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Subject: Newsletter from BCS Sussex Branch - aBaCuS Issue 28  
To: member@BCSSussex

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BCS Sussex Branch Newsletter  
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A Message from the Chairman  
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In each edition of Abacus I try to pose a question that will generate some debate in the branch. Normally I pose a question that I have stumbled across in my everyday use of I.T. systems. For this edition I have a question which could not be regarded as everyday by any stretch of the imagination.

Ever since the HAL in "2001, A Space Odyssey" we have seen in many science-fiction programmes and film examples of machines that are self-aware, can think, can make decisions and even have emotions.

I believe that in the fullness of time such machines will come to exist. I don't expect to see them in my lifetime but I do not think it will be long after. There are others who argue that machines cannot ever imitate living creatures. As a scientist I view all creation as arrangements of atoms and molecules; some more sophisticated than others. If it is possible for evolution or, if you prefer, a divine power to assemble atoms and molecules into a human brain then I see no reason why technology in years to come cannot replicate the function of the human brain.

This raises many interesting ethical questions about how we would deal with machines that have cognitive skills that match or even exceed our own. Future generations will have to decide if machines have an inalienable right to life, freedom and the pursuit of happiness.

The question of self awareness and the related ethical issues also occurs in the biological sciences. However, whether or not an organism is self aware does not bring into question whether or not it is living and any discussion of right to life and freedom from suffering does not normally consider self awareness as a factor.

The quandary that we will face in the information sciences is that there will be inorganic machines that would appear to have the most highly prized attributes of living creatures, that is, self awareness and intelligence.

But this is not the question that I am posing to you. The question that puzzles me is predicated on the assumption that the cognitive machine will be developed in small, incremental steps. The question is which will be the first machine that will be self-aware and how will we know?

We have all, at some time, cursed at our machines as if they had the wit to comprehend our anger. If my theory of the incremental development of self-aware machines is correct then it may just be that the machine you were swearing at is already aware of its own existence!

Maybe Basil Fawlty was decades ahead of his time when he realised that it was his hapless Austin 1100 that was conniving to spoil his gastronomic evening. Future generations of philosophers will have to decide whether or not he was morally justified to beat it with a branch.

We have an exciting meetings programme planned for this year and details are given elsewhere. In addition to our normal, general interest, meetings Agile Sussex has planned some additional meetings on the theme of extreme programming. I am afraid that we cannot afford food at all of the meetings so watch your e-mails and we will advise whether or not there will be a buffet. We don't publish the catering details outside the Society for obvious reasons.

The first meeting of the academic year will be the presentation on the GRID which was canceled at short notice last year. It has been rescheduled for Wednesday, the 15th October 2003 and will be presented by Professor Colin Upstill of the IT Innovation Centre, University of Southampton.

The Grid will allow us to buy computational services in the way we buy electricity today and will provide high-value computational services and associated expertise accessible from a Grid Browser running on a desktop, palm-top or even head-top device. Everything we need will be available as a service - high-performance computation and fail-safe storage, applications from weather forecasting to word processors.

Once again I would much appreciate it if you could spread the word about our meetings programme amongst your colleagues. We will try and have suitable posters put up on the web site ( <http://www.bcssussex.org.uk> ). Please download these, print them and put them up on your notice boards at work.

Rupert Harper.

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# BCS Sussex  
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# 2003/2004 Programme  
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7.15pm for 7.30pm @ Engineering 1 Lecture Theatre  
University of Sussex, Falmer, Brighton

Free to members and non-members. Further details from the Meetings Co-ordinator.

Updates available from [www.bcssussex.org.uk](http://www.bcssussex.org.uk)

15th October, 2003

The Grid - presented by Colin Upstill, University of Southampton

The Grid will allow us to buy computational services in the way we buy electricity today and will provide high-value computational services and associated expertise accessible from a Grid Browser running on a desktop, palm-top or even head-top device. Everything we need will be available as a service - high-performance computation and fail-safe storage, applications from weather forecasting to word processors.

12th November, 2003

Has Microsoft's .Net Happened Yet? - presented by Leon Baker, Northbrook College

Since its mid-2000 unveiling .NET has proven to be a technological chimera; many knowing of it, few knowing about it. The speaker will discuss the general reaction of the marketplace to .NET since its debut and examine .NET's present condition, future direction and its possibilities for achieving success. The speaker hopes to offer insight into not only whether .NET has happened yet, but whether it will.

11th February, 2004

Towards Model Based 3DTV: Synthetic Windows - presented by Dr. Adrian Thomas, University of Sussex

A review of research starting in 1974 on model based television. The original aim was to free the viewer to select his or her own viewpoint on transmitted scenes. This has evolved into exploring the means for supporting new stereo delivery systems such as lenticular screens and lens arrays. The task is to carry out the massive data processing task needed to supply the multi-view data to the display system. The work is still in progress with many problems still to solve, but they look solvable.

10th March, 2004

The Future of Interactive Online Entertainment - presented by Rob Smith, IBM

Rob Smith from IBM at Hursley Park will talk about and demonstrate some middleware that enables new business models for the online gaming industry. He will discuss how web services and on demand computing using Websphere could radically change the games we play.

12th May, 2004

AGM and Presidential Visit - presented by Prof. Wendy Hall, BCS

The president will discuss some of the interesting work going on at the University of Southampton. The BCS Sussex Branch AGM will precede this meeting.

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# Message from the Editor  
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It may well explain things, why aBaCuS is a bit later this issue and why it seems short and to the point. It is with great pleasure that I announce the arrival two baby boy twins, Tom and Jack, to the Ticehurst household. I look forward to the day when the two boys are old enough to cover my laptop in sticky fingerprints and when they can ask me computing questions such as "what does formatting drive mean daddy?".

Stephen Ticehurst.

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# Computational Linguistics
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# Dr. Rodger Kibble
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# A while ago Dr. Kibble asked BCS Sussex
# members for help with his research.
# Dr. Kibble briefly explains his work.
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Automated natural language generation (NLG) is an active area of research in computational linguistics, with many applications. For instance if an enterprise needs to produce documentation in several different languages it would be convenient to encode the information in a language-independent knowledge base, which can then be fed into a NLG system to be converted into English, French, Arabic or whatever. A major problem is that there will be many possible ways that a given set of facts can be expressed in a particular language, most of which will be nothing like what a real human author would have come up with.

In order to try and identify the factors that make a text "natural" and readable, researchers have followed two main lines of attack. One of them, "corpus analysis", involves statistical analysis of large collections of texts, to identify stylistic rules which the authors of the texts have (unconsciously) followed.

A second technique consists of analysing readers' reactions to different sequences of sentences which express the same information. This kind of study requires the participation of large numbers of subjects who do not have preconceived ideas about the particular research question, and in recent years it has become quite common to use the Internet both to obtain subjects and to perform the experiments.

The next issue of this newsletter will include a report of an experiment carried out by Dr Rodger Kibble MBCS of Goldsmiths College and Dr Richard Power of Brighton University, with the aid of members of the BCS Sussex branch who responded to a request for subjects on the branch's email list.

Dr Rodger Kibble  
Dept of Computing  
Goldsmiths College  
<http://www.doc.gold.ac.uk/~mas01rk>

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Agile Sussex Autumn Lecture
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Wednesday 29th October: 7.30 for 8.00 p.m. until 9.00 p.m.  
"Using XP: A Pharmaceutical Experience" by Mark Young, APS Berk.

APS Berk are one of Britain's largest generic pharmaceutical companies. They are nearing the end of a major system replacement project, comprising several smaller systems, two of which were bespoke developments that used XP techniques. Mark Young is the Project Manager of this project and will be sharing some of his experiences on this project.

With over 20 years in IT, Mark has been a COBOL and Clipper programmer. Later he moved to analysis and design before moving into management.

School of Engineering and Information Technology (EIT), ENGG Stage 1,  
University of Sussex, Falmer, Brighton, BN1 9QT  
The lecture room is near the centre of the campus

See <http://www.sussex.ac.uk/USIS/campus/map/>

Entrance and parking is free.

Drinks and light refreshment will be provided by the Sussex BCS Branch.

#### Further Meetings

We have changed our format slightly and will now be holding three formal lectures per year. One in each of the autumn, spring and summer terms. These will coincide with University term times to allow University students from either Sussex or Brighton to attend. The Sussex Branch of the BCS have kindly agreed to provide refreshments consisting of sandwiches, beer, wine and hot drinks for each meeting.

Informal meetings will continue at the Lord Nelson in other months. In future people are requested to send an email to the Agile Sussex mailing discussion group ([agilesussex@topica.com](mailto:agilesussex@topica.com)) at <http://www.topica.com/lists/agilesussex/read> to tell say if you will attend. Potential discussion topics will also be distributed.

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BCS Sussex Mailing List  
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We email to BCS Sussex members using lists received from BCS headquarters.

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