

SYNAPPSIA

THE INTERNATIONAL BRAIN CLUB JOURNAL 1:1:2

VOLUME 2 NUMBER 2
SUMMER 91

Memoriam '91

**World Chess
Championship**

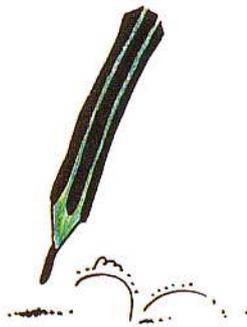
**B.F. Skinner
Interview**

**The Manatee's
Mind**

**Brain Club
News**

**Mind-Map
Word-Game**





Another bumper issue,

which goes to press as the World Chess Championship Candidates matches are in full swing, as the second Brain Club Floating University is about to commence, and as the first World Memory Championships loom just around the corner.

In this issue, we complete Part III of the article-series with the late and renowned father of Behaviourism, B.F. Skinner. In his concluding article, B.F. talks to us about the experimental analysis of behaviour, language, money, ageing, his own terminal illness, the role of art in a culture, the future of the human race, and his own self-description.

Who would you rate as the world's best catnapper? Which lasts longer – the male or female brain? Is there such a thing as a guru crab? How mighty is the mind of a manatee? For the answers to all these questions and more, read **Intelligence about Intelligence** and **Animal Intelligence** in this issue.

And make sure you enter the first World Memory Championships! These are now being held in London, England, on Saturday 26th October, at The Athenaeum. We cover the latest developments in a feature article.

And if you loved **Alice in Wonderland**, **The Wind in the Willows**, **The Little Prince**, and **Brain Brain**, you will be an instant fan of our new Brain Club hero, the Mind Magician. He makes his first-ever appearance in the Universe in this issue of **Synapsia**!

A number of Brain Club members will already be packing their bags and honing their dreams as they prepare to depart for the next Brain Club Floating University in the Aegean Sea. In this, our Summer issue, three members tell their sea-faring tales of the first Floating University.

Synapsia and the Brain Club are especially proud to introduce a new game – the **Mind-Map-Word-Game** devised by Brain Club Member Teri Bias, BCFM 30. The game is a new concept in quizzes and learning, and **Synapsia** is offering a prize for the first member to complete successfully Teri's first challenge.

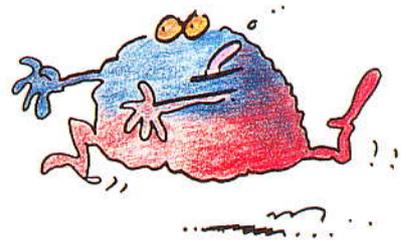
Professor Michael Crawford, in his on-going **Crawford's Corner**, raises the intriguing prospect of a new secret of intelligence. When you read his column, you may well find out that we are all a lot more intelligent than we ever thought!

As we went to press, titanic battles were taking place in the world of chess. The World Chess Championships had entered the Quarter Final stage, and the battles were taking place in Brussels, Belgium. Raymond Keene, OBE, BCM 275, gives **Synapsia** a comprehensive guide to the tournament and to the forms of the players. He also makes predictions as to who will reach the Semi Finals.

The latest chess news is enhanced in **Mental World Records**, where major eruptions are taking place in the World Ratings. These are included, with commentary, in this issue. Additionally, more prizes and challenges are offered to **Synapsia** readers by the **British Chess Magazine** in the form of chess quizzes to solve and prizes to win – get out those chess sets and computers immediately, and write to us!

For those readers who wish to check their reading speeds, we institute a new feature, a speed-reading check, in our main article 'A happy and active man'. Each one hundred words are noted in the margin. Have your stop watches, eyes and synapses ready!

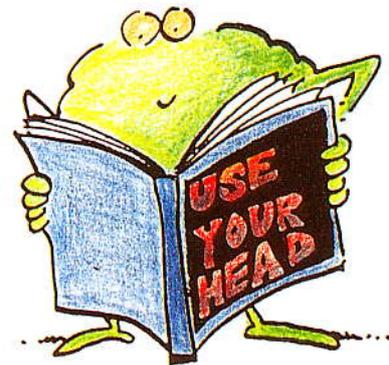
We look forward to seeing you in Bodrum in September, at the Brain Club-sponsored World Memory Championships in October, at our Annual General Meeting in November, at our Christmas Parties, and throughout the New Year!



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All contributions for the Autumn edition should reach the editor, at the above address, by October 15. The editor reserves the right to shorten, amend or change any contribution accepted for publication. If you would like articles returned, please include an addressed envelope with appropriate postage.

The term and concept Mind Map referred to in this publication is a trademark
 Pécub, the world's fastest brain cartoonist, is happy to provide cartoons based on your ideas and requests.

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SYNAPSIA In terms of your own contribution to humanity at large, because the culture now in which you exist is actually a global community already, what would you most like to be appreciated for when history talks about you, which it obviously will do.

B.F. SKINNER Well, I think there is no doubt that my most important contribution was the whole experimental analysis of behaviour. That was the first thing I did and the first book I published but most people would think that my book on verbal behaviour was extremely important because it's the link between the raw behaviour and the effect of culture which is mediated of course by language. The book, which was very widely criticised particularly by Chomsky, is actually coming into its own these days - there is a historian of linguistics who has written an article on my book as a forgotten classic.

We understand you had some fairly strong and controversial views on helping others on the workplace and on wages. On work: people don't go to work because they got paid last Friday; they go because they don't want to get fired. And when people work only to avoid losing a job, study only to avoid failure and treat each other well only to avoid censure or institutional punishment, they view all life in terms of threats. As a result very few people are able simply to do nothing. They cannot relax without sedatives or tranquilizers, or unless they deliberately practise relaxation. They cannot sleep without sleeping pills, of which billions are sold in the West every year. They are puzzled by,

and envy, those in less developed countries, whom they see happily doing nothing.

On wages: people think that wages are a reward. Well they're not. They're sums of money given to you if you follow instructions and are taken away if you don't follow them.

The world population at the moment is becoming a lot older on average and you have and are living to a very good older age. Any summary pieces of advice for a world population which is actually going to become older as a group? Well, I've published a little book called **Enjoy Old Age and that simply suggests that you agree that you are old, that you have deficiencies because of that, and that you change the world so you don't suffer too much from them. Don't change yourself, just change the world in which you're living. I've done that pretty much myself.**

Of course cancer is an underhanded kind of thing - I took care of myself, (I could probably have lived until into my 90's if this thing hadn't hit me) but of course I have a few more months, that's about it. I'm running out of resistance to infection. That's just bad luck but otherwise I was taking care of my future pretty well, I think. I don't have any arthritis, no back pain, nothing of that sort.

In terms of the world and its future, do you have any sense of prediction over the next ten and hundred years of how the world will progress? I don't like to predict. I don't think its possible to give any real prediction on that. I have for years been ending my papers by a reference to our destruction of a liveable

world. It's a very important thing. I'm delighted so much is now being taken into account. I'm surprised at how rapidly it's come around to it.

What of our Culture and the Future? Some say "Why should I care whether our culture 100 years from now suits me?" There's no honest answer. If your culture hasn't convinced you, so much the worse for the culture.

Our culture may have lost its more intelligent people because they've seen through the transparent ways in which it is trying to get them to work for its future. It might, of course, come up with a genuine concern for mankind as something beyond the individual.

That's really the whole point of my book **Beyond Freedom and Dignity**. Freedom and Dignity at present relate solely to the individual. Beyond that is the future not only of a culture but of the whole human race. I'm convinced that the concepts of freedom and dignity stand in the way of making the future important because they aggrandised the individual at the expense of his culture, his economic system, and his nation.

Do you think our 'culture' and our 'civilisation' are natural? Do they hold hope for 'freedom' as you imagine it? We have produced a world in which we are more effective than we would be in the natural world.

I want a world in which we spend very little time trying to escape from constraints. This is again what I mean by freedom - the absence of pressing threats. I want a world in which we can achieve.

I would like to see the future taken much more seriously than it is now taken. It bothers me that 200 billion dollars is spent every year by nations of the world on armaments.

I would like to see 10% of that put into research and development to see how the other 90% could be avoided, but we aren't doing that. We aren't even supporting the United Nations now!

900 ▶ We need to get people alerted to this and the realisation that technology is either not responsible, or if it is responsible it is our last hope.

What we need is a technology of behaviour. If you want to stop pollution, you will not do it by recycling Uranium or Mercury; you've got to get people to change their practices.

You mean a fundamental change in the philosophy of existence? In some ways, yes. We'd have to change our sexual behaviour to begin with - to stop

overpopulating the world. Contraception is a matter of behaviour. Biology can come up with what can be done in the future.

1000 ▶ There's also no question that we could go into city schools today and make enormous changes. Why don't we do it? Well the people who are already there have their own philosophies of education, many of them based on the illusion of the individual as the source of good and knowledge. It is widely held that the desire to change another person is essentially hostile. If you believe that then you can throw out culture entirely.

What do you think about the role of art in a culture?

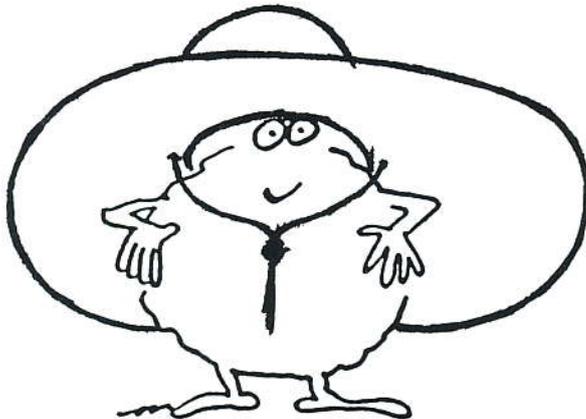
1100 ▶ It's very important that a culture holds its members by making life interesting for them. There is a survival value to a culture in art, music, literature and so on, otherwise you'd distract to other cultures and that's very important.

Back to the Latin and Greek again, the *mens sana in corpore sano* is being used increasingly, especially in Europe these days. I'd certainly accept that. I'm not quite sure what the *mens* is but I'm pretty sure on the *corpore* and I spend a great deal of time keeping myself in good shape for thinking.

What made you decide to be in good shape in order to think?

1200 ▶ Getting rest, eating properly and not drinking too much, that kind of thing, so that when I get up at 5 o'clock in the morning: my whole goal in life is to be at my best at 5 o'clock in the morning. That's what I love. I love what I do then and that's what I do best. To put it another way: have an environment which is "sano"!

If you had to describe yourself by five words, what 5 words best describe you? I would say "A happy and active man".



The most dramatic example of "Skinnerism" in practice is arguably the Comunidad Los Horcones - an isolated ranch on the barren desert of Northern

Mexico. Seventeen years after its founding in 1973, the community represents the most complete and sustained effort to apply in real life the behaviourist principles contained in B.F. Skinner's novel cum text book, *Walden 2*. (See *The Ionian*, **Synapsia**, Volume 2, Number 1, p. 29)

The Skinnerian community of 28 adults and 11 children is self-supporting, sustaining itself through farming and educational

IN SEARCH OF WALDEN 2

SKINNERISM IN MEXICO

programmes for children from a city of Hermosillo, 64 kilometres away. In addition to being farmers and teachers, the residents of Los Horcones, which means 'the pillars' in Spanish, also regard themselves as scientists.

In summary, and as outlined in the **Synapsia** interviews with Dr. Skinner, his theory of behaviour, which he developed in the 1930's, argues that people act as they do not out of freewill, but because of rewards and punishments, of positive and negative reinforcements, metered out by their culture and the environment. From this conviction arises the notion that societies are able to improve human behaviour through reinforcement, in the same way as animals can be conditioned to perform certain tasks by receiving appropriate rewards.

"The central point is that we use the science of behaviourism and a more objective understanding of human behaviour to design attractive environments", said Juan Robinson, a former psychology student and teacher of autistic children, one of the seven founding members of Los Horcones.

The community's statement of principles is based on the belief that human beings can be taught to "build a society based on co-operation and not competition, on equality and not discrimination, on sharing and not individual property, on pacifism and not aggression".

In order to achieve those goals, residents of Los Horcones over the years have collectively elaborated a detailed code of behaviour that governs all major aspects of

community life. Children, for example, are guided by twenty-four classes of behavioural objectives broken down into about one hundred and fifty specific acts, while the code for adults includes more than thirty classes of behaviour.

In order, for example, to promote the ideals of sharing, and to avoid undue attachment to possessions, the Los Horcones residents use a large common clothing room in which all items of clothing belong to the community, and are available on a first come first served basis.

In addition, no individual wages are paid to any of the residents, all money earned by community enterprises being shared among the members. The community votes as a whole on how to spend its earnings, after discussing its needs and deciding on community priorities.

Until his recent passing, community members were in close contact with Dr. Skinner through letters and video tapes. The members of the community also visited him at Harvard, and participated in his Harvard course on Walden 2 communities.

Having seen the videos, and worked with the members, Dr. Skinner said, "They do a wonderful job with their children: they make an effort not to punish children, and it shows. I have never seen a group of kids who so generally loved each other, and were so co-operative with each other."

One of the favourite stories of the community is about when someone introduced the children to the board game Monopoly. Instead of trying to win the game

as individuals, or drive each other into bankruptcy, the young pairs offered to lend money to each other so that everyone could remain wealthy!

The children of the community do not live individually with their parents, but in a common house where they are attended by adult members with training in infant and child care education. Each of the adults is encouraged and expected to spend time with the children and to help instill in them the egalitarian and co-operative values on which the community is based.

The formal classroom follows Dr. Skinner's emphasis on breaking complex topics into small, manageable concepts, each of which is taught methodically in order to enable the student to receive the reinforcement of mastering an idea before moving on to the next.

In the pre-kindergarten lessons, children as young as three, are already demonstrating an ability to read simple sentences selected at random from various teaching materials.

Dr. Skinner's elder daughter, Julie, is carrying on his work with the community and, like B.F., has been delighted with the results.

Any Brain Club members who are interested in finding out more about the community, are invited to contact Dr. Julie Vargas at the following address:

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Morgantown,
W. Virginia 26505
U.S.A.
Tel: (304) 292 3120

ABOUT INTELLIGENCE

DA VINCI BEST IN WORLD AT EVERYTHING, INCLUDING CATNAPPING!

Legend tells us that Leonardo da Vinci catnapped for 15 minutes every four hours, giving a total of one and a half hour's of sleep a day.

According to Claudio Stampi, a researcher at the Institute of Circadian Physiology in Boston, Massachusetts, this unorthodox sleep schedule makes biological sense. Most animals, he says, naturally sleep this way.

During a three week study, a graphic artist who adopted da Vinci's format enjoyed it so much that he volunteered for follow-up experiments. Additional studies with solo ocean racers suggests that contestants with the shortest sleep episodes do better than those who sleep longer.

Where possible and where appropriate, Stampi says, people should gently experiment with da Vinci's approach to sleeping.

WOMEN'S VERSUS MEN'S BRAINS - WHICH LASTS LONGER?!

A major new controversy has opened up in the arena of the male versus the female brain.

The first study, conducted by Dr. Ruben Gur of the University of Pennsylvania in Philadelphia, shows that men's brains appear to deteriorate faster than women's, with males especially losing brain cells involved in language, reasoning and happiness.

These conclusions were reported in a study which involved hi-tech images of the brains of 69 men and women which indicate that women are more likely than men to remain mentally sharp as they age, and that men may be more likely to become unhappy.

In the study, Gur and his colleagues used a process known as Magnetic Resonance Imaging (MRI) to

produce detailed images of the brains of 34 healthy men and 35 healthy women aged between 18 and 80.

Initial results indicate that the rate of brain cell death was about three times higher in men than in women.

The Pennsylvania researchers aren't certain as to why male brains should deteriorate faster than female brains, but if hormones have anything to do with it, they are suggesting that treatments may be developed.

The study also has social implications. "If the amount of brain loss found in the study is enough to influence ability, the findings indicate that women should not have to retire earlier than men, which is the case in some countries," Gur said.

In the study, men also tended to lose more cells from the more highly developed surface of the brain, the cerebral cortex. This area is known to be involved in higher cognitive functions, like reason, calculation, planning and conceptualisation. They lost fewer cells from the centre of the brain, which is believed to be involved in such areas as emotional regulation and survival.

Another intriguing sub-finding of the study was that while women apparently tend to lose brain cells about equally on both sides of the brain, men in the study lost approximately twice as many brain cells on the left side of the brain as on the right.

Contradicting this study, is that reported in the English Times on April 4th, in which a Scottish study shows the reverse! The Scottish writers, interestingly all women, contended that female brains began to shrivel earlier, at about the age of 40, whereas the decline in men started at about 50. Once shrinkage had started,

they shrank at the same rate, but men retained the initial advantage until the age of 80.

Each of the studies raises major questions. In the light of researches by Bymond, Rosensweig, et al, showing that brains become more active and complex in individuals who themselves remained active and who lived very healthy lives, it may well be that the Pennsylvania and Scottish researches show physical declines in the brain that were related not so much to sex as to the ongoing 'diet' those brains received of love, oxygen, nutrition and information.

CHEERS! RAISE YOUR I.Q.!

Recent good news comes from **Age and Ageing**, which reports that the work of Dr. Stephen Iliffe, of the Whittington Hospital, London, suggests that elderly male drinkers score better in intelligence tests than non-drinkers. The study also showed that more than 96% of those studied kept within the strict drinking limits recommended by the British Medical Association, and that the rise in intelligence was thus related to moderate, 'intelligent' intelligence-raising intake.

BRAIN OP

Reports from America signal the introduction of a new computer game called **Brain**. The game apparently allows the player to perform brain surgery and realistically allows you to cut out a brain tumour. The program costs 50 Dollars, and if you lose, your computer patient dies. How about a game that helps you learn how to keep your patient alive, or is that too revolutionary an idea?!

In the last four issues of *Synapsia* we have featured articles on the intelligence of whales and dolphins, monkeys and bird brains. In this issue, we range from gluttonous learning crabs, through the manatee's mind to the 'all-seeing' butterflies!



CRABS: Gluttonous; opportunistic; omnivorous; and learning.

A pacific hermit crab has the steaks in crabby intelligence! It has recently been discovered that hermit crabs can learn to avoid eating *any* food which makes them ill, even if they feel the bad effects up to an hour after feeding (their memory is therefore both short and more long-term). This ability is crucial to the crab's survival, because their omnivorous nature could lead to a crustaceous catastrophe.

Keith Wight and his team from Bates College in Maine, studied the hermit crab *Pagurus granosimanus*, which is resident along the Pacific coast from California to Alaska. Wight's team took advan-

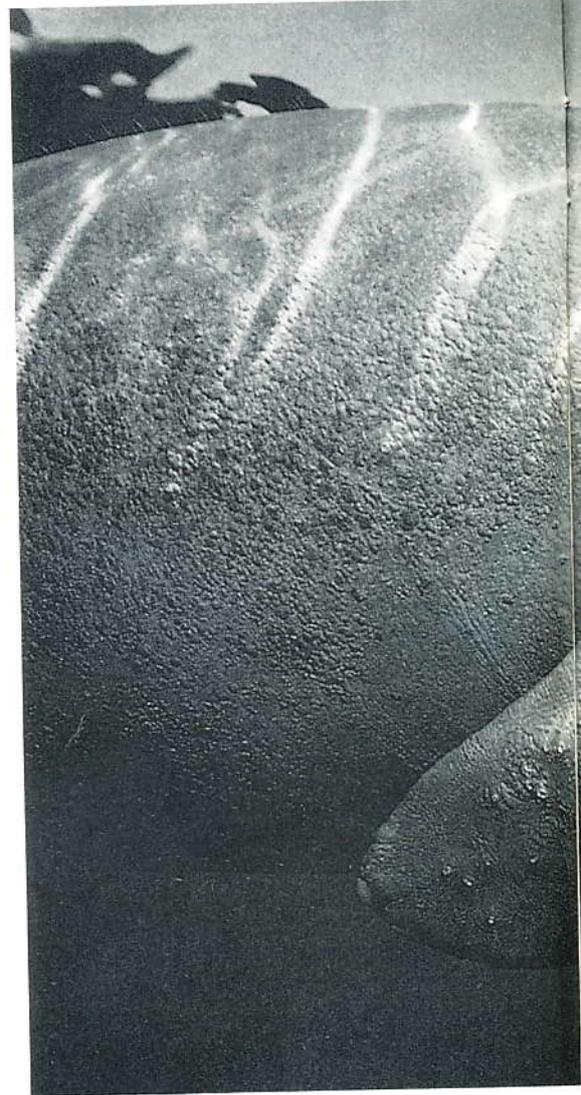
tage of the crab's opportunistic and omnivorous nature, giving several groups of hermit crabs an unusual food: minced beef. One hour later they injected the crabs in one group with a solution of lithium chloride, which caused the crabs to tremble and twitch, and fall on their backs. The experimenters were interested in seeing whether the crab could make the association between eating the beef and being ill. Controlled groups of crabs were given the same beef, and were injected with a solution of common salt, or were jabbed with a hypodermic, or simply left alone.

The biologists found that although the crabs that had been injected became ill a relatively long time after eating the beef, **every one of them** subsequently developed a clear aversion to beef, refusing to eat it when they were offered the food again. Two-thirds of the crabs learnt to make the association after just one lithium chloride injection, the remaining one-third making the association after two injections.

Even more significantly, the crabs exhibited a long-term memory by refusing to eat beef for more than a week. None of the control groups reacted in a similar way.

Thus the crabs have raised their intellectual status considerably: they have demonstrated two of the major facets of intelligence. First they have shown a willingness and aptitude to experiment with anything they find in their path. Secondly they have shown an ability both to recognise and remember (i.e. *learn*) about that which is either bad or good for their survival.

No wonder they call them *pa-gurus!*



THE MANATEE'S MIND

Traditional biological thinking assumes that large animals should have correspondingly large brains, and that if they don't they will be spectacularly unintelligent.

Consider then the case of the manatee. A manatee's barrel-shaped body can easily reach 3,000 pounds, while its brain rarely weighs in at even one pound – a third the weight of the human brain.

As a consequence of this discouraging mind-to-body ratio (3,000:1), the manatee has been assumed to be a cretin.



Happily we now find that the manatee, like the hermit crab *Pagurus*, is making a justified comeback. Roger Reep, a biologist at the University of Florida, recently completed the first serious study of manatee brains, using as specimens brains taken from animals found dead along the Florida coast. Each manatee brain was cut into fine slices, displaying the brain's interior regions in cross-sections. Photographs of each slice were then digitised and fed into a computer, which calculated the volume of each brain region, especially the

cortex, where the higher mental functions of the animal take place.

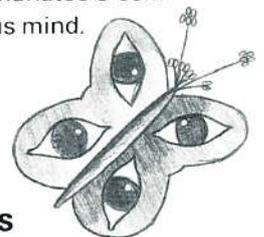
The results confounded both the experts and the predictions. "We thought the manatee's tiny brain might be the result of a cortex that had become disproportionately small and simple," explained Reep. But the proportions of a manatee's cortex turned out to be on a par with a standard primate's. About 64 per cent of the manatee brain consists of cortex, compared with a similar 69 per cent of a New World monkey's brain.

In addition to this very high percentage, the manatee cortex was found to be both sophisticated and intricate, with neurons (nerve cells) arranged in densely packed and interwoven layers.

Reep feels that this new and encouraging finding can be explained by analysing the manatee's unusual evolution. Manatee's descended from an early plant-eating land animal that had a relatively small body **and** brain. When it entered the ocean, however, its diet and habitat created a unique dilemma: it is harder to stay warm in water than to stay warm in air, so marine mammals have to generate more heat; to do that they must eat heat-generating materials – the water hyacinths and other plants that manatees eat are poor sources of energy.

Reep says that as a result manatees were under pressure to evolve bigger bodies in order to store the heat. To keep warm, they had to digest vast quantities of vegetation, which necessitated a huge gut. The manatee's brain, however, was under no such pressure to grow. "Scientists", concludes Reep, "have been looking at this from the wrong end. It's not that manatees are small-brained, it's just that they're big-bodied."

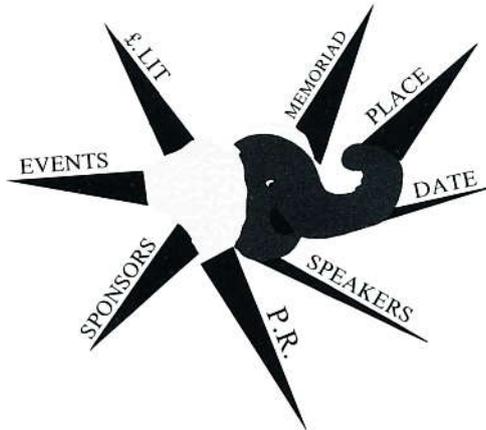
Further studies are proposed to investigate in more depth the real capacities of the manatee's complex and marvellous mind.



BUTTERFL-EYES

Ripleys "Believe It Or Not" reports that butterflies have twelve thousand (12,000) eyes!

MEMORIAD '91



THE FIRST WORLD MEMORY CHAMPIONSHIPS MOVE TO ENGLAND!

In an exciting new development, the first World Memory Championships moved from Rome to London. They will now be held in The Athenaeum in London on Saturday, 26th October 1991.

The Athenaeum's credentials as an outstanding venue for this major Brain Club event include the fact that the club was established in 1837 with the specific intention that the membership should be for those who had pursued intellectual and mental excellence.

The name Athenaeum is taken from Pallas Athene, the Greek Goddess of Wisdom. The Club symbol is the owl, with its obvious connotations.

In addition to hosting many major national and international intellectual events, The Athenaeum recently won the Speed Chess Championship against London Clubs!

BACKGROUND With the growing complexity of the modern world, increasing emphasis is being placed on the benefits of a powerful memory. There is also increasing fascination with the way in which memory works (at its lowest level all human literacy and numeracy learning is necessarily memory-based), as recognised by the Conference held in the third week of July this year, concerning Memory at Lancaster University.

Adding his voice of consent was Brain Club Brain of the Year 1990, Garry Kasparov. When interviewed on BBC TV immediately prior to his London title defence against Anatoly Karpov, Kasparov was asked what was the single most important feature that distinguished the mind of a strong

chess player. His reply, perhaps surprisingly to some, was: "An extraordinarily powerful memory and the ability to recall all-known precedents in the opening, the middle game and especially the end game."

VITAL INTEREST RECOGNISED The Brain Club's first Memoriad will recognise this vital interest. The Memoriad event will include:

- Word Memorisation**
- Number Memorisation**
- Name and Face Memorisation**
- Language Memorisation**
- Text Memorisation**
- Chess Position Memorisation**
- Card Sequence Memorisation**

Individual champions will be declared in each category and an overall champion, who competes most successfully in the maximum number of categories, will be crowned.

NEW WORLD RECORDS DIVISION A division established to encourage masters of memory from around the world to establish world memory records in any, or all, areas. The function of the new world records division is to establish the **first world bench marks** in each of the major memory skill areas, much as the first physical Olympic games established Olympic records in each of the major physical arenas.

SPECIAL GUEST SPEAKERS The Memoriad 1991 has already attracted a host of leading figures and 'Brain Stars' from the worlds of the brain and memory:

Creighton Carvello: World record holder in six-pack-card and speed-card memorisation, and English national record holder for the memorisation of the number of digits of Pi. Internationally renowned 'memory performer' on radio and television. Currently working on breaking the world record for the memorisation of 'phone numbers.

David Levy: Renowned as the first human to challenge machine intelligence to beat him at chess and consistently win over a period of 20 years. Author of 30 books on chess, thinking and memory - President of the International Computer Chess Association.

Frank Felberbaum: Educational psychologist, Harvard graduate, and protégé of the late great Dr. Bruno Furst. Frank jointly hosted national TV programmes with Dr. Furst, and is renowned for amazing audiences with his ability to remember vast amounts of sports statistics covering a 25 year period. International lecturer on memory in over 40 countries worldwide, and inventor of a new three-dimensional memory system.

Raymond Keene, OBE: International Chess Grandmaster. Author of over 70 books on chess, thinking and memory, co-founder of the World Mind Sports Olympiad,

and feature writer on chess for national and international newspapers, magazines and journals, including **The Times**, **The Spectator**, **Thames TV** and **Synapsia**.

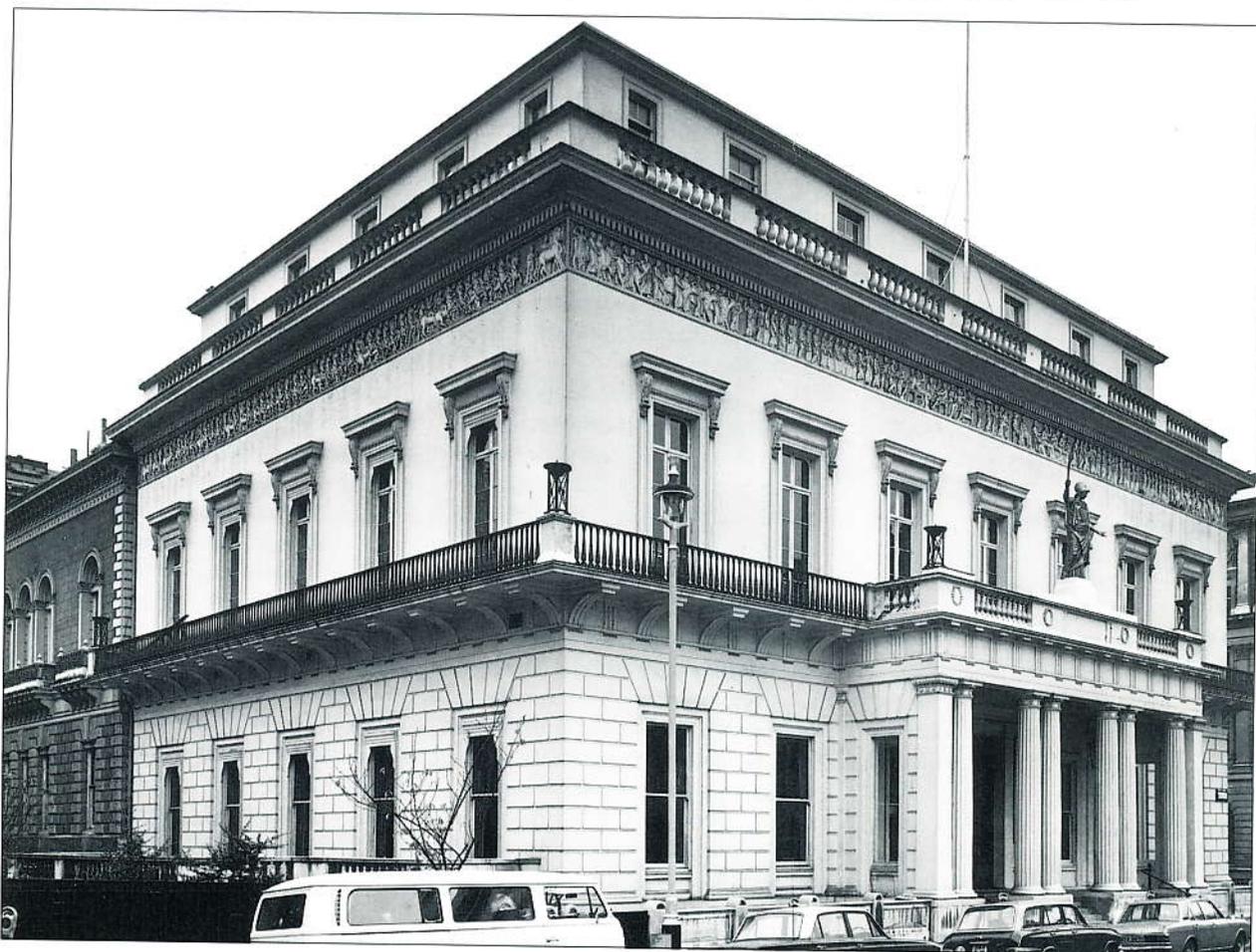
Tony Buzan: Inventor of Mind Mapping and the Mind Mapping Memory techniques. Also 10 books on the brain and memory. Olympic advisor and holder of the world record for the highest Creativity IQ.

PRIZES Prizes have already been offered by **Encyclopaedia Britannica**, by the **British Broadcasting Corporation**, by **Viking Penguin**, and by the **Brain Club** itself. **Synapsia** encourages readers to both sponsor and to find sponsors in order to augment the prizes on offer. A panel of distinguished judges has been invited to set the questions and judge the answers.

Brain Club members unite! **Synapsia** urges all Brain Club members to compete and/or attend the Championships. It will be a 'first in history' and 'Certificates of Presence' will be given to those attending.

Remember! - The Athenaeum, Saturday 26th October 1991. See you there.

RING . . . BY OCTOBER 23RD IF YOU WANT TO ATTEND, COMPETE, OR REGISTER A NATIONAL OR WORLD RECORD
0628 482765 or FAX: 0628 486545.



London Athenaeum traditional home of 'London Wisdom' and new home of the Memoriad



Dear Sir/Madam

Chess for Weight Watchers? I have been following with interest the recent World Championship and Raymond Keene's chess coverage in *Synapsia*.

Playing chess is in some countries considered a sport but in most not. The most common argument for not counting playing chess a sport is that it does not demand physical exercise.

That statement should probably be questioned.

Way back in the early 1960s, I frequently played chess and sometimes took part in competitions.

In one of those competitions, a small experiment was carried out. Over the competition weekend (2½ days) some players tried to eat, exercise and sleep just as much as they had the previous weekend. The previous weekend they had, however, read, watched TV, etc. instead of participating in a chess competition.

I do not remember well the exact results of the experiment. I do, though, remember that one of the players, by playing 6-9 hours of chess per day, lost almost 2.5 kg (or over 5 lb) of his body weight during the competition weekend.

This seems to propose that intense mental exercise can be quite demanding physically - at least in terms of burning calories.

More scientific experiments have probably been carried out. Maybe someone among the readers knows about such experiments or has had similar experiences herself/himself. However, before proposing a game of chess as a regular part of a weight watching programme, some more discussion on this matter might prove to be useful.

Timo Teräs, Helsinki, BCM 289

Dear Sir/Madam

When planning a long term, complex project with a Mind Map, how do other Brain Club members handle changes without re-doing the whole Mind Map?

*Grant Davidson, California
BCM 117*

Dear Sir/Madam

Home Matters What percentage of readers fit into the category of average householders/parents? Too few, probably because the demands on their time are so varied in the course of the day that they do not always manage to read that extra article that they know would be interesting, or having read it used the fresh information to advantage. If one is in a position of authority on any given subject then learning facts is essential and every method that eases this task must be tried and used. But while facts and figures are of interest to many people, learning the exact numbers is of little value, unless they wish to impress (or intimidate) their friends and relatives.

Has anyone ever complained that having strong visual recall can hinder some processes? For example, while trying to learn shorthand, visual recall of the pages of text in the book, made reading the early passages seem simple. But as speed developed, the ability to find the correct page, select the right image then transfer it to the page became too cumbersome an operation. Revision of the book refreshed the memory of the pages, but failed to improve the speed that the ear, and hand, could operate. I have to confess when I first started to learn the subject it was a parental choice. At the time I wanted to study something else, so admit the motivation was lacking.

Reading Sean Adam's article about *speed reading* makes me wish I too could devour books at that rate. Then, perhaps, the hundreds that line the walls in the house would all be read, and research for that saga I would love to write could all be done in a fraction of the time. All that is required is an extra couple of hours per day, and the stamina to get on with it!! If he is looking for a guinea pig to work on, I volunteer.

Animal intelligence is a fascinating subject, but a question I ask is: What can man learn from animals that can be put to practical use? Perhaps my outlook is too limited by practicalities. Many of which are enforced by my role as mother etc. where interaction between people comes before anything else.

Memory Championships I fear that there is a danger that some contestants in these events will devote too much time and effort perfecting a particular feat, to the point where "normal life" ceases. Will they become famous? Probably. But will they live fulfilled and rewarding lives, or will they be stuck with a shallow self promoting existence, which will preclude emotional fulfilment. No doubt there will be some with a well rounded disposition who will use their skills outside the competitive field. But there will be others for whom winning will become of such importance that failure could destroy them.

I have enjoyed all the magazines, but wonder how you can keep the interest moving ahead without repetition. Obviously, with numbers growing, new readers will need the introductory information, while others want a deeper understanding, and more challenging exercises

to stimulate and develop what they have already gained. How about a crossword or puzzle to tax us further?

Could you turn articles into speed reading and comprehension exercises? It would be nice to have fresh material to try out and test oneself.

Or leave a blank page for us to personally mind map each edition.

I'll stop here before I get too carried away!!

Good luck with the next issue.

*Caro Ayre, Greenham Hall,
Somerset BCFM 372*

Ed. Some good ideas, Caro! Turn to pages 24 and 2 to see two of your wishes come true!

Dear Sir/Madam

I have just received the Spring '90 edition of *Synapsia* and was very interested and intrigued by Jean Buzan's article "My Brain Has A Mind Of Its Own".

Jean often refers to 'Me' and 'I' in her article as if to imply that 'Mind' and 'Self' are two separate things. My own personal view is that they are. I know from my own experience that my Self is more of a spectator of my mind's activity rather than a participant.

In his best selling book "*The Emperor's New Mind*", the renowned physicist and mathematician Roger Penrose argues that to fully understand 'mind' and 'consciousness', whole new physical laws need to be discovered.

Furthermore, he argues until this is done no computer or machine can be considered as conscious. I would agree with this and would also say that until these laws are discovered, computers and the like will never rival the abilities of the human brain.

Perhaps 'consciousness', or the 'self', does not reside in the brain at all, but that there is another dimension to human existence.

This leads on to further questions:-

What happens to consciousness or self when we 'die'?

Do we have souls?

Is there something more?

What ultimately is the purpose of existence?

Penrose mentions the Anthropic Principle which seems to imply that human beings and perhaps other living creatures occupy a very special position in the Universe and time. Personally, I would agree with this, and simply to refer to us as 'complex biological mechanisms' as the proponents of strong A.I. Would it not be the full picture.

I would be very interested in hearing the views of other Brain Club members with regard to the above points.

*Glenn Jones, Isle of Sheppey,
BCM 364*

Dear Sir/Madam

I am a twenty four year old and I am currently half way through working on my PhD in computer science. I finish at the end of September 1992. Upon finishing, I will have spent a number of years training and developing various areas of the left hand side of my brain in the elements of those skills. It has occurred to me that the best thing to do next, is to carry on developing the artistic skills that are performed by the right hand side of my brain.

In the first *Synapsia* you quoted Leonardo DaVinci,

1. First study the science of art, then,
2. study the art of science.

I question whether the order is more relevant than just studying both. Also I would debate whether I have studied the "art" of science, I think I have just studied science. Naturally, I have only studied a few intellectual areas: Computer Science, Maths, some Electronics and also Physics and Chemistry to A-level.

I seem to remember reading somewhere that DaVinci also used to entertain in the courts around Europe by asking for any instruments they had. After a quick familiarisation he would compose and play on it.

I would like to develop different skills from different areas in the

same way that I believe DaVinci did. This would also lead to making the learning of anything else new much easier.

In the light of everything, in starting off learning how to learn, I would like to take this opportunity to tell you that this is what I am planning to do, and to ask for your opinions, comments and *most* importantly, your advice.

One question I have asked myself is that of precisely which course to do. The first answer that sprang to mind was that of a basic art (painting and so forth) degree, in light of the fact that Leonardo DaVinci painted and sketched. Also since November of last year, I have been taking piano lessons. My "logical mind" (as my piano teacher puts it) always finds new and different patterns in fingering. So taking up piano full time could also be an option open to me after I finish my doctorate. Though no matter what I do, I do intend to continue playing the piano. In fact, I intend to also play other instruments in the future as well. All in all I think the art degree is the better idea, as it will cover more: colour, dimension, spacial relationships, rhythm and so forth.

One very important question that has occurred to me is where to do it. The phrase "Pacific rim", from your MegaTrends 2000 Mind Map in *Synapsia*, was the first thing that sprang to mind. Now I have a copy of the book, and there are a number of statistics about museums. But I am wondering where is the best place to study art?

The questions to which I am searching for detailed answers are,

1. What course do I need to do?
2. What preliminary courses do I need to do?
3. Which country would be the best to go to?
4. Which college would be the best to go to?
5. What sources of funding are open to me?

If you do have any ideas, comments and especially suggestions, I would be very interested in hearing them.

Warren Day, Canterbury, BCM 149

THE MIND



Before the beginning, in a land called Imagine, there lived mystical people. They had strange and wonderful and in some cases terrible and frightening names. The The Magical Muse, the Synapse Sorcerer, various warlocks and witches, sprites and spirits and spell makers too numerous to mention.

If this was not enough there was a presence that could not be touched or seen or smelt but could be felt by all. This presence was the Kreator. The Kreator had kept the Secret of the vault of Space and Time for so long that it was before the beginning. Even tales that begin "with once upon a time..." had not been told.

The Secret had been bothering him for some time. It was a secret well worth the telling and even more worth the knowing. The Kreator was bound by some mysterious and great force that kept him from relating the secret to any existing being. He had consulted the locksmiths on several occasions to no avail. Yet there was one locksmith who had been successful and inventive in solving many conundrums the Kreator had to resolve. The riddle of the sprites, and the magic weavers puzzle are examples which may be told at a later date.

"Perhaps the time has come to create something new from your mind," said the special locksmith, "something that does not exist now." A clever fellow the young locksmith. That would answer the binding force that held the secret back. Indeed, the Kreator realised since before the beginning there had been no new beings created. There had simply been no need until of course the Secret had began bothering him since once upon a time.

The Kreator sat, closed his eyes and floated into the vault of Space and Time. Within the mazes a figure slowly took shape; a small figure, coal black eyes, white beard, gold cloak, pointed shoes, pointed hat upon which an owl perched and in his hand a pointed stick. "A Mind Magician," breathed the Kreator, "how simply wonderful!" The mind magician stood on the edge of a bright "incandescent" Mind Moon; he did indeed look wonderful if not a little awesome.

"What fun, what fun I am going to have," said the Kreator. So we can now start at: "Once upon a time ..."

The Child and the Magician

Mirror Mirror on the wall

What is the cleverest thing of all?

Seek! Seek! And you shall find -

All that lies within your mind.

But Mirror Mirror can that be true?

Perhaps a tale between us two:

A tale you say a shade too bold -

Your mind holds more than can be told.

Now please, kind Mirror, please answer me,

Does knowledge come from the knowledge tree?

The answer should, nay, *does* but show,

An oak doth from an acorn grow.

MAGICIAN

Really, oh Mirror, you talk in a riddle,
Like the cat, the cow, the moon and the fiddle.
But laugh did the dog, dish ran with the spoon,
And I know that the cow jumped over the moon.

Pray tell me, oh Mirror, where Alice was born -
Perhaps from some stardust just chased by the
morn?

From the mind of a don who lectured in maths,
Our Alice in Wonderland trod many paths.

The past, the present, the future too,
Like things in nature build anew,
And Alice having played the game
Lives on and on in fable fame.

Great Mind Magician in the looking glass,
How many things can come to pass?
All that's in your own mind's eye
Can fill up more than all the sky.

Good child, let's change. You'd like the key
But first you have to answer me.
I'll answer, Mirror, oh please believe
If skills like yours I can but weave.

The willow weeps but is it weeping?
Half awake yet lying sleeping!
A darting dream, fine grain of sand?
The building blocks of all the land!

To daydream well doth win the race?
By letting mind float into space!
Use gossamer thread, dendritic spine?
To boldly make and cast the line!

Now can you weave a magic spell?
I know I can but cannot tell!
Walk down the spiral, unlock the latch -
It's true! It's true! There is no catch!!

So having sought and having found,
Of things there are no mortal bound,
This tale is wove to let you see
I dwell in thee and thee in me.

Now child who spoke, you think it's me,
The magician from the knowledge tree.
With self and knowledge being one,
You have the key. Enjoy the fun!

For I was there when you were made,
Starting life in the enchanted glade.
Since then, we've walked both hand in hand,
Casting spells across your land.

I take my leave, yet still remain
A tale that echoes in refrain.
I am not here, yet have not gone,
In you I linger on and on

by *The Mind Magician*
BCM Magic Code





**FROM THE DESK
OF SUSY CHURCHILL,
THE BRAIN CLUB'S
CHIEF ADMINISTRATOR
AND ADVISORY PSYCHOLOGIST
(CAAP)**

BRAIN CLUB NEWS

GREETINGS FROM BRAIN CLUB CENTRAL!

So much has happened since my first report for *Synapsia*, I need an entire edition to cover it all! So here goes with the updates and good news:

REGIONS - MOST OF UK NOW PART OF A REGIONAL GROUP! Most of the UK is now part of a regional group. To complete the picture, we still need Co-ordinators for Ireland, the Borders and Central regions. All volunteers will be warmly welcomed - please contact me.

The Northern Region have already published a newsletter and West Midlands are publicising the Brain Club through the magazines of other organisations...

The United States and Canada are rapidly catching up with the UK, and within six months regional groups will have been established throughout the upper part of the North American continent.

There is increasing activity surrounding the Brain Club centres in South Africa and Kenya, and regions are promised there soon.

It's time, my friends, for some recruitment and more activity/publicity from our European, Pacific and Asian members!

Contact me!

CELLS - THE BRAIN CLUB START-UP GUIDE

All those questions about starting a local cell which you wanted answered but were afraid to ask are now covered in our new three page Brain Club Cell Start-up Guide. Please get in touch with me and make it happen!

AGM - 5 NOVEMBER Now is your opportunity to: elect your new Council; hear Tony Buzan report on the Brain Club's accomplishments and activities; listen to Vanda North explain her current visions for the future; find out about the Brain Club's finances; discover how you can contribute to the realisation of the Brain Club charity charters goals; and join us for the firework celebrations! All this and a free cup of tea too....

Please send me your nominations for Council members by 24th September, and come to the AGM on 5th November - see you there for exchanging, planning, learning, decision-making, fun and fireworks.

CORPORATE MEMBERS The gigantic international 'Brain of the Business World' Corporation, EDS, has become the third corporate Brain Club member, BCCM 501. EDS numbers 60,000 employees, is responsible for the bulk of the electronic communication systems at the 1992 Barcelona Olympic Games, and is a corporation dedicated to training its employees on learning how to learn and self-development, and to sponsoring and supporting major community educational projects. EDS, we welcome you!

ALL WE ASK IS A DAY At the recent International Brain Club Conference in Swansea (see next issue of *Synapsia* for full coverage), a group of us sat around dreaming about how wonderful it would be, and what the results would be, if every Brain Club member and associated family member 'gave us a day'.

Brain Club member Raymond Keene has already done so, donating the day in which he played simultaneous chess against Dulwich College and local school children. Each move made by every player against Raymond was sponsored, the money going to the Brain Club.

Will **you** give us a day of your time to further the Brain Club's aims? It can be anything from fund-raising, to organising a neighbourhood 'learn about drawing' session, to helping organise a conference, to devoting yourself to a specific community service on behalf of the Brain Club.

In fact, whenever you do some charitable work, or simply contribute your time for the benefit of others, why not do it on behalf of the Brain Club, and publicise it as a Brain Club activity. **PLEASE** let us know what you are doing...

RESEARCH - CALL FOR PROPOSALS The Council have just approved a Research Panel to allocate Brain Club support for research projects. These must meet the highest criteria for experimental design, and make a significant contribution to knowledge about the brain, learning, memory, thought processes, etc. These experiments and researches range from short-term less than £1,000 researches, to long-term £1,000,000 plus projects.

Applicants are invited and encouraged from any one/group with a well thought out project. Contact us **soon**.

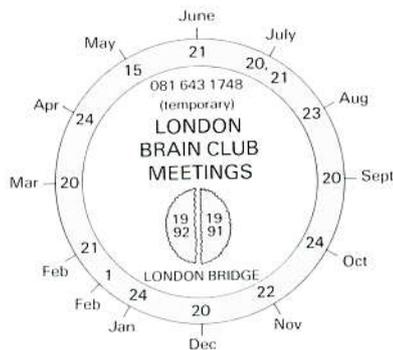
BRAIN CLUB CHIEF ADMINISTRATOR - SUPERB JOB OPPORTUNITY! Fancy a job - the most rewarding and exciting job imaginable!

My job.

I'm going to be leaving to pursue my own research in a few months (though I hope Council will ask me to join them) and need someone to replace me. Person specification and job description are flexible, but commitment to the Brain Club's goals is essential.

Please send me your curriculum vitae, your time availability, any specific qualifications pertaining to the job, and your reasons for wanting to be my successor!

SUSY CHURCHILL, BCM 288



LONDON BRAIN CELL - MULTI-DIMENSIONAL MEETING SCHEDULE!

BRITISH COLUMBIA BRAIN CELL SPRING AND SUMMER 91 BC-BC believes in conviviality and celebration in our monthly meetings and Spring 1991 saw us expressing our beliefs vigorously.

At a BC surprise birthday party/meeting, Jean Buzan (Tony's Mum) entered her fourth quarter of life with joy, wit, intelligence and an enormous birthday cake decorated with a typewriter, signifying progress on her important writing projects.

The 1991 Spring Retreat included a general review of Mind Mapping, memory, study methods and drawing. Other meetings concentrated on direct applications of Mind Mapping to gerontology, sales presentations, planning and setting a full calendar for the 1991 Fall/Winter season. Topics will include Organic Study skills, TEFCAS, music appreciation, how to plan a book, and teaching languages with Mind Mapping.

We are following the model of the BC International by taking the first steps to become a registered charitable organisation under the Society Act of British Columbia. This will allow for tax benefits and flexibility in fund-raising to support future projects and operating expenses as the Club grows.

PALM BEACH CELL The Palm Beach Cell is gathering exciting momentum. The aim is to create a community life-long learning model that can be replicated across America.

Under the banner of America 2000, the New American School Development Corporation, and the Decade of the Brain, we have formed a team to work with the groups around the country to allow others to 'adopt the concept' of learning how to learn. Meetings have increased to weekly to build the energy and the involvement.

The Brain Club Inc. has also filed for 'not for profit' status so as to enable and encourage greater and broader participation.

NEW BRAIN CLUB MEMBERS

We give below details of our newest Members. A complete list will be sent to all enrolling Members and to existing Members on receipt of their renewal subscription; if your subscription is due for renewal you will receive an automatic reminder from The Brain Club.

NEW MEMBERS

No.	Name	Location	Country	No.	Name	Location	Country
348	Mr. B. Evans	Stoke-on-Trent	England	365	Pauline G P Pagan	Bournemouth	England
349	Christian Bennet	Leeds	England	366	Bill Monson	Minneapolis	U.S.A.
350	Peter Sacares	London	England	367	Jacqueline Miller	Burnsville	U.S.A.
351	Neil Wilkinson	Toronto	Canada	368	Stephen C Lundin	St. Paul	U.S.A.
352	Timothy Whealy	Brentwood	England	369	Caroline Przybylski	Eastleigh	England
353	Tony Parsons	Stevenage	England	370			
354	Robert Manley Francis	Marlborough	England	371	Creighton Carvello	Middlesborough	England
355	Robert Ian Meadley	Liskeard	England	372	Caro Ayre	Greenham	England
356	Andrew Rahman	Warrington	England	373			
357	John Hansen	Swan Hill	Australia	374	Frances Westermann	Duncan BC	Canada
358	E.M. Wilkinson	Sark	Channel Is.	375	John West	Windlesham	England
359	Marcial Losada	Ann Arbor	U.S.A.	376	Claude Borer	Hunenburg	Switzerland
360	Michael R Stanley	Federal Way	U.S.A.	377	Gerald H Bennet	Burley	England
361	Susie Venable	Plano	U.S.A.	378	David Levy	Orpington	England
362	Timothy M Lee	Mount Maunganui	New Zealand	379	Wurlod Daniel	Pully	Switzerland
363	Mr. R Weaver	Wellington	New Zealand	380	Paul Larson	Dunstable	England
364	Glenn Jones	Isle of Sheppey	England				

The best holiday of my life!" is how the first Brain Club University, which took place from 22nd to 28th September 1990, was described. In the concluding part of our feature, three Brain Club Members tell their own rollicking tales: Klaus Hoffman, BCM 320, Personnel Director for Hewlett Packard in Germany; Jean Buzan, BCM 159, resident wit and gerontologist; and Vanda North, BCM 2, the Brain Club's International Director.

In the Spring 1990 Issue of **Synapsia**, Volume 1,

Number 2, we outlined what the 'future' University would be like. Mornings of learning, study, conversation and fun; afternoons of lunch, swimming, sleep, reading and play; evenings of dining out, visiting local towns, taking midnight swims and 'hanging out' on our 80 foot yachts.

Our crystal ball turned out to be true in all respects, with some added surprises!

The 1991 Floating University is about to commence - make sure you join us!

FIRST THE BRAIN CLUB FLOATING UNIVERSITY

Klaus Hoffman, BCM 320, Personnel Director for Hewlett Packard in Germany, wrote as follows:

'As the summer approached, I was wrestling with the decision of whether to stay on at work and complete my business loads (i.e. whether to become a workaholic!) or whether to attend The Brain Club Floating University.

Once in a while, however, you have to set priorities. The Brain Club was my priority!

With everything arranged, and with one day to go before leaving for Turkey, everybody was saying to me: 'What about Saddam Hussein?' I had decided to go anyway, but for reassurance took out my map and had a quick look. The distance between Baghdad and Bodrum was similar to that between Bodrum and Milano in Italy. This seemed to me to be **quite** a safe enough distance!

My flight took off and arrived slightly early. Making it seemed a good sign. A super week started. Relaxing, excellent light meals, excellent conversations, and I found out that I could draw! Even in chess, I was not so bad as I had thought. My swimming improved dramatically, and still needs a little more effort to reach Olympic level!

The weather was clear, with blue skies by day and dark star studded skies at night.

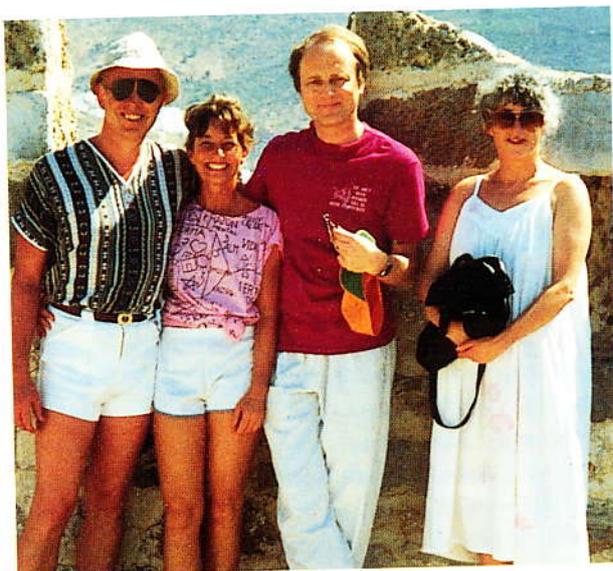
What do you want more? Not even for a **moment** did I think about the work at home

We solved some problems of the Universe and we had a lot of fun!

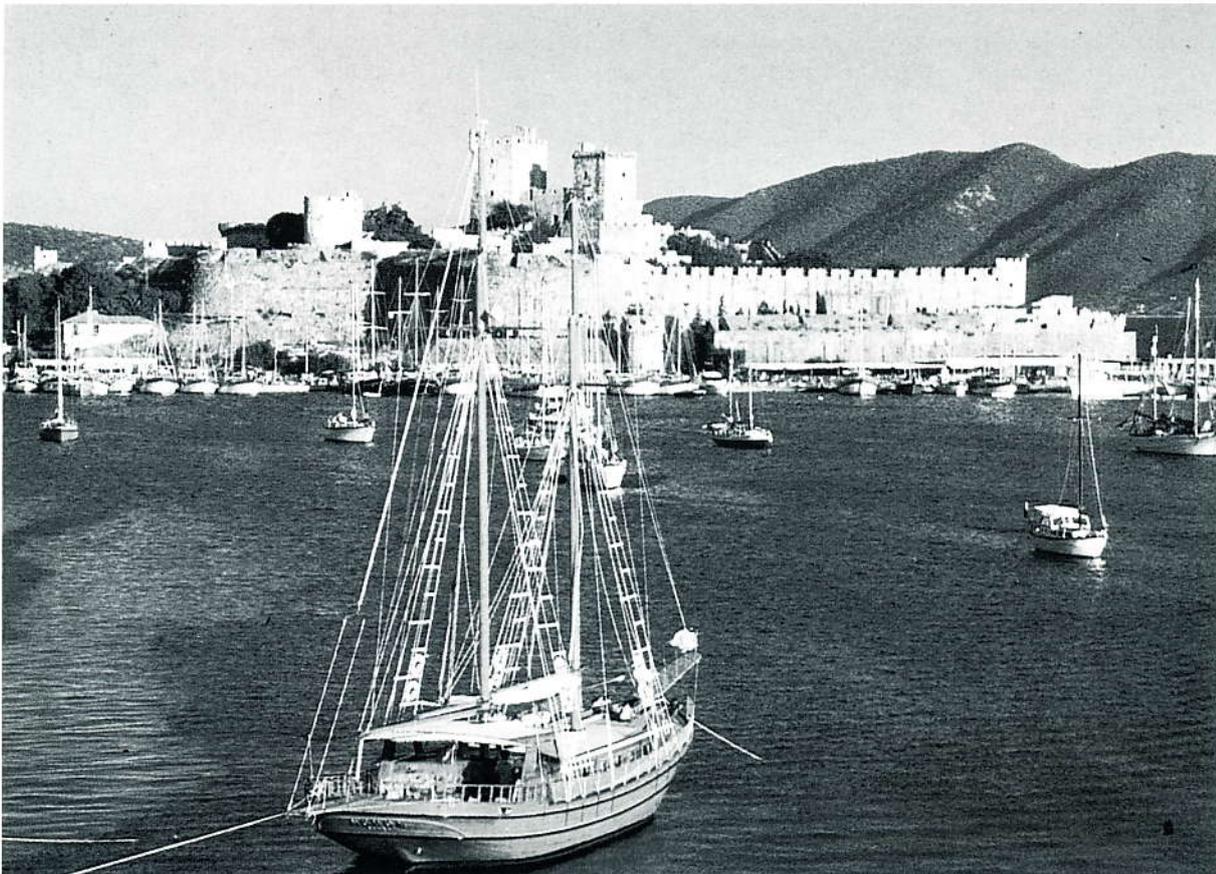
Given the opportunity cost of 'losing' five work days, would I say this trip was worthwhile? This needs to be answered with: **ABSOLUTELY, DEFINITELY, YES!!**

In a normal day of life, each day seems to have 26 hours in which there is still not enough time to complete all you need to complete. During The Brain Club Floating University each day seemed to have 22 hours in which each of those hours had more time than a standard day with two hours to spare for doing absolutely whatever you wanted to do.

It was the best holiday of my life.' ●



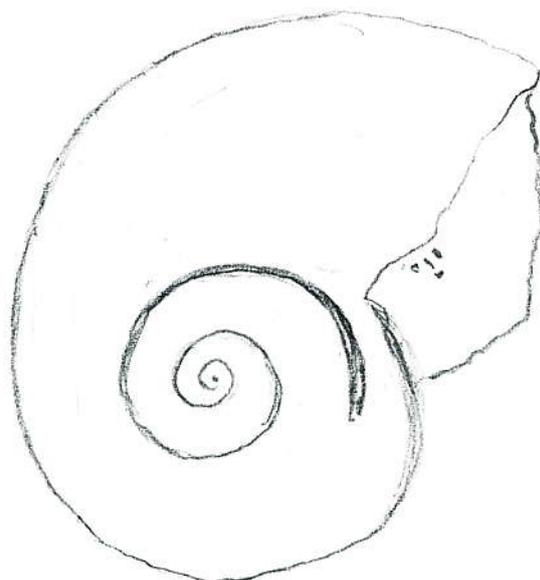
Klaus Hoffman, BCM 320 and Brain Club members atop Bodrum Castle



Entering Bodrum harbour

Vanda North, BCM 2, and International Director of The Brain Club, gives a 'day in the life' of the Floating University: Woken by nature's sunshine alarm clock, 'getting up' from the comfy double bed is as simple as putting on my swimsuit. Thus 'attired' for the first activity, I greet the chef, Mehmet, and the crew, Bahri, beginning to prepare breakfast as I pass through the lounge to the outer deck (see floor plan of Mercan).

It is the morning outing for the 'Graceful and Dignified Swimmers' Club'. This morning a star performance is achieved by Klaus, who enters the water with the minimum of a dramatic presentation and proceeds to show us a most spirited backwards frog, the thrusts so powerful as to bring his upper torso out of the water! He is well pleased. Jean is practising extending her glide, and is to be seen with razor-like sharpness to her toes and fingers, cutting through the water under the watchful eye of the Swim Master - Mr. Tony Buzan. He is dictating orders of aqua refinement from the bow of Mercan, goggles at the ready to join (or save) us. When the ritualistic number of passes-by are performed, we may free swim.



VISUAL CUE

Tony and I take off for a long exploratory swim of the bay and its underwater world, delighting in starfish, sea-urchins, octopus, slugs, fish of all sorts, and shell treasures for which we dive (see UPO picture).

The appetite and breakfast-feast match perfectly, as we sit outside by a table filled with fresh bread, cheese, tomatoes, black and green olives, marmalade, a great fruit bowl with grapes, figs, peaches and bananas, fresh yoghurt, nuts and sultanas – topped off with Turkish coffee. Our eyes are fed by a backdrop of startling blue green clear water, a little bay with hills rising steeply. The land is dry, with small bushes, a few pine trees and occasional stone fences, showing earlier occupation, and occasionally small and sometimes beautifully scented flowers can be found. All this topped by the bluest, clearest sky, and a temperature of low 70 degrees F (20 degrees C).

Thus, well satisfied, the group got together on Hevisim for an Art lesson led by Lorraine Gill. She began to teach us the visual alphabet, and we played with light and shade. Then we were ready to advance to perspective, beginning simply with vanishing points and horizons, and slowly to our delight objects began to hang in space. Sometimes, they did not hang correctly, and we had great discussions as she patiently let us work out the philosophy, psychology, mathematics and geography of a cube in space (see example). Now we all have DIMENSION in our Mind Maps. We felt most satisfied with the development of our new skill.



Brain Club companions and Brain Club companion yacht

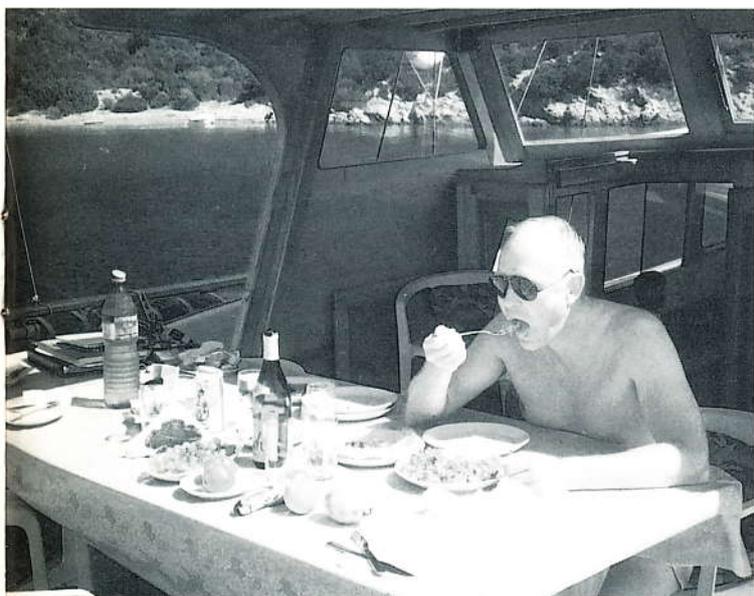
All this intellectual/artistic activity generated another appetite, and we could see the table being set on Mercan and the plates of fresh fish, bean and tomato salad, green beans, potatoes, fresh bread and wine being brought out ready for us.

Discussion continued on art, our new abilities, and on the history of vision. Lorraine keeping us entertained with facts and art history, told with her Australian realism and humour. A decision was made to move the boats on to a new place to explore, and so the afternoon passed with siestas, quiet conversations, reading, resting, and sunning as we pulled up anchor and Captain Jumhur found us yet another perfect and deserted place.

New territory to explore! Again the intrepid 'Graceful and Dignified Swimmers' Club' took to their aquatic frolics and discoveries. Every bay had different rock formations, new fish to be found, and a variety of sea-anemones, and tube-like growths in luminous bright colours. Then to go on land, looking for new flowers, and views over the bay, and to swim back to the boat as the sun went down, 'Swimming the Sun Down' Tony called it and created a poem. The sea becomes like ink, the moon the new light source and the boat begins to glow a lit welcome. It feels such a different world.

After a refreshing shower, I dress for dinner, we are eating on Hevisim; tonight they have created a grill and cooked beautiful lamb cutlets with rice, and plates of fresh vegetables, salads and bread – red Turkish wine and conversation flowed.

Gently the soft velvet fingers of relaxation and sleep crept over us, and another day in an enchanted land is almost over. I decide to end it lying on the bow looking up at the Universe gently swaying above me, counting the falling stars I fall asleep and am swept into our galactic spiral. ●



An early-rising Brain Club member is first to tuck into a five-star Turkish breakfast

Jean Buzan, BCM 159, floating-resident gerontologist, was so inspired by a number of events that she wrote an entire verse-diary of the trip! We include highlights from Jean's epic poem!

**DAY 4
TUESDAY 25 SEPTEMBER 1990**



Our fourth day was very eventful
And specially for Jean and Lorraine
In the morning Jean went to the hotel
To meet with Sean Adam again.

He had promised to give her a session
To help her relax and regress
Which for her was extremely important
To help her diminish her stress.

For Lorraine 'twas her 49th birthday
To be celebrated at sea
All day she had birthday "occasions"
Of greater or lesser degree.

Fond farewells of the Adams were taken
And our boats then set sail once again
We were making for Dacka that evening
The nuclei five of the 'Brain'.

The seas were quite high on our journey
It was difficult, balance, to keep
So all of us did what we felt like
To sunbathe, read, work or to sleep.

Dacka was a dear little village
And at last it was easy to swim
Jean, Tony and Vanda got started
Jean especially "went out on a limb".

Since her "session" with Adam all noted
How much more relaxed Jean appeared
And climbing back in up the ladder
Was something she really had feared.

When the time came she thought "I can do it"
And visualised doing it well.
And lo and behold - it was easy!
A tale to dear Sean we must tell.

Then followed the great birthday dinner
Which really was something to see
Linen tablecloth, candles, good china -
Lorraine was as chuffed as could be.

The meal had been cooked by the Captain
Calamari and wonderful fish
We all toasted his skill in the kitchen
And relished each wonderful dish.

**Klaus took over as "boss" for the evening
And did it most fantastically!
There were presents and toasts and discussion
A great day we all did agree.**

**DAY 6
THURSDAY 27 SEPTEMBER 1990**

We set sail at dawn the next morning
To search for a quiet little bay
Our Captain, Jumurh, led us to one, and Tony
Said "Yes! Quite O.K."

The bay was just gorgeously perfect
A paradise dropped in the sea
The water was warm, clear and gentle
The landscape breathtaking to see.

We all felt that this was a haven
Away from all stresses and strains
So decided to stay 'til next morning
Enjoying the peace as it reigns.

So then came our second swim lesson
The "Dignified Swimmers" - all five
The joy to all five of our senses
Made us feel we were truly alive!

Our second art class was to follow
And teacher Lorraine was delighted
That her students had all done good homework
And already become much more "sighted".

Again the most fabulous luncheon
With dishes so hard to describe
All prepared in the *tiniest* kitchen
Words fail your appreciative scribe!

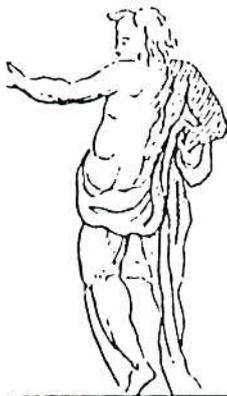
We just lazed around after luncheon
And each to his was the way
But *whatever* we did, just enjoying
The peace of this exquisite bay.

At sunset some went swimming
The sea was deliciously warm
So we had good appetites for our dinner
Which as always was right up to form.

The food and the ambrosia relaxed us
So much we just stayed there 'til night
Enjoying more pleasant discussion
'Til time that we all said 'goodnight'.

Our meals all encourage discussion
Which brains such as ours love to find
So we went to our beds very happy
Recharged in both body and mind.

BOOK REVIEW COLUMN



The Day I Became an Autodidact

Kendall Hailey
Delta Books 1988,
278 pages

This delightful book is the story of a year in the life of a young lady, who at the age of fifteen makes a solemn vow to take control of her education by becoming an autodidact – a self taught person. Bored with her formal schooling, she makes a pact with her parents, playwright Oliver Hailey and novelist Elizabeth Forsythe Hailey, to engage in an experiment in which she reads and studies that which is of interest to her for one year, with no regard for formal educational requirements.

Kendall begins this process during the summer preceding 10th grade, when she receives the dreaded mandatory reading list from her school. She reads everything her school requires from the middle of September until the middle of June, but the summer belongs to her and the thought of another boring list makes her realise that she doesn't like to be told what to read in the fall, winter and spring either.

She begins with Tolstoy's **Anna Karenina** and moves on to Flaubert, Mansfield, Waugh, Orwell, Dickens, Stein, Joyce, Shaw, Hemingway and many others. Inspired by reading what is of interest to her, she arranges to finish her secondary education a year early and devote her time to learning and thinking rather than schooling. Her Grandmother makes the comment "If you don't stop reading all those books, you are going to be overeducated. I think you should go to College." What a telling statement this is about our educational system and it's ability to squeeze the creative juices out of our young people.

In this captivating and refreshing book Kendall describes her efforts to: overcome the common problems of adolescence through self-education; and discover and remain true to bedrock values. She communicates intense intellectual excitement as she relates her 'conversations', with great minds long dead.

In the postmodern age we find ourselves, with it's exponentially expanding information and demassifying demands, perhaps we can learn a lesson from Ms. Hailey: that fierce curiosity, inspired passion and pursuit of our own ideals can contribute more to learning and self-understanding than all the brick halls, professors, and well-meaning governmental educational programs. As we approach the 21st Century, we enter the age of the power of the Individual. Ms. Hailey gives us some tools, thoughts, and belief in ourselves to help us on our journey. ●

PAUL H. WILCOX

ROMANIAN

THE MIND MAP WORD GAME



Synapsia is proud to present a totally new mental game invented by Teri Bias, BCFM 30.

The game consists of filling in the missing slots, much like a crossword puzzle. The first Mind-Map-Word-Game deals with the River Thames. Each major branch of the Mind Map concerns a separate theme that both connects to the centre and leads to the next sub-branches of the Mind Map.

A prize of £10 is offered to the first **Synapsia** reader to send in a completed and correct copy of the answers, which will be printed in full, along with the next Mind-Map-Word-Game in the next issue of **Synapsia**.

Mind Map Word Game No. 1
Subject: Centre, Bridged and Locked (5.6)

N.E.

- 1/ Spacious Landscapes (11)
- 2/ Agricultural Estates (5)
Small Cities (5)
Large Hamlets (8)
- 3/ Food for all (5)
Farm Animals (9)
Span (6)
Retail Outlets (5)
Chinese, Indian or French (10)
Rising above all (7)
Main Road (4.6.)
Country Houses (8.8)
4/ Liquorice (8)

S.E.

- 1/ Keepers (10)
- 2/ National Rivers Authority (3)
Port of London Authority (3)
- 3/ Wet Jobs (10)
Maintains water levels (5)
Chubb or Yale (5)
Basins (5)
- 4/ Water Storage (9)
Fowl or Filthy (9)
Apparatus for Releasing Water (6)
Minders (7)
Alleyway to India, maybe (7)
Even (5)

SOUTH

- 1/ A Record of Events (7)
- 2/ Science of Building (12)
Past Italians (6)
Sum paid to Patentee (7)
- 3/ Home of the Crown Jewels (5.2.6.)
Built to last (6)
Corridors of Power (6.2.10.)
Home of Ratty's Friend (4.4.)
Adorned with Bascules (5.6.)
Conquered Britain in (2.1.1.)
Capital of Britain (9)
Male Monarchs (5)
Signed by King John (5.5.)
Female Monarchs (6)
- 4/ The Queens home town (7)
Where was it Signed? (9)

EAST

- 1/ Not Domesticated (8)
- 2/ Feathered Vertebrates (5)
Caring Animals (7)
Underwater Egg-Layers (4)
- 3/ Wader (5)
A Gaggle (5)
Small Fish Catcher (10)
Bend Quickly (4)
It is Upped Yearly (4)
A Gnawing Animal (6)
Parrot Branch (5)
Comes in Red or Pink (6)
Rainbow (6)
Having Fleshy Filaments (6)
Cromwellian Weapon (4)
To Find Fault (4)
Clear Ships Bottom (5)
Famous Locomotive (6)
4/ Buckinghamshire Town (9)
You silly old (4)

N.W.

- 1/ A good (5)
- 2/ Catching the Wind (5)
Pulling To-gether (7)
You could use a Kayak (8)
- 3/ Going Fast (6)
Seamanship (4.8.)
One must be a Member (4)
Happening (8)
White Waters (6)
- 4/ Against one another (11)
Meetings for boat Races (8)
Craft Competing (4.4.)
- 5/ Whites, Blazers and Boaters (6)
Educated Eights (6.3.9.)
- 6/ Shoes come in (5)
Golfers wear Plus (5)
On your own (6)
Its a large team (6)
Making Nine sometimes (3)
Brain Cover (5)

NORTH

- 1/ Go with the (4)
- 2/ Bottom half (5)
Above the bottom half (5)
- 3/ They wait for no man (5)
Electric Force (7)
Move Serenely (4)
4/ Inflow of water (5)
Receding Tide (3)
Dam-like Constructions (5)
Secures (5)

KEY

- | | |
|----|-------|
| 1/ | ▬▬▬▬▬ |
| 2/ | ▬▬▬▬▬ |
| 3/ | ▬▬▬▬▬ |
| 4/ | ▬▬▬▬▬ |
| 5/ | ▬▬▬▬▬ |
| 6/ | ● |

The secret of intelligence may be based on making mistakes! The computer cannot. If the brain worked only in a straight, logical line, it is difficult to see it inventing new ideas. Scientific revolutions would not occur.



If one reads Thomas Kuhn on the mechanism whereby scientific revolutions do occur, the difficulty for even the human brain to recognise new ideas becomes clear. The establishment are repeatedly so imbedded in the pre-existing paradigm that their intellectual imagery is frozen, like B.R.'s railway points, which forces the train of thought further down the same line. The new idea emerges because someone's brain sees things differently. Making a mistake can yield a new image which is so out of order that it is discarded but to the prepared and flexible mind may have something to offer. Perhaps most of the time, the brain is right to reject a mistaken image but occasionally the eureka syndrome hits with a recognition of what is blindingly obvious but had never been thought of before.

Kuhn rejects the idea that scientific progress is made by scientists logically beavering away. Like B.R.'s frozen railway tracks, such beavering only gets you further down the same line. At least B.R. recognises the situation and stops working! However, the brain cannot do that, otherwise you are dead.

The real scientific and inventive revolution usually rejects the old idea; by definition the new idea comes from another direction. In science, the emergence of a new concept seldom comes painlessly, like Archimedes in his bath, and, once the idea has arrived, it has to be tested. Usually puzzles arise regarding the existing dogma and this leads to contemplative thought. Newton did not instantly see the light when the apple fell onto his head. He had been worrying about gravity for some time and his brain had probably been looking at the problem from many different angles. None-the-less, once the insight appeared, the rest fell quite quickly into place in a new pattern of thought. In everyday life, problems are solved in this way with the solution often being unexpected. It is the search for and the matching of the unexpected that seems to me to be more a characteristic of intelligence than a computer programme that looks up a book of chess moves.

Rutherford split the atom and since then people have split it into smaller bits. Today, more and more billions are being spent on building bigger and huger particle accelerators in Europe and the USA to split the small bits into even smaller bits. The search is for the ultimate knowledge of matter. It will be a little disappointing if the 'splitting race' results only in smaller and smaller bits. If, on the other hand, super-conduction could be achieved at room temperatures, defied gravity and enabled B.R. to build weightless transport machines which could, with a minimum of power, fly silently with no jogging or swaying, enabling one to tap the notes on the portable PC whilst it stayed still and while the peas did not run across the table: then we would at least have a transport revolution that would not come to a grinding halt when it snowed.

What this all boils down to is that perhaps computers should be built like the brain, to make mistakes. Random sequences could do the trick but somehow the six thousand-bit multiple-bus system of the brain seems to do more than that: it seems to feel for the answer using its stored images and logical sequences. As it seems to do most of that whilst the individual is 'not looking', my only conclusion is that the system must be phenomenally powerful – we have nowhere nearly scratched the surface of its potential.

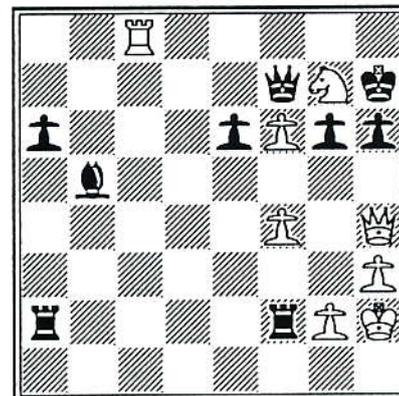
The next revolution must be the brain itself.

Professor Michael Crawford BCM 257



This position is taken from the game White – Mathot
Black – Baumgarter France 1958.

Can you see how White can win immediately?



See Solution on page 33.

AMAZING MEMORY STORIES

WAS HOMER WRITING A LITERARY MASTERPIECE OR A SUPER MEMORY TECHNIQUE?

It has often been assumed that The Iliad and The Odyssey were written as great works of 'art'. I submit that this is not the case, and that the evidence supports them being interpreted as **Masterworks of Memory**. In the times when Homer lived, writing materials were not available, and even if they had been, most people had little education in any of the literary arts or forms. As such, all important information and knowledge had to be handed down by minstrels, storytellers, and poets. Their task was to tell stories about the tribe's history, religion, law, science, and other areas of knowledge, in such a dramatic and **memorable** way, that the people hearing it would be able to pass it on accurately to those who followed.

As such, all these fables and stories were filled with all the ingredients that go to help the human brain remember. Indeed, if you read and study them, you will find that Homer's great works appeal to **every** one of the cortical skills of your left and right cortex, including words, numbers, imagery, colours, sequence, analysis, space and dimension. In addition, **synaesthesia**, the planning of the senses, is used to dramatic effect.

Read, for example, the following excerpt from **The Odyssey**. Even though it is 'out of context', you will feel the tremendous impact that Homer's writing has on your memory when he describes the plight of Ulysses, sailing on the ocean and having just angered King Neptune, the God of the sea:

"As he spoke a sea broke over him with such terrific fury that the raft reeled again, and he was carried overboard a long way off. He let go the helm, and the force of the hurricane was so great that it broke the mast half way up, and both sail and yard went over into the sea. For a long time Ulysses was underwater, and it was all he could do to rise to the surface again, for the clothes Calypso had given him weighed him down; but at last he got his head above water and spat out the bitter brine that was running down his face in streams. In spite of all this, however, he did not lose sight of it, and swam as fast as he could towards it, got hold of it, and climbed on board again so as to escape drowning. The sea took the raft and tossed it about as Autumn winds whirl thistledown round and round upon a road. It was as though the South, North, East, and West winds were all playing battledore and shuttlecock with it at once."

Notice the rhythm, the repetition, the sequencing, the imagery, the appeal to all the senses, the movement, the exaggeration, the colour and the feeling **all** contained in one masterful Mnemonic paragraph

In such great works, the authors were placing the important things to be memorised in multi-sensory locations within the listener's brain.

Reading the works of the great masters, especially such as Homer, Milton, Shakespeare, and Goethe, from the double-perspective of creativity and memory, will increase your enjoyment of their master works enormously – please send your own examples and thoughts to **Synapsia**.

WORLD CHESS CHAMPIONSHIP

Raymond Keene, OBE, BCM 275, covers for *Synapsia* readers the recent tournament in the Spanish town of Linares, the strongest chess field ever assembled, and uses this as a basis for introducing the first round of the qualifying matches between the final eight players battling for the right to challenge Garry Kasparov for the World Championship in 1993.

The Linares Tournament: Expected Battle; Unexpected Results

The young Soviet Grandmaster, Vassily Ivanchuk is looking increasingly likely to be the most serious contender for the 1993 World Championship match against Garry Kasparov. Following on from his overwhelming match victory against Yudasin in the first round of the Candidates competition, he proceeded to the powerful tournament in the Spanish town of Linares, where he inflicted defeat on both Kasparov and Karpov. I cannot think of anybody else who has performed this double in a single event. Ivanchuk, who is 22, is not just a superb player, but also bids fair to becoming an eccentric in the Fischer or Kochnoi mould – while in Linares two years ago eyewitnesses claim that he would run through the streets of the town bellowing at the top of his voice after particularly satisfying victories.

In winning at Linares, Ivanchuk also crushed Kasparov's decade long record of finishing no lower than first equal in every important tournament in which he had participated. Apologists for the World Champion may well point out that their man would have been tired after his exertions against Karpov in their World Championship match. It should be stressed, though, that Kasparov actually performed up to his 2800 rating in Linares, and it was Ivanchuk who surpassed all expectations. Kasparov will have to look to his laurels in the future.

In spite of my prediction at the close of the World Championship match that Karpov would once again be the challenger in 1993, his wretched showing in Linares, where only a late spurt brought him up to a respectable 50% must give pause for thought. If Karpov meets Ivanchuk in the Candidates tournament for World Championship qualifiers, as he assuredly will, it will be a damn close run thing, to quote the Duke of Wellington.

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	
1 Ivanchuk (USSR)	*	1	½	½	½	½	1	½	1	1	½	1	½	1	9½
2 Kasparov (USSR)	0	*	1	½	½	½	½	½	½	1	1	1	1	1	9
3 Beliavsky (USSR)	½	0	*	½	1	0	0	1	1	1	0	1	1	1	8
4 Speelman (Eng)	½	½	½	*	0	½	1	½	½	½	½	½	1	1	7½
5 Yusupov (USSR)	½	½	0	1	*	1	½	½	0	1	½	½	½	1	7½
6 Salov	½	½	1	½	0	*	½	½	1	½	½	0	½	1	7
7 Karpov (USSR)	0	½	1	0	½	½	*	½	0	½	0	1	1	1	6½
8 Timman (NLD)	½	½	0	½	½	½	½	*	0	1	½	½	1	½	6½
9 Anand (IND)	0	½	0	½	1	0	1	1	*	0	½	0	½	1	6
10 Gurevich (USSR)	0	0	0	½	0	½	½	0	1	*	1	1	½	1	6
11 Ljubejevic (YUG)	½	0	1	½	½	½	½	½	*	0	1	½	½	1	6
12 Gelfand (USSR)	0	0	0	½	½	1	0	½	1	0	1	*	0	1	5½
13 Ehlvest (USSR)	½	0	0	0	½	½	0	0	½	½	0	1	*	0	3½
14 Kamsky (US)	0	0	0	0	0	0	0	½	0	0	1	0	1	*	2½

The Titans Gather – The Eight Challengers to Kasparov's Supremacy

The World Championships candidate matches being held in Brussels as *Synapsia* goes to press, promise the most exciting elimination tournament for many years.

For the past ten years the candidates' battles have revolved around the question of who would face Anatoly Karpov, the previous world champion and perennial challenger, the main question being how many games would it take Karpov to defeat the final other challenger for the right to face Kasparov.

Two factors have changed the picture: the first is that Karpov has seemed a little listless after his fourth consecutive defeat by Kasparov; the second is that the challengers are now much stronger than in previous years, and exhibit a wide variety of chess playing styles and personal characters.

This year there are four candidates matches, each putting one player against another on a knock-out format. The rules of the matches are that the winner in each case will be the player who makes the better score in an initial set of eight games, played at the rate of forty moves in two hours, followed, if necessary, by twenty more moves in the next hour.

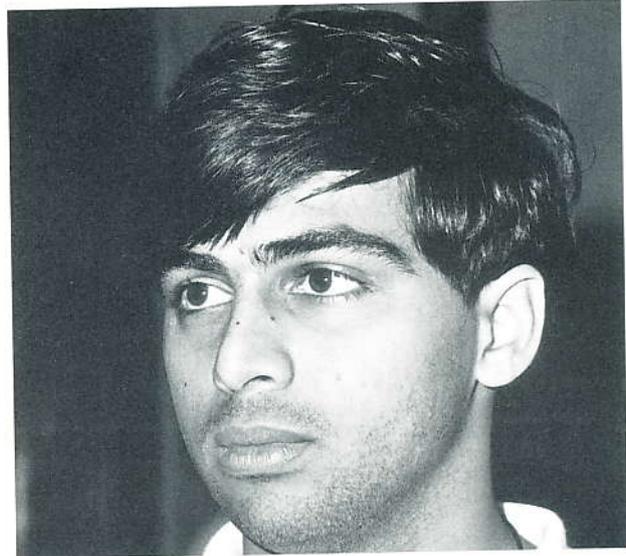
Should this formula fail to produce a winner, there will be a further set of two games, with each player having to make all his moves in forty-five minutes.

Following are the match-ups, with Raymond Keene's pre-game analysis and predictions for the victors and their scores.



Karpov (USSR) v Anand (India): Anatoly Karpov, aged 40, was champion from 1975 to 1985 and has won a record number of first prizes in strong international tournaments. His ranking is 2,730, which places him number three in the world after a long spell as number two behind Kasparov. His marathon series of matches against Kasparov will go down in history as one of the greatest chess struggles.

His opponent, Viswanathan Anand of India, is aged 22 and one of the brightest new superstars in the young generation. From being an average grandmaster just a year or so ago, he has shot up to number nine in the world with a hefty rating of 2,650. He has played only one game against Karpov, which Anand won.



As Karpov gets older, he is increasingly experiencing clock trouble in critical situations, while Anand plays at almost blitz speeds even in the most serious tournaments. After careful consideration, I have come to the conclusion that Karpov's experience will probably tell in the long run. Karpov is also thirsting for revenge. There may be a surprise in this match but I think Anand will have to pull out all the stops if he is to beat Karpov in an extended series.

Prediction: Karpov's tendency towards clock trouble as he gets older could be a factor; but experience will tell in the long-run. Karpov will win $4\frac{1}{2}$ - $2\frac{1}{2}$.

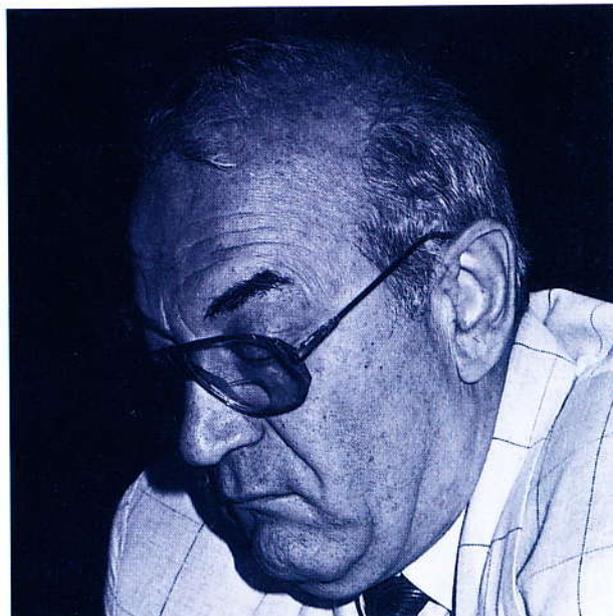


Ivanchuk (USSR) - Yusupov (USSR): Vassily Ivanchuk, aged 22, a Russian, is the only player in the world who has beaten Kasparov and Karpov in the same tournament (at Linares this year) and his rise to the top has been meteoric. Many experts now regard Ivanchuk as the overall favourite in this candidates' cycle and some believe he will go on to defeat Kasparov in 1991. I have little doubt that Ivanchuk will easily dispatch Artur Yusupov, aged 31 and also a



Russian, but now living in Munich and liable to transfer his loyalty to Germany. Yusupov's record in recent candidates' tournaments has been excellent, but he lacks Ivanchuk's spark of genius and I cannot see him going the distance in Brussels.

Prediction: Talented though he is, Yusupov will find that iron will is no match for Ivanchuk's genius. Ivanchuk will win $4\frac{1}{2}$ - $2\frac{1}{2}$.



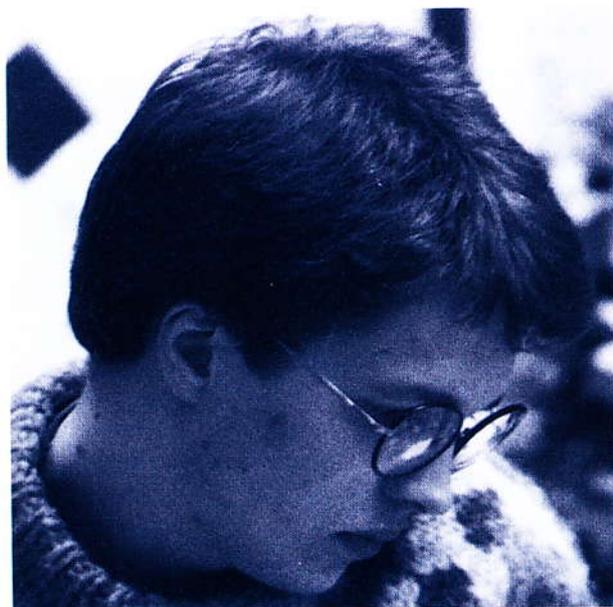
Timman (The Netherlands) - Korchnoi (Switzerland): Korchnoi at 60 is the amazing veteran of the chess world. Formerly Russian but now representing Switzerland, he has the enormous experience of having played two world championship matches and has beaten every top player in the world today at one time or another, including the legendary Bobby Fischer.

Jan Timman, aged 40, from The Netherlands, was for many years the highest-rated Western grand-

master. Now at 2,630 he is behind Speelman and Short.

Timman faces a tough challenge in Korchnoi, who has a substantial plus score against him.

Prediction: Timman faces a tough challenge against the wily Korchnoi, who has a substantial plus score against him in previous encounters. Korchnoi will win 4¹/₂-3¹/₂.



Short (UK) - Gelfand (USSR): Last year, Kasparov predicted that Gelfand, aged 23, would be the challenger but in recent tournaments and matches he has been quite unconvincing. His rating is 2,665, five points ahead of Short, but in individual encounters against Short, Gelfand trails by one win against two. Gelfand had to struggle to reach this stage and a win for Short in this match would prove very popular. Short, aged 26, is now developing into a serious

candidate to challenge Kasparov and I would not rule out his chances against either Ivanchuk or Karpov in future contests. I rate Short the favourite to beat Gelfand in the quarter final.

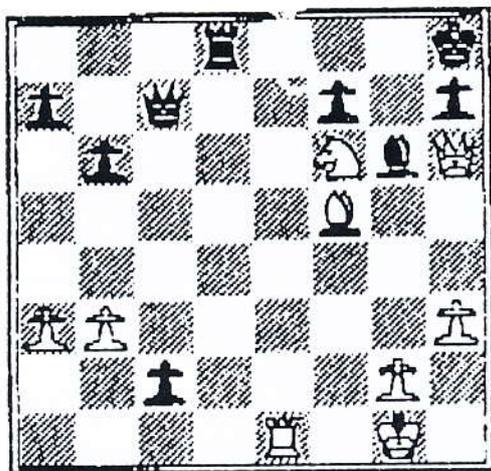
Prediction: Gelfand is ranked just ahead of Short, but trails by one win to two in individual encounters. Short will win in extra time 6¹/₂-5¹/₂.

Chess Flash

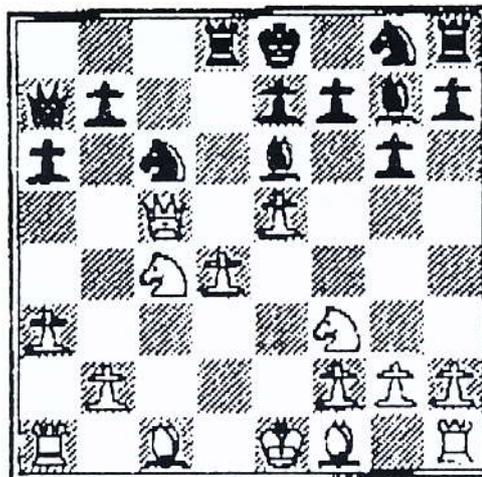
Competition and chess prizes for Brain Club Members based on Raymond Keene's, OBE, BCM 275, new book, **Winning Moves**.

The Times book by Raymond Keene of winning move chess positions has just been published by B.T. Batsford, 4 Fitzhardinge Street, London W1H 0AH, or it can be ordered from the British Chess Magazine, 9 Market Street, St. Leonards on Sea, East Sussex TN38 0DQ.

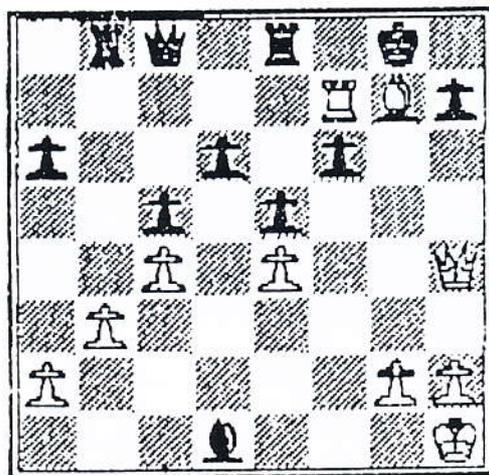
The Winning Move puzzles in **The Times** appear every day and are one of the best forms of aerobics for the mind. To introduce readers of **Synapsia** to the puzzles and to give a flavour of the book, **Winning Moves**, here are four Winning Move puzzles. The best five sets of answers received by **Synapsia** by October 31st 1991 will each receive a prize book kindly donated by the British Chess Magazine, namely **Howard Staunton - The English World Chess Champion** by Raymond Keene and R. Coles.



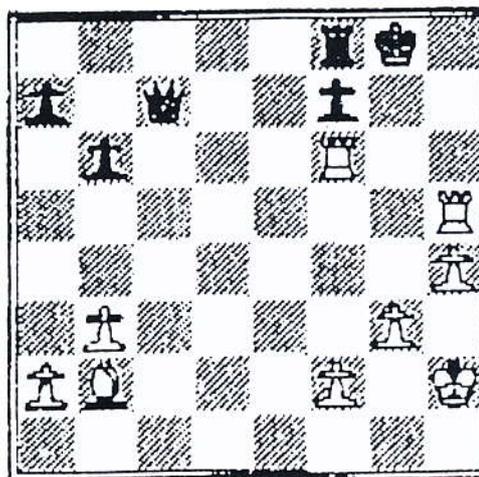
This position is from the game Z Polgar - Yudasin, Munich 1991. Here, although White is a piece up, Black has dangerous threats. However, White found a way to force immediate resignation. Can you see how?



This position is from the game Tal - Ramtananen, Tallinn 1979. Can you see how ex World Champion Tal concluded his attack?



This position is from the game Sculga - Ivanov, USSR 1988. Although the game is only just out of the opening, Black's next move forced resignation. Can you see what he played?



This position is from the game Kengis - Bo Hansen, Gausdal 1991. White's pieces are very aggressively posted, and his next move ended the game. What did he play?



MENTAL WORLD RECORDS

In the last issue of **Synapsia**, we focussed on memory and introduced the concept of national as well as world mental records.

In this issue we delve into the historical world record holders for the memorisation of pi, update readers on the latest world chess standings, and discuss an interesting controversy surrounding 'the human computer'.

The Brain Club is still especially interested in sponsoring a new wave of research into historical I.Q.'s, as well as into any other area of mental world records, and looks forward to readers suggestions, proposed studies and research, and sponsorship!

THE MAN WHO FIRST GOT THE BIGGEST PIECE OF PI

As Roger Bannister was to the 'impossible barrier' of the four minute mile, so Professor A.C. Aitken, Professor of Mathematics of the University of Edinburgh, was to the 'impossible task' of memorising digits of the number indicating the value of pi. Until Professor Aitken came along, the best results, even with considerable effort, had been between thirty and forty digits. Applying his memory, and basic systems like those you are about to learn, Professor Aitken was able **easily** to remember the first **thousand** decimal-places of pi. He was able to do this not only in correct order, but in **reverse order as well**.

Professor Aitken was one of the first memory pioneers to show modern society that memory training is possible, that memory **can** be improved, and that when it is trained it can improve standard performance by **factors of a hundred**.

The leap that has been made from the start given by Bannister has been similarly gigantic. As we indicated in **Synapsia** Volume 1 Number 2, the new world record for the memorisation of pi is held by Rajan Mahadevan, who memorised thirty-one thousand eight hundred and eleven (31,811) digits of pi.

CHESS

In the Summer 1990 edition of **Synapsia** we published the world's top ten chess players, led by the Brain Club's Brain of the Year, Garry Kasparov.

Raymond Keene, OBE, reports that the World Chess Federation has recently issued its annual ranking list as of January 1, 1991, and in it there are some major changes!

For five years, the most interesting question has been: "Who is on third?!", while world champion Garry Kasparov and his perpetual challenger, Anatoly Karpov, have held down the top two spots.

Plummeting out of the top ten are Jan Timman of the Netherlands, England's Nigel Short, the Swede Ulf Andersson, and the eternal challenger from Switzerland, Viktor Kortchnoi.

The new number three is Boris Gelfand of the USSR, closely followed in fourth place by Vassily Ivanchuk. These two players, in their early twenties, are regarded as the young hopes of Soviet chess. Raymond notes that of the top 102 players in the world, almost half - 47 - are Soviets. The other leading countries at the moment are: United States 14; England 7; Yugoslavia 6; and Hungary 4.

With this issue we publish the world's top twenty players for 1991 as ranked by the World Chess Federation (see page 28 for Raymond Keene's exciting preview of the World Chess Quarter-Finals currently being held in Brussels).

January 1991 Ratings

Rank	Name	Title	Country	RO
1	Kasparov, Garry	g	URS	2800
2	Karpov, Anatoly	g	URS	2725
3	Gelfand, Boris	g	URS	2700
4	Ivanchuk, Vassily	g	URS	2695
5	Bareev, Evgeny	g	URS	2650
6	Gurevich, Mikhail	g	URS	2650
7	Ehlvest, Jaan	g	URS	2650
8	Yudasin, Leonid	g	URS	2645
9	Salov, Valery	g	URS	2645
10	Beliavsky, Alexander G	g	URS	2640
11	Andersson, Ulf	g	SVE	2640
12	Khalifman, Alexander	g	URS	2640
13	Kansky, Gata	g	USA	2640
14	Anand, Viswanathan	g	IND	2635
15	Short, Nigel D	g	ENG	2635
16	Timman, Jan H	g	NLD	2630
17	Dreev, Alexey	g	URS	2625
18	Nikolic, Predrag	g	JUG	2620
19	Epishin, Vladimir	g	URS	2620
20	Huebner, Robert	g	FRG	2620

NEWS FLASH - DRAMATIC SHAKE UP IN JULY 1991 WORLD CHESS RANKINGS!

In an unprecedented shake-up of the world rankings in the first half of 1991, the ten year grip on his Top-Two ranking of Anatoly Karpov has finally been broken by the rising young Russian chess genius, Vassily Ivanchuk. As of our going to press, Ivanchuk

swiftly and confidently took over the number two position with a ranking of 2735, pushing Karpov to the number three position.

Other significant changes that **Synapsia** readers will note are the rapid rise of England's Nigel Short, and similarly that of the Indian player, Viswanathan Anand.

Boris Gelfand, the erstwhile number three, plummets to number six on his recent poor showing in Linares, and Michael Adams, the young chess prodigy from England, breaks into the top twenty at number eighteen.

Of the eight players currently combatting in the candidates tournament for the right to challenge Garry Kasparov for the World Championship (see **The Titans Gather - The Eight Challengers to Kasparov's Supremacy** page 28), only Victor Kortchnoi is not ranked in the top twenty. Kortchnoi's 25th ranking disguises the fact that he is at his best in one-to-one combat.

Synapsia will keep readers regularly updated on changes in the chess world rankings.

July 1991 Ratings

Rank	Name	Title	Country	RO
1	Kasparov, Garry	g	URS	2770
2	Ivanchuk, Vassily	g	URS	2735
3	Karpov, Anatoly	g	URS	2730
4	Bareev, Evgeny	g	URS	2680
5	Salov, Valery	g	URS	2665
6	Gelfand, Boris	g	URS	2665
7	Short, Nigel D	g	ENG	2660
8	Beliavsky, Alexander G	g	URS	2655
9	Anand, Viswanathan	g	IND	2650
10	Khalifman, Alexander	g	GER	2630
11	Gurevich, Mikhail	g	URS	2630
12	Speelman, Jonathan S	g	ENG	2630
13	Timman, Jan H	g	NLD	2630
14	Polugaevsky, Lev	g	URS	2630
15	Yusupov, Artur	g	URS	2625
16	Nikolic, Predrag	g	JUG	2625
17	Andersson, Ulf	g	SVE	2625
18	Adams, Michael	g	ENG	2615
19	Epishin, Vladimir	g	URS	2615
20	Huebner, Robert	g	GER	2615

Dramatically changed July 1991 World Chess Rankings as a result of the major chess battle held in Linares, Spain (see this issue **Synapsia** page 28).

HUMAN COMPUTER CONTROVERSY

In one of only three mentions of human intellectual performance in the **Guinness Book of World Records**, it is noted under the heading 'Human computer' that the following record stands:

"The fastest extraction of a 13th root from a 100 digit number is in 1 min 28.8 sec by Willem Klein (b. 1912, Netherlands) on 7 Apr 1981 at the National Laboratory for High Energy Physics (KEK), Tsukuba, Japan.

Mrs. Shakuntala Devi of India demonstrated the multiplication of two 13-digit numbers

7,686,369,774,870 x 2,465,099,745,779

picked at random by the Computer Department of Imperial College, London on 18 June 1980, in 28 sec. Her correct answer was

18,947,668,177,995,426,462,773,730."

The **Guinness Book of World Records** goes on to record the extraordinary comment that: "Some experts on calculating prodigies refuse to give credence to the above - largely on the grounds that it is so vastly superior to the calculating feats of any other invigilated prodigy."

Synapsia respectfully points out that Mrs. Devi has been invigilated a number of times, has appeared on numerous live television shows, performing 'new' calculations based on the works of various mathematics professors, and has consistently performed at the level indicated in her record-breaking performance.

We support Mrs. Devi in her natural excellence, and hope that researchers will increasingly realise that their amazement and amusement should lie not in the outstanding excellence of any human mental performance, but in the rarity of similar performances.

NEXT ISSUE

THE NEW THEORY OF EVOLUTION

by Professor Michael A. Crawford

A FIRST COMPUTER WORLD CHAMP?!

WORLD CHESS CHAMPIONSHIP

Chess Candidates, quarter-final match results

FIRST INTERNATIONAL BRAIN CLUB CONFERENCE, SWANSEA

BRAIN CLUB ACCOMPLISHMENTS

Check Mate solution

The solution to the Check Mate problem on page 26 is as follows

1 Qxh6+Kxh6 2 Rh8 mate.

