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Auditing by Computer Specialist Group

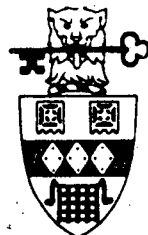
## The Sweeper

The Quarterly Journal of The Auditing By Computer Group

Summer 1990

Volume 1, Number 2

THE BRITISH COMPUTER SOCIETY



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## Great Expectations ?

The well known expectation gap on the auditor's responsibilities in relation to fraud is reconfirmed in a recent study 'Audits and Auditors - What the Public Thinks'\*

The survey found that 75% of respondents thought that it is the auditor's responsibility to detect fraud of all kinds, and that 61% thought that it is the auditor's responsibility to search actively for fraud.

The study also found that while the majority of financially knowledgeable people consider that audited accounts are reliable and think that the audit is useful, there is evidence that they don't understand either the accounts or the audit.

Auditor's reports are also apparently widely misunderstood, of the respondents who said that they would generally look at a company's audited financial statements if they were considering buying shares in it for their personal interest only 45% said that they know the difference between a qualified audit report and an unqualified one. Interestingly, when the difference was explained to them, 31% said that a qualification would not affect their view of the company, and 25% said that a qualified audit report would make them more favourable towards the company!

Perhaps this stems from the respondent's perceptions of auditors and of audits? 44% of the 'influential' (a subset of the 'financially knowledgeable') either strongly agree or tend to agree with the proposition that auditors 'are heavily influenced by the management of the company they are auditing'; and 28% either strongly agree or tend to agree with the proposition that 'audits are generally unproductive'. Of course these are only minority views.

Surprisingly, in the light of all this, 77% generally have either a great deal or a fair amount of confidence in audited financial statements. Of the influential, 70% either tend to disagree or strongly disagree with the proposition that 'an audit is of very little benefit to a company'.

I'm tempted to wonder what magic is at work here. (Or perhaps the possibility that financial statements don't mean much, even with audits, is just too awful to contemplate?)

On a happier note, I'm pleased to report that the Group's Annual Conference was very well attended. A reprint of Stuart Senior's entertaining paper entitled 'After 4GL's' (or 'How to Build Bad Systems Even Faster') is included in this edition. I'm sure that everyone present will agree that reading the paper in these pages is a poor substitute for hearing it delivered with humour and wit by its author. The other papers will follow, space permitting, over the next edition or two.

*Stuart Senior*

\* The report, written by Michael Steen, is published by KPMG Peat Marwick McLintock, 1 Puddle Dock, Blackfriars, London EC4 3PD.

## CHAIRMAN'S CORNER

Well, I really blew it this time. Harry Branchdale, our publicity man, had said that it wouldn't work and he was right. Wine tastings and AGM's just don't go together. The worse turn-out in years, not that the others had been marvellous, with just ONE fully paid member turning up in addition to the Committee and the Hon. Auditor.

A really great pity, but its no use crying over spilt milk. I will just have to think positive and see what can be done for next year.

For the vast majority of you that didn't come along, we have included in this issue a number of AGM related items, such as the minutes of the meeting, the accounts and a notification of an increase in membership subscriptions for next season. "What increase?", I hear you cry. Well, we voted on it at the AGM and it was accepted unanimously by those present. That's what happens when you don't attend AGM's.

You will also find the new Committee list and will notice one, or two changes in responsibilities and a new name; Bill Barton of the Rank Organisation. Welcome aboard Bill. We still have some vacancies. I would dearly like to have someone dealing with long term planning, another acting as liaison with the BCS Specialist Groups Management Committee and a third to provide some additional cover for our annual conference. If I plan it right, I will soon have jobs for all of you, which might just enable us to have a really big AGM turnout.

The wine tasting was very good indeed. Informative, educational and with some marvellous English Wines to tempt the palate. I was very much impressed by their quality, which was often superior in my humble opinion, to some of the French Chablis and German Mosel bottles which reside in my own modest cellar.

Now on to other things. We are in the process of putting together our programme for next year and you will find a proposed list of topics elsewhere in the journal. What we lack is speakers. Cast your eye down the list. Could you talk for about 45 minutes on one of those topics? If you think that you can, then contact either John Bevan or Brian Kearvill-White and let them know. You get a little reward, in the form of a case of wine, or a meal with some of the Committee if you're really masochistic, and some publicity for yourself and your organisation. Please give it a try.

Well that's it for now. Have a nice summer and I look forward to seeing you in October.

John Mitchell



## Auditing by Computer Specialist Group

CHAIRMAN'S ANNUAL REPORT - 1989/90

### Introduction

This is my second annual report as Chairman of the Group and it gives me a great deal of pleasure to report satisfactory progress on a number of changes that taken place during the year, all of which I believe have helped to strengthen the Group, its objectives and its activities.

### New Name & Constitution

The proposal to change the name and constitution of the group, which was passed at the last AGM, was accepted by the BCS in November and will formally take effect from the 1st September 1990, when the Group will officially become the **Computer Audit Specialist Group of the BCS**. Notification of the name change was given in the December 1989 Newsletter and the new constitution was published in full, in the first edition of the new quarterly journal in March 1990.

A competition for a new logo design received no response from the membership and the Committee therefore accepted the challenge to produce one. The new format will begin to be used on our official stationary from August this year.

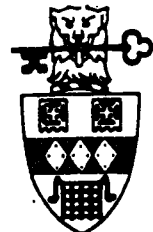
### Quarterly Journal

In order to minimise the Group's administration and at the same time to improve the quality of its service to members, it was decided that a quarterly journal would replace the monthly notification of meetings.

An interim newsletter was produced in December 1989 while an editor was sought for the journal itself. Ginny Bryant of City University volunteered to take on the editorship and the first issue appeared in March of this year under its name of **The Sweeper**. This name was chosen to reflect the many roles of Computer Audit; namely keeping an organisation clean in the first instance and sweeping up the pieces after a disaster in the second.

Initial reception of the journal has been positive and I have received many words of praise from both members and non-members alike. The first issue, which I am sure will become a future collectors item, was simply photocopied pages, but the intention is for future issues to be in a glossy magazine format.

THE BRITISH COMPUTER SOCIETY



## Membership Survey

A questionnaire was sent to the membership at the beginning of the season to establish individual views on a number of important topics. The results will be published in the June edition of the journal, but the main points were that the majority of the respondees were satisfied with the way the Group was currently being administered. One change that we do intend to introduce for the next year will be to have one "away" meeting, but this will depend on finding someone to organise it.

## Australian Branch

George Mickhail of Sydney University requested and received permission from the Committee to open an Australian branch. This is not only our first overseas branch, but it is also our first branch arising out of the responses to the Membership Survey.

George is currently polling for members throughout Australia and hopes to have an article for a future edition of *The Sweeper* on Computer Audit in Australia.

## Membership

There are currently 301 members, including corporate members. An analysis of the membership shows:

By type of Membership	1990	1989	1988	By Discipline	1990	1989	1988
Corporate (70 Companies)	195	140	139	External Audit	47	41	38
BCS Members	45	33	35	Internal Audit	214	130	151
Non-BCS Members	61	34	37	Other	40	36	22
	<u>301</u>	<u>207</u>	<u>211</u>		<u>301</u>	<u>207</u>	<u>211</u>

It is always difficult to give a reason for large changes in the membership figures, but this year it is believed that the circulation of the programme card with the Institute of Internal Auditor's Journal, an article on the Group in the same magazine and the offer of substantial discounts on two leading audit and security magazines all had their part to play.

Whatever the reason, we will only keep our members by offering an interesting programme of events during the year.

## Monthly Meetings

During the last year eight Group meetings were held, including our tenth Annual conference. The subjects covered were as follows:

1989	Subject	No. of Attendees
10th October	Security, Audit & Control of Databases	34
14th November	Value for Money Audits of Computer Installations	20
12th December	Service Level Agreements Implementation and Management	35
<b>1990</b>		
24th January	Computer Viruses (Joint Meeting with IIA)	135
13th February	External Audit, Internal Audit A Good Working Relationship	21
6th March	The Control & Audit of EDI	40
10th April	The Management of End User System Development	29
15th May	AGM & Wine Tasting	Not Yet Available

On average, the attendance at our meetings is slightly up on last year, but still leaves a lot to be desired when one takes into account the effort involved in arranging them and the actual cost. Each meeting costs somewhere in the region of £300 to host, so its averaging out at about 10 per head if you ignore the joint meeting with the IIA for which a charge is made. Not a bad figure perhaps, but I for one would like to see our average cost come down by attracting more members to these meetings.

## Annual Conference

Nearly 70 delegates attended our June annual conference, which was on the subject of **The Control and Audit of CASE Technology**. Once again the conference provided a substantial surplus for our funds.

## Discussion Group

No meetings of the Discussion Group were held during the year, although plans for next year include two scheduled meetings.

## External Relations

Our annual joint meeting with the Home Counties District of the Institute of Internal Auditors was once again a resounding success with some 135 members (from both Groups) attending to hear a presentation on the subject of computer viruses.

The Committee continued to be represented on the BCS Specialist Group Management Committee.

## Publications

In spite of the sterling efforts of a joint editorial committee consisting of members from our Group, the Data Management Group and the Security Group, the new database publication has failed to materialise for reasons outside our control.

The latest news is a little more hopeful however and it now looks as if we can expect publication later in this year.

On a happier note we were able to arrange substantial discounts for our members with Elsevier Science Publishers Ltd for two of their computer audit related magazines. The discounts more than cover the cost of even Corporate membership.

## Committee Membership

Committee membership during the year was as follows:

### Officers

Chairman:	J A Mitchell	Independent Consultant
Secretary:	R R Iyer	KPMG Peat Marwick McLintock
Treasurer:	A J Thomas	Independent Consultant

### Members

P Murray	Herts County Council
J D Bevan	Independent Consultant
H Branchdale	British American Tobacco
S Crowe	Ernst & Young
B Kearvell-White	Grant Thornton
P G Martin	E D & F Man Ltd
J Rogers	Thomas Miller & Co
V Bryant	City University

### Hon Auditor

J Court	ICAEW
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Jeremy Rogers had indicated that this will be his last year with us due to a career move. Jeremy has been one of our monthly meeting organisers for the last two years and his ability will be sorely missed.

You may be interested to know that Bob Ashton, who was our Publications Secretary, is now working for Westpac Bank in New Zealand and Graham Collier, our previous Secretary who emigrated to Australia, will soon become a father. This does show that Committee membership can lead to bigger things. If any member would like to contact either of these ex pats, please contact me for their address.

### Conclusion

The past year has been a year of change which only succeeded due to the hard work of your Committee. I would like to propose a vote of thanks to them on your behalf, but more especially on my behalf, as without their unstinting help and support my job would be impossible.

John Mitchell  
9th May 1990



**BRITISH COMPUTER SOCIETY**  
**AUDITING BY COMPUTER SPECIALIST GROUP**

Minutes of the Annual General Meeting  
held at the Charing Cross Hotel on 15th May 1990

Held in the presence of 9 members of the Group including the Chairman, the Secretary and the Treasurer

1. Approval of the Minutes of the 1989 AGM.

The minutes of the 1989 AGM held on the 16th May 1989, previously distributed to members, were approved as a correct record of the meeting.

2. Chairman's Report.

Dr J A Mitchell presented his report for 1989/90 and highlighted the following:

- Change of name. With effect from 1st September, 1990 the specialist group will change its name to the Computer Audit Specialist Group (CASG). Accordingly, new stationery with the CASG logo will be used from that date.
- Quarterly Journal. A quarterly journal named the Sweeper was required in order to improve the quality of service to members, and the first issue appeared in March 1990. The journal will now include the monthly notification of meetings. This journal requires articles and Dr Mitchell asked the members to send these to the editor Ms V. Bryant.
- Membership Survey. A questionnaire was sent to the membership at the beginning of the season to establish individual views on a number of important topics. The results of the survey will be published in the June issue of the Sweeper. In general, the majority of the respondees were satisfied with the way the group was currently being administered.
- Membership. The number of members went up from 207 to 301. It was noted, however, that an interesting programme of events will have to be offered if we want to retain them.
- Monthly Meetings. The average number of attendees was slightly up on last year but this still leaves a lot to be desired. The present cost of £10 per head is somewhat high and should be reduced by attracting a larger number of attendees to our meetings.
- Annual Conference. The 1989 conference on the subject of the Control and Audit of Case Technology, was successful and resulted in a substantial surplus.

3. Treasurer's Report.

Mr A J Thomas presented his report for the year ended 30th April 1990.

It was noted that the costs of the group's activities were steadily rising although these were more than offset by higher interest income and the increased membership. In the light of the rising costs, an increase in the subscription rates is now considered necessary if we are not to use our reserves to fund the operating costs.

The accounts for 1989/90 were accepted by the meeting and approved for forwarding to the British Computer Society, subject to the completion of the audit.

#### 4. Election of Officers and the Committee.

The Chairman noted that Mr J Rogers will not be able to continue on the Committee and thanked him for all his efforts over the previous two years.

There being no other nominations it was agreed that Dr J A Mitchell would continue as Chairman of the Group, Mr R R Iyer as the Secretary and Mr A J Thomas as the Treasurer.

Dr Mitchell noted that the remaining Committee members had all indicated their willingness to continue in office and they would be joined by Mr W Barton who volunteered from the floor to join the Committee. This was unanimously agreed by the meeting.

The Committee elected for 1990/91 was therefore as follows:

##### **Officers**

Chairman:	J A Mitchell	Independent Consultant
Secretary:	R R Iyer	KPMG Peat Marwick McLintock
Treasurer:	A J Thomas	Independent Consultant

##### **Members**

P Murray	Herts County Council
J D Bevan	Independent Consultant
H Branchdale	British American Tobacco
S Crowe	Ernst & Young
B Kearvell-White	Grant Thornton
P G Martin	E D & F Man Ltd
V Bryant	City University
W Barton	Rank Organisation

Mr J Court expressed his willingness to continue as Auditor and this was approved by the meeting.

#### 5. Increase in Membership Subscription

An increase in subscription rates was proposed as follows:

Corporate membership from £35.00 to £50.00  
Individual membership:

- for BCS members from £7.00 to £10.00
- for non BCS members from £10.00 to £15.00

The increase in membership to apply from August 1990.

One member from the floor queried the large increase in percentage terms. Dr Mitchell explained that for 1990/91 costs are already planned in respect of two Discussion Groups at £1,000 each, the quarterly publication of the Sweeper magazine at approximately £600 per quarter, and perhaps a loss on the 1990 Annual Conference. Dr Mitchell said that no increases have been made over the last four years and smaller increases in each of those years, would perhaps have appeared less harsh.

The meeting approved the increases after some discussion.

6. Monthly Meetings 1990/91

The draft programme including two discussion group meetings was presented to the meeting. Dr Mitchell said that further details will be given in the June issue of the Sweeper.

7. Any Other Business

On behalf of the other members of the Committee and the members of the Specialist Group Mr A J Thomas thanked Dr Mitchell for his hard work and enthusiasm during the last year.

There being no other business the 1990 AGM of the British Computer Society Auditing by Computer Specialist Group was closed.

**INCOME AND EXPENDITURE ACCOUNT**  
**FOR THE YEAR ENDED 30TH APRIL, 1990**

RECURRING ACTIVITIES	1989 - 90		1988 - 89		1987 - 88	
	No	£	No	£	No	£
<b>INCOME</b>						
Subscriptions - Corporate Members	70	2490	48	1680	50	1750
- Individuals	61	610	36	360	35	350
- B.C.S. Members	45	315	34	238	37	259
	<u>176</u>	<u>3375</u>	<u>118</u>	<u>2278</u>	<u>122</u>	<u>2359</u>
B.C.S. Allocation		500		97		500
Interest		2024		1511		1035
Sundry Income		29		30		96
		<u>5928</u>		<u>3916</u>		<u>3990</u>
Joint Meetings		125		606		188
		<u>6053</u>		<u>4522</u>		<u>4178</u>
<b>EXPENDITURE</b>						
Meetings and - Hire of Halls		1032		1208		520
Discussion - Expenses re speakers		558		542		382
Groups - Audio-Visual Aids		252		105		260
- Refreshments		509		1008		346
		<u>2351</u>		<u>2863</u>		<u>1508</u>
Programme Cards		1424		144		246
Administration		746		1158		1011
Projects and Publicity		-		230		-
		<u>4521</u>		<u>4395</u>		<u>2765</u>
<b>RECURRING ACTIVITIES SURPLUS/(DEF'NCY)</b>		<u>£1532</u>		<u>£127</u>		<u>£1413</u>
<b>SPECIAL ACTIVITIES</b>						
CONFERENCE - Income	£	5504	£	-	£	8510
- Expenditure	-	4352	-	-	-	5011
		<u>1152</u>		<u>-</u>		<u>3499</u>
SALE OF BOOKS - Income	-	-	-	315	-	754
- Printing	-	-	-	(721)	-	(927)
- Expenses	-	-	-	( 9)	-	( 44)
		<u>-</u>		<u>(415)</u>		<u>(217)</u>
ADJUSTMENT - relating to Previous Conferences		-		-		782
		<u>-</u>		<u>-</u>		<u>782</u>
<b>SPECIAL ACTIVITIES SURPLUS/(DEF'NCY)</b>		<u>£1152</u>		<u>(415)</u>		<u>£4064</u>
<b>OVERALL - SURPLUS/(DEFICIENCY)</b>		<u>£2684</u>		<u>(£288)</u>		<u>£5477</u>

Fund Balance 1.5.89	£18112
Add 1989/90 Surplus	£2684
Fund Balance 30.4.90	<u>£20796</u>

Represented by:	
Cash at Bank & on Deposit 30.4.90	£21959
Accruals 30.4.90 (Net)	(1284)
Payments in advance	121
	<u>£20796</u>

Note: In addition to the membership numbers shown above, the 1989/90 subscriptions for 3 Corporate, 1 Individual and 2 BCS members were paid and accounted for in 1988/89 accounts.

A. J. Thomas.  
10.5.1990.

## PLANNED MEETINGS FOR 1990/91

Meetings are free to members, with the exception of the Discussion Groups, the joint meeting with the IIA and the Annual Conference, for which charges are made.

### DATE                      SUBJECT

#### 1990

11th October 1990	Data Integrity in a Micro Environment
31st October 1990	Discussion Group (Auditing in a Micro Environment)
6th November 1990	An I.T. Manager's View of Internal Computer Audit
5th December 1990	Auditing the AS/400

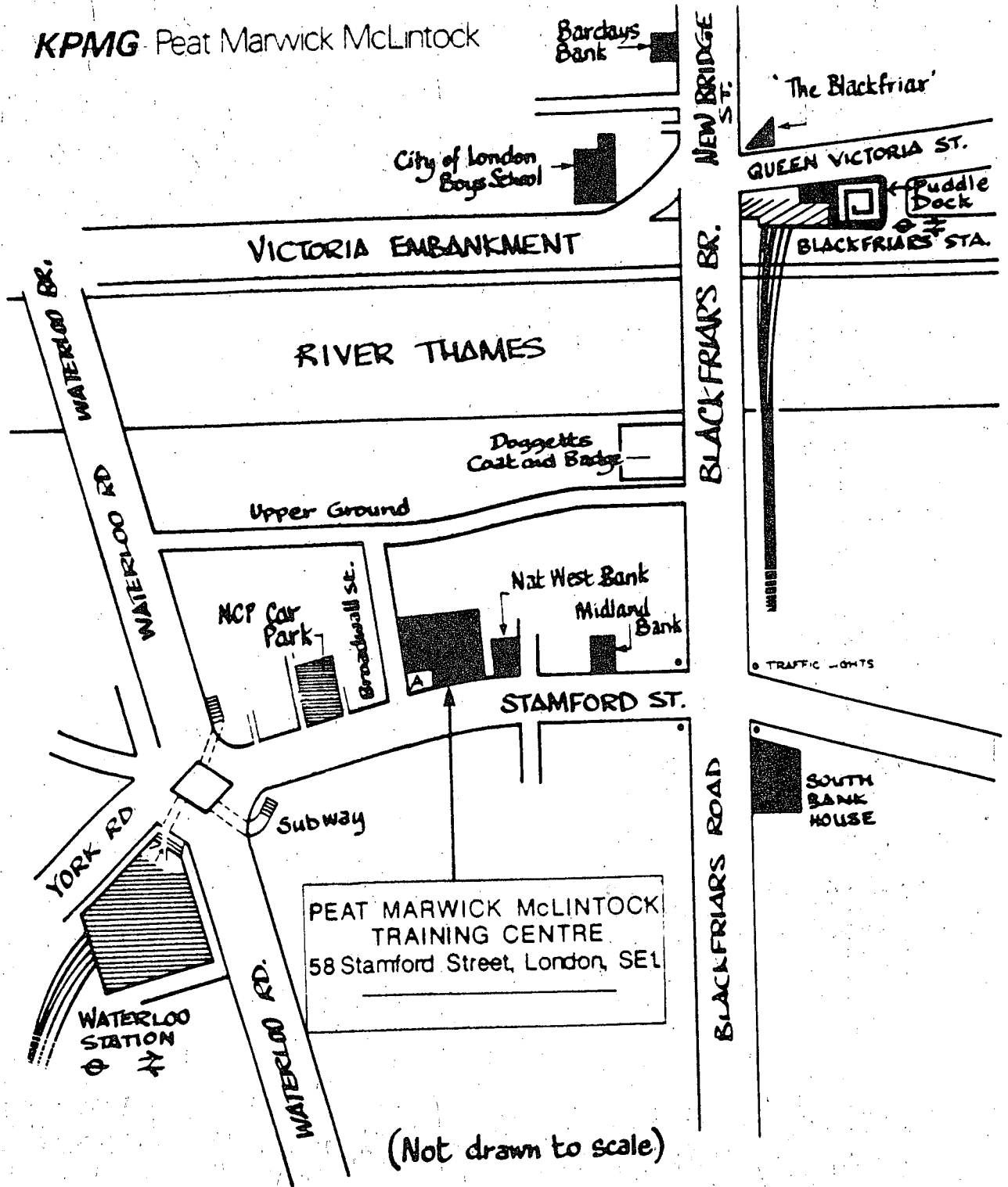
#### 1991

16th January 1991	Risk Analysis Techniques (Joint with IIA)
12th February 1991	Auditing the MVS Operating System
12th March 1991	Computer Abuse (1/2 Day Meeting)
27th March 1991	Discussion Group (Mainframe Access Security Packages)
9th April 1991	IBM's DB2 Relational Database
14th May 1991	Annual Conference (Theme to be announced) Followed by; Annual General Meeting

Venue: KPMG London Training Centre, Stamford Street except for the Annual Conference which will be held at the London Press Centre.

# NEW VENUE

Your committee is always looking for value for money and the Charing Cross Hotel has become too expensive (typically charging £300 per meeting). We have found a new venue in the form of KPMG Peat Marwick McLintock's training centre which will save us about £100 per meeting. The map shows the location, but please allow an extra 20 minutes on your normal travelling time to allow for walking from from the underground stations and for registration at the training centre.



# NEW MEMBERSHIP SUBSCRIPTIONS

The AGM agreed that as from the 31st July 1990 the membership subscriptions will be charged as shown below.

	New Rate	Old Rate
Corporate (5 People)	£50	£35
Individual (BCS Member)	£10	£7
Individual (Non BCS Member)	£15	£10

Subscriptions have remained unchanged for some four years and therefore an increase somewhat above the current level of inflation was considered necessary. Discounts on the Annual Conference and two audit and security magazines, which are available to members, effectively mean that free membership can be obtained.

## BUYING SOFTWARE - GUIDELINES

### Appeal for Volunteers

The group has published four excellent monographs in the "Buying .... Software" series, covering: Financial Accounting, Payroll (both 1985), Stock Control (1986), and Sales Order Processing (1988). These were written by working groups of members, with some common section headings, as well as some applications specific advice.

Views have been expressed to the effect that:

- some of the material now needs to be brought up to date, in particular to reflect advanced facilities now available as standard, even on micro-based packages,
- the advice provided under the common headings is very similar,
- the combined publication would be a much more attractive buy, and,
- several improvements in presentation could be made to provide a wider appeal. along the lines adopted by the new abc Database book.

To action all these views will not be a trivial task, and certainly should not be construed as a criticism of the work done by the original contributors. If involvement in this might interest you, then please write to me, at the address below, indicating the scope and extent of your interest and likely commitment. I shall be happy to act as a clearing house and to help to get the whole exercise on the road, even if I do not travel far with it!

John D Bevan  
46 Queens Road  
Hertford  
Herts SG13 8AZ

## HOW SECURE IS YOUR COMPUTER SYSTEM?

*Computer security reviews are becoming increasingly important as businesses rely more upon their information systems. Here BRIAN KEARVELL-WHITE identifies some of the risks and suggests recommendations for overcoming them.*

The buzzwords 'Computer security' and 'Computer risk reviews' are becoming more commonplace. It is difficult, however, to precisely define these terms. To most clients, security is perceived as locks on doors, bars on windows and halogen gas flooding. Others see computer security as governing access rights to the information held on the computer, together with controls over the manipulation of such data. Either way, computer security does not stop there – problems such as inappropriate disposal or unauthorised reading of VDUs and printouts also need to be considered.

At Grant Thornton a Computer Security Review initially clarifies a client's own concerns about computer security, then ensures that the client is aware of all the other considerations, eg confidentiality of data and the Data Protection Act.

This article is based on a recent Computer Security Review undertaken for what I would term a typical Grant Thornton client, in terms of computer configuration. The client, a small group of companies, has one minicomputer networked to a number of sites utilising microcomputers, some of which are linked to the mini, others being stand-alone PCs.

### Terms of reference

The initial terms of reference were:

- to carry out a general review relating to computer security
- to identify the principal security risks and weaknesses
- to make recommendations to enable the board to improve security.

Discussions with the board revealed differing concerns about computer security. We drew up an agreed defini-

tion of computer security to enable each of the directors to identify his concerns. This definition identified three objectives:

- to prevent unauthorised access to information
- to prevent accidental or unauthorised modification of information
- to ensure that information and facilities are available to authorised users at the time they require them.

Next an overview of the client's computerised systems was needed – locating each computer, identifying the software being run, and those responsible for, and having access to, each of the systems. It became obvious that the group was running a multitude of applications, with no single person having an overall picture. Furthermore, no single person had been assigned responsibility for the security of the company as a whole, let alone for security of the computer systems.

### Security policy

Having identified the weaknesses, we made the following recommendations.

**Recommendation 1.** We stress that the security of information held on a computer system relies equally on the security of the computer system as a whole, and the security of information once it has been printed out. With the increased use of computers throughout the group, including wider use of personal computers to process data for individual managers, the security awareness of staff is a vital factor. We recommend that the board issues a policy statement on security.

Implementing such a policy requires the full support of the board and senior

management and should include:

- reasons for security
- security responsibilities of individuals
- physical access security
- distribution, retention and disposal of confidential reports and papers
- security procedures covering the use of the minicomputer systems (backups of program and data files and documenting procedures)
- procedures for requesting access to systems on the minicomputer network
- guidance on the use and security of other computer equipment, eg personal computers and word processors.

### System evaluation

Having identified all the systems and those responsible for them, our review was narrowed down to those systems considered critical to the business. We evaluated the following:

- organisation of the data processing function
- reliability of processing
- integrity of programs
- integrity of data
- development and implementation of computer systems
- continuity of processing
- input and output controls.

From the number of application programs and users, it was obvious that the client was dependent on a small number of key personnel. This dependence was exacerbated by the lack of adequate documentation not only of procedures but also of the programs themselves.

**Recommendation 2.** Due to the small size of your data processing department

it is natural that certain members of staff occupy key roles in the functioning of the group's systems. To ensure continuity in the operation of the systems, efforts should be made to reduce such reliance.

The training of understudies, assistants and the documentation of programs and procedures are obvious methods of reducing dependence.

**Recommendation 3.** The current state of the documentation of your computer programs is not adequate for the ongoing maintenance and enhancement of your systems in the absence of your key data processing personnel. We recom-

*No single person had been assigned responsibility for the security of the computer systems.*



ment that the key systems and programs be identified and a programme of preparing documentation for these be drawn up. The level of documentation should be sufficient to ensure that a competent outsider (to the group) could understand and run the systems. In conjunction with the documentation of the programs, the procedures to be followed in operating the computer (initial startup, backup, restart, recovery, procedures etc), and the systems (the processing cycle and control), should be documented for all key systems.

**Access control**

To identify those with access, we reviewed the user IDs and passwords in existence and found shortcomings in the access control procedures. These were not subject to regular review by senior management. In some instances, passwords and user IDs of staff who had been dismissed or changed responsibilities were still held in the system.

Programs were capable of being amended. Also, if a user failed to log off his terminal prior to disconnecting from the system, any subsequent user connecting the terminal was automatically logged on as the previous user. This required a solution from the suppliers of the communications software.

Data, however, should not only be protected whilst it is on the computer, but also once it has been printed out. The client was conscientious in locking away printouts and disposing of old, confidential material though we noted that, at one site, all sensitive reports were put into sacks for shredding but left open against the wall of the office.

**Recommendation 4:** 'In mini and micro-computer systems the area of access control is essentially one of staff security awareness. Staff should be conscious of the need for security and should not leave their screens whilst they are logged on to the system, nor divulge their passwords to others, and ensure the safe custody and ultimate disposal of confidential printed reports. These issues should be addressed in the security policy and lapses in security should be a disciplinary matter.'

The review of input and output control was concentrated on the accounting systems and areas of management importance. One major system lacked a traceable audit trail of changes to stand-

ing data, while another had not yet had the audit trail programmed into the system.

**Recommendation 5:** 'We recommend that the use of mandatory audit trails be part of the group's security policy.'

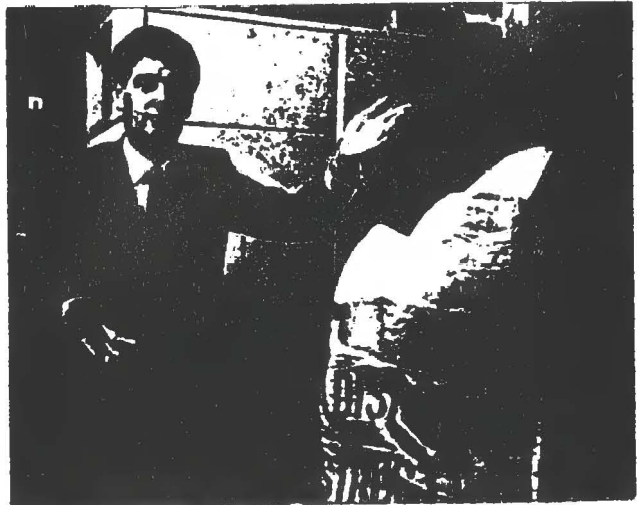
Physical access to computer rooms and terminals was also reviewed. It was discovered that so long as one wore a suit, one's presence and business was not questioned! Also, the rooms were unlocked very early in the morning to allow access by cleaning staff. They were finished before the office staff arrived.

The backing-up of data and program files was generally good, though the security of backups exposed the client to unnecessary risk. For example one PC was used for the executive payroll and the trade union wage negotiation worksheets, and both the original and backup diskettes were kept in cardboard boxes on the manager's bookcase. The main minicomputer backups were held in a fireproof data safe, but no other backup diskettes were held securely.

**Recommendation 6:** 'The computing facilities (the computer hardware, program and data files, and systems and procedures documentation) should be secured from loss or physical damage. The group security policy should cover the controlled access to computer equipment and terminals, the frequency and storage of backups of program and data files and system and user documentation. Such safeguards will protect both the physical and information assets of the group.'

**Disaster recovery**

In the worst event, computer security is tested by the ability to recover from a disaster - such as a fire, the loss of electrical power or telecommunication lines. The client, in common with many others, had considered the need for such contingency planning but had no formally documented or tested procedures.



*Brian Kearvell-White, Senior Manager, Computer Audit, London Group*

**Recommendation 7:** 'The group must assess, as a matter of urgency, the impact of the loss (or unavailability) of their computerised systems. Based on this assessment, the priorities and alternative procedures for ensuring the continued availability of the systems can be reviewed. This process should lead to the preparation of a contingency plan to recover the loss of computing facilities, along with disaster recover procedures, which should be formally documented and tested to ensure their feasibility.'

Essentially, disaster recovery documentation should be a series of 'building blocks' for the implementation of the contingency plan. If a disaster occurs, the primary objective is to enable the organisation to continue to operate effectively and, if necessary, without its normal computer facilities. Replacing lost facilities, analysing the cause of the loss and taking steps to prevent a recurrence are subsidiary objectives.

At the end of our review we produced a single-page list of action points to improve the client's computer security. Further appendices gave detailed points for consideration and recommendations on each of the sites visited.

In the final analysis, the success or otherwise of computer security is dependent upon the security awareness of the staff.

*Please note: 85% of computer crime is committed by disgruntled employees.*

## B. C. S. ACCOUNTING PROCEDURES

It may be of interest to members to learn of the changes in accounting procedures between the British Computer Society Headquarters and Specialist Groups which have occurred in the last few years and affect us all.

Substantially the changes have been brought about by the difficulties in accounting for V.A.T., which is the responsibility of the B.C.S. H.Q., since H. M. Customs and Excise regard the whole of the B.C.S. as one body with one registration and one V.A.T. number. It is not open to parts of the B.C.S. to act separately for V.A.T. purposes. Yet the B.C.S. as a whole is a complex body with many branches, groups and activities. Those parts concerned with membership and membership services are in the "Exempt" V.A.T. category, with no possibility of recovering V.A.T. on expenditure. Other activities, which aim to be profit making are in the "Standard Rated" V.A.T. Category, and one must charge and pay over V.A.T. on income and can recover V.A.T. on expenditure. Amidst all of this, many Group and Branch Treasurers have little knowledge of accounting procedures and also often find it impossible to deal promptly with returns and requirements. It is thus not surprising that H.Q. found itself with V.A.T. problems, although much more could have been done to define and inform one of their requirements.

About two years ago B.C.S. centralised all Branch payments with the Branch Treasurer certifying and authorising transactions, including petty cash reimbursements, and H.Q. actually making the payments, keeping individual Branch accounts, reporting to Branches and dealing with V.A.T. This seems to have worked reasonably well and certainly H.Q. accountants think it overcame their major problems.

In the Spring/Summer 1989 proposals were floated for a similar scheme to apply to Specialist Groups. It was soon found that S.G.'s were very different from Branches. Firstly, nearly every Group needed to account for membership income and servicing a membership list, which Branches did not. The total number of membership records to be maintained was very large indeed. Secondly, many Specialist Groups held complex income raising functions, some jointly with other bodies, which involved many transactions and the handling of a large amount of money and balances, with readily available situation reports being available. The whole workload was in excess of H.Q.'s capacity to take on extra accounting responsibilities. Thirdly there is a problem about the administration of fund balances. Specialist Groups are nearly all comprised of a mixture of B.C.S. members and non-B.C.S. members, in varying ratios between groups. In our own case, roughly half of the Group membership are not B.C.S. members.

Contributions to the Group's funds are for the specific interests of the Group within aims agreed by the B.C.S., rather than for the aims of the B.C.S. as a whole. However, there is no doubt that in the event of a Specialist Group being wound up, the residual interest in the Group's funds vests in the B.C.S.

In the end, a compromise solution was agreed, in that a centralised Specialist Groups accounting system was to be set up at H.Q. but any Group had the right to opt out and do their own accounting conditionally upon their undertaking to provide promptly a quarterly V.A.T. return in a laid down form, and to supply budgets and final accounts on schedule. It was anticipated that the larger and more active Groups would opt out and the load falling on B.C.S. H.Q. would be tolerable. Your own Auditing by Computer Group decided to opt out from the outset. This means that we still provide our own financial controls, budgets and accounts and operate our own bank accounts, but each quarter we have to prepare a V.A.T. return to B.C.S. H.Q. specifying separately Income and Expenditure on "Standard Rated", "Exempt" and "Zero Rated" activities (no activities are "Zero Rated"), and also pay over to H.Q. V.A.T. on "Standard Rated" income and claim back V.A.T. on "Standard Rated" expenditure. The refund claimed sometimes takes a long time to come through.

The B.C.S. budgets to support both Branches and Specialist Groups. The S.G. funds are allocated to Groups each year by the Specialist Groups Management Committee, after a review of the budgetary position of each Group from returns submitted. The funds are allocated under two methods, one a cash grant to the Group and the other being free services to the Group provided by H.Q. There is no provision for carry over from one year to another, and any item not taken up during the year is lost and becomes a saving to B.C.S. The financial position of this Group is such that it has for a number of years been allocated only £500 worth of free service from H.Q. each year. Naturally your Group aims to optimise the use of H.Q. facilities and has moved towards using those services to a greater extent so as to relieve volunteers on the Committee from some of the more onerous tasks, which is very necessary as the administration becomes more complex.

The accounting year of the B.C.S. runs from the 1st May to the 30th April and during each year the Specialist Group provides H.Q. with :

Quarterly V.A.T. return	(May, August, November and February).
Annual Estimates	(November)
Annual Accounts of I. & E.	(May)
Minutes of the Annual General Meeting and Each Committee Meeting.	

Bank Accounts are to be maintained at Lloyds Bank Ltd., Langham Place, Regent Street, London so that they are all aggregated together under the B.C.S. total cash holding at the bank.

The Specialist Group is responsible for making its own arrangements for the audit of its accounts and the provision of details for amalgamation into the B.C.S. Accounts and its audit. Each year the Group's Committee receives and considers a report from its auditor.

The Chairman's Report and the Annual Accounts are submitted as papers to the Annual General Meeting each year.

Each Specialist Group has a representative on the Specialist Groups Management Committee, who can attend and take part in the agreement of matters, and gets the minutes of each S.G.M.C. Meeting, including reports from other Boards and Committees of the B.C.S.

A. J. T.

'How to build bad systems even faster'

## INTRODUCTION

"We will never find the philosopher's stone. We will never find a process that allows us to design software in a perfectly rational way". {Ref.1}

"As we look forward a decade, there is no single development in either technology or management technique that by itself promises even one order-of-magnitude improvement in the productivity, reliability or simplicity (of systems development)." {Ref.2}

The purpose of this session is to explore, with a view to explaining, the pessimism of these not untypical views and, by placing systems development tools such as fourth generation languages (4GLs) in their proper context, identify a number of lessons or rules which might help us, over the next decade, build systems more quickly, more economically and more reliably.

## BACKGROUND

Two major trends which continue to drive the information systems industry are falling unit hardware costs and rising 'people' costs, the latter reflecting a general IT skills shortage - people are clearly the scarce resource. When we couple this with the fact that, on average, some 60% of our development staff are committed to maintaining current systems and that every new system the remaining 40% build in turn leads to a maintenance burden, it is no wonder that most organisations perceive a gradual decline in the supply of people to build new systems.

Our basic economics course told us that a mismatch of supply and demand implies two corrective actions:

- (a) increase of the supply, by de-skilling what may hitherto have seemed a very technical area, thereby allowing users to supplement the IT workforce; or
- (b) reduction of the demand by improving the productivity of the individual developer.

Both strategies of deskilling and raising productivity lead inevitably to a focus on automated tools and techniques which, in essence trade off people for (lower) technology costs.

However, the past 20 years have witnessed panacea after panacea: among the most hyped have been:

- (a) project management;
- (b) structured analysis and design;
- (c) data analysis;
- (d) 4GLs;
- (e) prototyping;
- (f) computer-aided software engineering (CASE).

Yet we still continue to build systems that fail to deliver any commercial benefit. A report commissioned by the DTI in support of its "Tick IT" initiative conservatively estimated that poor quality software costs UK business in excess of #500m a year (Ref 3). Automated tools have not delivered; why not?

### REASON 1

Delivering quality systems is about meeting the requirement, first time. And this is where the problem starts. The user's 'requirement' is fundamentally nothing to do with receiving a 'system', it is to do with solving a problem or improving a process. For example, the user's need is to improve service levels in stores, not to implement EPOS. Many systems are therefore solutions thrown at poorly defined problems and the users only measure of success for a new system is that it got implemented, not that it did anything for the business.

Our first conclusion must therefore be that if we set out to build the wrong systems, no amount of investment in tools and techniques will save us:

"In the absence of clear measures of success, any system will be considered a failure."

### REASON 2

The second fundamental error that would-be exploiters of automated tools make is to confuse methods, techniques and tools. They are fundamentally different and together represent a 'layered systems development architecture'. For example, PRISM (a tool) automates business modelling (a technique) in SUMMIT (the Coopers Deloitte strategic planning method).

Ed Yourdon has estimated that while 90% of software professionals are familiar with structured techniques and 50% of their organisations have tried them, only 10% actively use them (Ref.4). On this basis, what chance tools?

Which leads to our second conclusion:

"A tool is just that: a tool, not a solution. Tools should only be used within the context of a technique, within the context of a method."

### REASON 3

There need be no IT skills shortage. Clearly there is currently a mismatch, as we have discussed, between supply and perceived demand but the answer does not lie in increasing supply through deskilling or retraining, nor in throwing tools at IT professionals. The most powerful approach to the skills shortage is to identify more imaginative ways of reducing demand. Many possibilities exist:

- (a) re-use existing code, by using packages or re-engineering;
- (b) subcontract out the development tasks to people who can do it better than you can;
- (c) form alliances or joint ventures to build shared systems;

- (d) stop maintaining old systems;
- (e) stop over-engineering new systems.

The last two approaches, in the context of solving the real business problem as described above, are the most potent. Users' requirements tend towards 100%; they have no basis of evaluating the 80:20 solution because it is seldom presented to them and because no-one knows what 100% means.

And thus the third conclusion must be:

"Don't just automate a task: question the need for it, seek to eliminate it or replace it with something simpler."

#### REASON 4

Finally, let us look again at why systems fail. There are obvious technical reasons and reasons associated with the technology/user interface:

- (a) poor or over-engineered functions;
- (b) poor hardware or software performance;
- (c) poor integration with other systems;
- (d) the man-machine interface;
- (e) changes to roles and responsibilities.

But the following social or organisational reasons are more common and more subtle:

- (a) lack of a champion, change agent or integrator;
- (b) poor user attitudes, perceptions or commitment;
- (c) lack of management support;
- (d) low user involvement;
- (e) power structures.

And these blockages to successful systems are the real challenge for business, user and IT management. Service = products + people and while much remains to be done in providing systems developers with better products and better training in their use, they will continue to build blots on the landscape until we get the social environment right.

Our final conclusion must therefore be:

"When things start going wrong, people are more important than products."

--oOo--

(N.B. The views expressed in this presentation are those of the author and not necessarily those of Coopers & Lybrand Deloitte.)

### References

- 1 Parnas D L & Clements P C  
'A rational design process: how and why to fake it.'  
Conference - Theory & Practice of Software Development  
Berlin (25-29 March 1985)
- 2 Brooks F P  
'No silver bullet: essence and accidents of software engineering.'  
Computer (April 1987)
- 3 Wilson C  
'Making software quality the vital link in the chain.'  
Computer Weekly (22 February 1990)
- 4 quoted in  
Chikofsky E J  
'Software technology people can really use'  
IEEE Software (March 1988)



## QUESTIONNAIRE RESULTS

### Results Shown Out of the 46 Completed Forms Received

#### MEMBERS MEETINGS

Currently these are held once a month in central London on the second Tuesday of the month, commencing at 4.30 pm during October to May.

- 1) a) Does the session October to May suit you?  
43 said yes
  - b) Is once a month the correct frequency?  
42 said yes
  - c) Does a 1 1/2 hour late afternoon meeting suit you?  
36 said yes
  - d) Is a 4.30 pm start (Tea at 4.00) convenient?  
32 said yes the remainder had varying opinions, no pattern
  - e) Is Tuesday the most convenient day?  
34 said yes, 6 had no opinion, 2 said any day not Friday
- 2) Please indicate two topics which you would like to see included in the meetings programme  
See attached pages 1 & 2
  - 3) Have you attended members' meetings during the 1988/89 session? If not please indicate why you have not.  
21 said yes, the remainder stated that their job location made attending meetings impossible

#### CIRCULATIONS TO MEMBERS

Currently the Group advises members about each meeting on a monthly basis, circulating whatever notes it has available from earlier meetings. It is suggested that this arrangement should be replaced by a quarterly magazine, notifying future meetings and giving more information about talks and about computer auditing in general. The new quarterly magazine would be of a higher quality than present circulars.

- 4) a) Do you agree that such a quarterly magazine would be of benefit?  
41 said yes
- b) Please indicate up to four types of topics which you would like to see included in such a magazine.  
See attached pages 2, 3 & 4
- c) Would you be prepared to contribute articles or features to such a magazine?  
21 said yes, all occasionally, 3 had no opinion
- d) Would you be prepared to assist with the preparation and production of such a magazine?  
Only 7 said yes

## CONFERENCE

For a number of years the Group has held an annual one day conference in Central London on a topic of current interest. Because of the timing of other computer audit conferences this year's conference was held in June.

- 5) a) Is June as a conference timing convenient?  
37 said yes, 5 said they prefer Autumn and Winter
- b) Is Central London a convenient venue?  
40 said yes
- c) Please indicate two topics which you would like to see covered in future conferences  
See attached pages 4 & 5
- d) Have you attended past conferences which have been organised by this Group?  
21 said yes

## DISCUSSION GROUPS

This year this Specialist Group has initiated an all day discussion session where two or three topics were aired.

- 6) a) How often do you feel that such discussion day should be arranged?  
1 wanted it every 2 years, 13 every 12 months, 18 every 6 months, 9 every 3 months, 5 had no opinion
- b) What is the most convenient day of the week?  
22 wanted it Tuesday, Wednesday or Thursday, 19 had no opinion
- c) What start and finish times suit you?  
37 wanted it between 9 am and 5 pm, 8 had no opinion
- d) What location for such a discussion would you find most convenient?  
38 prefer London, other locations listed were Manchester or Midlands
- e) Would you be prepared to pay a contribution towards:
  - i. The cost of running such a discussion group  
28 said yes, 13 said no
  - ii. Meals and refreshments  
35 said yes, 8 said no

## PUBLICATIONS

The group has developed, for sale, a number of publications, and currently has on offer a series about selecting software and is updating the "Audit of Database Systems" publication.

- 7) a) Are the Group's publications helpful to you?  
23 said yes, 6 said no, of those with no opinion or who said no the vast majority had never heard of our publications
- b) Have you, or your organisation, in the past purchased publications by the Group?  
25 said yes, 15 said no, 7 had no opinion
- c) In what further areas of computer audit would you find publications by the group of use?  
Needs to be analysed

## MEMBERSHIP

- 8) Do you intend to renew your membership of the Group for the 1989/90 session?  
43 said yes

## BRANCHES

This specialist group has, for over 20 years, been based in London, although its membership is widespread. Those members near to London have the best opportunity to attend meetings. The question now arises as to whether or not the Group should operate on a wider ranging scale, and the formation of Branches to cover areas outside London is one possibility.

- 9) a) Do you feel that the Group should make an effort to set up Branches outside London?  
27 said yes, 11 said no, 8 had no opinion. Those who expressed an opinion wished to see a branch set up near where they live, Manchester, Leeds area or Birmingham.
- b) Would you be prepared to help run a Branch?  
Only 4 said yes, 5 had no opinion, all the rest were no.

Hearing of the formation of the Auditing by Computer Study Group in 1964, Fred joined it in its first year and has been a member ever since and a member of the committee since the committee was first formed, and given several talks at Group meetings. He has represented the Group on the earlier BCS Specialist Groups Board and now attends meetings of the Groups Management Committee when the Chairman is unable to do so. He has developed liaisons between this Group and other bodies over a long period, taken part in the organising of the Internal and the Annual Conferences and for the past three years has been the Hon. Treasurer.

Fred has seen this Specialist Group grow in size, scope and reputation and now finally come to a change in its title.

A.J.T.

12.4.1990

### **Forget Your ABC!**

It's official ! We now call ourselves the 'Computer Audit Specialist Group' or 'CASG' for short. New initials require a new logo and ours is;



This is what you'll see on our communications in future. We also have a newly appointed committee, who, now armed with the suggestions for the group contained in the summary of the questionnaire, will be seeking to strengthen the group. However, looking at the lists of topics you have suggested for both the meetings and this journal, I'd say that they have a problem. The subject area seems enormous. As a group we have interests in IT hardware and software of all types, system development methods, IT management, some elements of the law, as well as all aspects of auditing.

The good news is that between us we also know about all these things and more. Please consider sharing your knowledge with others in the group through the medium of a presentation or an article in this journal.

YOUR MANAGEMENT COMMITTEE

Summer 1990

Chairman	John Mitchell	Little Heath Services (0707) 54040
Secretary	Ragu Iyer	Peat Marwick McLintock (071) 236 8000
Treasurer	Fred Thomas	(0371) 875457
Membership Secretary	Peter Martin	E D & F Man Ltd (071) 626 8788
Members' Meetings	John Bevan Brian Kearvell-White	(0992) <del>555328</del> 582439 Grant Thornton (071) 383 5100
Discussion Groups	Stephen Crowe	Ernst & Young (071) 928 2000
Marketing & Public Relations	Harry Branchdale	British American Tobacco (071) 222 1222
Publications	John Hession	Herts County Council (0992) 555328
Long Term Planning	Bill Barton	Rank Xerox (071) 487 3716
Annual Conference	Ian Longbon	
Journal Editor	Ginny Bryant	City University (071) 253 4399