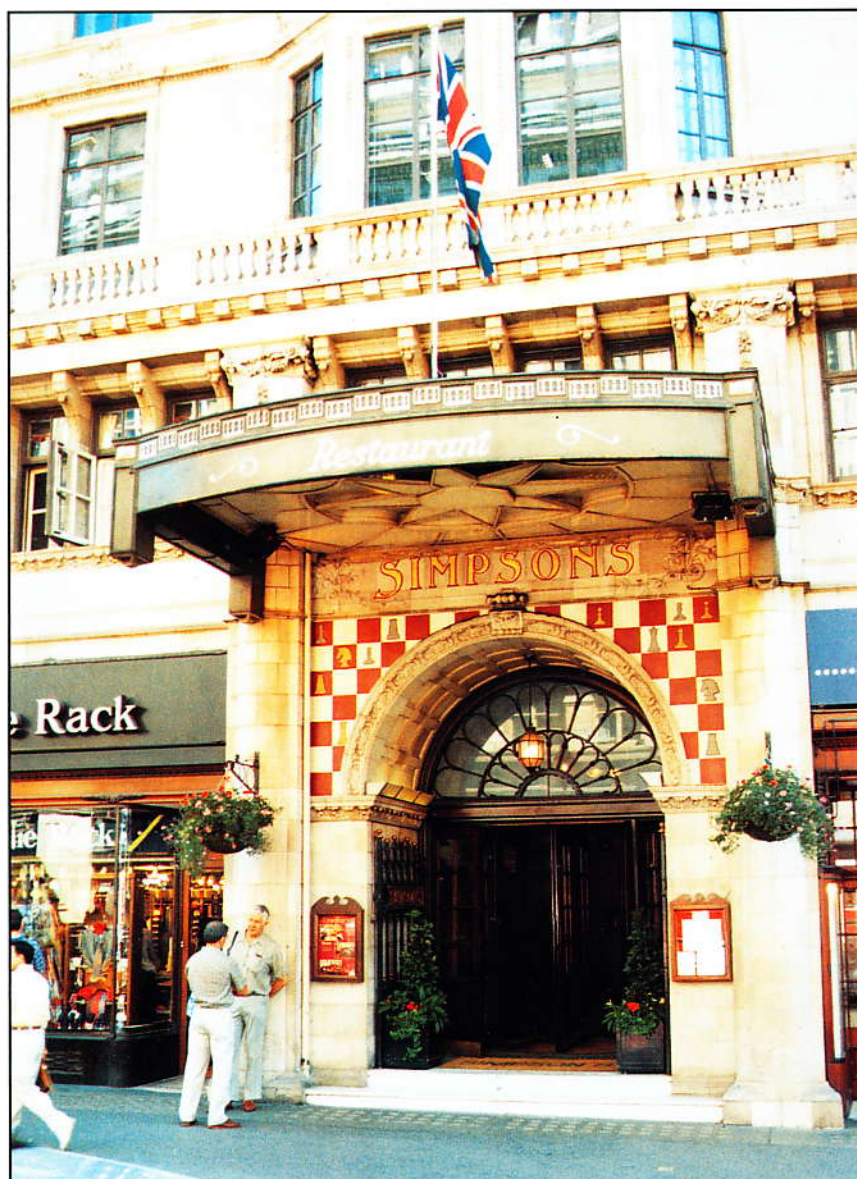
At last year's event, the World Memory Champion title went to Dominic O'Brien, who has now won the title three times. Dominic has set numerous memory records. For example, he holds the world record for the memorisation of a single pack of cards (43.59 seconds). Dominic is currently limbering up for Memoriad '96 and says that he fully intends to win the Memoriad for a fourth time.

Regarding this year's championship, Tony Buzan commented: 'Sadly, many people feel that they have a poor memory. However, the latest research is proving, beyond all doubt, that it is not memory which is at fault - but the ability to effectively store information in the first place and then recall it. I urge you to come to Memoriad '96. Be prepared to be astonished by what you learn.'

Raymond Keene added: 'The Memoriad has now established itself as a regular annual event, since Tony and I inaugurated it in London five years ago. International recognition for memory testing and performance as a competitive sport came last year when Prince Philipp of Leichtenstein presided over the initial award of the new grandmaster titles for competitive memory achievements.

'The creation of the memory championships has further led to an industry of publications on memory by its two top practitioners Dominic O'Brien and Jonathan Hancock. The former, indeed, whose memory achievements quite defy the normal parameters of human mental capability, has also established himself as a media and TV star through his memory feats. I wish all competitors well in this forthcoming contest and look forward, as in all former years, to further records being smashed.'

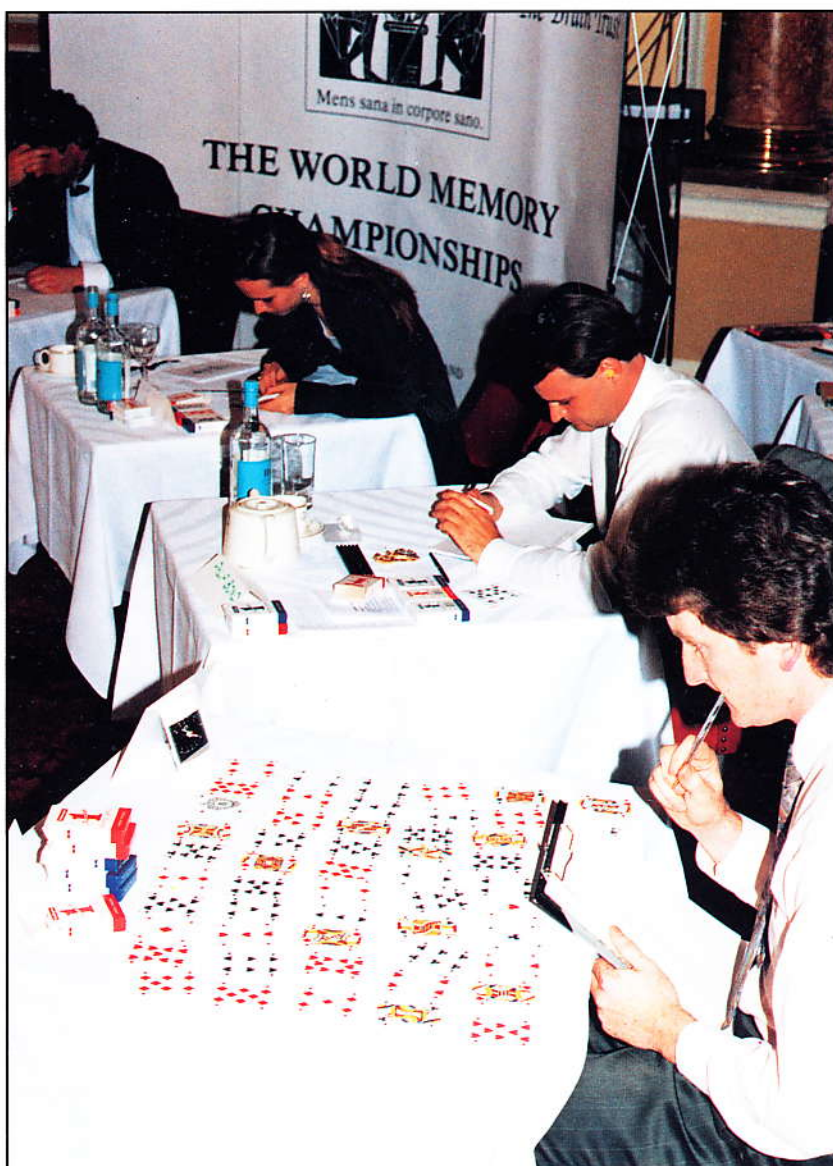
Simpson's-in-the-Strand, the new mind sports Mecca.





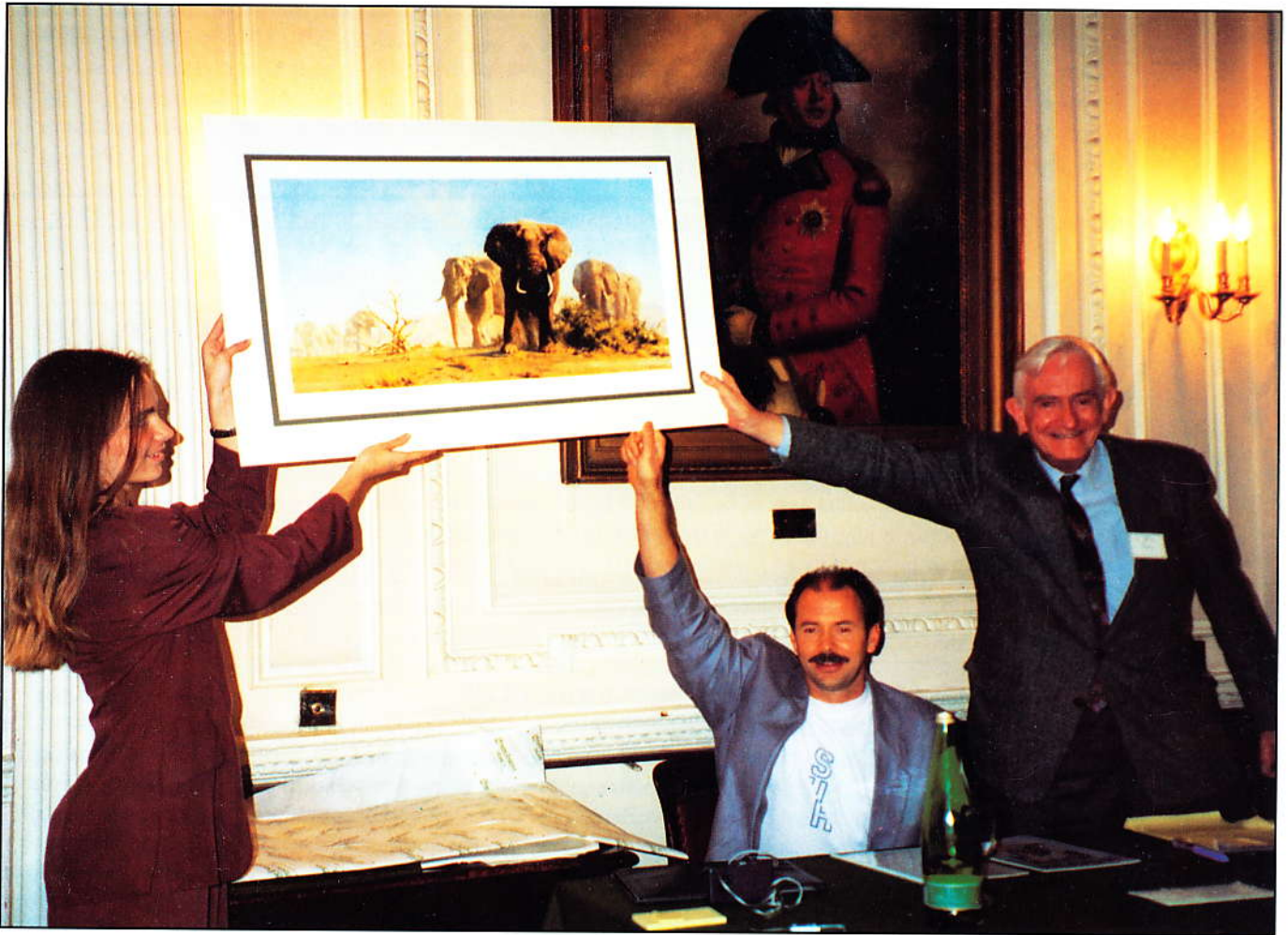
The two previous Memoriad champions, Dominic O'Brien (above) and Jonathan Hancock (below).

Right: the multi-deck card memorisation event.



Previous Memoriads - Roll of Honour

Memoriad '93		Memoriad '94		Memoriad '95	
1	Dominic O'Brien 92.5	Jonathan Hancock 1080	Dominic O'Brien 1040	Dominic O'Brien 1041.8	Jonathan Hancock 835.4
2	Jonathan Hancock 80.5	James Lee 665	Sue Whiting 540	Andy Bell 668.4	Patrick Colgan 541.5
3	Philip Bond 67.5	Natacia Diot 505	Ian Docherty 490	Kevin Horsley 492.6	Mark Channon 472.3
4	Crieghton Carvello 66	Melik Duyar 475	Patrick Colgan 460	Tom Groves 365.4	Sue Whiting 337.3
5	Alastair Levy 60	Philip Bond 425	Edward Rankin 310.1	Creighton Carvello 272.3	Ken Wilshire 213.7
6	Ken Wilshire 54.5	Ken Wilshire 425	Ken Wilshire 213.7	Klaus Kolb 184.7	Frank Felderbaum 133.7
7	Tom Morton 53.5	Creighton Carvello 405			
8	Natacia Diot 50.5	James Longworth 220			
9					
10					
11					
12					
13					



Above:
Natacia Diot, David Wilkie and Sir Brian Tovey at a
previous Brain Club Conference.

Below:
Some of the Radiant Thinking Instructors at the
International Alliance for Learning Conference in
Orlando, early in 1996. See Bridget Hanna's report
on pages 24 and 25.



USE YOUR HEAD CLUB NEWS

Latest Club News

THE SOUTH COAST CLUB

'We're not like you thought we were going to be!'

With trepidation the first meeting of the South Coast Club was held on Saturday 11 May in Weymouth, and it was a resounding success. All those who had dared to go along just to see if it would be all weirdos, agreed that everyone there was 'normal' (if there is such a thing) and like-minded, i.e. had the same hopes and aspirations with regard to Learning How to Learn and improving their Mental Techniques.

It was decided that a second informal meeting would be held in Weymouth in Saturday 15 June at 2.00 p.m., which would be followed by an official launch and meeting with a Radiant Thinking instructor in July, probably to be held in the Bournemouth area. If anyone is interested in coming along to either of these meetings, please contact Michael Tipper on 01305 862959.

THE TRIPLE FIVE WEST MIDLANDS CLUB

The Secrets of Super Learning

Barry James Mapp was guest speaker at the first open meeting of the Triple Five Club, which was held on Thursday 2 May in Kidderminster and was the first of a series of talks to be organised on the subject of *Personal Development*. Barry gave an outline and practical demonstration of some of the 'Super Learning' and memory techniques which are not taught at school but should be. These techniques are available to anyone, and using them will enhance study for qualifications and personal development. A very interesting and fun evening ... and for those of you who were there, if you can still spell Pyrrhuloxia, can you remember what it means?

For further information on future meetings, please contact Bryan Hopkins on 01527 544061.

THE SOUTH WEST CLUB

After several years of amazing energy, enthusiasm hard work and success as Co-ordinator of the South West Cell, Lynn Collins has decided to take a back seat and we would all like to take this opportunity of thanking her for all her help and support. We still look forward to seeing her at future meetings and are encouraged that she has volunteered to lead a meeting later in the year.

A new committee has been formed and the programme for the remainder of the year plans to include practice sessions for those particularly interested in Mind Mapping and Memory, as well as study group workshops and the usual evenings with special guest speakers.

The first meeting organised by the new committee was held on 14 May and was entitled *The Ability of the Brain to Recover*. There were experts, sufferers and carers on hand to give a better insight into the complex area of strokes and brain damage.

Future meetings are being held on the following subjects: *Two Ways into Memory Improvement*, *Goal Setting and Achieving*, and *Creative Time Management*. If you would like to go along to any of these, please contact Caro Ayro on 01823 672603.

NEW CLUB TO OPEN IN MILTON KEYNES

Watch this space or, better still, contact Justin Coen on 01628 477004 if you are interested.

New Clubs are opening all the time. Remember that you have to be a member to attend the meetings, so bring along a friend! We welcome anyone who is interested in developing and exploring their mental skills. The International Brain Club welcomes anyone who has a brain and wants to learn how to make better use of it. Go for it, now!

THE THAMES VALLEY CLUB

The numbers of attendees at our monthly meetings is increasing dramatically: the word is spreading...

Two committee members from the London Cell have been out to the sticks to compare notes and at the same time share some of their incredible knowledge and techniques with us. In March Erndal Kernel presented *Learn to Love Maths!* Erndal's mission in life is to banish the fear of numbers and he has developed methods which are both fun and amazingly effective.

Mikhail Roman Pintillie came to speak to us in April on the subject of *The Money Mind*, and gave us a taster of his seminar on the subject. This was all about how we conceive money and...

Our May meeting was entitled *Accelerate Your Spanish - No Problema!* This was led by Yvonne Bray, a former member of the Institute of Linguists who introduced us to the Spanish language using her own successful methods, combing some Accelerated Learning principles with whole brain and body techniques, showing that learning a new language can be fun.

The Thames Valley Club calendar for the next few months covers the following themes: *Dyslexia, NLP, Personal Development and Slimming*, as well as a Summer social event in August. Please contact Keith Bray on 01628 474743 for further details.

RECIPE FOR SETTING UP A LOCAL BRANCH OF THE USE YOUR HEAD CLUB

First of all you take a simple idea inspired at an Introductory Radiant Skills course and mix it with the infectious enthusiasm and energy of Vanda North - be careful with this last ingredient as it is extremely powerful and you only need a small amount for the desired results. Wait a while for the ideas to come together in your subconscious.

When you feel you can wait no longer, contact local Use Your Head Club members and invite them to get together. Fix a date and you will soon find several club members knocking on your door. Let them in, board up all doors and windows and insist on at least 300 Mind Maps before you will let them go. Alternatively, sit and chat about what interests you and watch with delight as you discover how much you all have in common. Let the conversation flow for an hour or two, enjoy the company of like-minded individuals, resolve to meet again in a month's time and then retire to the local pub for lunch. And there you have it, your own local branch of the Use Your Head Club.

By carefully following these instructions, Mike (that's me), Edna, Alex, Steve and Alex, magnificently supported by Justin and Phyllida from the Use Your Head Club, held the first meeting of the Dorset Branch of the UYHC. This recipe really works - go on, try it.

ART/DESIGN/DYSLEXIA - A SEMINAR

People working in the field of art and design have long been aware that dyslexia is not just a problem but a recurring, perhaps enabling, characteristic associated with visual-spatial ability. A forthcoming seminar, introduced by Baroness Warnock, will consider the relationship between dyslexia and art and design. Dr Beverley Steffert will lead the discussion with a summary of her research findings establishing firm information about the number of students with dyslexia in a representative art and design college (Central Saint Martins). Speakers, including psychologists, artists and designers, will invite consideration of the potential relationship between dyslexia and visual-spatial ability, particularly in terms of learning and teaching strategies. This event will also be of interest to special needs advisers, and artists and designers who are themselves dyslexic.

This seminar, to be held on Friday 5 July, will be presented by Central Saint Martins College of Art and Design and the Arts Dyslexia Trust. For further information contact Jane Graves, Central Saint Martins College of Art and Design, Southampton Row, London WC1B 4AP (0171 514 7000 ext 7046).

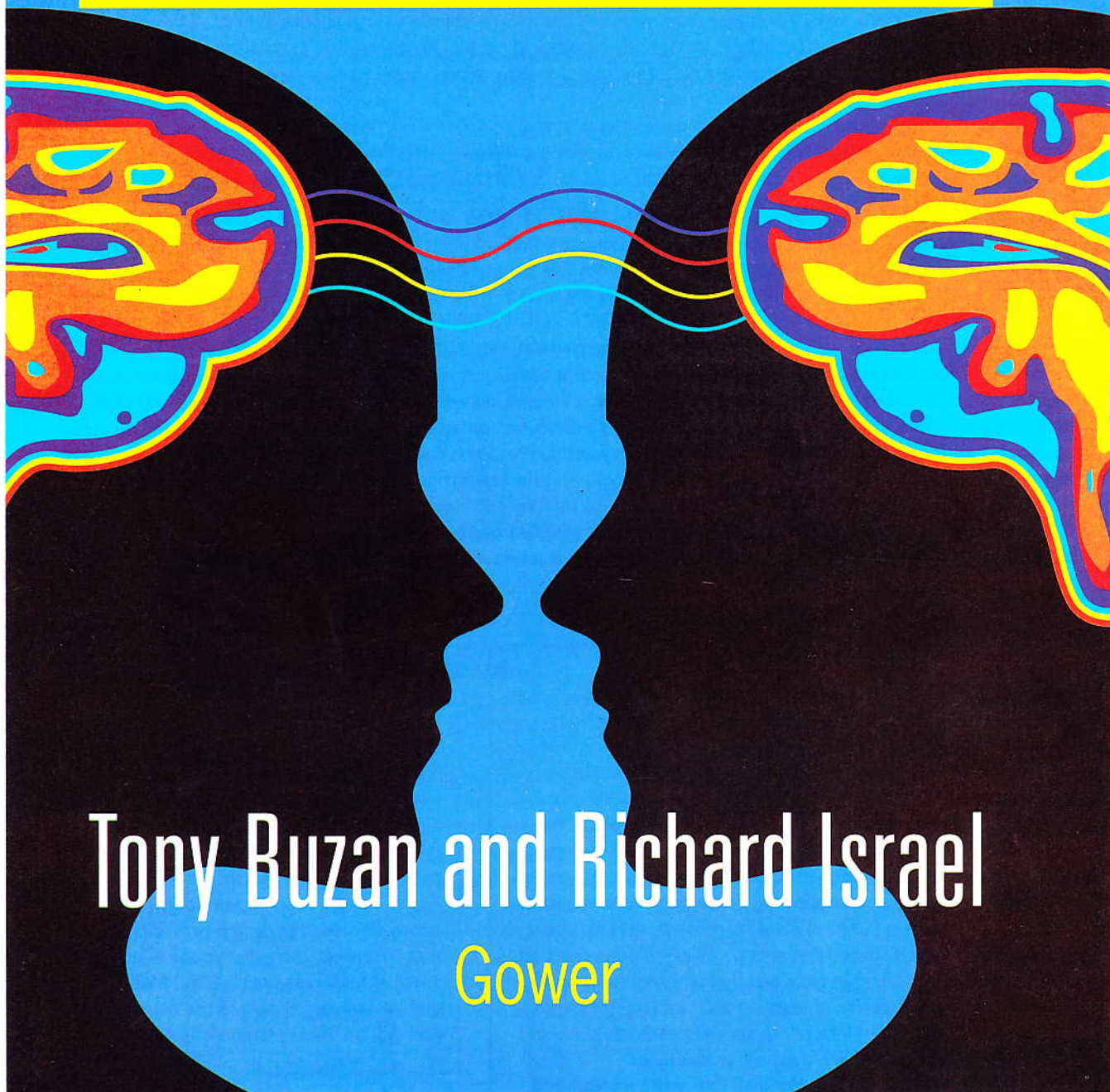
NEWS FROM HONG KONG

The Mind Gym is going from strength to strength in Hong Kong, reports Jennifer Crosland. We have secured a regular venue in a central location at the Buzan Centres business centre lounge area. Attendance and awareness is growing with publicity in major newspapers.

We have a charity event coming up soon, organised by a high profile politician, and a summer camp for young adults classified as underachievers. Mind Mapping will be an integral part of the programme and will be held in Chinese.

BRAIN SELL

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the originator
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