Goldsmiths
UNIVERSITY OF LONDON

Department of Anthropology

Goldsmiths Anthropology Research Papers

Species of Time: sows, stockmen and labour

Kim Baker

Species of Time: sows, stockmen and labour

Kim Baker

Goldsmiths Anthropology Research Papers

Editors: Mao Mollona, Emma Tarlo, Frances Pine, Olivia Swift

The Department of Anthropology at Goldsmiths is one of the best in Europe, specialising in innovative research of contemporary relevance. We are proud of what we have achieved since our formal beginnings in 1985, and in particular of the way that people in the department – students, staff and researchers – have sought to engage critically and creatively with the traditions of anthropology.

Our research interests are broad and include visual art, labour and human rights activism, indigenous politics, gentrification, security and terrorism, fashion, gender, health and the body. The department combines a strong ethnographic expertise in Africa, South Asia, Latin America, Europe, the Pacific and Caribbean, with a broader focus on regional inter-connections, inter-dependencies and developments.

We hope that Goldsmiths Academic Research Papers will provide a platform to communicate some of the work that makes the Goldsmiths department distinctive. It includes articles by members of academic staff, research fellows, PhD and other students.

This issue is the first to make extensive use of photography, a visual element forming part of the department's Centre of Visual Anthropology. The centre provides a strong focus for current departmental research initiatives in visual theory and practice, which frame Western contemporary art as well as other traditions in comparative and historical perspective. For more information, visit www.goldsmiths.ac.uk/visual-anthropology.

GARP Number 16

Images courtesy of Kim Baker

Cover image: farrowing and weaning yard on an intensive pig production unit

After gaining a BA from Bath Academy of Art, and an MA from Norwich School of Art and Design, Kim Baker has combined production of her own creative work with a teaching career, contributing to undergraduate and postgraduate courses. Her visual work has been exhibited in the U.K. and Japan. The MRes course in Visual Anthropology at Goldsmiths offered Kim the opportunity to undertake in-depth reconsideration of the inhabitants of the area of rural Suffolk which has been her home for three decades. Her current MPhil/PhD research into livestock production focuses more precisely on the human-animal relations produced within intensive agriculture in East Anglia.

ISBN 978–904158–97–4

First published in Great Britain 2009 by Goldsmiths, University of London, New Cross SE14 6NW, U.K.

Additional copies of this publication are available from the Department of Anthropology, Goldsmiths, University of London, New Cross, London SE14 6NW, U.K.

Species of Time:[1] sows, stockmen and labour

Long-standing public anxieties concerning the ethics attached to livestock care, slaughter, and consumption have recently been exacerbated by serious disease epidemics (B.S.E. in 1996; Foot and Mouth in 2001 and 2006); advances in the biosciences involving radical genetic manipulation; and the economic implications of globalised wheat and meat markets. These concerns suggest two opposing dynamics in views of livestock production; excessive control of living animals, and loss of control in relation to perceived shortcomings in farming methods. Against this background British pig farmers face an increasingly complex set of problems, not least with their public image, since the sites of production (farms), are distant from the sites of consumption (supermarkets, butchers' shops), a circumstance which contributes to a gulf between the knowledge and experiences of those who produce meat, and those who consume it. Within this space miscommunication proliferates. In the wake of recent disease outbreaks, cloning 'scare stories', and welfare exposées, farmers are justifiably sensitive about allowing access to observers, so as yet, perhaps too little is known about the realities of human-livestock relationships on farms.

This paper aims to provide concrete examples of such relationships, and focuses on the way in which stockmen use time as a central idiom in their care of pigs. I have had the privilege of being allowed long-term access to pig production units, and of observing stockmen working. I have taken the stance of an interested and informed observer trying to make sense of their world in order to reveal features of contemporary human-livestock interaction which might otherwise remain unseen.

Introduction

> 'Clocks facilitated certain important historical transformations in the productive basis of industrial society' [and] 'action must be timely because most actions need specific circumstances in which to proceed' (Gell 1992).

Using a visual exploration of the office occupied by a stockman on a large pig unit, I describe how its contents and the tasks they are used for are suggestive of a series of relationships between humans and animals, time and place. I provide examples of some of the time-keeping and time-reading strategies stockmen use in their relationships with pigs involved in intensive production[2], and show how stockmen interpret time and place as interdependent constructs. The descriptive material is complemented by analysis and comment, explaining how stockmen's practice enacts the idea that time, space, objects, humans, and animals exist in relations of continuity, in the senses posited by Law (2003a) and Haraway (1991, 2003, 2006). I propose that this view of 'connectedness' impacts upon the care and welfare of animals who, although involved in highly systematised industrial production, are nonetheless viewed by stockmen as individuals.

The research forms part of a larger, ongoing project which asks, 'how is meat made?' and, 'how does meat production 'make' people?'. The ensuing insights derive from my fieldwork at a large indoor, intensive pig production unit from which approximately 200 pigs per week are sold for bacon. Data collection methods involved participant observation, photography, video recordings, and informal interviews. Additionally, Legitimate Peripheral Participation techniques (see Lave and Wenger 1991, Cassidy 2002, Waquant 2004), were crucial in enabling me to participate in stockwork under the direction of professional pig stockmen.

Classical anthropologies (Evans-Pritchard 1940, Levi-Strauss 1983, Leach 1982), have provided examples of the differing ways in which cultures variously conceptualise time as proceeding in linear or cyclical movements. Both of these types of temporal process were evident in the fieldwork setting, where in common with other contemporary multi-sited pig production contexts, pig herds are routinely split into two categories; the breeding stock, and the slaughter herd. Breed stock (sows) remain on the same unit for their entire working lives, making cyclical journeys between the service house and the farrowing unit. Their progeny, the slaughter herd, progress one way, from birth towards the farm exit and slaughterhouse in a linear progress. During their handling and management of large numbers of pigs across successive slaughter generations, stockmen encounter many opportunities to manipulate the organisation of time and tasks. For stockmen, and by extension, for the pigs they deal with, the intricate segmentation of time, tasks, and space involves intersecting usages of both linear and circular models of temporality. Complex temporal interlockings are implicit in stockwork, since stockmen working on discrete yards must achieve accurate synchronisation with one another, and with external production agencies; breed stock suppliers, marketing agents, hauliers, abattoirs - all of which have their own timetables and agendas.

Working with stockmen enabled me to see that other important temporal features were in play, including rhythm and repetition in relation to timetabling, as in Durkheim (1915), Carlstein, Parkes and Thrift (1980). Livestock production is a graphic illustration of May and Thrift's (2001: 5) suggestion that time is heterogeneous, and that, 'the picture…is less that of a singular or uniform social time stretching across a uniform space, than of various (and uneven) networks of time stretching in different and divergent directions'. This enterprise requires an aptitude to accommodate the differing, and often simultaneous demands of embodied time, biological time, gendered time, industrial production time, domestic time, as well as various hybrids of each of these categories. Although important precedents have been set in the social sciences by Gray (2000), Theodossopoulos (2003), Philo and Wilbert (2000), who collectively give attention to relationships between humans, livestock, place and time, stockmen's own conceptualisations of the manner in which networked relationships involving time, place, human and non-human bodies remain under-researched and merit further attention. Wilkie (2005) has identified how previous studies, including English and McPherson (1998), have focused on the economic and productive aspects of stockmen's roles, rather than on the lived experience of being with animals. This paper takes up themes set out by Wilkie who calls for investigation into the, 'full range of how people…interact' with livestock, and advocates the inclusion of stockmen's own first-hand accounts. Accounts of this kind would emphasise the specificity of stockmen's, as opposed to farmer's experiences

[1] The title of this piece derives from a phrase used by Crandall (1998) in an account of Namibian cattle herders.

[2] See glossary of specialist terms at end of text.

which are distinct from one another, involving the physical and the fiscal respectively.

Within literature defining stockmanship (e.g., see English et al 1992) produced by and for the pig industry, the quality of patience, involving waiting and persistence, is emphasised, along with the, 'ability to organise working time well'. Time, and senses of timing are therefore integral to stockmanship, a profession which equally involves the timely care of animals, and the maintenance of place; agendas compatible with Feld's (1996) notions that 'place is sensed' and 'senses make place'. Given that pig units are extremely busy places, stockmen's time management abilities underpin the success of their work; inasmuch as they are involved in making time to carry out jobs, they also time the making which must be accomplished for production targets to be met, so the acts of making time, and making pigs are contingent projects. While Postill's (2002: 251, 252) assertion that clock and calendar time form a 'ubiquitous code' which invades and shapes, 'countless technological niches, from offices to farms to the internet' and globally regulates the 'daily rounds of most people', is correct, such thinking may not take adequate account of the complexity and variety of time structures which exist in farm contexts where time is both assimilated into bodies and is expressive of them, and of culture, as shown by Bourdieu (1977), and Merleau-Ponty (1998).

Stockmen make extensive use of the material supports of timekeeping, (calendars, logs, diaries), and these usages often relate directly to the organisation, positioning, and circulation of bodies, objects, and materials with respect to productivity or 'performance' benchmarks, as in Thrift (2006). However, the major routines of their working practice are grounded in, and governed by, biological rhythms. The work of the entire unit revolves around the reproductive cycle of the sows; a repetitious sequence dominating all else that takes place, and from which a nexus of organic and technologically mediated relationships originates. Just as time and space themselves are inseparably entangled, so too are the species of time which I discuss.

Complex articulations between livestock farming and (bio)technology, as described by Franklin and Locke (2003), are of course not exclusive to the modern era, although systematised usage of time and space, aimed at maximising the productivity of land and animals, has gathered pace since the eighteenth century (Young 1799, 1813). Foucault (1979) shows how the agendas of organisation and control gained particular currency in other social contexts during the same period. Drawing on examples provided by military and religious regimes, both of which make extensive use of timetables, he describes preoccupations with the activation, use, transformation, improvement, and control of 'disciplined' bodies. His analysis of military marching steps and drills establishes connections between capitalising the use of the whole body, and the processes of adding up and capitalising upon time itself. Exercise, or any repetitive physical process, is given as a way of organising the time of individual bodies so as to embed them within a wider 'anato-chronological' schema where, 'time penetrates the body and with it all the meticulous controls of power'. Additionally, his concept of the 'positive economy' alludes to the way in which modern timetables, or timetablers, attempt to cram ever greater amounts of activity into each day.

This paraphrasing of Foucault is given in order to highlight some of the powerful analogies which exist in the control and management of animal bodies which are literally incorporated within the trajectories of production time, a theme taken up by Holloway and Morris (2007) in their review of the application of Foucauldian 'biopower' to livestock contexts. In view of their social organisation as herd animals, and their reproductive prolificacy, pigs figure as ideal candidates for the kinds of regulatory processes described, since their social mechanisms, and the nature of sows' reproductive cycles are both compatible with the kinds of spatio-temporal regulation and partitioning under discussion.

Since the end of the Second World War, the findings of Pig Science have exerted a powerful influence over pig farming methods, with new technologies, principally reproductive-sciences and biogenetics, enabling ever more finely nuanced degrees of human control over livestock to be deployed at macro levels (whole herd, whole body), or at micro (cellular) levels. Examples are given by Whittemore (1998) and Cole et al. (1994). These kinds of scientific and technological interventions, used in conjunction with Fordist livestock production methods, as discussed by Franklin (1999), have resulted in massive increases in productivity, but have also posed questions about the way in which human and animal identities are being (re)constituted in twenty-first century technoculture. Haraway (1991, 2003) and Law (2003) have used the concept of the cyborg to model thinking around the 'radical relationality', Law (ibid.: 4), which 'dissolves fixed categories' such as human, animal, machine, time, space. Here, the cyborg is posited as being less concerned with drawing things together into a single unity, and more involved with enabling, 'fractional and shifting coherences' or 'assemblages' of the kind discussed by Latour (2005) and Thrift (1996, 2006, 2008). Developing her previous themes, Haraway's current writing shifts the focus of attention off 'animal rights', and onto issues of 'multi-species labor' (2006: 77) asking, 'how can responsibility and the time consuming care it involves be practiced within the lab [or equally the farm] in twenty–first century relationships with animals?'

Assemblage

Brian lives with his wife and children in a farm cottage adjacent to the pig unit. He is in his mid 40s and has worked with livestock since leaving school. He is from a local family well known for an involvement with livestock extending back over several generations. His colleagues and other industry professionals recognise him as, 'one of the best pigmen in the country', achieving exceptionally high standards of care and productivity.

Brian's office is situated in the centre of a long narrow building known as the farrowing house, the place where sows come to give birth. Looking left and right from the doorway he has a clear view of the sows lined up in their crates. The atmosphere is moist, heady with the combined scents of dung, animal bodies, milk, and powerful disinfectant. Pig voices can be heard all the time, and all human conversation takes place against the high shrilling of various litters, as piglets compete to maintain their place at the teat they have chosen. As the litters feed, the sows encourage them, giving out low and quickly repeated series of soft grunts. If the sows are startled they can be heard

sounding the alarm, a deep aspirant ‘whoof’ which they all pronounce in perfect unison.

The office is tiny, square, with a bare concrete floor and white painted breezeblock walls which are festooned with cobwebs, and coated with fine dust that floats off the sow’s meal. Beneath a wide window a large, high workbench runs the width of the room. On this there is an A2 size trade calendar advertising ‘Ulti-mate Prosperm Semen for Service and Performance’. On it the grid of days, weeks and months is heavily annotated with ticks, symbols and brief notes. A hard-backed ledger lies open, on top of the calendar, its pages carefully hand ruled into neat columns containing complex numerical records which Brian meticulously enters each day in biro. He documents dates, events, pregnancies, births, and deaths, binding these together in pig time and human time. Sunlight shines through the south facing window, the rays interrupted by another large calendar fixed to the dirty pane. The window looks out onto grazing land bordered at one edge by a wood where the leaves bud and fall, keeping seasonal rhythm, another set of times. At one end of the bench there is a stack of periodicals, ‘Pig World’ and ‘Farmer’s Weekly’, and beneath it boxes crammed with dozens of screwdrivers, hammers and spanners are neatly stowed, along with three well-worn pairs of work boots. Contact with the rest of the farm, and the outside world is provided by the mobile phone which Brian always leaves standing in a home made ‘dock’ consisting of the lid of an aerosol pig marker spray. His fingerprints read out clearly on the dusty screen of a battered black calculator.

The walls of the room are lined with rough and ready shelving apparently made from scraps of timber recycled from old furniture. These shelves hold a huge array of the equipment and consumables which Brian needs in his daily work; power tools, spare electric leads, safety goggles. There are stacks of boxes of disposable shoulder-length examination gloves, bottles of lubricant, hand sanitiser, injectable iron supplement, bottles of tonic for ailing newborn pigs, new feed scoops, a small foot pump and pressure gauge. All these objects have been carefully categorised and neatly arranged so that piled boxes are aligned at exact right angles to the wall, and bottles stand in rows in correct date order. Brian knows the shelf life of each, and maintains the correct rotation of oldest to the front, and newest to the back in each of these arrangements. Near the doorway an aged fridge stands, quietly humming. Although its casing is battered and chipped its interior provides immaculately clean storage for temperature–sensitive pharmaceuticals, antibiotics, and the prophylactic drugs routinely administered to prevent disease. The white lids of all the spray canisters are mottled with dabs of ochre antiseptic spray transferred from Brian’s finger tips as he handles each piece of equipment at high speed during the postnatal processes he administers to every newborn piglet. Next door there is a tiny space containing a toilet, unencumbered with either seat or lid, and beside this is an old kitchen unit topped with a stainless steel sink. Here Brian rinses out his overalls before suspending them on a nail and carefully wringing them from the collar down to the trouser hems in one long spiraling turn. On the draining board there are various bars and bottles of soap, and wall-mounted dispensers offer giant rolls of paper towel, gritty hand scrubs and alcohol cleansers of the kind used in hospitals.

Together the parts of Brian’s office and their assorted contents constitute a strange and richly hybrid space: part washroom, cloakroom, laundry, scrub area; part workshop, medical store, surgery, meeting room, social space, information hub, and erstwhile canteen, sitting room, and kitchen. Any of these functions might be adopted at different times during the working day. Objects bought for the farm and borrowed or retrieved from home intermingle and jostle for space, each of them playing some professional or domestic part in the business of the place, supporting the work of a man who spends his life rearing pigs.

To provide some perspective on the numbers of animals being dealt with and the amount of work they generate, Brian offered the following information. His yard consists of eight large buildings accommodating sows due to farrow, sows suckling litters, as well as separate groups of weaned pigs. In six rooms, with spaces for 14 sows each, he oversees and assists at the birth of 17-18 litters of pigs a week. A litter can comprise up to 17 piglets. Every month around 794 piglets are weaned, meaning that 9,528 pigs per year leave the unit destined for slaughter. At any given time he has responsibility for the care of approximately 1,728 sows and pigs on his yard. It should be borne in mind that this population is constantly changing with animals entering and exiting on a weekly cyclical basis as they progress through the sequence of production stages. For example, 16-18 newly weaned sows leave the yard every Thursday, to be replaced by 16-18 heavily pregnant ones who arrive every Monday. On Mondays young pigs who were weaned three weeks earlier move off the yard in batches of 180 bound for the finishing yard nearby.

Inevitably the routine feeding, cleaning and care of these animals entails huge amounts of manual labour. The majority of this work is carried out by Brian, with a few hours support each week provided by a part-time labourer. Three hours every day, seven days a week, are taken up with the sows’ morning and evening feed rounds. Every sow receives two, 2kg scoops of meal at each feed. The meal is taken into the sows’ rooms in a huge barrow capable of holding a quarter ton at a time. Brian pushes this through the passageways, quickly dispensing scoops into the troughs. For the 84 sows that are present he must manually dispense 336 scoops per day, or 10,080 scoops per month, or 120,960 scoops per year. With each sow consuming 56kg of meal per week, the combined weight of these scoops amounts to a total of 241,920kg of meal handled and consumed per year. Each portion must be wetted immediately, so in the course of a day Brian must make a total of at least 672 tap turning movements. Plentiful water enables the sows to consume more meal, which in turn promotes their lactation, so by turning on the taps, Brian contributes to turning on the piglet’s milk supply. Such intensive feed input obviously generates a huge output of muck, all of which has to be removed by shovel and barrow. The barrow, sized to exactly fit the passageways, holds 50kg of muck, the amount produced by one roomful of sows in 24 hours. Working on the basis that Brian must circumnavigate each room four times daily, he walks approximately 361 miles per year in order to perform feeding and watering operations in just one of the buildings. Given that these transits involve pushing heavily laden muck or feed barrows, the ‘walking’ undertaken is extremely arduous and physically demanding. Brian’s gait and sometimes cautious movements show when he is experiencing one of his periodic

bouts of back trouble, the legacy of three decades of working with livestock.

The physical repetitions involved in Brian's work are further multiplied by routine postnatal procedures applied to all litters. During the five hours taken up with this each week, every piglet is picked up to receive two injections, one in the neck, and one in the thigh, an operation which involves deft, single-handed turning and manipulation of the pig so as to adequately expose the tiny injection sites. A multi-injector is used to speed up the procedure as far as is possible. Tail docking, tooth clipping, and antibiotic navel spraying take place immediately after injecting, and these three combined operations are routinely achieved in an average of 19.51 seconds per piglet. The clipping of eight teeth on a single piglet normally takes around four seconds, giving an annual time of just over 10 hours to effect the clipping of 83,808 teeth per year. When due for separation from their mothers piglets weigh around 8kg, so during the weekly weaning operation when 198 pigs are taken from the sows, the equivalent of one and a half tonnes of lusty, kicking young pig has to be manually lifted, injected, and barrowed. The service yard manager and the part-timer both help, taking turns to catch and lift the pigs, at speed, to avoid stressing them, before handing them to Brian for rapid injecting and barrowing.

Where is the time?

There are no clocks at the pig unit, which is perhaps surprising in a context encompassing such intensity of action, and where production processes, heavily dependent on accurate timings, take place. However, the total absence of any display of mechanised or digital timepieces is balanced by a plethora of other time–keeping devices. The presence and variety of these devices, which consist of both material artifacts, and bodily practices bear out Durkheim's (1915) concept of time and space as social constructs; faculties produced by humans to serve a variety of purposes. Each of the stockman's timekeeping devices have been devised to articulate with biological phenomena or technological components of the environment which men and pigs share.

So what are the stockman's modes of reckoning time, and what do these reveal of the interactions between him and the pigs? This fieldwork suggests that stockmen use the concept of time and its concomitant relationship to space in unexpected ways which transcend simple clock watching and marking of calendrical charts. The preceding inventory demonstrates how pig production draws multifarious 'tools of the trade' into an assemblage, within which circulating 'things' become expressive of a network of relationships between themselves and their users, as Latour (2005) and Thrift (2006) suggest. A key characteristic of the relationships in operation during pig production is revealed by the emphasis the stockman places on order, arrangement, organisation, and methodical action. When asked about this trait Brian replied as follows:

> There's nothing worse than when you're trying to do a job, be it picking up the muck, clipping teeth or whatever, than having to look for things which should be where you've left them, because it wastes time, and it's counterproductive. I am a little bit obsessive because I like to have stuff, and know where it is, and know where I've put it, and know it's going to be there. I don't want to be looking for stuff. I want to be getting on with looking after the pigs. Nine times out of ten, if I'm looking for something I'm looking for it at a particular time.

This account shows how the stockman effects linkages between time, place, sequence, and control, viewing these as critical components in the routines of care he offers to the pigs. He resents looking for objects which are out of place, since this is non-productive time wasting. For him there is a direct correlation between time usage and effective spatial organisation, since any object that is out of its pre-designated position causes time itself to fall out of place. Keeping the place, the humans, animals, and machinery within it going 'to time', provides an overarching structure governing the work of the unit. In a work situation where concepts of 'performance' provide a motivating feature, the work space, or 'pig environment', must be maintained in fully operational mode if production targets are to be met. Maintenance staff pointed out to me that, in such a complex environment involving numerous buildings to be served with electricity, water, feed systems, heating, and ventilation, 'there's alot to break!'. They were making the point that any 'breakage' in the structures which service and support the pig's environment must be addressed immediately if the timing of the place, and the associated continuity of production itself, is not to be broken.

The absence of clocks in the unit suggested that Brian works to a complex series of internalised timetables. When I asked him to tell me his weekly schedule, he did this spontaneously, from memory, a feat which suggested that clock and calendar time account for only a fraction of the kinds of timings his work involves. The version of his timetable that I noted revealed a sequence of at least 36 main, discrete tasks to be achieved each Monday alone. In a subsequent interview he explained how he uses systematic movement to accomplish a series of routine tasks:

> I think you have to have that certain routine. The system is to start and feed a building, and then a room, and then go round and do the flat decks, otherwise you spend your days [going] backwards and forwards... You know if someone came to me and said, 'There's some dead pigs in that pen', I know I'd be able to say, 'There wasn't any in there at ten past nine this morning', and if they say 'Well, how do you know?' I'd say 'because I'm always in there; I feed the farrowing houses, I clean the farrowing houses, I pick up the muck in the farrowing houses, then I go and do the flat decks so I know I was in the flat decks at ten past nine.' Whatever time of day it is I know exactly what I've done and where I've been at any one time. There's a routine you're in and you know exactly what you're going to do. It's not that I say to myself, 'I must do that at ten o'clock', but I know that I have done that at ten o'clock because I always do that at ten o'clock!

The idioms used in this account - 'feed a building', 'feed a room' - and their direct linkage to the needs of animals at specific times is reminiscent of Evans-Pritchard's (1940) understanding of time as motion or process involving phased movements in which daily activities are timed by the 'cattle clock'. Just as Evans Pritchard describes Nuer herdsmen co-ordinating their actions, meeting at milking time for example, so too do pig stockmen arrange to meet and interact together at certain times dictated by the livestock production process. They say, 'we'll talk about that at weaning' or, 'I saw it at feeding' and so forth. In their habitual reference to 'feeding a building'

or ‘weaning a room’, stockmen’s linguistic usages suggest how architectural structures literally ‘stand’ for pigs, in the form of accommodation, as well as ‘standing in’ for the pigs themselves. The relationship between places and timetabled points in the production process is further underscored by stockmen’s widespread habit of seeing time (as ‘jobs’) and space as continuous entities, as discussed by Wilson (2007: 101), for whom ‘spatial environment’ produces, ‘domestic, institutional…occupational arrangements’ and, ‘the building… serves…. as diagram…for social construction and reconstruction of reality’ (1988 :153). In saying, ‘a room is a week’ or, ‘a week is a room’, stockmen mean that a room can accommodate all the pigs involved in one ‘week’s worth’ of a given production stage, or put another way, a week’s output of animals will all fit into a pre-designated space which has been purpose built for them, and for the production stage they embody. This habit of deploying time and space as fully interchangeable concepts shows how stockmen effect relations of continuity between time, task, and place in ways which are practical, embodied, abstract, and which go beyond mere metaphor.

Routes, routines, regimes

In further discussion Brian described how his sequence of work always took him to certain places at certain times, and I saw this in practice often when, after the morning feed run, he would ask me the time. Looking at my watch I would invariably find that it was ten minutes to nine, the moment at which he always stops for his break, or ‘nineses’, (a terminology demonstrating how a time and a meal are conflated). Somehow the pre-set routine, and any unexpected eventualities, would always be fitted exactly into the same time span between seven and ten to nine. Brain’s account shows how he thinks in terms of routine about large spaces first (buildings), intermediate spaces (rooms), then individual subspaces, (pens, stalls), and their occupants, pigs, who enclose bodily space, (uteri and stomachs). The routine of tasks is literally a route from place to place, with particular sets of actions precipitated by arrival at each of a series of physical destinations. For the stockman, experience of the route habitually taken gives rise to foreknowledge of what will happen, where, and when, a situation enabling a projected degree of control over progressively longer future time spans; what will happen tomorrow, next month, or next year. By thinking of places in a descending order of scale, stockmen simultaneously break time itself into a series of segments of diminishing duration, within which the separate tasks of feeding, watering, cleaning etc. are administered to the individual animals that comprise each group.

These circumstances echo the work of Casey (1996) and Bourdieu (1977: 90) who contend that bodily activities ‘make’ and are ‘made by’ the space of their enactment. Their concepts of ‘spatiotemporality’ encapsulate the way in which tasks are organised on the farm so as to be repetitively performed in certain locations at specific times; becoming internalised into the bodily ‘memory’ of stockmen and pigs. Through time, both body and space acquire cultural meaning, with each reciprocally partaking of the other’s qualities. Bodies make spaces, and spaces make bodies as is shown by the nomenclature applied to various people and spaces; the farrowing house, the weaner’s yard. None of these can be read as static spaces or unchanging entities, since they are involved in the, ‘onflow of everyday life and skilled practice’ to which Thrift (2008) refers. Inasmuch as stockwork is ‘process’ or ‘event’, so too are the spaces where it takes place.

The pig unit provides many examples of the ‘fit’ between spatiotemporal elements and labouring bodies, the most literal and graphic being that of the farrowing crate. Putting the case simply, the stockman said that the crate is a, ‘predetermined space for the sow to do her thing in’. The framework of the crate confines a sow (and her litter) in a pre-designated and limited area, for a specified time period, so that she (they) can complete the biological process which constitutes a crucial production stage. The crate accommodates and literally shapes the range of acts and interactions which stockman, sow, and piglets can perform in and around it. In the crate the sow’s movement is restricted for three weeks; she gives birth, she stands to feed herself, or lies down to suckle her litter. Experienced sows, who return to the crate up to seven times, ‘remember’ how to orientate their bodies in relation to the crate’s dimensions. Likewise, stockmen have bodily knowledge of how and when to attend to crated sows. The crate itself, figured as a ‘container’ for an animal undergoing a temporal, biological process ensures the survival of maximum numbers of piglets, or seen in production terms, it maximises the financial contribution each sow makes during every separate parity, and across the span of her entire reproductive career.[3]

The crate demonstrates exactly the kind of cellular ‘partitioning’ of space and temporality Foucault proposes. Every reproductively active sow is crated during the ‘repetitive task’ constituting each successive farrowing, and once crated, sows are immersed in the ‘anato-chronological’ schema Foucault describes. The components of the crate provide an analogy for the body of the confined sow. Each part of its framework delineates and references a corresponding section of the sow’s body and serves to compartmentalise her various physical functions, thereby figuring her as an assemblage, or schedule of jobs for the stockman. Each crate ensures that every sow is positioned in exactly parallel alignment to all the other crated sows occupying a given, cellularised space which is filled with identical crates occupied by a series of sows who all make the same set of physical demands at the same time.

By organising all the crates in a room into a grid–like arrangement, stockmen are enabled to make economies of time and action when they encounter a row of mouths to be fed, or a line of droppings to be collected. The proportions of the crate ensure that sows cannot turn around, or out of the spatiotemporal position prescribed by productivity benchmarks. In short, they literally cannot turn away from the maternal role ascribed to them. Inasmuch as the crate itemises and separates individual animals, it also works as a highly efficient tool for integrating the sequences dictated by synchronised biological process and economic imperative. The crate therefore provides an explicit illustration of Foucault’s notion of ‘complete consumption’ since it ensures effective usage of all parts of the sow’s body at a critical and risky moment of (natural) reproduction, and simultaneously enables the stockman to deploy his physical skills and to maintain professional (bodily or manual) performance in a ‘time efficient’way. So, for both men and pigs, no moment or physical

[3] These are also the grounds on which the use of the crate attracts a host of cultural and ethical critiques.

capacity is left unused, idle, since the crate capitalises the productivity of both.

I chose to describe the function and organisation of the farrowing crate, but many physical entities can be subjected to similar processes of cellularisation: landscape, barn, room, herd, body, and no entity is too small to escape the process. For example, each ejaculate 'harvested' from boars for artificial insemination (AI) purposes is subdivided so as to provide an optimum number of portions, every one containing a specified number of sperm (approx. 1.7 billion per portion). These pre-measured doses are literally circulated across spaces, between farms, destined to be served to numerous sows in selected locations at accurately specified times. In this way, the destinations of genetically specialised cells are co-ordinated, regulated, subjected to high degrees of control via timely human intervention. Through the agencies of harvested sperm delivered during AI, the trajectory of future time itself is introduced into the bodies of sows that will produce more pigs generating more time cycles and further routines of human work.

Speed

Other kinds of spatiotemporal cohesion relate to the rate at which operations are carried out, for example the very high-speed handling and manipulation of piglets during 'litter work'. During this, whilst injecting and tooth clipping newborn animals, the stockman makes scores of rapid hand-eye co-ordinations, driven by the ticking of the invisible production clock, and by the limited time span of stress which the animals can tolerate at such a young age. He achieves all these movements, and maintains pace through his bodily memory of a learned sequence of micro movements. Virilio's (1977) discussion of dromology (the science or logic of speed), suggests that the speed at which something happens can effect changes to the essential nature of the thing involved, a concept which anticipates recent theorisation of the 'speeding up' of culture in the technological age (Urry 1999, Gane 2006). In this case the 'things' being affected are pigs themselves, and stockmen's practice.

Munn (1992) prefaces her consideration of the structure and prevalence of 'clock time' in the nineteenth and twentieth-century urban West by discussing the, 'actor's speed to some defined standard of timing…conjoining body time and an external motion used as a reference point to reckon people's time relative to a desired accomplishment'. In the context of the pig unit the biological feeding and breeding cycles of the animal 'actors' dictate much of the speed of work for the human 'actors', and both these sets of 'actors' must, in due course, comply with the 'external motion' of the meat production system in which they are implicated. Munn's description of how clock time and body time reciprocally work to take on meanings from each other in a mutually referring process, and her proposal that, 'temporalisation is going on in multiple forms "all the time"' (ibid.: 104) apply within the context of livestock production, but it is the second clause which is most relevant since stockmen must seamlessly synchronise the temporalisation of clock time, their own body time, and the reproductive cycles of animals. Furthermore, as 'clock time' reaches, 'into the body to fuse with body time and space and back out into the visible object world of clocks and bells which cohere with the wider cosmic order of industry, science, and technology' (ibid.: 111) all elements of clock time, human time, and pig time must correlate with industrial and technological itineraries.

The strength of the linkage between such intersecting itineraries was suggested in during an interview with Brian and two maintenance men:

> It's a controlled environment. It's the right temperature and the right air and ventilation. It's all part of it. You couldn't do it without that technology. It's all part and parcel of it, right down to the feeders, the lights, the taps… right down to the shovel and the wheelbarrow. It's all essential equipment that we use, essential to the pigs because I can't look after the pigs without the equipment and the facilities, and Dave with the maintenance. You know you can't do it without each other. What I'm saying is the chaps who deliver the meal, the people who make the meal, the pellets, the people who bag the pellets, all that sort of thing, that's all part and parcel of what we do.

In this statement the stockman is highlighting the way in which pig production relies on a supporting network of people, both on and off site whose actions are co-ordinated across place and time so as to effect the most productive working relationship between humans and pigs. This calls up Ingold's (2000: 325) notion of the 'taskscape' in which all tasks are performed in a setting involving the co-presence of others, all of whom must synchronise their actions, so as to work effectively at speed together. Using this definition, the stockman's work can be understood as spatio-temporal co-performance, collaboration, and co-production.

Domestic time: engendering time

While the indoor pigs' working environment is extensively mediated and supported by technological means, the place also constitutes the 'home' of the animals, who are after all referred to as 'domestic', or 'domesticated', categories which connote a further set of understandings and usages of time. Interpretations of time focused on the domestic are relevant since all the stockmen employed on the unit are accommodated, with their families, in cottages situated within a few yards of the buildings where the pigs live. Because of the physical proximity of stockmen's houses and animals' houses, the categories 'home' and 'work' tend to overlap; stockmen are constantly 'on hand', available to return home, or return to work as circumstances demand. Stockmen expend their paid work-time in the houses of the pigs, whose 'living' is, in turn, wholly dependant on their involvement in the work of production.

Much of the work of caring for domesticated animals involves activities and approaches paralleled by work in the human domestic sphere; feeding, cleaning, nurturing young. Drawing on Thompson (1967), who describes domestic work as, 'not wholly attuned to the measurement of the clock', Ingold (2000: 331) notes that in the, 'interplay between the task orientated time of the home and the clock time activities of the workplace' distinctions have been made, 'along lines of gender…with women…more committed to task oriented time and men more committed to clock time'. Theorisations by Irigaray (1973), Valentine (1992), Cixious (1997), May and Thrift (2001), Davies (2001), and Probyn (2001) give attention to gendered, female perceptions of time. In the context of pig production, a largely male dominated industry, distinctions

of the kind Ingold proposes, linking feminine and domestic time are not clear cut, since it is men who undertake the majority of the 'housekeeping' tasks, immersing themselves in routines necessary to support the exclusively feminine events of pregnancy, labour, birth, suckling. While the external production clock sets the tempo of work for men and pigs, stockmen must schedule their 'housekeeping' tasks so as to take account of the female biological rhythms which pervade the place.

Through the agency of stockmen's time management, farrowing and weaning figure as strongly marked phases in which the gendered categories of men and sows appear to be rendered coextensive and coeval, since the stockmen must work 'in time' with the biological exigencies and domestic needs of the sows. Given that there is some degree of gender-role 'slippage' for both parties in that men must clean and feed, and sows must literally labour and produce, the resulting human–animal relationship takes place in what might be described as cross-species, inter-gender time. In these circumstances the possibility of distinguishing between exclusively male and female domestic attributes, or between human and animal domains of temporality and labour, is fraught with uncertainty. Crandall (1998) and Hugh-Jones (1979) have both examined the way in which the idiom of time itself, and the time attaching to human-animal interactions function as structuring features in human social relationships. Hugh-Jones has shown how symbolic exchange between constructions of male and female gender roles is used to promote change or regeneration amongst the Barasana of Amazonia. While these works provide important anthropological precedents concerning the importance of time in cross-gender and cross-species interactions, the subject of 'borrowing time' from other species and genders has received little attention in studies of practical livestock production in the industrial West and would bear further investigation.

The question of whether domestication is, by default, synonymous with domination has attracted much attention, and continues to do so; Wilson (2007), Cassidy and Mullin (2007). Godelier (1980) has considered the transforming influence exerted by technology on the natural world, and within agricultural contexts much of the technological enterprise of the late twentieth century has been directed towards breaking the constraints of naturally occurring seasons and forces, trying to 'beat the clock' or 'beat nature'. Contemporary pig production provides a good example of this; provision of 17 hours light per day stimulates sows' reproductive cycles enabling them to produce 2.4 litters annually as opposed to the single litter feral sows produce. The reality of this advance is that sows are now 'in production' around the clock, for 365 days every year, and failure to maintain this level of production results in a single result: culling. The ethical shortcomings of such uncompromising productivity benchmarks have been highlighted by Harrison (1964), Singer (1976), Serpell (1996), and are currently under review by organisations such as Compassion In World Farming (see Arey and Brooke 2006). Fabian (1983) has observed that, 'there is a politics of time - the radical contemporaneity of *mankind* is a project' (my italics). For better or for worse, livestock have increasingly become involved in the processes of commodification, which are facilitated by the 'project' of universal and 'radical contemporaneity' to which Fabian refers. At a time of escalating concern around food policy and livestock welfare, the commodification of animals is becoming politicised. Alert and well-informed consumers are becoming increasingly aware of how globally connected markets require the articulation of people, and animals, 'into a wider politico-cosmic order, a world time of particular values and powers' where, 'control over time is not just a strategy of interaction' but also a 'medium of hierarchic power and governance', as proposed by Munn (1992: 111, 109). Fabian and Munn point to questions of crucial importance: what are the ethical implications of drawing animals ever further into the highly pressurised timescales which commodity production involves? How might appropriate timescales, or working limits be demarcated for livestock raised in a rapidly expanding and highly competitive world market where different kinds of social relationships involving humans and animals obtain? How are the biological rhythms of animals to be accommodated or valued in an all embracing politico-cosmic order which relies extensively on synchronised production and trading across global markets? Some of the problematic encounters indicated by these questions are discussed at length by Franklin (2001, 2007) and Law (2003).

Conclusion

Munn (ibid.: 93, 107) suggests that time both pervades and fragments across all the dimensions and topics anthropology deals with in the social world, making any attempt to describe it liable to be situated and partial. Anthropology must therefore, 'take account of agent's strategic manipulation' of time rather than attempting to define it according to a series of fixed rules. This theory is compatible with the circumstances of the research context described above, since my informants have shown how the category of time is heterogeneous, embracing a variety of subtypes. To give 'time' as a single generic category, or to attempt a neat division of stockmen's time into production schedules, and biological 'seasons' would be reductive, missing the point that good stockmen are adept time-keepers and time-makers. Their routines of work must recognise the limitations and the potentials of sow's seasons, annual seasonality, gendered time, and politico-economic orderings of time. These subtypes intersect and are superimposed one over another in an infinite number of layers. Like any other construct, each of the subtypes are vulnerable to disruption or breakage, and stockmen attach great importance to the mutually referring acts of making time, measuring time, and keeping time.

Time is kept, in part, through the sustained work of keeping, or maintaining the workplace shared by humans and livestock. Stock work appears to be less concerned with the standardisation of time itself, and more concerned with the pursuit of standard production times which are viable for animals, and achievable within a given, technologically supported environment. There are no obvious comparisons to be made between stock work and other industrial occupation which involves clocking on/off, and the frenetic activity demanded by piecework. While the pig unit is a busy place, stockmen alternate between fast work involving large groups of animals, and slower work involving individuals, and it is during phases of fast work that stockmen compile mental indexes of the places, things and animals they will revisit to give more protracted, specialised attention.

Miele and Bock (2007) give animal 'welfare' as a malleable concept, interpreted very differently by geneticist, farmer, consumer, or animal activist. Having spent time in the kind of environment which tends to attract attention from critics who claim that livestock are no longer 'known' as individuals, I would suggest that the question, 'what is her name?' cannot be replaced with, 'what is her number?', as no living slaughter pig receives an individual ID number. Instead the question might more usefully be, 'what is her time?' since the more skilled a stockman is at 'telling the time' of his/her animals, the more effective he/she will be at administering good routines of care. Knowing the time of the animal is synonymous with knowing the needs of the animal; both are forms of knowledge which depend on experience, intuition, and practice. But, as Haraway (2006: 79, 80) suggests, meat production involves the, 'ecologies of all mortal beings, who live in and through the use of one another's bodies' and, 'the problem is to learn to live responsibly within the multiplicitous necessity of labour and killing'. So, in the context of industrial livestock production stockmen must answer to the twin imperatives of empathetic care and economic return; a point that they were acutely aware of during 2007-2008 when some units were losing between £15 and £26 on every pig reared, and when foreign meat imports, produced under circumstances which are now illegal in Britain, continued to flood the market.

As animals are drawn into and through production time, specialist stockmen like the one I describe engage intensively with the minutiae of physical timescales attaching to large, transitory groups of breeding females. It is through this interaction that another level of hybridity is effected, since making time and making pigs become fully coextensive processes. Furthermore, within a context where architecture (space), and work (physical acts) are tightly intermeshed, the conjunction of time making and pig making produces a hybrid of another kind, embodied in the person of the 'pig-man' himself. I use the term not in its derogatory sense, but as an indicator of the complex but under-acknowledged fusions which exist between humans and livestock, and which reside in stockmen's nuanced and highly specialised understandings of the medium of time.

Glossary of stockmen's terms used in this account

Breeding herd: Refers collectively to young females (gilts) and to older females (sows) who are expected to produce around six litters of piglets during their lifetime. As their prolificacy, or fertility, begins to decline at about three years of age, litter sizes decrease, and sows are then selected for cull. The breeding herd, therefore forms a transitory population, undergoing a perpetual process of replacement undertaken to ensure that the herd is 'kept young' and as (re)productive as possible.

Dry sow/dry sow house: Sows are classified as 'dry' as soon as they have had their litters removed from them. This is the point at which they exit the farrowing house and return to the dry sow house. They retain this nomenclature until the birth of the next litter when they revert to being 'suckling' sows.

Farrow: To farrow is to produce a litter; therefore the term refers to the process of giving birth.

Farrowing and weaning yard: Area of the pig unit set aside for the care of sows in the final days of pregnancy, newly delivered sows and their litters, and newly weaned young pigs. Each of these three groups have dedicated housing and are cared for by the farrowing and weaning yard manager who has specialist expertise relating to birth and neonatal care. Sows are confined in farrowing crates during their short stays on this yard.

Finishers: Term applied to pigs who have left the farrowing and weaning yard, and who are in the process of being grown and fattened in readiness for finishing, i.e., slaughter. Finishers are reared within a discrete part of the unit.

First-stage weaners: Young piglets who have just been separated from their mothers.

Flat decks: Specialised accommodation for young pigs who have moved beyond first-stage weaning.

Gilt: Young female pig. The term is applied to those who have yet to produce a litter, and to those who are pregnant with, or suckling their first litter.

Intensive: (a) High turnover, rapid industrial production. (b) The system of keeping pigs in indoor accommodation. In practice the two meanings are conflated since the high costs of indoor production have to be supported by the highest possible, economic returns.

Litter: Group of piglets produced at one time by one sow. Within the system under discussion, litters might comprise as few as five piglets, or as many as 17, but the more usual number would be around 10.

Parity: Term encompassing the whole of one reproductive cycle for a sow or gilt: gestation, birth, and suckling of the litter.

Pig: (a) Alternative term for farrow, or give birth. (b) Nomenclature applied by stockmen to pigs in the slaughter generation who are not generally referred to as male or female, boars or gilts respectively, since their sex is immaterial given that they will never enter a breeding herd or become reproductively active. Slaughter is timed to occur before sexual maturity is established, i.e., at around 160 days of age.

Season: Refers to the time of oestrous, or ovulation in gilts/sows.

Service: Stockmen's term for mating of sows/gilts with boars, or impregnation of sows/gilts using artificial insemination, which is the predominant method within intensive systems. Service takes place on a discrete area of the unit, and is supervised by a stockman with specialist knowledge of reproductive cycles and their management. In this area sows are loose housed in straw pens in small groups of six to eight.

Slaughter generation: Refers to all the young pigs that are born and reared on the unit.

Sow: Adult female pig that is reproductively active and has already produced a litter.

Suckling: Sow's lactation process. Young piglets are known as suckling pigs during the time that they feed from their mothers.

Unit: The unit consists of three distinct areas or yards adjacent to one another: the farrowing and weaning yard, the service yard, and the growers and finishers' yard. Each of these is run by a stockman with specialist skills and knowledge relating to the production stage with which he deals.

Weaning: Moment when young piglets are separated from their mothers.

References

Arey, D. and P. Brooke. 2006. *Animal Welfare Aspects of Good Agricultural Practice: Pig Production*. Petersfield: Compassion In World Farming Trust.

Bourdieu, P. 1977. *Outline of a Theory of Practice.* Cambridge: Cambridge University Press.

Bourdieu, P. 1990. *The Logic of Practice.* Stanford, Stanford University Press.

Carlstein, T. et al. (eds). *Timing Space and Spacing Time (Human Activity and Time Geography).* London: Edward Arnold.

Casey, E. 1996. 'How to Get from Space to Place in a Fairly Short Stretch of Time' in Feld, S. and K. Basso (eds) *Senses of Place.* Santa Fe: School of American Research Press.

Cassidy, R. 2002. *The Sport of Kings: Kinship, Class and Thoroughbred Breeding in Newmarket.* Cambridge: Cambridge University Press.

Cassidy, R. and M. Mullin (eds). 2007. *Where the Wild Things Are Now: Domestication Reconsidered.* Oxford: Berg.

Cixious, H. 1997. *Rootprints: Memory and Life Writing.* London: Routledge.

Cole, D. et al. 1994. *Principles of Pig Science.* Nottingham: Nottingham University Press.

Crandall, D. 1998. 'The Role of Time in Himba Valuations of Cattle', *The Journal of the Royal Anthropological Institute* 4(1): 101 – 114.

Davies, K. 2001. 'Responsibility and Daily Life' in May, J., and N. Thrift (eds) *Timespace: Geographies of Temporality.* London: Routledge.

Dillon, B. 1997. 'The Carcass of Time', *Oxford Literary Review* 19: 133 – 148.

Durkheim, E. 1915. *The Elementary Forms of the Religious Life.* London: Allen and Unwin.

English, P. et al. 1992. *Stockmanship: Improving the Care of the Pig and Other Livestock.* Ipswich: Farming Press.

English, P. and O. McPherson. 1998. 'Improving Stockmanship in Pig Production and the Role of the EU'. Retrieved 8 April 2002 from Leonardo Initiatives www.gov.on.ca/OMAFRA/english/livestock/swine/facts/ article.htm.

Evans Pritchard, E. 1940. *The Nuer.* Oxford: Clarendon Press.

Fabian, J. 1983. *Time and the Other: How Anthropology Makes its Object.* New York: Columbia University Press.

Feld, S. and K. Basso (eds). 1996. *Senses of Place.* Santa Fe: School of American Research Press.

Foucault, M. 1979. *Discipline and Punish.* New York: Vintage Books.

Franklin, A. 1999. *Animals and Modern Cultures. A Sociology of Human Animal Relationships in Modernity.* London: Sage.

Franklin, S. and M. Lock (eds). 2003. *Remaking Life and Death: Towards an Anthropology of the Biosciences.* Oxford: James Currey.

Franklin, S. 2001. 'Sheepwatching', *Anthropology Today* 17(3).

Franklin, S. 2007. *Dollymixtures: the Remaking of Genealogy.* Durham: Duke University Press.

Hugh-Jones, C. 1979. *From the Milk River: Spatial and Temporal Processes on Northwest Amazonia.* Cambridge: Cambridge University Press.

Gane, N. 2006. *'Speed up or Slow Down? Social Theory in the Information Age', Information, Communication and Society* 9: 20 – 38.

Gell, A. 1992. *The Anthropology of Time: Cultural Constructions of Temporal Maps and Images.* Oxford, Berg.

Godelier, M. 1980. 'Aide-memoire for a Survey of Work and its Representations', *Current Anthropology* 21: 832 – 835.

Gray, N. 2000. *At Home in the Hills: Sense of Place in the Scottish Borders.* Oxford: Berghahn Books.

Haraway, D. 1991. *Simians, Cyborgs and Women. The Reinvention of Nature.* London: Free Association Books.

Haraway, D. 2003. *The Companion Species Manifesto: Dogs, People and Significant Otherness.* Chicago: Prickly Paradigm Press.

Haraway, D. 2006. *When Species Meet.* London: University of Minnesota Press.

Harrison, R. 1964. *Animal Machines.* London: Vincent Stuart.

Holloway, L. and C. Morris. 2007. 'Exploring Biopower in the Regulation of Farm Animal Bodies: Genetic Policy Interventions in UK Livestock', *Genomics, Society and Policy* 13(2) 82 -98.

Ingold, T. 2002. *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill.* London: Routledge.

Irigaray, L. 1973. *This Sex Which Is Not One.* Paris: Editions de Minuit.

Latour, B. 1997. 'Trains of Thought: Piaget, Formalism and the Fifth Dimension', *Common Knowledge* 6: 170 – 191.

Latour, B. 2005. *Reassembling the Social: An introduction to Actor-network Theory.* Oxford: Oxford University Press.

Lave, J. and E. Wenger. 1991. *Situated Learning: Legitimate Peripheral Participation.* Cambridge: Cambridge University Press.

Law, J. 2003a. 'Objects, Spaces and Others'. Retrieved 16 October 2008 www.comp.lancs.ac.uk/sociology/papers/Law-Objects-Spaces-Others.pdf.

Law, J. 2003b. 'Networks, Relations and Cyborgs: On the Social Study of Technology' Retrieved 16 October 2008 www.comp.lancs.ac.uk/sociology/papers/Law-Networks-Relations-Cyborgs.pdf.

Law, J. 2004. *'Disaster in Agriculture; Or Foot and Mouth Mobilities'.* Retrieved 16 October 2008 www.comp.lancs.ac.uk/sociology/papers/ Law-Disaster-Mobilities.pdf.

Leach, E. 1982. *Social Anthropology.* Glasgow: Fontana.

Levi Strauss, C. 1983. *Structural Anthropology.* Chicago: University of Chicago Press.

May, J. and N. Thrift (eds). 2001. *Timespace: Geographies of Temporality.* London: Routledge.

Miele, M. and B. Bock. 2007. 'Editorial: Competing Discourses of Farm Animal Welfare and Agri-food Restructuring', *International Journal of Sociology of Food and Agriculture* 15(3).

Merleau-Ponty, M. 1998 (1945). *The Phenomenology of Perception.* London: Routledge.

Munn, N. 1992. 'The Cultural Anthropology of Time: A Critical Essay', *Annual Review of Anthropology* 21: 93 -123.

Philo, C. and C. Wilbert (eds). 2000. *Animal Spaces, Beastly Places: New Geographies of Human-animal Relationships.* London: Routledge.

Probyn, E. 2001. 'Anxious Proximities: The Space-time of Concepts', in May, J. and N. Thrift (eds). *Timespace: Geographies of Temporality.* London: Routledge.

Postill, J. 2002. 'Clock and Calendar Time: A Missing Anthropological Problem' *Time and Society* 11(2-3): 251 – 270.

Serpell, J. 1996. *In the Company of Animals.* Cambridge: Cambridge University Press.

Singer, P. 1976. *Animal Liberation.* London: Jonathan Cape.

Theodossopoulos, D. 2003. *Troubles With Turtles: Cultural Understandings of the Environment on a Greek Island.* Oxford: Berghahn Books.

Thompson, E. 1967. 'Time, Work and Discipline in Industrial Capitalism', *Past and Present* 38: 56-97.

Thrift, N. 1996. *Spatial Formations.* London: Sage.

Thrift, N. 2006. 'Space'*, Theory, Culture and Society* 23(2 - 3): 139 -155.

Thrift, N. 2008. *Non-Representational Theory: Space, Politics, Affect.* London: Routledge.

Urry, J. 1999. *Sociology Beyond Societies. Mobility for the Twenty-first Century.* London: Routledge.

Valentine, G. 1992. 'Images of Danger: Women's Sources of Information about the Spatial Distributions of Male Violence', *Area* 24: 22 – 29.

Virilio, P. 1977. *Speed and Politics: An Essay on Dromology.* New York: semiotext(e).

Waquant, L. 2004. *Body and Soul: Notebooks of an Apprentice Boxer.* Oxford: Oxford University Press.

Whittemore, C. 1998. *The Science and Practice of Pig Production.* Oxford: Blackwell Science.

Wilkie, R. 2005. 'Sentient Commodities and Productive Paradoxes: The Ambiguous Nature of Human-livestock Relations in Northeast Scotland', *Journal of Rural Studies* 21: 213 – 230.

Wilson, P. 1988. *The Domestication of the Human Species.* London: Yale University Press.

Wilson, P. 2007. 'Agriculture or Architecture? The Beginnings of Domestication' in Cassidy, R. and M. Mullin, (eds), *Where the Wild Things Are Now: Domestication Reconsidered.* Oxford: Berg.

Young, A. 1799. *General View of the Agriculture of the County of Lincoln.* London: unknown.

Young, A. 1969 (1813). *General View of the Agriculture of the County of Suffolk.* London: David and Charles Reprints.

Acknowledgements

I am grateful to the following for their support and encouragement during my anthropological research and production of this paper: Arts and Humanities Research Council; FXP London, for image processing; Goldsmiths College Department of Anthropology staff, most especially Dr Rebecca Cassidy; to Olivia Swift, Liz Ogden and David Janes; and to pig stockmen and farm staff at my fieldwork site in East Suffolk.

Reprise

The following sequence of images shows some of the locations within the pig production unit described previously, revisiting and expanding themes explored in the text. During fieldwork interviews, stockmen provided me with their own accounts of their work and the location within which they carry it out. In order to augment my analysis, selected sections of this interview material have been used for many of the image captions in which stockmen describe objects, actions, and relationships from their own professional perspective.

‘That’s the feed pipes from the bins to the gilt shed. There’s a house, not mine, it’s Frank’s, next door to mine. He the gamekeeper. I’m on the other side. I live very close to my place of work, without a doubt.’

Video still: ‘The calculator I use for adding up the number of pigs that I’m weaning, dividing them by the numbers of pens that they’ve got to go into, erm, how many pigs I’ve had born, how many pigs we’re going to wean, how many pigs we’ve lost, what the percentage is over the whole groups of sows. So yeah, that’s mainly what I use it for. I wouldn’t say I use it daily, but probably every other day for a matter of five minutes.’

‘That’s the farrowing book where I record all the births, the pen numbers that the sows are in, the vaccinations that I give the sows, the numbers of pigs that are born, weaned, it’s all recorded in the book. Again I probably spend, depending on how many sows I’ve had farrow, you know I might be two minutes a day, might be 10 minutes a day depending on whether I write up three at a time or 10 at a time. Then there’s the weekly sheet, which I get from the office which has got all the information on; pigs weaned, pigs moved out, pigs born, pigs dead. I cross reference the weekly print out with my farrowing book to make sure. We now get a monthly sheet, but the problem with that being is that it’s month later, so any discrepancies I find are a month old.’

Video still: Various hooks and nails support an old-fashioned set of spring scales, three spare sets of overalls, and two baseball caps, while on an adjacent cork notice-board sheets of information concerning health and safety law, fire drill, disease precautions, and an obscene cartoon involving a man and a bear are secured by rusty drawing pins.

Video still: In the office most of the available floor space is taken up with bins, large cardboard cartons of supplies awaiting unpacking, and three ancient wooden dining chairs whose creaking rails are festooned with jackets, fleeces, and other warm outdoor wear.

Video still: The top of the fridge is clothed in black dust and provides a convenient work surface where Brian always places his ‘litter work’ equipment: multi-injector, tail-docker, teeth-clippers, antiseptic navel spray, marker spray, and various other odds and ends, all kept together in a plastic tool box.

‘The crate is to restrain the sow for the time she’s in there, from two or three days before she farrows, and after she’s farrowed she’s in there for three weeks. The main reason for the crate is to keep her and the pigs safe, so we can give her the attention she needs, and the pigs can have the attention they need. Hopefully they can avoid being crushed by her all the time she’s in there. You’ve got the trough at the front which is obviously where we put the food. There’s also a drinker at the front so she can drink whenever she needs to. There’s also the tap at the front so when we’re feeding we can put extra water in for her because the food’s very dry. Then you’ve got the bars along the side which are to stop her crushing pigs, and to restrain her and keep her where she’s supposed to be. One of the bars moves so she can lie down comfortably. The top bars are to stop her jumping out should she feel the need to. The back gate is where she goes in and where she’s shut in. The board is to keep the pigs where they should be with the right mother. There is a safety aspect as well because the sow can’t get to you if they become agitated or vicious while we’re doing whatever we do to the pigs. But the main objective of the crate is to keep her and the pigs safe and where they should be for the time we’re looking after them.’

‘That’s me assisting a sow. Again, sometimes you spend 10 minutes, but Monday I spent half a day with one sow, backwards and forwards all day to the one sow. But you know, sometimes it can be once, and an injection [oxytocin is sometimes administered to induce labour] and then nothing else goes wrong. Sometimes it can be an injection, and then back, and back, and back all day. Normally it’s only a matter of two or three minutes that I’m actually assisting them, and while doing that, making a decision if you like, and a judgment about whether she’s going to carry on OK, whether she’s going to need more assistance, whether the pigs are going to be viable. I don’t have to assist them very often, touch wood. It can be as much as three sows a day, and it can be as much as a week or 10 days, or maybe a month and not have to do any. It just depends on different circumstances.’

‘That’s obviously one that’s just been born, so hopefully in a very few minutes he’ll be up and about and round at the milk. The instinct is to make his way round to where the milk is, but the reality is sometimes, be it indoors or outdoors, they go the wrong way; they might go to the light, they might go to the back, and they might get cold, but hopefully I’m there enough to pick them up and move them in the right direction. But 99 times out of 100 their instinct is to get straight up and go to the teat.’

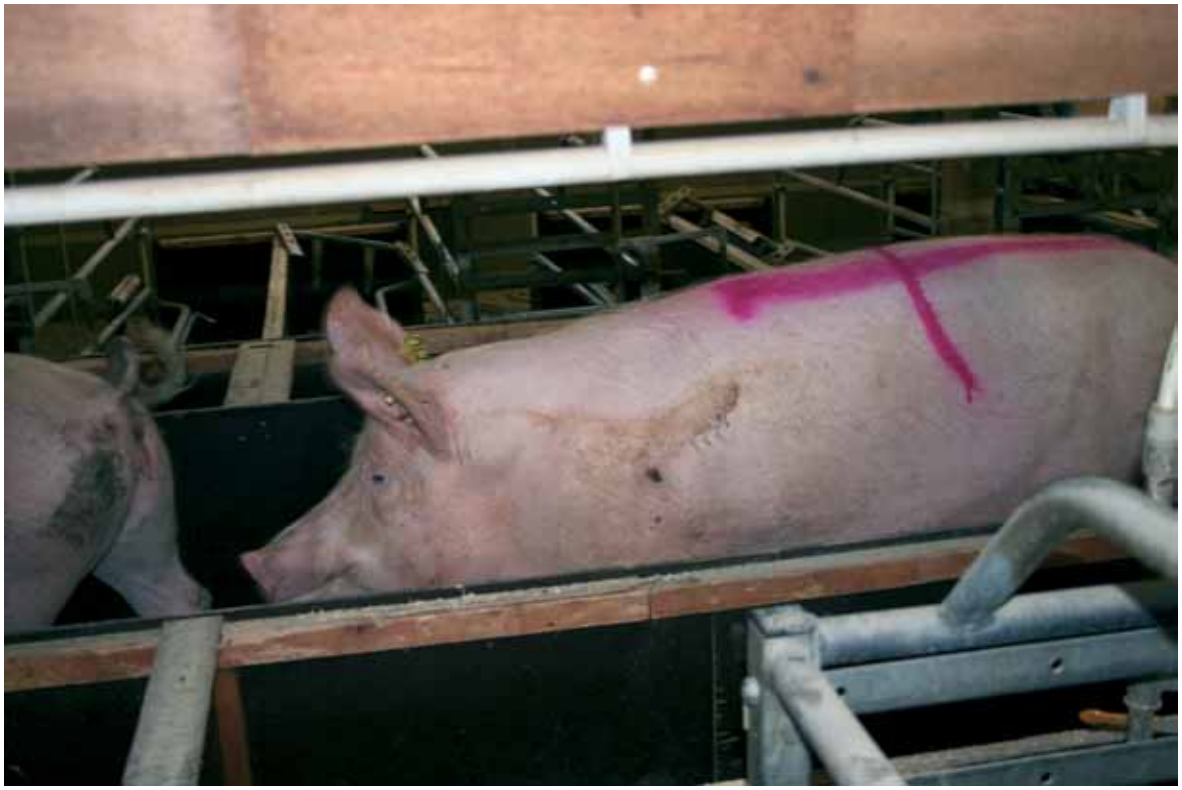
‘These ones here are all suckling away as they should be. I think if you had time to study it you would find the stronger pigs tend to go to the front or the middle teats because they’re going to be the most accessible. Being the stronger pig, they’re going to push their way, and demand that they’re there. You normally find that the smaller, lesser pigs get pushed along the line to the back. You’d probably find that the stronger pigs are at the same teat most times. If you’ve got two sows with a litter of a 15 and a 9, you’d take two or maybe three and put them on the one with 9. You then can’t really put them back. You’re just too late to go back so you try not to do it. You only want to move pigs once if you can, and then leave them there till they’re weaned… That could be where they’ve marked her when they’ve been fighting for a teat. We do the teeth clipping to avoid them injuring her, and themselves, and to make her more comfortable. Obviously if they’re nipping her, she jumps up and down in the crate and then all hell breaks loose.’

‘Taking the tails off, tail docking, again not a very long process, probably a matter of a second per pig. The reason we do it is obviously to stop any tail biting later on in the system, because we are an intense stock system and it’s a vice which they have, not just for tails. It could be anything, could be an ear, could be a tail, could be a bit of string, could be a piece of board, anything they can bite, chew, manipulate, they will. If it’s a tail, obviously it has dire consequences for the one that’s having his tail chewed so this is the reason we take the tails off when we do, normally within 12 hours of birth. It’s a hot blade which goes through and cauterises; sears it as it goes through and seals it all up at the same time to stop any infection getting in. It’s fairly pain free, because it’s so hot.’

‘That’s weaning. Ludis is handing the pigs to me and I’m vaccinating them before they’re weaned. The pigs have all been shut in previous to that, and then we go along and take all the pigs out. They’re handed to me and I vaccinate them. They go in the trolley. We take all the pigs out of one room at a time. All the pigs are weaned at three weeks old, and they’re about nine or 10 kilos when they’re weaned, but there could be a variation of dates and weights, it’s three weeks basically from when they were born. They’re nearly a kilo when they’re born; that’s about the weight of them.’

‘That’s the trolley being pushed to the flat decks, with the amount of pigs that we’re going to put into each pen, be it 15, 16, 18, whatever it is. We obviously divide the amount of pigs we’ve got in each room by the number of pens they’re going into. Depending on what that is, that determines what goes into the trolley. They go into the flat decks where they’re put on to high protein food. The environment is very similar to the farrowing houses. It’s a warm environment, a very clean environment, pens with plastic floors. The main difference is obviously they’re away from the mother, and in their own pens with drinkers at one end and feeders at the other end. Hopefully most of the time you’ve got pigs from only two litters, maybe three, mixed. We go through the farrowing house in order, so that we take pigs from each pen as we go. So if we’re doing a 15, there’ll be 10 from one litter and five from the next…so hopefully we’re keeping mixing to a minimum.’

‘OK. You’ve got the sow in the crate. She’s been weaned, so she’s waiting to be moved out of there back to the dry sow house. She’d only be there [waiting in the crate after weaning]…for a very short time once the pigs have been weaned and emptied out the farrowing house. Then we’d take the boards out the back of the crate, take her out of the crate.’



‘That’s a sow now being weaned and she’s got a red cross on her back, so she’s going to be culled. She’s come to the end of her production cycle either because she’s had low numbers born, or she’s not reared very good numbers, or just because she’s got to the age where it’s time for her to go. Her production cycle has come to an end. Or it could be a physical thing, she could be injured or lame. So she’s been marked for that reason, to go, to be culled. She’ll go away and be, er, with other sows, there’d be one or two sows per week till we get a lorry load of 15 or 16, and then they go off to be killed, culled, and processed for the food chain.’

‘This is loading the sows, on a Thursday, me and Adam and Ludis, moving the sows round after they’ve been got out of the farrowing houses, and then them being shepherded round on to the alleyway to go on to the trailer to be moved to the other end, to the sow houses, to the boars, for serving. The cull ones are in there as well. They get segregated round at the other end into the cull pen. The other sows go into the dry sow house and are put onto ad lib feed until the Monday, then in the afternoon they’re got out and hopefully they’re on heat ready to be served again, and the process starts again.’

Research in the Department of Anthropology at Goldsmiths

The Department of Anthropology at Goldsmiths provides a lively, interdisciplinary environment for research and postgraduate students. Our staff members have interests in Latin America, East, West and Central Africa, South Asia, the Pacific, Europe (including Britain, Eastern Europe, Scandinavia and the Mediterranean area) and the Caribbean. The teaching in the department also stresses the relevance of anthropology to understanding the society in which we live, and our own place within it. Because Goldsmiths is a college of the University of London, students also have the opportunity to attend seminars and courses throughout the university, as well as availing themselves of the excellent library facilities of Senate House and the constituent colleges.

Special features include:

A multi-disciplinary department with specialist interests in the environment, peasantries, political economy, kinship, gender, sexualities and identities, power and transnational processes, institutions and organisations, medical anthropology and health, the European Union, development, Marxism and post-structuralism, media and visual anthropology, material and popular culture, and the Caribbean

The department offers a wide range of undergraduate and postgraduate degree programmes. Please visit www.goldsmiths.ac.uk/anthropology for further details.

Extensive computing facilities and direct access to the campus network. Wide range of packages, including email and Internet, SPSS, Endnote, Microsoft Office, AppleMac and other software, according to individual needs

Close links with other departments (particularly Sociology, the Community and Youth Work section of Professional and Community Education, Politics, Centre for Cultural Studies, Media and Communications)

Anthropology students are welcome to attend postgraduate seminars in other parts of the college.

Research links with other private and public institutions: Institute of Latin American Studies, CNRS (in Paris), Federal University of Bahia (Brazil), Royal Anthropological Institute, School of Medicine at St Mary's Hospital

Other links: National Maritime Museum, Institute of Commonwealth Studies, Socrates Erasmus Programme (which involves anthropology departments in the Universities of Amsterdam, Lisbon, Oslo, Siena and Stockholm)

Previous GARPs:

1. Gorer's Gaze: aspects of the inauguration of audience studies in British television. *Gareth Stanton*

2. Perilous Ideas: anthropological debates in cross-cultural arts projects. *Eleanor Jupp*

3. Identity, Resettlement and Perceptions of Change: the Vasava Bhils of Gujarat, India. *Roxanne Hakim*

4. The Virile Nation: gender, ethnicity in the re-construction of Argentinian pasts. *Victoria Goddard*

5. Enabling Fictions: politics, representation and the environment in Maluku, Indonesia. *Nicola Frost*

6. The 'Politics of the Everyday': populism, gender and the media in La Paz and El Alto, Bolivia. *Sian Lazar*

7. Life Down Under: water and identity in an Aboriginal cultural landscape. *Veronica Strang*

8. 'Sit anywhere you like, we're all friends together': reflections on bingo culture. *Katherine Mann*

9.Studying World Society. *Keith Hart*

10. Negotiating Autonomy: girls and parental authority in multiethnic Norway. *Hilde Lidén*

11. Anthropology and Anarchism: the elective affinity. *Brian Morris*

12. The Devil is in the Details: representations of conflict in Northern Maluku, Eastern Indonesia. *Christopher R. Duncan*

13. The People's Puzzle: crosswords and knowledge politics. *Olivia Swift*

14. Seascapes: tides of thought and being in Western perceptions of the sea. *Jake Phelan*

15. Indigenism and Cultural Authenticity in Brazilian Amazonia. *Stephen Nugent*

Rapid advances in the industrialisation and increased productivity of British livestock farming since the 1950s have been accompanied by public anxiety concerning a range of issues, especially the ethics attaching to livestock care, slaughter, and consumption. Drawing on ethnographic data derived from fieldwork on an indoor intensive pig unit, this paper aims to address the question of how to combine intensive farming with responsible care of animals, and focuses in particular on how stockmen mobilise the idiom of time in the construction of relationships with their livestock. Stockmen's accounts of daily routines of care, control, and organisation reveal how elements of clock time, human time, and pig time are synchronized with industrial and technological itineraries. Insights provided by these accounts of overlapping varieties of time are used to suggest conflations of other kinds; between humans and non-humans, time and place, the industrial and the domestic - all of which emerge as fluid, or hybrid, rather than rigidly demarcated categories within the space of intensive livestock farming.