

Another Bumper Year for Geophysics

The BACAS Geophysics team go from strength to strength

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The year started well with the publication in *Current Archaeology* (227) of my article on our stone circle work on Foula. Later in the year we were to get involved with stone circles much nearer home, when we were invited to cooperate with Bath and North-East Somerset (BANES) Council on an open day and in research at Stanton Drew. That was a very exciting project and has gained us much respect. You will find the full report on the website and an article on page 24 in this edition of *Camertonia*. We are now planning further research for 2010.

Then THE BOOK was published by Springer in June, unfortunately at a very high price, but at least some universities have copies. And an electronic copy is also available. I was also able to do some teaching of geophysics to Bristol part-time undergraduates in June. In August, I presented a paper on our profiling work at the Congress for Independent Archaeologists (CIA) at Buxton.

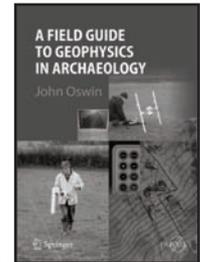


Figure 1
THE BOOK. It is intended for amateur and student archaeologists.

As regards equipment, I thought I had done well in 2008, but 2009 started with the arrival of a magnetic susceptibility meter (magsus), which was donated to us by Professor Mark Noel. I had not previously considered this instrument, but it has proved useful on a number of projects this year. It looks a bit like a metal detector but is much more sensitive, so it acts like a magnetometer but it can only penetrate about 100 mm into the soil. (*Figure 2*)

The profiler kit which we bought to attach to our TR/CIA resistance meter last year has produced some spectacular results which I showed at the Buxton conference, but was back-breaking to use. This lets us see a section through the ground, so gives us the ability to do geophysics in three dimensions! We have now built a control box which lets the whole sequence be run while standing at the meter, a much more satisfactory way of doing things. We have also extended it to 30 probes so we can obtain longer sections. (*Figure 3*)

Was there a second villa on Blacklands? During the summer season of 2008, I had used various geophysics techniques to explore an area of Blacklands where an earlier survey had suggested the possibility of another Roman villa, and I produced a discussion document on this.

Figure 2
Using the magsus to find ground disturbed by burials.



Figure 3
The new control box for the profiler. It takes the backache out of 3-D archaeology!



When it was time to strip soil off for the 2009 season, we also used the JCB to dig a couple of trial trenches in this area. There was stone above the bedrock, but it was natural, not man-made, so we can now answer the question firmly but in the negative: there is not a second villa on Blacklands.

We have now bought a new (second hand) Electronic Distance Meter (EDM), a SOKKIA SET5F. This has a coaxial laser, which gets round the alignment problems of our old Wild Distomat EDM. The old device was also getting difficult to maintain. This should now see us well provided for surveying for a number of years. The new meter also has facilities for recording and downloading data, which should save much work with pen, paper and spreadsheet. This used the last of the money in our geophysics fund which was opened a few years ago. A big thank you to all those who have contributed over the years. We hope you think we have used your money wisely. (Figure 4)



Figure 4
The new EDM. It looks generally similar to the old device, but with an integral laser, it is less prone to alignment problems.

Then came the great gift. I had invited my friend Philip Day to bring his ground-penetrating radar down from Manchester to Laverton churchyard to do a comparison with resistance profiling. You can find the report on the website. In the autumn, he sent me a note to say he was very ill with cancer and would not be able to use it again, so he was going to donate it to BACAS! £20,000 worth of high technology! The equipment arrived at Christmas, but sadly, Philip died in November before I could have a lesson on it and say a very big thank you. I must now honour his memory by making good use of it. (Figure 5)

Routine geophysics has continued around Upper Row with a project at Chickwell, about 1 km to the west of Blacklands. In the field below the farm, we found signs of a small temple. We are currently (Christmas 2009) working in a remote, exposed field high up above the farm, but it has an early Medieval farmstead in it. A big interest at Chickwell is that there are 'Celtic' fields there, whereas there are no signs of these around Blacklands, so here was a different farming regime less than a mile away.

Figure 5
The late Philip Day demonstrating ground-penetrating radar to BACAS members in Laverton churchyard.



We have also done 'personal projects' at Marshfield, Bratton, Devizes, Bathampton, Truddoxhill and Upton Lovell. My own project was at Nether Compton, near Sherborne, our foray into Dorset. A massive Roman coin hoard had been found here 20 years ago, and I was able to put an archaeological context to it, with extensive pre-Roman and late Roman activities showing in the magnetometry. See page 16.

We still need more volunteers, come and help us extend our reputation even further!