Book Reviews

Joint Doctrine Note 2/11: The UK Approach to Unmanned Aircraft Systems

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Introduction

A Joint Doctrine Note (JDN) addresses areas, usually of rapid development, that require something approaching definitive doctrine, but to ensure timeliness are not subject to the same degree of rigorous staffing that formally-endorsed doctrine undergoes. They are raised by the Development, Concepts and Doctrine Centre and seek to capture best practice that can subsequently be captured in formal doctrine, or to place doctrinal markers in the sand, around which subsequent debate can centre. It is not usual for the book review pages of *Airpower Review* to consider internal MOD publications, but such is the importance of unmanned systems for the future conduct of air operations that this publication requires review, both for its content and to raise its profile. The manned/unmanned debate rages, and if we are to conduct it in a sensible and informed manner, and not fall into the trap that Duncan Sandy's 1957 Defence Review (arguing the end if manned aircraft in favour of the missile, with disastrous effects for both the British aircraft industry and the RAF) then contributions such as this JDN deserve very close study.

That said. readers of *Airpower Review* will be well aware of the rapid advances in the technology enabling, and the employment of, Unmanned Aircraft Systems (UAS) and will also, no doubt, recognise that there is little in the way of reference to UAS in British, or indeed other, doctrine; this JDN seeks to redress that shortfall. But to what extent does it succeed?

Before addressing that question, a word about words. There is presently a debate on whether

the expression "Unmanned Aircraft Systems" or "Remotely Piloted Vehicles" (RPV) best describes these vehicles/systems. It is not the place of this review to join the debate, the letters pages of *Airpower Review* are the correct place for such a discussion (which would be both welcome and healthy); since the JDN uses the expression "UAS" this review will follow the same regime.

JDN 2/11 comprises 7 well-written and well-paced chapters. In the first half of the document it summarises the present UK position by considering issues such as current terminology and classification (of types – primarily by weight in line with CAA practice), explores the present UK inventory (the advantage of a JDN over formal doctrine: it has a limited shelf-life and can therefore introduce matter that can expected to date rapidly with no detriment to the publication) and, in Chapter 3, sets out very clearly the advantages and disadvantages of unmanned systems. While much of the first half of the document is stating of facts and setting the scene (necessary given the lack of formal writing on the issue), Chapter 3 is also an excellent summary of the manned versus unmanned debate; this Chapter captures well that debate and allows the reader to draw his/her own conclusions by avoiding both the temptation to prescribe an answer and the pitfall of dismissing either side of the argument. This very useful description of the debate is one of two aspects of the first half of JDN 2/11 that struck me as being particularly strong, the other being the excellent piece in Chapter 4 on the Maritime requirement. This not only underlines the joint credentials of this document, but reinforces that UAS have applications beyond supporting the Land environment. However, while I commend this aspect, I would at this point also introduce two criticisms of the first half of the JDN: I would have liked to have seen a more robust and transparent discussion of UAS in the pure Air role: the discussion is there (on tankers and ISTAR platforms for example) but sections devoted respectively to the Land, Maritime and Air environments would have increased the clarity of this (generally very clear) publication. My second criticism of the first half of the booklet is the ordering of the chapters: this may be a personal preference but I believe that Chapter 3 would have been better coming before Chapter 2.

By considering some present UK industry initiatives, Chapter 4 points towards the future, and it is the future that the second half of the JDN considers in Chapters 5 – 7. Here the DCDC shows one of its great strengths: based on sound logic and a clear comprehension of how present trends might play out, this note looks well into the future, both asking difficult questions - and offering fascinating glimpses on how the future battlespace might look and the contribution that UAS might make to peer through the fog of war. This second half opens with what is, in many ways, the most contentious and provocative section: Chapter 5 on Moral, Legal and Ethical Issues; it is also, I believe, alongside the debate on manned versus unmanned, one of two most important sections in the publication. It does not shirk from highlighting difficult issues and deserves thorough and deep reading; it has already been commented on by, among others, the Guardian newspaper (**http://www.guardian.co.uk/world/2011/apr/17/terminators-drone-strikes-mod-ethics**). That the DCDC retains a Tri-Service legal team was clearly of great benefit when writing this chapter and their undoubted contribution has enriched an already challenging section. This debate on ethics is followed (again, I am not sure that the chapters

are in the best order) by a well-researched section on Science and Technology before the JDN looks firmly into the future with Chapter 7: The Future Battlespace. This latter chapter draws heavily on the DCDC's well-received work on the Future Character of Conflict (or FCOC – see: ***http://www.mod.uk/DefenceInternet/MicroSite/DCDC/OurPublications/Concepts/FutureCharacterOfConflict.htm***) *but brings the whole debate to life with two well-judged vignettes. Following a brief Conclusion, the JDN concludes with three supporting Annexes and a useful lexicon.*

To answer my earlier question: the DCDC's JDN 2/11 has filled a significant void by drawing together all of the main issues surrounding UAS, from the very expression UAS (as opposed to RPV), through the manned versus unmanned debate, to the highly pertinent but often disregarded questions on ethical, moral and legal issues. It is excellent in all these areas, and it to be commended also for highlighting the potential importance of UAS in the Maritime domain. Furthermore, in opening the debate around UAS now, this JDN offers early insights into how the next editions of AP3000 (British Air and Space Power Doctrine) and the Future Air and Space Operational Concept might develop. The publication is not without its weaknesses: I am not convinced that the authors have the optimum order for the chapters, for example. But this publication goes a very, very long way to address the shortfall in doctrine – and, indeed, wider thinking – on UAS: it is highly recommended for anyone interested in what is likely to be a mainstay of Air (and even sub-Space) Power in the future.

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