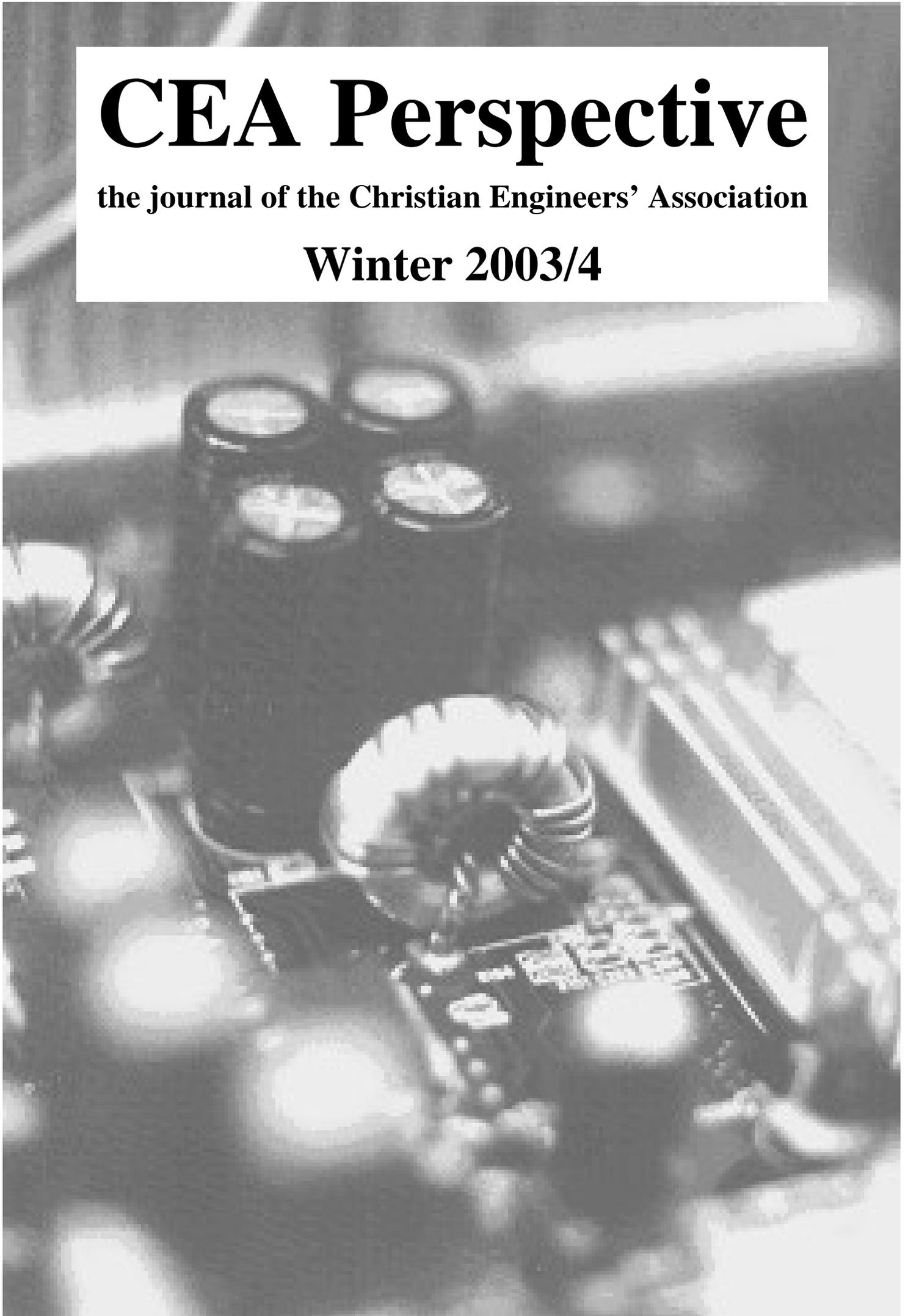


CEA Perspective

the journal of the Christian Engineers' Association

Winter 2003/4



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Aims of the Christian Engineers' Association

1. To link Christian engineers to help them maintain a consistently Christian stance in their work.
2. To enable them to develop a thought-out Christian approach to professional issues.
3. To encourage Christian engineers to exert a constructive Christian influence in the engineering profession.
4. To support and encourage Christians who are entering the engineering profession.
5. To supply insight to engineering related missionary work.

Any contributions for the Summer 2004 issue of the newsletter should be sent to John Baden Fuller by post by **15th April 2004**. Articles sent on floppy disk should be saved as an RTF (rich text format) file. Pictures are also welcome, either as hard copies or in any standard electronic image format.

Cover Photo: inside a computer

Perspective – Winter 2003/04

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Editorial

Paul Rand

Last Journal

I would like to begin this editorial by apologising for the lateness of the previous journal, which should have been out by mid June but did not actually arrive until late August. This was because I did not get it compiled early enough and then Christians at Work suffered delays in getting it reproduced and distributed (due to the summer holidays). We made the decision at the time to hold back the mailing of *net.working* (CaW's newsletter) until *Perspective* was ready to go with it. This was a mistake because then information in *net.working* was out of date before you even got it. Please note the earlier closing date for articles this time, to ensure that we things get done in time.

My Last Journal

Secondly, I have decided to resign from the CEA committee and will therefore no longer be editing *Perspective*, although I hope to continue to make regular contributions to it. I have enjoyed editing the newsletter/journal for the past five years but at the moment, with a young family and other commitments, having to spend numerous evenings in a row, twice a year, glued to the computer is difficult. John Baden Fuller will be taking over temporarily as editor, until a new editor can be found. Please send him some material for the next journal (by 15th April) otherwise you might end up with a "best of the last 20 years of the CEA journal" edition!!

My Legacy?

During my time on the committee, and as journal editor, I have sought to ensure that CEA is up-to-date and that the journal is relevant and appealing, both in content and presentation. I have sought to make it readable to the busy 21st century Christian engineer whilst at the same time avoiding offering a shallow publication where no article is more than 300 words and things are never allowed to get too heavy! CEA constantly faces the challenge of how to be relevant and appealing to its members and potential members. I believe that the way forward is probably to provide more personal contact between members (as discussed in the committee report – page 14), so that we can support each other and encourage each other more. Whether this be through physically meeting up, or through networking over the internet, my prayer is that CEA will become a dynamic group of communicating people, offering a depth of Christian and professional mutual support, springing from what we have in common as Christian Engineers.

Virtual Reality

Gwynne Davies

I've had many dreams, some pleasant, some horrific when I've woken up sweating, but often depending on what I'd eaten for supper the previous evening. Some are predictably based on latent fears, like being buried alive. The horrific ones seem to stand out in the memory rather more than those with a pleasant edge.

The commonly recurring one in my experience has been to do with the experience of preaching around Christmas time. Because the text is in Matthew Chapter 2, there is no need to open the Bible to the page before hand. So you mount the pulpit, open the Bible at about two-thirds of the way through to the beginning of the New Testament, and look for Matthew but it's not there, Matthew seems to be missing! You can't believe it! You start scratching around for the famous words "After Jesus was born in Bethlehem, Judea, in the days of Herod...", this New Testament seems to start with Mark's Gospel, thankfully at least the Old Testament finishes where it should do with the Book of the prophet Malachi, but where is Matthew? You feel the perspiration beginning to fog your spectacles. Sometimes the binding is suspect, so you surreptitiously consult the Index not wanting the congregation, particularly the youngsters in the congregation to think you don't even know where Matthew is. Yes, it's down there alright in the Index with its page number, but the text pages are still missing. Some Bibles have the Apocrypha included, but that's not there either. And then in my dream I fall out of the pulpit and mercifully have a soft landing in bed. What a relief!

the Bible is full of examples where God uses dreams to help his servants to understand what he is about to do

Yet the Bible is full of examples where God uses dreams to help his servants to understand what he is about to do, recorded in both Testaments. This is not surprising since some dreams can be a very vivid way of remembering and communicating. One such dream remains ingrained in my memory cells even after retirement.

It was a Wednesday morning, and the previous evening I'd been reading over the text of the lecture to the second year Structural Engineering Class, and doubtless making some changes just to make it that little bit clearer. That morning I was due to introduce the topic of the Principle of Virtual Work and to apply it to the different situations of equilibrium, plastic collapse of planar frames and the yield line analysis of reinforced concrete slabs. Truth to say I didn't really understand it as an undergraduate student myself, but when you've got to teach something you'd better know your stuff or.....! Generations of undergraduates recoil in horror at the mere mention of the Principle, but when you understand it is so simple and clear and beautiful, its like opening up a new world. I was so keen to pass on what I'd understood.

in my dream I espied
a student fast asleep
in the second row

It was about five in the morning that I became engaged in a dream, where I was striding the dais – more of a platform really, and getting lost in my own eloquence and in love with the topic, when in my dream I espied a student fast asleep in the second row with his head resting on his arms on the desk in front of him. The others in the class were awake and listening. I stopped, to absorb the indignity of the situation, a student fast asleep in the second row - not even at the back of the class, while I was opening up such beautiful new gems of knowledge. As it happened in the days of chalk and talk, I broke the stick of chalk in my hand (into small bits as I was Safety Officer!), and tossed it towards him and scored a direct hit. He was startled, and I was about to read him the riot act when I sensed opposition from the rest of the class. “Why did you wake him up? He wasn’t disturbing you, and he certainly wasn’t disturbing us. If he wants to sleep let him”. I woke in a cold sweat and was glad that it was only a dream after all, and I didn’t have to resolve the situation in real life.

I didn’t think any more about it. At nine o clock I started the lecture on Virtual Work, and was soon lost in the simple abstraction of this wonderful mathematical construct. As I strode the platform and turning at the end I espied a student in the second row with his head resting down on his hands, fast asleep. I actually went for the chalk and broke it in several pieces and was about to throw a projectile towards him when I felt a caution, the other students had also noticed him and were watching for my reaction. The dream came back to me some four hours after I had received it, and the projectile remained in my hand. I did nothing, but continued enunciating applications of the Principle I had so much fallen in love with.

As I was clearing up at the end of the lecture the offending student came to chat, and I noticed he was dressed in a dinner jacket with a dark dickie bow. “I’ve come to apologise for falling asleep in your lecture,” he said, “I didn’t want to miss it, so I came directly here from last night’s party!” I had to smile.

So what of the dream, what was its purpose? It certainly taught me that God can use dreams to communicate some intention, where we’re required to make a response, and to respond flexibly to situations with our students. It was not long after when another member of that class asked to be excused during the course of my lecture, indicating that he was feeling unwell. I sympathetically suggested a particular course of action. By evening he was dead. Often we do not know what is in the minds of colleagues and students. As Christians in particular we need to be aware and sympathetic.

Gwynne Davies was Reader in Structural Engineering at Nottingham University, retiring in 1998, but has lectured part-time until recently. He is a Chartered Engineer, involved in the design and construction of bridges. He has been UK delegate to Commission XV of the International Institute of Welding, and has been secretary of one of their Sub-commissions and acting chairman of another. He has been an active member of the Professional Groups of UCCF.

EMC and the Importance of Faith

Paul Rand

Now faith is being sure of what we hope for and certain of what we do not see.

Hebrews 11:1

In the last journal, I wrote an article about my experiences of EMC testing a new product which I was developing. Through a painful and time consuming process I had learnt the importance of ‘listening’ to what was going on inside the product whilst it was being subjected to electromagnetic interference (EMI), rather than just assuming that I knew what the problem was and trying to fix it with a generic solution. I also saw that this was a lesson for us in our approach to Christianity and how we relate to others.

I had not completed the EMC testing when I wrote that last article and in fact, I encountered a lot more problems and learnt a lot more along the way. On the Monday after writing the article, I re-tested the modified electronics which I had found to work on the previous Friday – just to verify that I had found a fix. It failed. I checked all the connections, it still failed. Aware that my circuit board was now a bit of a mess, having fiddled around with it quite a lot, soldering components and wires on, removing others, I decided that perhaps the best approach was to start with a fresh circuit board. This also failed. In actual fact, I spent a considerable amount of time retracing my steps, trying to add capacitors in key places, trying different value components and some things appeared to help but then on a subsequent test, the results would be worse again. It was very disheartening.

In the end, it was agreed that I should take the product to York EMC, an external test facility, to seek their help in solving the problem. We started by testing the product as it was, with the modifications I had put in so far. It was bombarded with EMI from 80-1000MHz and the output pressure didn't so much as twitch even a fraction of a psi. We then tried testing an unmodified unit. To my amazement, that also passed without any problems! What became evident was that our in-house test equipment was subjecting the product to a far higher field than it was supposed to. Furthermore, the field within our test chamber was not uniform. Thus, the unit could appear to pass in one position but then be moved by a centimetre or two and then appear to fail dramatically. This was later proven by hiring a field probe which we used to measure the field strength within the chamber at different frequencies and in different positions.

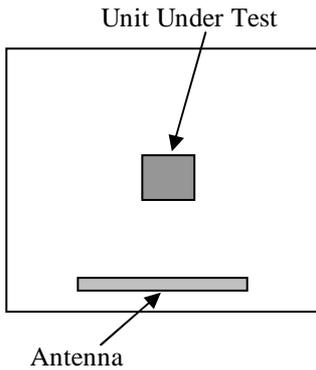
what became evident was
that our in-house test
equipment was
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Now faith is being sure of what we hope for and certain of what we do not see. I'd had faith in our test equipment – even though I could not see the electromagnetic field inside the chamber, I was confident that it was correct. Was my faith foolish? Of course not – the equipment was being used for the purpose for which it was made and it had been adequately maintained and calibrated. People often associate faith with uncertainty, but we are told in the Bible that faith is about certainty – being *certain* of what we do not see. I cannot see God, but my faith makes me certain that he exists, and that he cares about me. My faith is not irrational – it is based on a personal experience of God and an understanding of him through the Bible and other people.

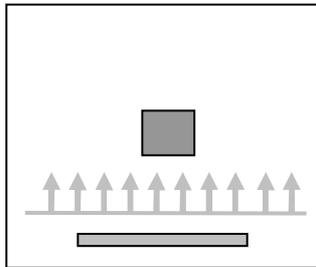
As I have said, our test equipment was being used as intended and had been calibrated reasonably recently. The problem was in the way that it had been calibrated and the way in which I was using it. Now this is where I'd like to get into a bit of simple wave theory. My apologies to those for whom this is a bit much and to those who will write to me after this is published to tell me that it's all wrong! This is how I understand it though – see the figure opposite.

I keep asking that the God of our Lord Jesus Christ, the glorious Father, may give you the Spirit of wisdom and revelation, so that you may know him better.

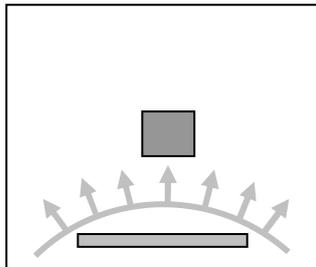
Having gone through the process of understanding our equipment and recalibrating it accordingly, I was able to use it, having faith in it, to test another new product. Do you know and understand what you believe in as a Christian? In his letter to the Ephesians, Paul prays for them saying, "*I keep asking that the God of our Lord Jesus Christ, the glorious Father, may give you the Spirit of wisdom and revelation, so that you may know him better. I pray also that the eyes of your heart may be enlightened in order that you may know the hope to which he has called you, the riches of his glorious inheritance in the saints, and his incomparably great power for us who believe.*" (Ephesians 1:17-18). These are all things that we can *know* – in which we can have certainty - through the revelation of the Holy Spirit.



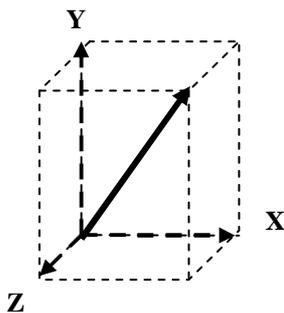
The test essentially involves placing the item you want to test inside a shielded metal chamber which has an antenna in the bottom of it. The antenna transmits electromagnetic waves at a preset level and frequency.



A much simplified understanding of how things work is that the waves transmitted are nice and flat.



In reality, the waves transmitted from the antenna are curved. At low frequencies, the curve is very shallow, so the waves can be assumed to be flat. As the frequency increases however, the waves become more curved. Furthermore, the waves are reflected off the walls of the chamber and interfere with each other.



Unless everything is geometrically perfect, the field will hit the unit under test at an angle, which can be broken down into X, Y and Z components. The equipment had been calibrated to give a set field strength in the Y direction. In some cases however, the X and Z components of the field were significant and in some cases much greater than the Y component. Thus the unit was subjected to a much greater interference than expected. A reasonable solution is to calibrate the resultant field so that the field strength is more determinate, even if the direction is unknown.

it is not God's desire to hide as much of himself from us as possible, in order to test or prove our faith: it is his desire that we should know him.

Of course, we cannot know all that there is to know about God – to ever claim that we did, whilst on this earth, would be to deny his divinity. Nevertheless, it is not God's desire to hide as much of himself from us as possible, in order to test or prove our faith. It is his desire that we should know him. Several of my favourite Christian songs have in them this

theme of God being mysterious and yet knowable:

*I cannot tell, why he whom angels worship,
Should set His love upon the sons of men....
But this I know, that He was born of Mary,
When Bethl'hem's manger was His only home....*

William Young Fullerton (1857-1932)

*I know not why God's wondrous grace to me has been made known;
Nor why unworthy as I am, He claimed me for His own....
But I know whom I've believed; He is able now to save
What I've committed unto Him until that final day.*

D. W. Whittle (1840-1901)

*There are things about you that I don't know
But this I know for sure
You love me and You call me to be Yours.*

Sarah Pickering

As human beings, our knowledge and understanding will always be limited and imperfect. As I took time to gain a greater understanding of our EMC equipment, and how it worked, I found that I could use it with faith. As we take time and allow the Holy Spirit to increase our knowledge and understanding of God, so our faith in Him can grow.

Paul Rand is a Development Engineer for IMI Watson Smith Ltd. in Leeds.

A Letter to the Editor

Giles Meehan

Dear Paul,

Reading your article about protecting your new product from electromagnetic interference, I agree that really listening to people (and devices!) and most importantly to God Himself, through his Word, is vital to knowing how to respond, what to do and what to say. I also thought it tied in well with John Baden Fuller's article on how we as Christians are affected by the world's philosophies of modernism and post-modernism. Although we are not completely "shielded" from the world (we are in it, but not of it), we would do well to add a couple of resistors to reduce the flow of worldly thinking that we so often don't question, and move a capacitor so that we hold onto only what is good.

Although we are not completely "shielded" from the world ... we would do well to add a couple of resistors to reduce the flow of worldly thinking ... and move a capacitor so that we hold onto only what is good.

Modernism is epitomised by the belief that truth can be determined by human reasoning and scientific endeavour, where man (and not God) is the measure of all things, and where man decides for himself what is right and wrong, rejecting God's revealed Truth and His morals. This is the basis of humanism. It also denies divine creation in favour of the philosophy of natural evolution, despite the overwhelming scientific evidence to the contrary! (See www.answersingenesis.org and www.creationresearch.net.)

As people have lost faith in scientists, philosophers and politicians; so many now doubt that there is even any Absolute Truth. Relativism says, "what's true for you is not true for me," and every individual decides for himself what is right and wrong. Within the church, and in evangelism, we must beware of DIY religion, where we just add Christianity to the marketplace of ideas, trying to persuade people of the personal advantages of becoming a Christian, rather than the absolute necessity of Jesus, the only name by which men must be saved.

Which comes back to the question: Are we listening? And who are we listening to? Man's ideas, opinions and feelings, or God's Word?

Giles Meehan

Does God have arms and legs, hands and feet?

John Baden Fuller

Have you ever wondered why we are made the shape we are. Why do we stand in unstable equilibrium on two feet? Arthur C. Clark, in one of his science fiction novels, imagined an intelligent race who stood like tripods on three legs. Would we get on better if we were made as tripods? Presumably not. But it is true that there is a continuous process of feedback controlling our muscles to enable us to keep our balance. It just seems that God has chosen the best shape to enable us to function efficiently. Does this mean that God is the same shape as humans.

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Paul says that Christ is the image of the invisible God, (Col 1:15). John says *'No one has ever seen God; The only God, who is at the Father's side, he has made him known'* (John 1:18). The Gospels tell us that no one has seen the Father, Jesus, His only Son, has made Him known to us. Jesus expresses God to us in a way that we can understand and appreciate. It is normally accepted that we reflect the likeness of God in our intelligence and our ability to choose between good and evil. We must be careful not to build God in our image but is there still something we can learn from an image of God in the shape of a man. Furthermore, the beginning of Genesis says the same kind of thing. In Genesis chapter 1 we read, *'Let us make man in our image, after our likeness.'* (Gen 1:26) and in the next verse, *'God created man in his own image, in the image of God he created him; male and female he created them.'* (Gen 1:27). If we are made in the image of God, does this mean that God has arms and legs, hands and feet?

Some people think that chapter one of Genesis was communicated by God to Adam whereas later chapters of Genesis were written by Adam or his sons, reflecting their view of events. It is interesting that Genesis 1, verses 26 and 27 use a plural pronoun for God indicating that God is two or more people. Of course, with hindsight, we know the reason. God is the Trinity, God the Father, God the Son and God the Holy Spirit. God is complete, three people joined together by love. Male and female humans are needed to be the image of God. So man and woman loving one another together are the likeness of God. That appears to be God's ideal world. The man and woman met God as he walked in the garden in the cool of the day. (Gen 3:8). What about God having arms and legs and hands and feet. Quite rightly, most people have rejected any idea of God being a grey bearded Father Christmas up in the sky. Even in the vision John saw as recorded in Revelation, (Rev 4:2 & 3), the being was completely otherworldly.

Some scientists today consider the universe to complete in itself, rather like an expanding bubble or balloon, with the complete universe enclosed and nothing outside it. But, of course, God and His heaven are outside the universe. However, God is also present inside the universe keeping it going. Because God is completely out of this world, we have mostly accepted that God should not be presented in the image of a human man. Consequently, our likeness to God is confined to our exercise of freewill and to our ability to choose good or evil. But I think there is more to the likeness than that. I am a practical man. I like making things. I use my hands and arms to make useful items from what is available in the world around us. Jesus was a carpenter and He was brought up in a carpenter's household. Jesus reflects God's image in our desire to be creative. We never need to worry if we cannot cope with abstract ideas and fantasies. God is also relevant to those of us with a practical bent.

Our response to God and God-in-Jesus is to use our mechanical and other skills to make this world a better place in which God's creation can live. In the book of Esther, Mordecai tells Esther to go to the King in order to save all the Jewish people from being killed. He says 'Who knows whether you have not come to the kingdom for such a time as this' (Est 4:14). So for us, who knows whether we have come to whatever we are doing for such a time as this. God has placed us where we are so we can serve Him where we are. God has given each one of us our own special skills so we can serve God and our neighbours in building a better world and in making it a better place to live. We worship God each Sunday and during the week when we join with God's people in Church and in fellowship. But we also worship God in our daily work for the rest of the week.

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We do not just meet God in Christian meetings and in our daily private prayers. It may not feel very special but we take God with us into our homes and into our places of work. We worship God in using our mechanical and other skills for the benefit of mankind and to improve the world we live in. Do not be discouraged because you do not have the communication skills of others or because you are bemused by philosophical arguments. God made us the way we are, and our particular skills mirror the image of God. He expects us to use our skills for the benefit of mankind. In Jesus name, you are called to be where you are for such a time as this and you are called to show forth the love of God now, today, tomorrow and all throughout the year. We are all called to show the love of God where we are because that is where God is and where God has put us. We know we have come to where we are so we can serve God at such a time as this. God bless you in His service.

John Baden Fuller is an electronic engineer and retired from his career as a university lecturer. He is chairman of CEA and has been a Reader (local preacher) in the C of E for 45 years.

Engineers and opportunities abroad

David Kay

The Winter 2002/03 edition of the Journal included details of information sources useful to engineers seeking to serve overseas. Some engineers may not be able, or even wish to, serve with a specifically Christian organisation. This article contains information about BESO (British Executive Service Overseas), a large, secular organisation that can assist in matching applicants to positions abroad.

BESO is a development agency that offers professional expertise to organisations in less developed countries, and economies in transition worldwide. It was founded jointly by the Foreign & Commonwealth Office (FCO), the then British Overseas Trade Board, the CBI (Confederation of British Industry) and the Institute of Directors - whose members still form a strong core on the BESO Volunteer register. BESO benefits organisations that cannot afford commercial consultants, strengthening their capacity to overcome technical and managerial challenges by transferring skills. BESO responds to requests for assistance from public, private and voluntary sector organisations.

BESO programmes comprise assignments lasting between one week and four months each, carried out by experienced volunteers, who charge no fees, from its register of over 3,500 advisers. The advice and training given to clients by BESO has supported economic growth, private sector development and improved provision of health, education and other social services in 146 countries through more than 8,000 assignments in the past 31 years.

BESO's support comes from the Department for International Development (DFID), British industry, charitable trusts and individuals. It also collaborates with other non-governmental organisations and multi-lateral aid organisations.

BESO works by matching requests for help from partners and clients with the most qualified adviser, and arranges travel and insurance for the volunteer. It should be noted that some skills fields are over-subscribed and a vacancy may not exist within BESO's Register at any specific time. BESO volunteers do not fill management roles, and clients are asked to provide a counterpart to work alongside them during the assignment.

One attractive feature of BESO's literature is that there are in excess of twenty types of engineering skill categories from which volunteers are selected for assignments. Moreover, there is a general technological emphasis in the volunteer skills leaflet.

An example of an engineering project follows. It relates to a Building Co-operative in Poland, where The BESO volunteer advised a building and construction company on industrial management. He recommended a new manufacturing system, enlarging the IT network and establishing cost centres. He trained 36 managers in all aspects of

project management and cost control. He also arranged co-operation with two other companies (former BESO clients) in the region.

Experience

All BESO volunteers must have:

- at least 5 years relevant technical or professional experience in at least one specific field,
- a record of providing this advice to others, to at least the level of those who manage tasks,
- a record of being able to live and work harmoniously in cultures and conditions different from those usually found in the UK,
- regular use of e-mail, the preferred medium of communicating with volunteers.

Age

There is no official upper or lower age limit, although many BESO volunteers are retired or nearing retirement age. All volunteers must be fit to travel and work in developing countries.

Availability

Volunteers need to be flexible in terms of availability for assignments. BESO responds only to requests for assistance from overseas organisations, and cannot predict which volunteers will be needed, when, or for how long.

Costs

Clients provide suitable accommodation and pay in-country costs, and often also contribute to other expenses.

Code of Practice

Volunteers have a wide range of backgrounds and beliefs – the key is a desire to help others. Volunteers are expected to follow a Code of Practice in their activities for BESO. In particular, open Christian witness is not permitted, as would be expected.

For further information, please contact the Registrar –

BESO, 164 Vauxhall Bridge Road, LONDON SW1V 2RA

Tel: + 44 (0)20 7849 7922

e-mail: egraham@beso.org

website: www.beso.org.

Committee Report

Paul Rand

The CEA committee met on 25th October 2003 at the home of John Baden Fuller in Leicestershire. We were joined for the first time by Chris Rasiah, a chemical engineer who works for a consultancy firm in London but has a house in Birmingham (where he spends his weekends). Chris spent the first couple of years of his engineering career on various placements around the UK and abroad and found UCCF and other Christian contacts invaluable in helping him to find Christian fellowship in the various places he had placements. Chris is therefore keen to see how CEA can help to network Christian engineers more. It is encouraging to see how as one committee member decides it's time to resign (me this time), God always seems to provide somebody new.

Interestingly greater CEA networking is also something which David Kay has been looking to develop. David has compiled a breakdown of where in the UK the different members of CEA live. This will hopefully be featured, in map form, in the next issue of *Perspective*. David is also planning to meet with CEA members in the Manchester area to explore whether local CEA gatherings there would be supported.

We spent a considerable amount of time in our meeting discussing our relationship with Christians at Work. Is our association with CaW helping us in the right way? Are we helping CaW in the right way? How can we ensure that both of us get the most out of our relationship? Should we try to integrate more with CaW or become more independent? How can we do more for the engineers linked with CaW who are not CEA members? Can we encourage them to join CEA? We decided in the end to maintain our relationship as it is for the time being but to seek to make our presence more known within CaW, through their own publications. If you have views on how our relationship with CaW should develop, the committee would like to hear from you.

We are pleased to have been invited to provide a seminar leader for next year's CaW conference which is on 12th June 2004. This is one way in which CEA can continue to work with CaW in supporting Christian engineers.

Our finances continue to be a cause of some concern. Despite increasing our subscriptions from £16 to £20 and our efforts to recruit new members and draw back lapsed ones, we still look to be ending up with a deficit at the end of the year. A large donation a couple of years ago means that we can remain afloat for a few more years if this trend continues. We do also want to make sure that we are an organisation prepared to use our money effectively rather than saving simply to keep ourselves afloat.

We hope that CEA will be able to continue supporting and increase its support for Christian engineers in the future.

Christian Engineers' Association: An Introduction

About CEA

The *Christian Engineers' Association* is an association of Christians drawn from the engineering professions. As Christians in very diverse and complex fields, we see it as our task to provide a forum for informed Christian reflection on the range of questions and problems which confront us as professional engineers in society, industry, research and commerce. The committee looks to membership to provide insight as we develop the association's future role. The aims of CEA can be found on the inside front cover of this journal.

Activities

We produce *Perspective*, the CEA journal, twice a year. Articles for *Perspective* are always welcome from anyone who can offer material relevant to our membership.

We are developing a CEA website: www.christianengineers.org.uk.

We take part in the *Christians at Work* annual conference, which usually takes place in May. In recent years we have provided a speaker for one of the conference seminars.

The members of the CEA committee run the association in their spare time and rely on an active and enthusiastic membership to help in achieving its aims. The development of local contacts and networking is encouraged.

Links with Other Organisations

In May 2000, CEA became associated with *Christians at Work*. The aim of *Christians at Work* which has the aim of encouraging, supporting and equipping Christian people in the workplace for ministry, evangelism and witness. *Christians at Work* provide us with administrative support. CEA members all receive *net.working*, the quarterly publication of *Christians at Work*.

CEA has its roots in the *Universities and Colleges Christian Fellowship*, to which it continues to be affiliated as a Professional Group, providing support for engineering students and those graduating into engineering work.

CEA has recently developed links with *Christian Engineers in Development*, a UK based charity which provides professional engineering services for projects in the developing world. Although there is no formal affiliation between our two organisations, we are keen to support each other. CED are now regular contributors to *Perspective*.

Becoming a Member

Membership of CEA is open to any Christian who:

- is working in the engineering profession, or;
- no longer works in the engineering profession but maintains a current interest, or;
- is an engineering student.

Each member shall be in full sympathy with our aims and be prepared to sign a brief declaration of faith. All members are expected to pay an annual donation of £20 (£10 for students, graduates in their first year after graduation, retired and unwaged). Those who prefer not to sign the declaration of faith may still be included on our mailing list and participate in all our activities upon payment of an annual donation.