



# Editorial

## 60th Anniversary JORS—introduction

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I am delighted to have been invited to introduce this special edition of JORS on the completion of its 60th edition, although being of a similar vintage myself I am decidedly jealous of its ability to remain so vibrant and contemporary and with its excellent reputation intact after so many years! My congratulations go to all editors, referees, publishers and authors for doing such a splendid job since March 1950, for their imagination, dedication and sheer hard graft, and to the readers for their unstinting loyalty over the years.

For those unaware of the impact of all this hard work, I might mention that in terms of quantity the editors have achieved a near straight line increase in pages from around 70 per annum in 1950 to over 1700 per annum in 2008, with a little help from their authors of course! In terms of quality the journal's citation impact factor has risen steadily for the last 5 years and I am of course delighted that sales have remained buoyant.

As avid readers of, and writers for, JORS will be aware, the current editorial policy aims to present papers that are relevant to practitioners, researchers, teachers, students and consumers of operational research (OR) and which cover the theory, practice, history or methodology of OR, with a major objective being to attract and publish accounts of good practical case studies. This is a wholly laudable aim that in some ways is not dissimilar from the original objectives of ORQ (JORS's predecessor): in 1950 the editors were aiming to 'assemble in one place as much as possible of the information that OR workers now find (or fail to find) scattered widely over the very large body of scientific and technical literature' (*Opl Res Q* 1950:1(1)). They would have been astonished how much information is now available at the click of a mouse from a myriad of OR related journals. I suspect our problem now is that there is too *much* information to hand and the problem has become more one of efficient searching through screenfuls of information to find the relevant pieces. I was pleased to note that the editors in 1950 also looked for: 'undoubted utility and the utmost brevity' (*Opl Res Q* 1950:1(1))—wholly commendable ambitions that authors today should try to emulate!

A comparison of articles in the first few years of the journal with those more than half a century later reveals some interesting differences and similarities. Papers in the first 10 years

or so focused very much on a snapshot of what OR was going on at the time in different organisations (eg OR and Defence in the Commonwealth; OR and the Shirley Institute—cotton research) and on interesting problems being tackled then (eg OR and advertising; minimising bus fleet fuel consumption; production planning; the use of social data to inform policy making such as coal rationing). A big difference was that in the early days no university departments had been set up to teach or research OR, so papers were nearly all case studies written by practitioners, whereas the journal today is split into theoretical and case-oriented papers and nearly all of the latter are written or co-authored by academics. Throughout the period, however, the people problems for editors have remained the same, and of course the arguments about the definition of OR have been rumbling around ever since the early days. On the former point, I found an illuminating comment in the article on OR and Defence in the Commonwealth, which stated that the finished article '... is the result of considerable editorial effort on the difficult task of producing a paper which integrates the diverse and sometimes conflicting views of the three service ministries' (*Opl Res Q* 1950:1(3)). On the definition of OR, the editors in 1950 commented: 'The general scope of this Quarterly is dependent on the definition given to operational research, and this is a question which has exercised the authors of several of the papers here abstracted, notably Sir Robert Watson-Watt, Charles Kittel, L.H.C. Tippett and Sir Charles Goodeve ... It is felt that the Quarterly may usefully regard as within its field the application of the scientific method to the provision of bases for executive action, in particular when the behaviour of people, either by themselves or in relations to their environment and equipment, is involved'. Reading on in the editorial, I think that the editors would have been wholly comfortable with both the soft and hard OR methods of today and they would undoubtedly have been impressed with the depth and breadth of OR papers now being published.

The first main paper in ORQ was appropriately written by none other than our own Lord Blackett, then Professor P.M.S. Blackett, FRS and very interesting reading it makes too. I think it should be required reading for any student of OR. Most of the reflections are as topical today as they were 60 years ago. For example: '... though the research workers should not have executive authority, they will certainly achieve more success if they act in relation to the conclusions of their analysis as if they had it, I mean by this that when an operational research worker comes to some conclusion that affects executive action, he should only recommend it to the executive that the action should be taken if he himself

is convinced that he would take the action, were he is the executive authority. It is useless to bother a busy executive with a learned resume of all possible courses of action and with the conclusion that it is not possible to decide between them. Silence here is better than academic doubt'. (*Opl Res Q* 1950:1(1)).

And some problems never go away—how should the work of an OR group be decided? Blackett concludes that '... the most fertile tasks are often found by the groups themselves rather than given to them'. '... it is essential that their work is canalised into those fields where results of interest to the executives are likely . . . . One of the best methods of achieving this is to put the group in close contact with the executives and let them watch them at work'. (*Opl Res Q* 1950:1(1)). Blackett's comments on the skills required by an OR worker are topical as we consider how we will manage with reduced funding for MSc courses: he says 'Specialist knowledge appropriate to the field of application is desirable, but is usually acquired on the job. A high degree of intelligence and enthusiasm for the work are important. Above all, the right personality is vital, so that during the investigation the operational research worker can obtain the confidence of the men on the job and, at the end, can put his conclusion across to the executive'. (*Opl Res Q* 1950:1(1)).

JORS is an excellent publication which has covered all of the great developments in OR since 1950, from linear programming to data mining, and I wish it every success in continuing in this vein for the next 60 years and beyond.

*President, Operational Research Society, 2008–2009*

Susan Merchant

## References

*Opl Res Q* 1950:1(1)

*Opl Res Q* 1950:1(3)

## This issue

We are pleased to be involved with the Journal as it celebrates its 60th birthday. Because this is an important milestone, we felt it appropriate to commission some special papers for this issue to mark the date. In her remarks above, Sue Merchant, as President of the OR Society, highlights how much has changed in OR over a 60-year period. However, it is not the OR style to merely look back at the past, so the theme of the papers in this special issue is 'Future Challenges for OR'. We invited contributions from former editors of the journal, former Presidents of the OR Society and some members of the International Advisory Board. This resulted in seven papers to which two more were added as detailed below.

The first paper, by Haley, considers the challenges faced by the journal—past, present and future. Brian Haley is well placed to write such a paper, having had experience as a former editor of the journal, as a former President of the society and currently as Chair of the Publications Committee,

which oversees the operation of all journals of the OR Society. The paper traces the changes in the journal over the years, including its relationships with the OR Society, its readers, the publishers of the journal and its editors. In the second paper Stainton, as a former President, provides a personal perspective on OR. Stainton not only looks to the past but also provides suggestions for the way in which OR needs to change in the future. In so doing, he reiterates arguments he raised before in his time as President and queries why OR has not changed more.

In the next paper, Pidd considers the challenge of modelling and discusses the theme of why modelling and model use matter. These are certainly issues faced by OR practitioners over the past 60 years. In this paper, a tentative theory of model use is developed and Pidd explores the ideas in a UK government setting.

In the next four papers, the authors consider the challenges of using certain types of modelling within OR. In the first of these papers, Dyson and Shale consider the challenge of using data envelopment analysis (DEA). DEA has been a popular tool in OR for over 20 years, but its use has many pitfalls. In this paper, a series of practical applications of DEA is reviewed and an exploration is made of the nature of uncertainty within these cases. In particular, the paper considers the suitability of DEA approaches for handling uncertainty. In the next paper, Laporte considers the Travelling Salesman Problem and the challenge offered by scheduling problems. In this review of the field methods, algorithms and applications are brought together and the state-of-the-art approaches are described. The paper illustrates what potential there is to solve large routing and scheduling problems with modern software. In the third paper of this group, Thomas considers the challenges offered to OR by the field of consumer finance. The field of consumer finance has grown over the years and has dramatically come into the news recently when major worldwide economic difficulties have been revealed. This paper reviews the contribution made by OR to credit scoring and goes on to outline 10 challenges for OR modelling in consumer finance. In the last paper of this group, Laguna, Molina, Perez, Caballero and Hernandez-Diaz consider the challenge of optimising expensive black boxes. Their paper links neatly with that of Pidd who also considers the role of black boxes and other constructs in OR. Laguna *et al* show how it is difficult for heuristic methods to operate in relatively uncharted landscapes, which are the very environments in which they need to operate. Thus, there is a case for self-organising heuristics. The paper shows how a mixture of scatter search and rough set theory can be used to advantage.

The eighth paper in this issue is a historical one by Kirby and Godwin. Over the last few years in this journal and in a commissioned book Kirby has documented the history of OR. In the current paper, the history reaches a more recent phase—that of OR in the British Armed Forces in the post-WWII era. The paper documents the challenges in the way

OR was used to develop strategy to cope with perceived rather than actual threats.

In the final paper, Katsaliaki, Mustafee and Dwivedi have combined with the joint-editors of the journal to profile the content of the journal over the last 10 years. When the journal reached its 50th anniversary a review of its contents was conducted, so it seemed appropriate to report on the situation 10 years later. The paper highlights trends in the journal and reflects on where OR is being practised, according to the published papers, and what type of work is being done. A great deal of useful data has been uncovered.

We hope that you enjoy this first issue of 2010.

### **2009 issues**

As always there are many people to thank who have been involved in production of the issues of the journal in 2009. First of all our thanks go to our editorial administrator

Sarah Parry who works tirelessly for the journal liaising with authors, editors and the staff at Palgrave. From the OR Society the support we receive via Gavin Blackett is gratefully received. Our thanks also go to the staff at Palgrave, who publish the journal. We benefit from day-to-day expertise from Jane Torr as production manager and from help from David Williams and Di Owen. We also appreciate the help we receive from our publisher Ros Pyne, who has recently joined the Palgrave team. We would also like to thank our two associate editors, Uwe Aickelin and Aris Syntetos, for their handling of Book Reviews and Viewpoints, respectively. Lastly, we thank all who write papers, referee papers and read papers, without whom there would be no journal.

*Southampton University  
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