

Brian and Shamal's Innovention launch

AUTOCONE™ AND GRAVITY PUMPS™ GO PUBLIC

WRTI MEMBERS Shamal Barzanji and Brian Flynn are exhibiting their latest prototypes at *Innovention 2003*, the invention and business show being held on Friday 20 June at the INTECH Centre, near Winchester (see Centre of Excellence, page 4).

Now in its 11th year, the *Innovention* competition and exhibition brings together the region's inventors and businesses to showcase their latest ideas and products.

Acting as a springboard for hundreds of new products and long-term business partnerships, the exhibition allows both inventors and businesses to evaluate innovative new products, network with contacts in the innovation world and seek out advisers and venture capital.

Sir Clive Sinclair will present awards to competition winners at a 3pm ceremony. Previous winning products range from simple, everyday consumer solutions to sophisticated hi-tech electronics.

Smart people

Both Brian and Shamal are recipients of Smart Awards and developed their inventions at Southampton Institute's workshops.

Brian flew his brother over from Australia for three months earlier

this year to help engineer his device. His Autocone™ labour-saving machine can both position and retrieve miles of traffic cones without the need for human intervention – especially important in the wide open spaces of Canada, Australia, the USA etc.

Shamal's Gravity Pumps™ contain no moving parts, yet when placed in a river can pump water for many miles to heights of over 20m. His device has obvious implications for the developing world. ■

brian@autocone.com

shamal@gravitypumps.fsnet.co.uk

CROYDON INVENTION & ENTERPRISE FAIR

The Fair will take place at Fairfield Hall, Croydon on Thursday 3 July under the auspices of Croydon, London & SE RTI.

Lecture seminars (including an introduction to exporting), an Inventors' Exhibition and fashion shows will take place. Entry is free.

CONTACTS: ● Barry Slayford
020 8771 3932 safetproducts@aol.com
● Croydon Chamber of Commerce
Tel: 020 8680 2165

WRTI diary date: 9 July

Guest speaker: Anna Frizzell of BLW on Environmental Technologies.

PLUS the WRTI AGM (items for the agenda to johnrobertgibbs@aol.com by 18 June, please).



Shamal Barzanji (left) received his second Smart Award last year. He will be exhibiting his Gravity Pumps™ at *Innovention 2003* on 20th June.

INVENTOON

by John Byrne





VIEW FROM THE CHAIR

LAST MONTH'S WRTI meeting was interesting, technically challenging and tinged with sadness. The sadness was in learning that erstwhile WRTI secretary John Godfrey and wife Kathie are shortly to emigrate to Spain. I can personally vouch for their commitment to the club and without their help there's no doubt that we would have struggled early on. Kathie put it well when she said, "It's not goodbye, it's au revoir." (John was quick to point out that that wasn't Spanish!)

Dr Hamid Rassoullian's presentation was technically very challenging: I doubt that many people understand the subtleties of air insufflation or dry electrophoresis. However, there were also powerful messages in his lecture – not least that there are some brilliant inventions developed in hospitals which rarely transfer to other hospitals. Hamid has developed a very neat solution (which incidentally should enable him to gain a Smart award or two!) which we hope to summarise in *Inventique* very soon.

Speaking of Smart awards, it is a pleasure to announce that another WRTI member, John Bishop, has gained a Smart Micro award. I hope he will tell us about his project shortly.

Finally it was good to hear yet another member, Derek Adams, announce that as a result of the exposure he received on BBC1's *Innovation Nation* programme a manufacturer is planning to market his novel model train (more on this in next month's newsletter).

So the motto for all of us must surely be: "Onwards and Upwards"!

Sincerely,

David

DAVID NICHOLAS MBE, Acting Chairman

INVENTORATOR James Dyson

Creation theory

INNOVATIVE THINKING STARTS AT AN EARLY AGE

THE TERM 'the three Rs' originally referred to 'reading, and wroughting and arithmetic' as recorded in Hansard in 1840. Since then many people have tried to replace the word 'wroughting' with 'writing' – usually the academics, who have an inveterate snobbery towards the idea of using brain and hand creatively together. They don't understand the power of the creative act – and yet it is a vital part of education, as essential as the ability to read or do arithmetic. Pupils need to become informed users of technology and to understand the technological society in which we live.

Skills matrix

At Dyson we have 350 scientists and design engineers developing new technologies by defining and analysing problems, and designing better solutions by assessing whether everyday products really provide the best answers for their function.

This is an approach, a set of skills and a way of thinking that needs to be started when young. Design and Technology in schools makes a unique contribution to the curriculum, delivering citizenship, creativity, entrepreneurship, ethics, interaction with the physical world, problem-solving, responsibility and thinking skills. As such, D&T is not a 'vocational' activity, but a key part of every child's education,

whether they be male or female, the less able or the most talented.

Knowing about technology and understanding the design process is vital for the economy – and not just for designers and engineers but also for bankers, economists, politicians and accountants: it is *they* who need to understand the value of creativity, technology and manufacturing. But if they don't experience this at school they will spend their lives ignoring it.

Creativity in any sphere, but particularly in industry, is a fragile, ephemeral thing: today's unprovable idea could be tomorrow's success. Such ideas do not survive the incomprehension of accountants.

As a major employer of design engineers and scientists, we at Dyson find it difficult to recruit people of sufficient calibre. However, when D&T is properly provided in schools at a young age, an ideal environment is by definition provided for opening up young minds to the creative options available in such disciplines.

If we show pupils and students in primary, secondary and higher education that these opportunities really do exist, we will reverse the flood away from industry. If we take Design and Technology out of the curriculum our economy, and society, will suffer. ■

● James Dyson invented Dual Cyclone™ technology.

www.dyson.com

HUMORESQUE from Dave Challice, secretary of Bournemouth RTI dchallic@bournemouth.ac.uk

The person who told me this story claims it is true. Apparently, in order to simulate 'bird strikes' (when flying birds collide with aircraft travelling at maximum velocity), British scientists at Rolls-Royce built a gun specifically to launch dead chickens at aircraft in order to test the strength of their windshields. It worked really well.

American railway engineers heard about the gun and wanted to use it to test the windshields of their new high-speed trains. Arrangements were made, and the gun was sent to America. However, when it was fired, the engineers were shocked to see the first chicken hurtle out of the barrel, smash the train's shatterproof windshield to smithereens, blast through the control console, demolish the driver's seat and embed itself in the rear wall of the cabin.

The horrified engineers returned detailed design drawings of their windshield with the disastrous test results and the gun to Rolls-Royce and begged them for suggestions. The British scientists responded with a one-line memo: "De-frost the chicken."

THE TRIZ PRINCIPLES

LAST MONTH I introduced TRIZ (pronounced 'trees'), an acronym from the four Russian words *Teoriya Resheniya Izobretatelskikh Zadatch* which stands for the Theory of Inventive Problem Solving – a theory developed by Russian naval patent officer, Genrich Altshuller.

Altshuller noticed similarities in invented solutions from different fields. In analysing over 200,000 patents, he discovered that most patented ideas use a number of objective principles and are based on a finite number of physical, chemical and geometric effects, so he developed 40 TRIZ Principles as being common to many inventions. Using one or more of these Principles as tools can help solve any inventive problem.

I will commence the 40 TRIZ Principles today and include all of them over the next few newsletters.

1. Segmentation

Segmentation means to separate into smaller parts. A modular design can result in parts which plug together in different ways, or are easy to manufacture, assemble and take apart (as when repairing or transporting them). Open-plan offices use segmentation to allow the layout to be easily changed. As you now have separate parts you can treat these parts differently, or they can be made of different materials and have different shapes.

2. Extraction

Extraction means to take out or separate something, such as removing a painful tooth or singling out the critical parts of a system. Sometimes simply placing a bad part of a system in a different place lessens the bad effect or removes it completely. Seek the value of different parts or aspects. Low-value items may be eliminated, high-value items extracted and used elsewhere in different circumstances.



GRAHAM RAWLINSON
CONTINUES HIS SERIES
ON HOW TO INVENT
(ALMOST) ANYTHING

3. Local quality

Do not assume that the current placing or usage of parts cannot be changed – the reasons parts exist may be buried in history or may be more for manufacturing convenience than for the value they give in operation. Local quality means to single out specific parts and then to change them or place them in an environment where they are optimally useful.

● *Innovation consultant Dr Graham Rawlinson is co-author with David Straker of How to Invent (Almost) Anything, ISBN 1 904298 87 7*

4. Asymmetry

As aesthetic people we are often attracted to symmetry, which leads us to not question whether asymmetry may be more useful. Symmetrical objects are often easier to manufacture, but may not be the most useful design. To use asymmetry, make uniform objects asymmetrical; make things asymmetrical in each of the different dimensions of the object and for more than its parameter. Fashion designers use asymmetry to create a wide range of interesting styles. Varying shapes give the opportunity for one shape to do one thing and another shape to perform another function.

5. Combination

The principle of combination is to bring together things which happen at the same time or in the same place. This can mean doing things in parallel or creating single devices where previously there were more. A washing machine which also acts a tumble-drier uses the principle of combination. Combination gives you the opportunity to simplify.

Next month: more Principles. ■

triz@dagr.demon.co.uk www.triz.org

Hasta la vista, babies

From John and Kathie Godfrey:
JUST TO LET YOU know how touched we both were with the kind words and gifts at the May meeting. We are sure you realise that the Club and your fellowship are two of the things we will miss when leaving the UK to live in Spain. However, the electronic age at least makes it possible to keep in close contact, which we assure you we will do. Our very best wishes for the future of the Club – and we look forward to reading our



Above: Kathie and John with new secretary John Gibbs (left), David Nicholas and treasurer Brian Pascall.

copy of *Inventique* every month. With best regards, John & Kathie. jgodfrey@clara.co.uk

CENTRE OF EXCELLENCE INTECH

Conference call

WINCHESTER'S WINNING SCIENCE CENTRE



It is appropriate that the *Innovention 2003* exhibition on 20 June is to be staged at INTECH, the strikingly modern purpose-built exhibition and conference centre situated on the outskirts of Winchester.

Currently presenting a *Science for All* lecture/demonstration programme to the public, INTECH acts as a resource and support centre for schools and colleges in the understanding of science, technology, engineering and mathematics – a cause dear to the hearts of both inventors and the business community (see *James Dyson's Inventorator*, page 2).

As an educational charity, INTECH plays a key role in supporting the classroom teacher in the delivery of science, technology and mathematics in line with the National Curriculum, encouraging students to continue with what are

perceived to be some of the more difficult curriculum subjects, and showing that a science-based career can be exciting, challenging and rewarding.

Dubbing itself a 'hands-on interactive science & technology centre,' the £11m complex opened its doors last August and houses a 200-seat auditorium with state-of-the-art lighting, sound and conference facilities, and a 2000m² exhibition area containing approximately 100 interactive exhibits to encourage learning.

INTECH has quickly become established as a leading family visitor attraction, where children can build a bridge and walk across it, create their own tornado or play noughts and crosses with fibre-optic lights. The centre has an excellent cafeteria and picnic area with magnificent views, a well-stocked shop carrying an excellent selection of low-priced items, and a wide range of books and gifts. ■

● **Contact:** Mandy Gray

Tel: 01962 891912

INTECH, Telegraph Way, Morn Hill, Winchester SO21 1HX

Open 7 days a week, 10am - 4pm. £3 children, £5 adults (family tickets and concessions available). Free car-park.

Spotlight on Brian Stickley



Where do you live? Romsey, Hampshire.

Occupation? Company director.

Hobbies? Football.

You've been inventing for..? 2 Years.

Current invention? *Talking Tins*, a speaking label which helps the visually impaired identify the contents.

Other inventions? *Record-a-Card* and *Voice Pad*, greetings cards which allow you to record and send a personal message (www.VoicePad.co.uk).

Are any inventions of yours on the market? *Record-a-Card* and *Voice Pad* have been out for 2 years. *Talking Tins* launch this month.

Which aspects of inventing most appeal to you? Seeing home-made prototypes turn into a marketable product sitting on a retailer's shelf.

Which aspects least appeal to you? Seeing new products fail because of retailers' excessive mark-ups.

Which invention do you most admire? The wheel.

What single thing would most help inventors? Grants that are easier to win.

What single thing would most help you? Another me would be useful!

Recommended website?

www.businesslinkwessex.co.uk

Contact? brian@brs.uk.com ■

Wessex Round Table of Inventors meet at 6pm on the second Wednesday of each month at Southampton Institute, East Park Terrace SO14 0RP

ACTING CHAIRMAN David Nicholas MBE David.Nicholas@businesslinkwessex.co.uk

DEPUTY CHAIRMAN Richard Little rlittle@jenton.co.uk MEMBERSHIP/SECRETARY John Gibbs johnrobertgibbs@aol.com

TREASURER Brian Pascall bpascall@fueldynamics.freeserve.co.uk DEVELOPMENT OFFICER Les McCall l.b.mccall@btinternet.com

Inventique © 2003. Published by Frank Landamore on behalf of Wessex Round Table of Inventors.

Editorial contributions: Mail to Inventique@hotmail.com or The Editor, *Inventique*, 42 South Way, Lewes BN7 1LY