

OBSERVATIONS

## GPS Tracings – Personal Cartographies

*Tracey P. Lauriau in conversation with Jeremy Wood*

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*Jeremy Wood, places, code and GPS are the protagonists in his personal cartographies. He plots the journeys, bicycles, boats, planes and his two feet provide him mobility, and geography is the precept, all of which are mediated by the communication infrastructure. Land, water, air and the engineered environment of places determine the routes, are the medium within which his body moves and are the settings where he performs his traces. Time, location and established measurement standards, along with geodetic models, radio signals, software, the language of culture and place, encode the narrative voice. GPS is his cartographic rendering tool: it is what points, traces, locates and recounts. Cartography is his narrative mode: it is that which conveys his personal narrative. This article is about a series of conversations mediated by telephone, Skype, email and online chat functions. We discussed Wood's personal cartographies, how these journeys tell him where he is, has been and potentially where he is going. These are personal cartographies, the result of individual journeys that he is assembling. His GPS tracings make us privy to his personal data, which tell us something about him while questions about science, cartography and technology also become conspicuous. The focus is on the Data Cloud outdoor installation, the Meridian performance and Lawn Mowing experiments. Wood's work is playful, yet it also critically foregrounds the fallacy of technological accuracy and the imprecision of stories. Where he is and where things are positioned are inaccurate from a GPS point of view, since GPS is engineered imprecision. This lack of specificity changes the location of things in space ever so slightly, but just enough to confound physical reality as we see in the Data Clouds outdoor installation. However, are stories ever definitive accounts of an experience? And what of the models by which we understand the world? What if we are between spatial models and some spaces are nowhere to be seen? Does that mean the place does not exist? What does it mean to be there but lost in space? What does it mean for a place to exist in the first place? His Meridian performance of the Herman Melville quote 'It is not down in any map; true places never are' elucidates this special conundrum in both literal and metaphorical terms. He traces the words along two meridians drawn according to two different but scientifically approved mathematical models of the earth, GMT and GRS80. Ironically, true places are written in Greenwich Park, the very same location where time and space were established as a standard in 1884.*

Keywords: GPS, art, personal cartographies

Jeremy Wood's cartographic art is hard to position. His artefacts are the results of GPS traces over land and water, in the air and the built environment. He narrates personal cartographic stories visually, where he, code, places and GPS are the protagonists. In a sense, when drawing he becomes a geodetic pencil. He plots points and connects these while riding his bicycle, walking, or as a passenger in boats or planes. Geography is the precept mediated by the communication infrastructure. His canvas – places and spaces, determine the routes, are the medium within which his body moves and are the settings where he performs his tracts. Time, location and established measurement standards, along with geodetic models, radio signals, software, the language of culture and place, encode the narrative voice. Global defence based technology is his cartographic

rendering tool; it is what points, traces, locates and recounts.

His works can be accessed from an online exhibit in the form of a matrix of tracings or a tag cloud of titles. At the GPSdrawing.com gallery, a grid of patterned lines, squiggles and words are accompanied by distance, speed of travel, date and spatial coordinates. These are sometimes overlain onto digital or large scale paper air photographs or satellite images and at other times, they are just lines. The gallery may also lead the visitor to a cluster of randomly placed park benches, videos of dogs running in the park with devices on their collars followed by coloured lines or perhaps location and time based chronicles. These are visual cartographic stories written onto the land – but not really there when we actually go there – which foreground the immateriality of

places which are very real since they are scientifically modelled. He doodles with GPS, a ‘compact spacetime calculator that utilizes billions of dollars of rocket power and atomic trial and error’ (Wood, 2008a), while cutting his mom’s lawn. He also questions geodetic models and plays with and within space. His work intersects cartography, performance, computer programming, geomatics, story telling, art, cultural geography, geometry and science. He leaves catalogers and topologists in despair as none of their classification systems nor their metadata drop down keyword menus quite have what it takes to describe his work.

In the interim, as curators attempt to place his work, art councils criticize its aesthetic merit and cultural geographers and geomatics academics duke out theoretical assumptions of place and location, his pieces conjure viewers to ponder seemingly innocuous questions and smile along with him as they do so. *Meridians* – I know where I am, it is here, really, but I can’t precisely tell you where exactly; *Data Cloud* – I am sitting here, actually no, I am sitting here, well really I am here cannot you see, it says so here? And *Lawn Experiments* – the quotidian act of mowing the lawn as performance art.

Wood’s work is playful, critically foregrounds the fallacy of technological accuracy and the precision of his stories. As Wood (2009a) points out, ‘GPS is very precise but not very accurate. The distinction is important as GPS is measured with atomic precision but the accuracy is inconsistent and unreliable’. We believe in the accuracy, but the claimed specificity changes, in actuality, the location of things moves in space ever so slightly, just enough to confound concepts of physical reality. Are stories ever definitive accounts of an experience? Are they not the only truths? And what of the models by which we understand the world? What if we are between spatial models and some spaces are nowhere to be seen? Does that mean the place does not exist and the story is untrue? What does it mean to be there but lost in space? What does it mean for a place to exist in the first place? And why cannot mowing the lawn be art? Cartographic visual diaries?

I have yet to meet Wood in person but we have talked about his work on the phone, Skype, by email and using online chat. I have also peered into his conversations on an art Listserv (Sowry, 2008), navigated his online personal visual cartographies and read his articles and a few curatorial descriptions of his work. These mediated information threads and his GPS tracings make me and us privy to his personal data, which when combined tell us something about him, while simultaneously making science, cartography and technology conspicuous. Is technology not the embodiment of our imagination or simply science manifest in material form? What follows will be but a small illustration of his work: the *Meridians* performance (Wood, 2008b); *Data Cloud* outdoor sculpture (Wood, 2008c); his *Lawn Mower Experiments* (Wood, 2008d) and the assemblage of his GPS tracings since the year 2000 on his website (Wood, 2008e).

*Meridians* is a 458.6 mile (737.89 km) performance which yielded a 44.2 mile (71.12 km) long quote from Herman Melville’s *Moby Dick*: ‘It is not down in any map; true places never are’ (Figure 1).

It was written in the rain, snow and under the sun, from mid winter to the beginning of spring in 2005 in London. The words are traced along two meridians that are not parallel and ‘maybe they cross over somewhere in Africa?’

(Wood, 2009b). These are drawn according to two different but scientifically approved mathematical models of the earth’s geode. Greenwich mean time (GMT) is an old standard and the shape of the earth is approximated based on the principal triangulation of Britain datum (1783–1853). GMT was specific to localizing information on British maps. The other, the 1984 World Geodetic System (WGS84) for GPS, is based on atomic time and accompanied by the GRS80 three-dimensional coordinate system ellipsoid. The GRS80 and the Airy 1830 ellipsoids differ in size and shape and neither are perfect representations of the earth.

The ‘truth’ of these arbitrary meridians, upon which so many decisions are made, just gets more mysterious. As the wiki-world points out in the Prime Meridian article:

*The zero meridian used by the Ordnance Survey (OSGB36 datum) is about six metres to the west of the Airy meridian marked at Greenwich. When the first Ordnance Survey map was published in 1801, the official Prime Meridian of Great Britain was the one established by the third Astronomer Royal, James Bradley. When Airy’s new Prime Meridian superseded it fifty years later, the Ordnance Survey simply continued to use Bradley’s.* (Wikipedia, 2009)

Just where does the Greenwich meridian and the WGS84 meridian meet? The great thing about standards is that there are so many to choose from. Wood explains that:

*[T]hese two standards are marked on my drawing to indicate a range of agreements between local and worldwide systems since local sensibilities are more trustworthy than global projections. Our personal navigation is evolving from looking up at the stars to looking down from satellites mediated by digital devices held in our palm. The two meridian lines are the edges of maps that don’t meet up: between them are places that don’t exist. Within this area of adjustment, the east-west hemispheres cannot be straddled.* (Wood, 2006a, p. 275)

*it* is written on a golf course, *is* is underlined by the Greenwich meridian line, *not* is partly in a park and partly in a school yard, *down*’s jagged lines are written in a cemetery, *in* is in a residential area, *any* was a routine stick letter dot to dot exercise, and *map* is drawn in an ideal open space pre-drawn onto a paper map. But on the day for the GPS drawing of *map*, Zippos circus tents and vehicles took over part of the space thus distorting the letter *p*, and Wood found himself in the line of sight of a golf shot when drawing the *a. true places* is written in Greenwich Park where standard time and space were established in 1884 (Figure 2), while *never are* is traced in a parking lot adjacent to the Millennium Dome commemorating the arrival of the twenty-first century.

Line quality reflects the nature of the built environment and the placing of physical objects, the scale of open spaces, the historical meaning of the local, and elucidates literal and metaphorical spatial conundrums such as the discrepancies between local and global models and what it means to actually be somewhere. Wood is inscribing the landscape and in his words, the nature of GPS drawing is like:

*[S]eeing the rhythms and patterns of ones tracks [that] have the affect of seeing your own ghost. The qualities of line in GPS drawings can reveal a great deal about*





Figure 1. *Meridians*, 2005. 'It is not down in any map; true places never are', *Moby Dick*, Herman Melville. GPS Drawing along two meridians over London. Image courtesy of the artist

*movement and process. Just like a pencil drawing where smooth lines have a different speed to jagged edges, GPS drawings can detail the elegant lines of a railway and a squiggly walk to the local shops. As a pencil can momentarily pause in its progression, we might hesitate or wait before crossing a road. The speed of travel can also be coloured to indicate the cold blues of slow dithering to red hot top speeds, and the altitude of tracks can add pressure and depth of line.* (Wood, 2008)

The GPS tracings of the Melville quote were then superimposed onto satellite images which appeared in *Else/Where Mapping: New Cartographies of Networks and Territories* (Wood, 2006b). It was also printed on 8.5 m long strips of cotton for display at the Geograms solo show in The Hague and at the 2006 Sonar Festival in Barcelona.

Alternatively, *Data Cloud* is a physical GPS sculpture that was commissioned by Tom Jaspers in 2008 for the Checking Reality exhibition at Platform 21. The sculpture is situated in Beatrixpark, Amsterdam, beside Platform 21 studios. As part of the exhibit, Wood also conducted a workshop and left some GPS devices for visitors to check out and do some drawing on their own.

*Data Cloud* is a cluster of park benches that look as if they were just dropped off in the park Willy Nilly by City of Amsterdam workers or re-arranged by late night pub revellers. This seemingly haphazardly placed cluster of stacked benches is in fact the result of a scientific experiment and a play on the inaccuracy of precision. The truth is really only as good as the tools and the methods we use to measure and assess it.

Originally, this locale only had two benches. For this work, Wood placed a GPS receiver on each of these and checked their position every 10 s for the duration of 1 min. These successive locations were assembled into a picture of where the international positioning infrastructure said they were. Twelve new park benches were then precisely placed according to

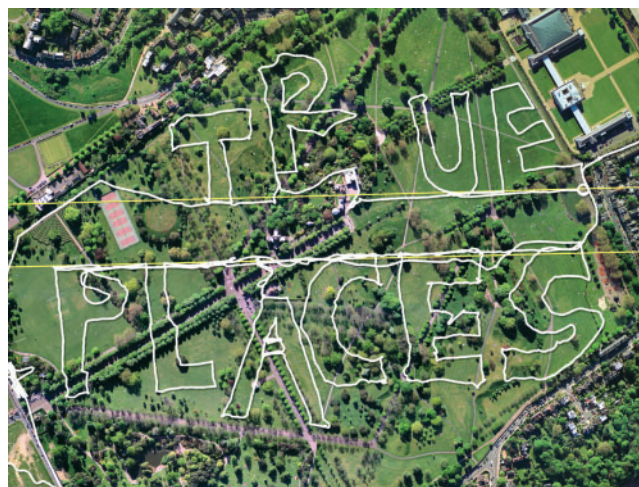


Figure 2. *Meridians*, 2005. Detail of 'true places' drawn in Greenwich Park, home of internationally standardized time. Image courtesy of the artist





Figure 3. *Data Cloud*, 2008. A sculpture of where GPS technology thinks it is. Beatrixpark, Amsterdam. Images courtesy of the artist

where the GPS technology positioned them on top of and beside the original two existing benches (Figure 3).

Platform 21 (2008) explained it best ‘the benches overlap, intersect, and differ in position and height. The entire piece forms a kind of digital disturbance in the real world’ creating a ‘visual glitch’. Like *Meridians*, *Data Cloud* playfully helps us critically reflect assumptions of reality and our fixation with positivist notions of absolute location and ground truth. Few assume their devices to be imprecise, or for mathematical and time models to be off. These same devices tell us where we are and when, and we of course believe the assemblages of spatial coordinate and time numbers. *Data Cloud* ‘thus tells us something about where we are in relation to where technology thinks we are’ (Platform 21, 2008). And that is it, isn’t it we believe the instruments while really we are lost in space.

Wood also draws while riding a motorized lawnmower to cut his mother’s lawn in Oxfordshire, England (Figure 4). His mowing the lawn drawings are part of his collected GPS rendered journeys that start in 2000 and have just been

recently updated with his 2008 journeys. Each year (and season) all the tracks are compiled to create a map of the lawn. They show how the garden has evolved as the tracks stretch to new patches of cleared brambles, and become more intricate around new trees that have been planted. Together they model the growth of a garden. They are part of his big story of where he has been, how he got there and also forms a personal cartography documenting his life as a visual journal. For him, journeys are shaped by the rules of the landscape.

*We route along engineered solutions as defined by paths and boundaries that tweak and tamper with our travels. In this age of geographically organised information it is becoming increasingly difficult to experience the feeling of being lost* (Wood, 2008c).

He does not get lost mowing the lawn, except perhaps in thought. Mowing his mom’s lawn is a repetitive act, performed in the same bounded space, and mowing is ruled by the house, shed garage, paddock, undulations, trees, flower beds and

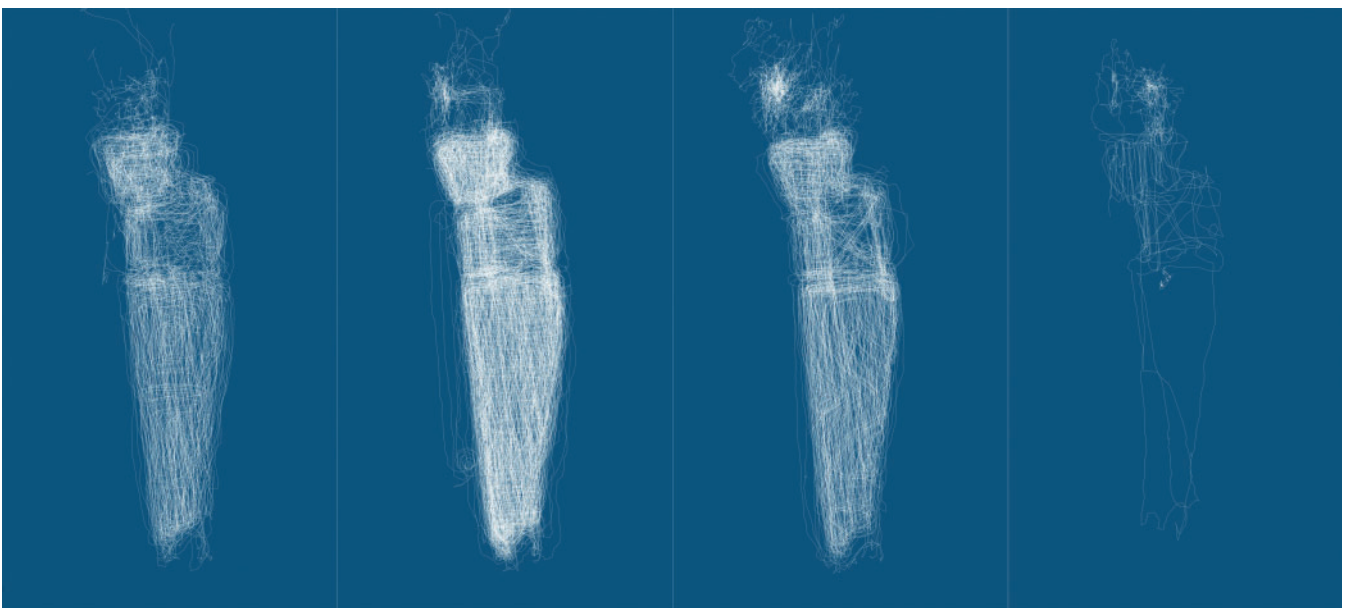


Figure 4. *Mowing the Lawn*, 2008. Spring, Summer, Autumn and Winter. Image courtesy of the artist



Figure 5. My Ghost: London 2000–2009. Personal cartography with GPS in London. Image courtesy of the artist

angles. The land shapes where he can mow and the act of mowing is shaped by his use of GPS, in the same way that it has changed the way he treats all his journeys (Wood, 2008a). In GPSdrawing.com, we find 5 years worth of mowing the lawn drawings. The act is performed at an average speed of 3.6 km per hour, the tract lengths are between 4.2 and 75.5 km, in an area of approximately 2000 m<sup>2</sup>, and these journeys take between 1 and 4 hours to complete. The images are delightful. The lines are smooth depending on the scale of the image; the patterns are whimsical: some are woven, other look like doodles while others are an aggregation of shapes and squiggles. The images would be something you might find on a pad of paper by the phone drawn during a conversation, but not these which were consciously and meticulously drawn on a rather large canvas while mowing the lawn.

Finally, we arrive at the place where all his journey tracts are assembled into one (Figure 5). A visual cartographic diary includes a time stamp, a location and a particular type of writing style representing a phase. Some entries render 1 year's worth of journeys or a year's worth of months. Many of the excursions take place in London, mostly in the UK, but not all. Peregrinations include flight paths represented as altitude walls cutting across the city, driving details of particular places and walks along city streets. Some aggregations are just lines, while others are superimposed onto a globe, a satellite image or on a lat-long grid. The first entry in 2000 is just a line, reminiscent of a paper clip that was pulled open, which records a commercial airline flight holding pattern. It was on this journey, seeing the clean oval shape of the holding pattern being plotted on the screen of his GPS



receiver, that Wood began to think about the possibilities of travel as an act of drawing. Some of the journey traces are darker than others suggesting well worn paths, some of these connect darker clusters that allude to intimacy, a place where more time was spent, and some are near black spots indicating repeated returns, and places of work and play. We do not have annotated maps in this space, but we do have personalized clues of where Wood is at at different times when we flip through the disassembled tracings in his matrix exhibit. From these maps, a thousand territories come to view, personal cartographic narratives, written in his own dialect, which do not delve into private space and do not tell us when he journeyed with the GPS turned off, thus we do not know of the places he chose to leave unmapped. We do, however, have an idea of where he has been, and with time these cartographies will tell us many more tales, and perhaps, if we persevere, we will get to know Jeremy Wood and the places where he has left personal traces more intimately. Until then, these are 'vehicles for the imagination, fueled up and ready to go' (Harmon, 2004, p. 10) his 'reconfiguration of a private globe' (Hall, 2004, p. 16).

*What strikes me about seeing one's own tracks is in the triggering of memories, which is why I refer to them as cartographic journals. They are a record of where I have been and a daunting reminder of where I have yet to go. Among the intricacies in the line qualities, I can read my routes and ruts, and recall my dithering and my adventures. They are of my ghost, captured in places of a different time.*

*I am optimistic about what we will find out about ourselves as we adopt the mapping of ourselves. Whether we like it or not the technology will be in our pockets to see where we are and who we are* (Wood, 2009b).

#### BIOGRAPHICAL NOTES



Tracey P. Lauriault is a researcher at the Geomatics and Cartographic Research Centre, Department of Geography and Environmental Studies at Carleton University. She is the research leader for the Pilot Atlas of the Risk of Homelessness. She also participates in activities and represents the centre on topics related to the access and preservation of data. She was part of the Project

Management Team for the Cybercartography and the New Economy Project, and also explores on the topic of olfactory cartography.

Jeremy Wood is a multi-disciplined artist and map maker whose diverse work engages with ontology and concepts of space and time. His Signature Tune series captured video portraits with the sound of drawing, and his experimental photography has investigated people and places with digital collage and the slit-scan process. In 2000 he started GPS



Drawing as a means of digital mark making on water, over land, and in the air. Since then he has captured his daily movements with the Global Positioning System as a form of personal cartography.

Wood holds an MA in Fine Art from Central Saint Martin's in London and a First Class Honours Degree in Fine Art from the University of Derby. He was born in San Francisco, grew up in Berlin and Oxfordshire,

and has lived in Brighton, London and Athens. He has exhibited and lectured internationally whilst conducting numerous GPS drawing and map making workshops in schools, galleries, and museums. His work is in the permanent collection of the University of the Arts and the V&A and is represented by the Tenderpixel Gallery in London.

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