

**From Artefacts to Anomalies: Papers inspired by the contribution of Arnold Aspinall**

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**“It’s only Geofizz” – popularising archaeological geophysics on *Time Team***

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(With thanks to Chris Gaffney)

In the past 15 years (since Arnold officially ‘retired’) dramatic things have happened in archaeology in the UK: the subject has become “sexy”, especially in television terms; new stars have emerged on our small screens and one individual in particular has become a role model for hundreds, if not thousands of people; in fact he was described by no less an organ than the *Daily Telegraph* as probably one of the nicest people on television – instantly recognisable in millions of homes – in a poll of fans he was voted the sexiest person *time team* – of course we are talking about Phil Harding. In the same poll of fans (JAG) got a single vote - but this momentary glory for geophysics was only dashed when it was discovered that the team landrover got two votes...

15 years ago very few people outside of the profession had heard of archaeological geophysics, now, largely as a result of *Time Team (TT)* the subject can boast one of the highest public profiles of any specialist scientific discipline. In fact the subject has coined its own language: *geophys* or *geofizz* has become a widely recognised term. Prof Timothy Darvill, of Bournemouth University, has even advocated that the word should be included in the Oxford English Dictionary.... At geophysical conferences we have attended, delegates have expressed their envy of the exposure archaeological geophysics receives; there can be few times that geophysicists have made the front cover of a magazine (albeit in *New Electronics*) <sup>7</sup><sup>1</sup>. But is this publicity good? How has the subject benefited?

When we appeared on the first *TT* programme back in 1993 and revealed the lost church and monastery at Athelney we had little idea that our ‘success’ would have such long term implications. *TT* has come in for a lot of criticism within the profession – particularly with regard the 3 day format –As far as geophysics is concerned a vast amount can be achieved in 3 days. Here is just one example of what has been achieved in the timescale - the results of a resistance survey over a Roman villa in Glos... It is our experience that PPG16 type surveys has been ideal ‘training’ for carrying out the small scale *TT* evaluations. We have always regarded the 3 day format as an evaluation; we have never claimed any more for the strategy.

Since that first unexpected success at Athelney we have been involved with over 150 *TT* shoots and there has been a tremendous growth in the number of geophysical surveys carried out in archaeology.

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<sup>1</sup> Note that numbers in RED refer to illustration numbers on the PowerPoint that is linked to this article.

11 The expansion of geophysics in archaeology has been largely developer-led and numerous archaeologists – be they consultants or in curatorial positions – have expressed the view that 15 years ago it became easier to argue the case for geophysics being part of an evaluation – simply by citing the use of the techniques on *TT*. In fact we have now reached the stage where some developers demand a geophysical survey – often before they purchase a piece of land. Additionally, almost solely on the back of *TT*, amateur groups have now become involved in geophysics and many societies own their own equipment.

Geophysics is usually the driving force on where to excavate – sometimes more so than we would recommend, but this is in reality not very different to PPG evaluation projects where geophysics is used (along with other information) to target trenches. We strongly advocate a multi-method approach, yet discussions / arguments about where to excavate etc are simply not included frequently enough in the programmes.

A big difference between *TT* and PPG evaluations is that we get to see instant results – our interpretations are put to an immediate test and we get feedback and this is very important to us. 13 Even though we may give the impression that we know all the answers, we still have much to learn about interpretation. In ‘real life’ it is very rare for archaeologists to send us information on the results of their evaluation trenches which are often dug several weeks, months or even years after our surveys. In fact, the only time we can guarantee to hear anything is if we get something wrong and fortunately, despite the impression sometimes created on TV, this is not that often! This brings us on to coping with the way that *TT* presents our work...

We have no control whatsoever in the programmes content and how we will be ‘used’, but we can take solace in the fact that the Directors and Producers will gain little by showing us in a bad light. However, if they can make fun of us and this has become an accepted part of our role – For example, during the ‘Live’ programme at York we surveyed the wrong back garden and had to admit to this fact to 3 million viewers - even though it really wasn’t our fault. In one programme we succeeded in finding the only bit of curving iron water pipe in the whole of Cornwall; prior to the excavation we had confidently interpreted the anomaly an arc of ditch. Then there were the now infamous Roman ditches at Ribchester which after three survey grids looked like this: unfortunately the next 3 grids told an altogether different story. This now serves as an excellent case study on problems of sampling and interpretation. It is often annoying from our point of view to hear repeated references to the fact everyone has had to wait for the geofizz results when this is often simply a TV angle. The camera man here took 30 mins to film a line of 25 stationary probes....the knock on was that the excavators were waiting for the geophysics. We have still moved a long way forward from writing results down by hand and producing colour contour maps on data sheets.

It is occasionally suggested that we should survey in advance. This is really frustrating as the programme is about the process of doing archaeology. If the geophysics was produced out of a hat ‘Blue Peter’ style i.e. one that we have surveyed earlier then our specialist role would be diminished. Evidently it would also reduce the pressure and minimise the ‘excitement effect’, which would make poorer TV but it would also reduce the value of geophysics.

Occasionally we have been criticised for dumbing down the subject – one remark about Beano readers has stayed with us from programme one. A few geophysicists don’t seem to accept that we are not an Open University programme and that if we tried to give explanations of complex matters the majority of viewers that watch *TT* would probably turn off. Thankfully the majority

do approve of what we are doing. Writing in *New Scientist* in 1994, Andrew Chitty compares *TT* to another television programme called *Big Science*:

“*Big Science* and *Time Team* take very different approaches to televising science. *Science is Big*, but it is also irritatingly complex. *Big Science* acknowledges the complexity, excites the audience visually, but is telling us *about* science. The *Time Team* tells us a story, but actually *does* science. By drawing us in, setting us problems, we the audience do science too.”

He further writes at another point in the article:

“And joy of joys, they sometimes get it wrong. In one episode, team leader Mick Aston convinces the geophysics team to spend a whole day mapping a field trying to find a Dark Age settlement. He explains his theory, ditches are dug, maps are made. The result? A total blank. (that is science in action).”

It is important to do good science and be seen to do good science.

In 15 years we have probably only given half a dozen explanations of the techniques; that realistically is all that is required. *TT* is not a scientific documentary, it is a programme about the excitement of archaeology. We believe that archaeological geophysics is also exciting – it may not be rocket science but it is challenging and thought provoking. A critical thing is that ‘geofizz’ now fully accepted and expected to be used not only in the television programmes but in archaeology in general. It should also be remembered that we have surveyed and produced over 150 written reports, on sites that would probably never have had geophysics carried out. These have provided a wealth of archaeological information and the immediate feedback regarding success or otherwise of the techniques has been invaluable to us, and our discipline as a whole.

Although the majority of viewers believe that we only use a couple of techniques, we have used everything short of dowsing. We try to introduce new techniques where possible – but it’s rare that experimental work that is done on the programme makes the final edit. *TT* want tried and tested techniques as the programme is about what is possible rather than what might be possible. Times have changed, however, as we have gradually used GPR more frequently and now process huge quantities of data into time slice images within a matter of hours – something the software and computing power simply didn’t permit even 5 years ago. We have also done GPR on water but that is another story...

And what are the benefits?

Being part of *TT* has been exciting and challenging and even after 15 years it continues to be; for instance, how many people get to survey at Buckingham Palace? We possibly have come off slightly better than the archaeologists involved in *TT* simply because our work is non-invasive and therefore less contentious. But we strongly hold the view: what is the point of doing archaeology if you are not going to dig – and what right have we as individual not to involve the Public.

Do we get carried away with the presence of cameras?

Of course we do, but we would never do anything that would professionally compromise us; we have to enhance plots to show the results in a better light for the cameras but have never fabricated results – and have never been asked to by the directors. The fact that our own

interpretations have been tested immediately is a testimony to what Arnold has taught us: if we get things wrong we blame him!