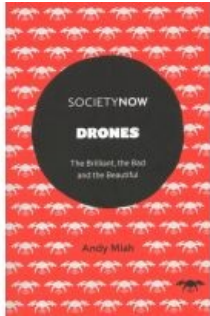


Drones: The Brilliant, the Bad and the Beautiful



For surveyors, drones or UAVs are simply another tool in the armoury. They are platforms on which to mount sensors – camera, video, infrared, multi-spectrum etc. But for other professionals they have provided a tool; in the words of the author, ‘to explore the world differently’. For the general public, they have provided a gadget for all sorts of fun and mischief.

Although it is only in the last decade that interest and applications have grown, driven by ever greater sensor miniaturisation and cheapness, they have been an option for our community and its links with the military for much longer. As long ago as 2005, GW's sister publication *Engineering Surveying Showcase* published a detailed review of models available and possible deliverables. That year, they featured for the first time at the annual

World of Geomatics event, the ancestor of today's GEO Business.

For those seeking detailed tables of current models and their capacities, this is definitely not the book. Andy Miah's *Drones* is a much deeper and more philosophical discourse – ‘symbolic of a range of societal aspiration and anxieties about technology’.

It is extremely well researched and referenced and begins by tracing the origins of the title word. Now, some years ago, I was chatting to a UAV developer who was studying closely the behaviour of winged insects to gain insight into how they moved so rapidly, hovering momentarily before zooming off in a new direction. It is therefore not surprising to learn that the author traces the word's origins to bees and, particularly, a remote-controlled plane of the 1930s, named the Queen Bee (alas no mention of P.G. Wodehouse's Bertie Wooster's favourite club, ‘The Drones’).

There follows a chapter on design - I'll bet you didn't know the ubiquitous four-rotor design actually dates back to inventor Etienne Omnichen's quadcopter of 1920: the Omnichen 2 (no mention of what happened to version 1).

By far the most important chapter for us is that on Regulating Drones. The regulatory environment is constantly in the public gaze and changing both here and abroad. Surprisingly, the CAA first published a set of regulations 20 years ago. Their latest edition, only last year, was perhaps fuelled by the rapid rise of consumer use and the shenanigans at Gatwick over Christmas 2018. Today, all drones have to be registered and, in the US, over 1 million have already done so. There is even a UN advisory group with a toolkit of principles for nations to consider. Critical, however, for wider and safer use will be onboard navigation for geofencing, along with no fly zones; all now possible with the latest sensors and the Internet.

A chapter headed *The Brilliant* examines many interesting applications, ranging from Disney's Paint Copter for mundane maintenance painting of hard-to-reach sites, to an ETH Zurich PhD project involving a team of drones building a wall. The best for this reviewer was the UAE's Drones for Good \$1 million prize, which in 2015 went to the Wadi Drone project that captured data from ground camera stations set to record passing wildlife. Having seen some of the unique footage, it is another reminder of how modern technology can be used for the wider good of humanity.

Overall, for surveyors this book may stimulate the reader to consider new apps, whilst being kept firmly grounded in the risks and likely impact of intrusion into others' personal space and activities.

By Andy Miah

Published by Emerald Publishing, ISBN: 9781838679880, price £16.99