Re–constructing ‘bloody good mapping’

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“One of the thoughts that have been recurring over the past year or so is whether I approach 'my' archaeology the same way as I approached jazz and bass playing. In music there are certain rules, as in doing archaeology, and we start each tune with a framework and then change that framework each time we play. I feel that in archaeology I do not want to do the same old thing all the time (like classical music) but need to keep 'improvising' and moving on. I am sure that if I could think a bit better there would be a book in that, although 'Improvising Archaeology' sounds like a recipe for disaster”.

Rog Palmer, 14.05.2005

1. Beginnings

In June 2001 I reached the bottom of my inability to complete my MA thesis (Zuk 2002). Neither more reading, nor more discussions (both heavily supported by Rog) could help overcome the impasse. At that point Rog’s philosophy ‘stop thinking and do something practical’ prevailed. I was invited to Cambridge to see myself how the archaeological interpretation of aerial photographs works, and Rog taught me this in a manner that has not yet been discussed in any publication (and unfortunately his own book still awaits somewhere among heaps of things “to do in my spare time”). Unsurprisingly, none of his lessons tackled the problem of film emulsions, types of photographs or the nature of evidence. What Rog actually did was to bring back the interpreter into the process of interpretation. To a certain extent these issues were discussed elsewhere (Palmer 1978: 136–137) and Kenneth Brophy rightly underlined the importance of this paper (see Brophy this volume). Nevertheless, it reveals only one side of the coin. Having been written in the spirit of the times, when objectivity was still the aim to be achieved, its main focus was on factors which could actually constrain the final results: interpreter’s biases played a considerable role. This was indeed a recipe for disaster! Moreover, while Rog involuntarily undermined the obligatory criteria (objectivity), he also left some open questions. If there are so many factors which affect the result of interpretation and mapping, if ‘objectivity is impossible to achieve’ then how else can we evaluate our work? How can we say that we did a good job or, to quote from Rog’s advertising beer mats, how can we ever be sure that we make ‘bloody good maps’?

2. Setting the scene

“Things were much simpler when we dug holes, got wet, sunburnt and pissed at night, and enjoyed ourselves in the old days before theory was theorized”. Rog Palmer, 07.12.2003

Let’s consider the worst-case scenario first. A recipe for disaster would be as follows:

a) take an interpreter with his/her wide range of biases;
b) add an interest in a particular subject: s/he will tend to depict only what s/he is interested in;
c) mix with a subjective knowledge which prompts what is likely to be archaeologically significant;
d) and attach subjective perception and recognition.

What can we do when facing disaster? I will outline some options below:

1. We may diminish the problem and focus on more ‘soluble’ tasks

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*The quotations, unless specifically referred, are derived from my e-mail correspondence with Rog over the years.*
Indeed this seems to be a prevailing practice of aerial archaeologists. I am not suggesting here that the role of interpreter was unacknowledged – quite the opposite; nearly every publication includes a mantra-like statement that the results of interpretation depend on the interpreter’s knowledge and experience (e.g. Hampton and Palmer 1977: 182). Nonetheless, the implications have never been fully explored. In comparison with the thorough discussions on drawing conventions, an ‘analysis’ of archaeological practice is usually reduced to few sentences, dispersed and mixed with technical aspects of mapping (see Riley et al 1985).

2. An attempt to eliminate the interpreter, supported by advanced technology, proved itself unsuccessful. Although Sam Redfern spent considerable effort to “alleviate the problem of subjectivity” (1998: 31), the solution is illusory. Artificial intelligence may indeed ‘objectively’ trace an outline of a monument, but even the best computer will never deduce that ‘highly circular and large monuments’ are ritual sites – this requires human intelligence to know what a ritual site is.

3. We can just sit watching the piles of photographs in a crisis of subjectivity (cf. Hodder 1999: 92) and wonder whether an interpreter ought to take some responsibility with the risk that “A plan that includes only those features that can be recognised and described in terms of current archaeological knowledge will be over-selective and may omit important information whose significance is not yet understood” (Whimster 1989: 8). Or we can uncritically trace every single cropmark recorded on a photograph which will be of as “little use archaeologically as the plan of a complex earthwork would be if made by a child” (Hampton and Palmer 1977: 163).

4. Optionally (while we are sitting with a Hamletian dilemma ‘to draw or not to draw’) we can change the (theoretical) perspective and consider what archaeologists actually do when they make maps.

3. Improvising archaeology

“You must remember that there is no definitive interpretation - all are 'interpretations' not truths (...) and are based entirely on my background knowledge and experience. I would expect me to interpret one photo slightly differently today and tomorrow, and more differently today and next year, because I will always be learning more about how things on the ground occur and how they look on photos… ”. Rog Palmer, 27.06.2001

In pursuit of new perspectives on archaeological practice, Shanks and McGuire (1998) used the metaphor of craft. The archaeologist, as a craftperson, has at his/ her disposal material traces of the past and works on it intellectually and physically to produce knowledge, reports, papers, books, museum displays etc. (Shanks and McGuire 1998: 159). From the perspective of the craft, making of maps is not a simple technical activity of transferring data from source to target. In fact, archaeologists “create or craft facts out of chaotic welter of conflicting and confused observations; they modify them and reformulate them out of existing knowledge” (Shanks, McGuire 1998: 164). While doing so we apply certain rules or schemes, which are derived from the ‘existing knowledge’. Hermeneutics (the study of interpretation) points to the three components which structure our practice (Hodder 1999: 32): pre-understanding provides us with general frameworks; the hermeneutic spiral refers to the ways in which we create new facts; and the historical nature of knowledge suggests how we can evaluate the final results.

3.1. Pre-understanding is a vast concept which covers various judgements, directives, concepts, expectations, values, beliefs – in other words a set of pre-judgements with which we approach our data. It provides us with criteria by which significant facts, goals and expected
answers are identified (Hodder 1999: 49–50). Consequently pre-understanding also defines
the content and structure of a map in the following way:

a) initial definition of the object of study
My first ‘serious’ task was to prepare a map for the Wyke Down area in Dorset (England). I had
already had some training in interpretation. I knew what crop- and soilmarks were, how we can
distinguish man-made features from natural phenomena. However, apart from a standard
interpreter kit, I found at the desk a considerable heap of books and papers concerning the
archaeology of the area (Bowen 1990, Barret et al 1991, Crawford and Keiller 1928, Green
2000), soil maps and reports from previous work (Palmer 2000). What did these supposedly
irrelevant fragments of knowledge had to do with my task? It seems that before I even looked
at the photos I built a ‘mental picture’ of Wyke Down on the following basis: results of prior
works in the area which offered a general overview of the categories of monuments which were
likely to be found in the study area; personal experience – since participation in field surveys,
excavations, or mapping projects offers an intimate knowledge of the local history (my own
‘working experience’ of Wyke Down was rather poor, thus I explored thoroughly a ‘living
encyclopaedia’ next to me); and soil maps which give a broad picture of land use.

Nothing else needs to be added to explain how much this ‘irrelevant knowledge’ improved my
understanding of what I could see on the aerial photographs.

b) criteria to identify which facts are significant and which are not
This can probably be best exemplified by the fate of pits. For some reason they have never been
highly ranked among aerial archaeologists in Britain. For example, Hampton and Palmer
suggested that the ‘dots’ recorded on photographs could be ignored unless they made a
meaningful pattern (Hampton, Palmer 1977: 177). However, Rog made recently, according to
his personal comment, a map which was “covered in pits”. What could have caused this shift?
I would suggest that the pre–understanding has been reshaped and hitherto insignificant facts
gained a new weight in the light of cross–cultural contacts with a Central European
representatives. Polish pre-understanding implies that an attempt to turn a blind eye to pits
would result in ignorance of approximately 90% of archaeological sites. Thus the pertinent
questioning about pits in Great Britain led to their introduction as an equally important category
of archaeological features.

c) our idea of the goal of the enquiry and our notions of what will count as an answer
If the collection of all traces of past activities is the principal aim of map-making, then their
transformation into a map could probably count as an answer. Apparently Rog has never been
satisfied with similar oversimplifications. This would probably explain a tendency towards
careful depiction of natural features as an attempt to look ‘beneath’ the topsoil in order to
understand why the site is not visible. The answers may range from ‘actually, we have recorded
the maximum extent of a site’ (there must have been some limits for digging ditches!) to ‘we
must look carefully at that area next year’ (as there have been occasions where natural features
were photographed on dates earlier than archaeological features). Consequently, a thorough
consideration of these extra pieces of information can help ‘find’ a site where none has been
recorded yet (Pryor and Palmer 1982). The full (mapped) answer includes fragments of past
landscapes (‘that’s it!’), but also a critical reflection on post-depositional processes as well as
factors affecting crop- and soil mark formation (‘why is it like that?’, see Palmer 1996).
3.2. Hermeneutic spiral
We know (more or less) how we approach our data. However each work offers new challenges and it is simply impossible to predict what we will find on the next photograph. This inevitably leads to the question how do we deal with new situations?

a) archaeological reasoning seems to work by integrating parts into a whole and is based on whole-part relationships, on coherence and fitting (Hodder 1999: 33–44)
“OK, I am difficult to impress with an air photo. I think I look at them backwards to most people: 1. are there any control points? 2. what is on it? I think I had seen an enclosure with bits tagged on, but I tend not to think about what is on a photo until I begin to map it”. Rog Palmer, 14.11.2004

Maps allow understanding how different fragments of landscape, which were recorded during reconnaissance, fit together because “the meaning of a part derives from its relationship to a whole” (Hodder 1999: 32). Recently I was asked to map some newly discovered site near Rydzyna (see Figure below).

As soon as I identified the site, I classified it as field-system. This meant that when I approached mapping I expected to ‘find’ certain elements (ditch-defined fields, paths) to which I tried to fit the remaining elements. There were some thin, straight ditches to the east and serious disturbances to the north, which extended towards a modern sewage disposal plant. Therefore, I interpreted these strands of evidence as an old field system partly ‘overlaid’ by modern drainage and further damaged by recent construction works. But there were still some uncertainties, like a supposed drain clearly aligned with the presumed ancient path, or the fact that the presumed recent disturbances to the north did not affect the survival of part of an enclosure within it which was still visible. Finding an old map changed the interpretation. It turned out that the path was still in use in early 1920s and that the supposed ditch was its extension. It also became apparent that the irregular disturbances were patches of meadow. The new whole could be put together: the ‘field system’ was aligned along the path which suggests
that both elements were contemporary, at best in the 19th century. Thus my ‘ditch-defined properties’ turned out to be an ‘historical’ drainage system. However, there are still some cracks in this re-interpretation, and so the story goes on… Nevertheless, this clearly demonstrates that we work back and forth with various strands of evidence and look for the answer until we will finally put them together into a coherent and sensible whole which we find satisfying.

b) meaning is derived from context rather than by analogy (Hodder 1999: 45–49)
“(Morphological analysis) never really worked despite the games that were played and the distribution maps concocted (…). My thinking now is to ask WHY we expect fashions in domestic civil engineering (i.e. site plans)”. Rog Palmer, 11.02.2004

The above example also indicates how we deal with unknown landscapes. A standard (aerial) answer would suggest thinking by analogy and Rog played a considerable role in raising the issue (Palmer 1983, 1984). However, he was also the first to withdraw when morphological analysis turned out to be fruitless (Palmer 1991).

With analogies in mind, we could probably recognise a few towns and roads in Azerbaijan as nothing else looked like our shared British-Polish experience would suggest. The project on identification of archaeological sites along the pipeline route in Azerbaijan (Palmer 2002: 32) was probably one of the best lessons on creative and contextual thinking. In retrospect I think that we actually employed general disciplinary knowledge (what archaeological sites may look like: worn-out embankments, fairly regular outline etc.) and gradually added some ‘local knowledge’ derived from aerial photographs (topographical location, association with other, more recognisable features), sometimes supported from the ground. In some cases even general knowledge, e.g. on construction of ‘kurgans’, was enough to identify them. For other features it took several days to understand what we dealt with (usually we found the answer through association with those more recognisable elements). But there were also traces which we never understood - though even the most complex analogical cross-checking of the most common ‘sub-rectangular’ features would never tell that these were the winter camps of nomadic shepherds.

c) archaeological reasoning is dependent on narrative (Hodder 1999: 53–56)
“I have finished my Bloody Roman ditches. Reading around and chatting to David (Hall) it is clear that the silts on the W were always too soggy for settlement - but it does make a nice empty landscape that you theoretical people would have a wonderful time ritualising about”. Rog Palmer, 03.12.2003.

Whether one would ‘economise’ or ‘ritualise’ the landscape in question, what really matters is that maps have always some stories in the background. This is the point where uncritical plotting of cropmarks differs fundamentally from their thorough consideration. Having a story in mind enables us to order various strands of evidence in a meaningful way, it allows us to separate a tangle of cropmarks into ‘natural’ and ‘man-made’ and arrange the latter in a sequence of long – term landscape use – from prehistoric to recent times. “Having a story in mind is necessary to help us think (…) of alternatives” (Hodder 1999: 55) and fill in the apparent gaps in the landscape. The earlier version of the story above offered two different alternatives which encouraged new questions and a fresh look at the evidence. We may also wonder where the settlement was and consider alternative interpretations for the ‘soggy area’. Why not utilize economically “useless” bogs equally for economically-useless ritual practices?
3.3. Historical nature of knowledge (and maps)

“Most of my Developer Funded work is ‘prior to excavations’ and the customers are more interested in the lines being in the right place (...) than whether I think a thing is a ‘class IV square macula of probable pre-modern date’”. Rog Palmer, 19.11.2004

In the above sentence Rog made a reference to two different concepts of maps – an early ‘research’ map (e.g. Palmer 1984) and more recent ‘developer funded’ maps (we may also add ‘heritage’ maps). They may have similar contents, but their interpretations will differ according to the context/ circumstances in which they were made. Elsewhere Rog mentioned his difficulties in making his own map fit a new purpose; it turned out to require “a considerable amount of reworking of the interpretation to make them ‘correct’ for the new needs” (Palmer 1989: 56). However, this by no means implies that the new version was somehow better than the original – we are dealing with two different maps, designed with different aims in mind. This example shows that interpretation (and mapping) can only be momentary.

4. Conclusions: a recipe for ‘bloody good maps’

“I suppose that archaeology is all one big game whose results do not matter one tiny bit but so long as we enjoy it (...), then why not keep playing. In this I may differ from many theoretical people who have a curious sense of importance...”. Rog Palmer, 03.12.2003

What are ‘bloody good maps’ all about then? Let’s consider a ‘craft metaphor’ once again. The most respectable work of craft is “one produced when the potter takes the needs and interests of the ‘client’ or customer and interprets these in a way which answers purposes while giving something more” (Shanks and McGuire 1998: 165, my emphasis). Indeed in “giving something more” the secret of creativity (or improvisation) in map-making is hidden. Rog has offered enormously wide ranging ideas: on improvements in work (Palmer 1977); deeper understanding of the evidence (Palmer and Pryor 1982, Palmer 1996); new approaches to interpretation (Palmer 1983); customised variants of the final product to meet the needs of a ‘client’ (Palmer, Cox 1993); and above all – critical self-reflection on his own practice.

Thus the recipe for ‘bloody good maps” would be as follows:

b) take an interpreter: her/ his experience will permit the best judgement how to approach a study area;

c) add an interest in the work being done: thus s/he will make an effort to understand in-depth the landscape under study;

d) mix with a thorough consideration of the relevant pieces for solving the problem;

e) include a certain amount of self-reflection and critical approach to one’s own work;

f) connect with openness for new challenges and exchange of experience;

g) and willingness to involve intellectual effort in order to ‘make more of it’.

Did I miss something? A sense of humour perhaps? From my perspective this is an inevitable component of ‘bloody good maps’. How else would anybody notice that our carefully plotted settlement is located near the ‘Locked Bog’ (one may wonder how did they solve THAT problem), appreciate the use of the ‘sheep control point’, or enjoy a car-supported field trip around the freshly mapped landscape with extensive lynchets, whose state of preservation could be bodily experienced - having been stuck with sensitive parts between seat-belt fasteners…

Improvising archaeology? Sounds like a perfect way to do archaeology.
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Bibliography
NAME or ID: Reconstructed Bloody Shoulderplates. Thunderforged. Item Level 528. This article is meant as a basic introduction to how a Quake level is constructed in the modern Quake editing software TrenchBroom. The goal is to teach a new level designer what goes into making a map, the terms used, what compiling is, and how to compile and play a created map. If you have ever created levels for the other Quake games, or for the Half-life/Source engine games, the basic terms of this will be familiar as they evolved from Quake. With the AO and curvature maps baked I was then able to use Painter’s smart materials and masks for things like edge wear and dirt buildup. I wound up painting a lot of normal detail to the models (which sometimes can be more fun than baking a high poly in my opinion). In some cases I brought the textures straight from Designer into Unreal (packing the rough, metal and ambient into an RGBA merge node). The metal, rough and AO were all packed into one texture as well as my emissive being packed into the Alpha of my color maps. This method of texture packing is generally universal among all my projects. The cryotube material I made was the only real interesting one I made for this scene.