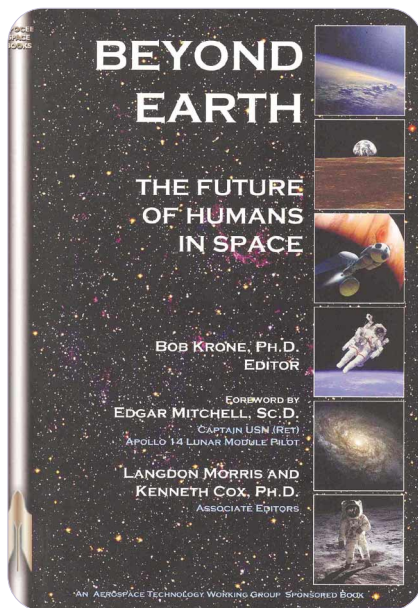




A look at the latest titles

Mark Williamson, independent space technology consultant, reviews books of interest to the space professional. Its policy is one of impartiality and honesty, so if a book has failings we believe should be brought to the attention of potential purchasers, we will do so. On the other hand, if it is useful, informative and entertaining, we will say so. In this way, we hope to provide a useful service to our readers.



Beyond Earth: The Future of Humans in Space, Bob Krone (Ed), Apogee Books, Collectors Guide Publishing Inc (<http://www.cgpublishing.com>), 2006, 296pp, US\$27.95; Can\$36.95; £18.95 ISBN 1-894959-41-8 [softback]

One of the favourite subjects for books on space is the future: where do we go next and how do we do it? Although unmanned probes have their place, the subtitle of this book – The Future of Humans in Space – shows that manned spaceflight is the key issue here. Covering what it describes as “a wide variety of conceptual, philosophical and technical viewpoints”, its 36 chapters provide a selection of personal and professional overviews of topics as varied as governance, management, law, strategy, vision, beliefs and challenges.

The book’s 42 contributing authors are participants in the Aerospace Technology Working Group (ATWG), established in 1990

as a forum for collaboration among NASA, its contractors and academia to “support effective communication and the development of new ideas and technologies”. Its founding director was Kenneth Cox, an associate editor of this book and part of the team that helped bring Apollo 13 back to Earth. He describes in chapter 1 how the organisation was constituted, what it has done and how it became independent after ten years under the NASA banner. “From a philosophical perspective”, he says, “ATWG members consider Earth, Space and Humanity as a single integrated system” and it is this that drives their thinking.

The underlying assumptions that guide the authors of this book are (to paraphrase) that space exploration is embedded in the human mind, that the continuity of the human race depends on space exploration and development, and that “our generation” can “design a rewarding and exciting future” by grasping the opportunities presented by space technology. It is clear that, above all, the members of the ATWG are optimists!

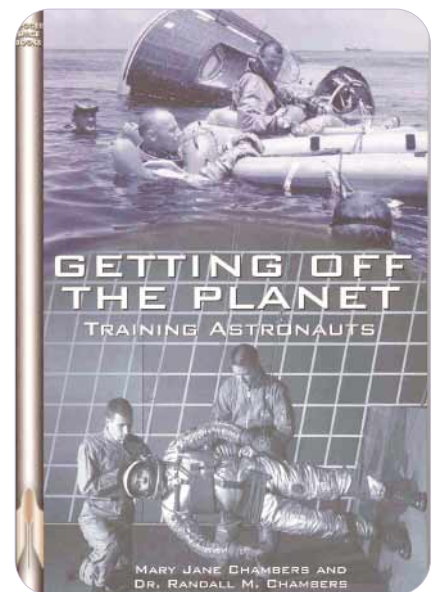
The book itself is divided into four main parts: Beginnings; Human Factors in Space; Science, Technology, Engineering and Management for Space; Strategy and Synthesis. There is a Foreword by Apollo 14 astronaut Ed Mitchell, a glossary, bibliography and an index. Some of the chapters are illustrated with diagrams and black-and-white photos, and there is a short colour-insert, but most of the pictures are ‘for decoration’ and, arguably, add little value.

As one might expect from a collection of so many authors’ ideas, some chapters – more accurately described as essays – are better written than others. Some are deep, thoughtful and insightful, but others are shallow and, at best, unhelpful in the general scheme of things. Among the most interesting is an introductory chapter on ‘Views of Global Leadership’ by world security strategist Martin Schwab, being a collection of quotations from a wide variety of ‘world lead-

ers’. Thus we find Vladimir Putin saying “...we must do everything to demilitarize space and turn it into the arena of peaceful cooperation”; the Dalai Lama saying “Who could fail to be impressed at our ability to land people on the moon?”; and George Bush telling astronauts onboard Discovery “I think what you’re doing is really important”.

Another thought-provoking essay comes from author Howard Bloom in his ‘Tennis Time and the Mental Clock’. In an expansion of the familiar expression “work expands to fill the time available”, he compares the mental clocks of a tennis player, forced to calculate the position of a ball to the split second, and a sunbather. For the tennis player, he says, “every micro-instant is filled with meaning. But for the person...catching some rays, a whole morning can go by without a single meaningful moment”. The lesson as far as space exploration is concerned (again paraphrased for brevity) is to take the opportunity, get on with it and be surprised at how much we get done; the alternative is to lie around thinking about it, designing vignettes and generally worrying about budgets...and be written off by the next big asteroid impact.

So what does the future hold for humans in space? No-one can know for sure, but this book provides a larder-full of food for thought. ●



Getting Off the Planet: Training Astronauts, Mary Jane Chambers & Randall M Chambers, Apogee Books, Collectors Guide Publishing Inc (<http://www.cgpublishing.com>),



2005, 120pp, US\$18.95; Can\$23.95; £12.95
ISBN 1-894959-20-5 [softback]

As more and more literature on the history of spaceflight has been published, much of it in the past ten years or so, one sees a move away from the more obvious cataloguing of missions and programmes to what some would term the minutiae.

For example, books have been published on the design of the launch vehicles, guidance computers and even launch sites, while others have detailed specific programmes from the viewpoints of industrial contractors and individuals.

This book falls into the latter category, being dedicated to a subject that is usually covered by a single chapter or section of a much larger book. Not that this is a large book – at only 120 pages, it could hardly provide definitive coverage – but that is because it is designed to be readable.

Apart from that, as Mary Jane Chambers explains in her introduction, “Dr Chambers is working on two aerospace human factors textbooks which have about 900 pages each”, so she decided a more accessible volume was required. This book is a joint project - the story mostly his, the writing

mostly hers - which works out well, “because Randall speaks scientist, while Mary Jane speaks English”.

The result is effectively a biography written by a close relative – so close in fact that they have celebrated their 50th wedding anniversary together. Strange then that she refers to him as “Dr Chambers” so much throughout the text. Does she call him that at home? Apparently not, since her narrative oscillates from “Dr” to “Randy” in quick succession, with a spattering of Randalls in between.

If you discount the inevitable subjectivity, possibly even hero-worship, this makes for a good story, and the personal aspects infuse the technical achievements with a dose of home-grown reality.

An example is Dr Chambers’ insistence that, despite having two young sons, he should ride a new centrifuge before the astronaut candidates, because he didn’t want anything to “happen to them” while he was in charge.

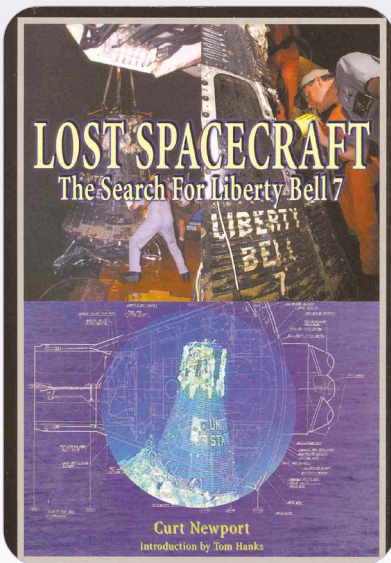
Mrs Chambers protested, by analogy, that many obstetricians had never personally had babies, but it “fell on deaf ears”.

The book’s 18 chapters cover the period from the early days of human spaceflight to

the Skylab missions, and to a lesser extent the Shuttle, and are well illustrated with black-and-white photos. Many of the photographs are of space-suited astronauts seated in one sort of contraption or another, but some reflect the personal nature of the book. We see, for instance, Dr Chambers in a Mercury pressure suit, Dr Chambers’ moulded ‘astronaut couch’ and Dr Chambers’ personal signed photo from the Mercury astronauts. There are also wedding and family portraits and an Apollo 11 cross stitch by Mrs Chambers.

On balance, this book provides an interesting snapshot of early space age America, and an insight into the challenges of preparing for space exploration and being married to someone who took this as his calling. Among other things, as a figurehead for the NASA space programme, Randall Chambers had to deal with small-town sceptics.

One Indiana farmer told him he should be ashamed of himself, “trying to get to heaven before God wants you to go there!”. Chambers gave him a calm, patient answer: “If God doesn’t want us to go into space we’ll never get off the ground!”. So it seems that manned spaceflight – like the Chambers’ relationship - is blessed. ●



Lost Spacecraft: The Search for Liberty Bell 7, Curt Newport, Apogee Books, Collectors Guide Publishing Inc (<http://www.cgpublishing.com>), 2002, 212pp, US\$30.95; Can\$39.95; £24.95 ISBN 1-896522-88-2 [hardback]

One of the most enduring and oft-quoted stories of the early Space Age was that of Gus Grissom’s lost Mercury capsule. Shortly after splashdown in the Atlantic Ocean, Liberty Bell 7’s hatch blew and the capsule filled with water and sank. Ever thereafter, Grissom felt obliged to defend his claim that he had not intentionally opened the hatch and allowed the Atlantic to wash in.

Thirty-eight years later, in May 1999, Curt Newport, a pioneer in the development of remotely operated vehicles and author of this book, was instrumental in raising the capsule from its temporary grave. At 16,000 feet (about three miles) down, it was the deepest commercial salvage operation in history.

This book is the story of the finding, raising and restoring of Liberty Bell 7. It begins with chapters on Gus Grissom and Project Mercury, then moves on to the hardware: the building and testing of the Mercury spacecraft and its flight in 1961. The second half of the book covers underwater vehicles – Newport’s first love – and how his team located and recovered the capsule. The style is entertaining – at times conversational – and will probably be the making of a movie one day (Tom Hanks contributes a short introduction, but fails to make a bid for the leading role!). One comes away with the impression that those who risk life and limb on the high seas have an equal amount of ‘the right stuff’ as those early astronauts.

The book itself (unusually for this publisher, in hardback) is illustrated by a number of monochrome and colour photo-sections. It is accompanied by a CD-ROM featuring technical drawings of the capsule and recovery mission planning, along with an operation log of the recovery project. Although the book has a number of appendices, including a bibliography, it has no index, which is unforgivable considering how useful this would be. One can only hope that the publisher will add an index to any future editions.

So did Grissom blow the hatch? Newport quotes the official analysis, which listed a number of possibilities, from a missing O-ring seal on the detonator plunger to a static electrical discharge between the helicopter and the capsule, but reached no definitive conclusion. Grissom himself is quoted as saying: “It remains a mystery...and I am afraid it always will”.

Frustratingly, though the capsule was found in reasonable condition, the hatch itself remains undiscovered. “It can probably be found (with great difficulty)”, says Newport, “but it would cost a fortune and maybe it’s not even worth it”. For the moment then, and possibly forever, the mystery of Liberty Bell 7 remains.