IMMANENT ANTHROPOLOGY

A COMPARATIVE STUDY OF 'PROCESS' IN CONTEMPORARY FRANCE

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ABSTRACT

This article presents a comparative critique of the 'processual temporalities' which infuse both social scientific theorising, and selected Western cultural practices. Through study of a public-private partnership which emerged from a biotechnology project devised for producing 'self-cloning' maize for resource-poor farmers, I analyse how processual temporalities were central to re-gearing knowledge practices towards market-oriented solutions. In a study of characterisations of the 'state of flux' which affects life in a French peri-urban village, I explore how processualism is identified as a component of a metropolitan hegemony which villagers 'resist' through idealising 'enduring temporalities' of cultural practice. Drawing on Arendt and Deleuze, I analyse processualism as a dominant contemporary chronotope, mediating and disciplining conflictive temporalities and practices, underwriting economic projects of deterritorialisation and restructuring—whose idiom is also prominent in social scientific paradigms. I substitute an 'immanent anthropology', which advocates a non-transcendental ontology of cultural practice and analysis—displacing anthropological analysis onto a polychronic temporal foundation.

process (n.): fact of going on or being carried on XIV; proceedings at law; outgrowth XVI; continuous operation XVII. (O)F. *procès* L. *prōcessus*, f.pp. stem of *prōcēdere* proceed.¹

Concise Oxford Dictionary of English Etymology

In the place of the concept of Being we now find the concept of Process.

—Hannah Arendt, The Human Condition

It is increasingly apparent that since the 1980s, 'process' has emerged as a central and governing trope in the Western social scientific imaginary.² While theoretical arguments for why this should be so have been widely voiced (e.g. Giddens 1979, Smith 1982, Wolf 1982), the social context for this intellectual transformation is less transparent, nor has the conceptual meaning of this influential trope been extensively debated (Hodges 2008:400–403, Lyman 2007). Following Michael Herzfeld's observation that one of the potential contributions of an anthropology of Western societies is its ability to analyse 'where "our" [anthropological] ideas come from' (Asad et al. 1997:713), in this article I explore correspondences between social scientific invocations of 'process' and 'processual temporalities' prevalent in selected Western cultural practices. The emergence of 'process' as a dominant analytical trope is also linked to an epochal revolution in the temporality of anthropological analysis, involving a shift from static, a-temporal analytical frames to approaches grounded in the ontological assumption that social life exists in 'time', 'flow', or 'flux'. This enquiry therefore takes the form of a comparative ethnographic study informed

by the anthropology of time. In the context of this special issue, I explore how processual temporalities in their multiple forms are both ethnographically emblematic of 'modern time', and also operate as a core trope of contemporary social science, and analyse this correspondence.

The impetus for this enquiry comes from research on how 'processualism' is manifested in Western European and scientific cultural practices. This primarily concerns ethnographic contexts in which processual temporalities are conspicuous and discursively enabling (Hodges 2010, 2012), and where they may be entangled with what can be termed processual or disciplinary 'regimes of truth' (Foucault 1980). A parallel focus, however, targets the temporal idioms of anthropological discourse, in which the concept of process, in the contemporary era, has acted as a core concept (Hodges 2008). Twenty years ago, Nancy Munn (1992:93) argued that 'when time is a focus [for anthropologists], it may be subject to oversimplified, single-stranded descriptions or typifications, rather than to a theoretical examination of basic sociocultural processes through which temporality is constructed'. Arguably, the dominant notion of timespace that underwrites contemporary anthropology is couched in the processual idiom, which Munn invokes. While this idiom is not necessarily oversimplified, it operates, in Osborne's (1995:28) definition, 'insofar as all such totalizations abstract from the concrete multiplicity of differential times co-existing in the global "now" a single differential ... through which to mark the time of the present'. In this sense, it anchors anthropological analysis in a potentially monological temporal outlook that can obscure as well as enlighten.

'Process', it can be proposed, has become such an integral cog in the doxa of social science that it is easy to forget that it is a socio-historical concept, a cultural figure with which to frame action and conjure 'time' (Arendt 1958:230-36). In its common, shorthand analytical form, it is used by anthropologists to construct the transcendent temporal unity of cultural practices, bounded or open-ended 'processes' often incorporating change but which exhibit a coherent, systematic set of linkages 'over time', which are documented ethnographically and require elucidation. 4 Simultaneously, it can invoke a diachronic, spatialised temporal foundation for study that, in the words of White (1959:16-17), views cultural practice as 'a stream flowing down through time [comprising a] process'. These words underwrite White's evolutionary approach, but they inhabit the same conceptual neighbourhood as influential contemporary formulations. One of White's students provides a familiar image, with the notion that 'the world of humankind constitutes a manifold, a totality of interconnected processes' (Wolf 1982:3)—itself echoed in a range of canonical texts with distinct genealogies and analytical foci that nevertheless concur on the processual character of social life and its rootedness in the 'flow of time' (e.g. Bourdieu 1977, Fabian 1983, Giddens 1979). Yet, notably, such works rarely define or clarify this constitutive processual ontology.5

Such uses of the concept are not necessarily teleological and can acknowledge emergence. And processes are sometimes said to co-exist and operate at different tempos, as the *Annales* historians notably argued (e.g. Braudel 1994).

But it is uncontroversial to assert that these assumptions underwrite an increasing majority of ethnographic and analytical practices. 'Process' is used to construct a relation in which past-present-future are conjoined in a structured epochal moment, usually for the purposes of achieving a future goal—as in Wolf's (1982) concept of 'historical processes'; or Bourdieu's (1977) notion of the gift as a temporal process of deferred reciprocity; or, in a precedent, Turner's (1969) concept of the 'ritual process'. It is also used, often simultaneously, to invoke the soul of 'time', a spatialised, riverine 'flow' or 'flux' in and through which processes unfold—that cousin to 'linear' or 'homogeneous empty time' (see Bourdieu 1977:8, Giddens 1979:55 cf. Agamben 1993:90-105, Hodges 2008:399-400). Processual transit towards future goals can thereby be conceived in terms of spatial direction. In this regard, 'process' is to the temporality of anthropological analysis what 'place' was to anthropological studies of community (Gupta & Ferguson 1997): it operates as a foundational core concept, furnishing a constructed epochal moment or temporal 'clearing' that serves (largely unquestioned) as a frame for study.

This correspondence between manifestations of processual temporalities in Western cultural practices, and the centrality of the processual idiom within the social sciences, invites closer examination. Could it be a case of anthropology's doxic Euro-American cultural foundations emerging in theoretical paradigms (Asad *et al.* 1997)? According to Arendt, one genealogy of processual time has played an influential role in the development of industrial societies, in a multiplicity of ways. Most significantly, this processualism concerns the

subjection of raw materials and people to *procedures* of production. Such procedures instrumentalise social relations and 'things' into means which are subsumed into end-products and their correlates in profit (Arendt 1958, cf. Thompson 1967). In this sense, it is a key template for modern social organisation—yet this materialist manifestation is paralleled in the increasing visibility of processual idioms in Western scientific, political and historical discourses from the 18th Century onwards (Arendt 1968). Arendt opposes this instrumental processualism with the disruptive character of human action, capable of initiating new processes, of which the emblematic symbol is birth ('natality'), suggesting that the value of processualism is ambivalent—a point to which I return (Arendt 1958:305–309, Passerin d'Entrèves 1994:53–58).

Another key processual idiom in Western discourse can arguably be traced to the pre-Socratics, notably Heraclitus (cf. Barnes 1987), and comprises that temporalized philosophical discourse which in its 20th century incarnation has been highly influential in shaping the social sciences, chiefly through phenomenological philosophy (Heidegger 1993, Merleau-Ponty 1962, Schutz 1967).⁶ In this respect, social life and time itself are viewed as inherently processual and the moment is subordinated to temporal flow, in the context of which it achieves its intelligibility. The prominence of this tradition since the early 20th Century should be viewed alongside the emergence of other processual idioms that Arendt identifies.

The heterogeneity of such idioms and cultural templates therefore suggests that

processualism is a *polythetic* category of cultural practices, with both academic and wider variants. Nevertheless, for Arendt (1958:232–33, 1968:62), these varieties of processualism are complexly related, as they appear to be in anthropological discourse—although it is unclear to what extent anthropological reliance on such idioms is related to wider socio-economic developments in Western societies, as this correspondence has gone largely unremarked in the literature. Jameson (1998:169–70) offers a more assertive outlook, suggesting that the hegemony of processualism:

... may be open to all kinds of other doubts and suspicions, particularly in a society whose current economic rhythms perpetuate and thrive on permanent change: capital accumulation, investment and realisation, the dissolution of stable firms and jobs into a flux of new and provisional entities, awash in structural unemployment, its cultural infrastructure committed to permanent revolution in fashion and to the imperative to generate new kinds of commodities, [or] in deeper crises ... wholly new production technologies.

Just as post-modernism is arguably the 'cultural logic' of late capitalism (and structural-functionalism that of the colonial era), one can infer that for Jameson, the hegemony of processualism is symptomatic of contemporary historical circumstances, and in particular, neo-liberal political economic practices (cf. Jameson 1991, Blackwell and Seabrook 1993). This view is echoed in Koselleck's (1985) analysis of the temporality of 'modernity', which is marked, he argues, by

the ideology that history and time are an incessant movement or process to which every historical object and actor is subordinated, and by a hegemonic processualism operating at the level of social organisation. In Koselleck's conceptualization, the increasing disjunction between contemporary 'horizons of expectation' and 'spaces of experience' ultimately enforces this triumph of the processual (ibid.:255–75).

Such correspondences are intriguing, if counter-intuitive, and suggest that some processual approaches may be marked by temporal obfuscation, and even ethnocentrism. It is also clear that the monological character of processual idioms can obscure those 'conflicts' in timespace that would become apparent with use of a differential, non-spatialised temporal idiom (e.g. Adam 1998, Gurvitch 1964). How can this correspondence between social scientific and Western temporalities be posed as an anthropological problem? The route adopted here is to undertake a comparative, exploratory 'anthropology of process'—in contrast to a 'processual anthropology'. This approach presents an ethnographic perspective on contemporary, processual, at times disciplinary regimes of truth, and includes anthropology within its scope. I proceed with two comparative ethnographic cases—of a multinational public-private partnership in agricultural biotechnology research based chiefly in Marseille, France; and of local conceptualisations of history and process among the conflictive population of a rural commune, in coastal Languedoc. Rather than taking 'processes' as an object and temporal frame for study, I focus on their temporal and epochal construction, discursive agency, and analytical manifestation. Discussion then

moves to consider anthropological temporalities. Drawing on an analytical frame that can be characterised as temporally 'immanent' rather than 'processual' in orientation (Agamben 2000, Deleuze 2001), and focused on how processes are 'achieved' rather than taking their 'transcendental coherence' as given (cf. Whitehead 1979:208–18), I query the hegemony of this modern temporal figure, and explore the implications.⁷

PROCESSUAL REGIMES—THE MOLECULARISATION OF PLANTS

The operationalisation of biological time is a dominant characteristic of the interactions of humans and cells in technical environments over the last fifty years. In short, living matter is now assumed to be stuff that can be stopped and started at will.

—Hannah Landecker, Culturing Life: How Cells Became Technologies

On the outskirts of Marseille, among the umbrella pines and dusty industrial parks, stands the futuristic oval building—*la caprice des Dieux*, to its staff—housing the headquarters of Agromonde International.⁸ In the summer of 2009, as part of an ESRC-funded investigation into the influence of seed corporations over development of agricultural biotechnology for resource-poor farmers, I am on one of several visits there to speak with a distinguished French geneticist and plant breeder, Dr. Jean Marceau.

For many years Marceau was at CILLOT⁹, the Mexican agricultural station which

helped produce the short-stemmed wheat and rice varieties that drove the Green Revolution. He was director of a French-funded 'Apomixis Project' to transfer 'apomixis' into crop plants such as maize and wheat. Apomixis is the ability found in some wild plants to self-clone through producing seeds which contain copies of maternal DNA. It is said to have a revolutionary potential for plant breeding that has been recognised since at least the 1960s, when it was the subject of secret Soviet research programs. The introduction of apomixis into a commercial crop would have many repercussions. It could enable farmers to clone hybrid seed, freeing them from the need to buy it annually from the seed industry. It could serve as a breeding tool for the resource-poor, enabling them to fix local hybrids for niche microclimates and improve food security. But it would also permit seed corporations to significantly increase profits, through resulting economies in hybrid seed production. Such claims are contested, yet they are taken seriously by major players in the seed industry, which have run confidential 'apomixis projects' for many years. It is also possible that some corporations have actively sought to undermine public sector research that has the production of open source apomixis technologies as its goal, in an attempt to head off an open source apomixis technology that could undermine profits.

Which returns us to Marseille, where Marceau is explaining how he lost control of his project to a team of postdocs and a Syndicate of transnational seed corporations. The project, which he spent twenty years developing, aimed to produce the world's first commercial apomictic maize, in an open source form. Marceau was a leading expert on apomixis, and the research was at the forefront

of the field. Results, he claims, could have been just around the corner. So what happened?

One of the things it came down to, he explains, was the new genomics. Marceau trained as a plant breeder and classical geneticist. His project was characterised by a heteroculture of approaches (cf. Richards 2004), including conventional plant breeding, classical genetics, molecular genetics, and genomics technoscience, with a flexible research timeline and agenda. In Marceau's view, apomixis is triggered by a gene cluster that intervenes during the plant's reproductive cycle to divert conventional sexual reproduction into a-sexual cloning (Marceau 2001). During the late 1990s, however, molecular biologists working primarily in laboratories argued that new genomics-based approaches showed that apomixis results from a 'deregulation of the sexual developmental program in space and time, leading to putative cell fate changes and the omission of critical steps in the sexual process' (Koltunow & Grossniklaus 2003:556), triggered in turn by epigenetic processes. This 'molecular turn' in apomixis research—which is underwritten by an idiom that insists on the processual character of apomictic reproduction as opposed to the interventionist idiom of Marceau's classical genetics—was accompanied by wider political economic changes of a processual character (cf. Jameson 1998:169-70). As in other fields, technoscientific practices were giving rise to genomic approaches to plant breeding that were rapidly displacing established practices. At the same time, public sector plant breeding institutes were being privatised, and private sector influence was extending via new public-private assemblages focused on

the production of biocapital. In this regard, the other key mitigating factor was the entry of Marceau's team into a public-private partnership, the 'Apomixis Syndicate', where there were strict procedural constraints on future research trajectories, underwritten by legal contracts. I now review the technical and wider shift provoked by this processualist rupture.¹⁰

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Let us commence with the CIILOT breeding programme, which was a focus for CILLOT research and development (R&D). Interspecific or 'wide' hybridisation, also termed 'wide crossing', involves cross-fertilising two plants of distinct, but related genera. The objective is 'introgression' of a target trait from one genus to the other, which in this case, concerned transferring apomixis from *Tripsacum dactyloides* (Gamagrass) to *Zea mays* (Maize). The technique involves undertaking multiple experimental crosses with the goal of creating a hybrid containing the target trait. The practice is also enabled by plant breeding technologies. Once a suitable hybrid plant is identified—in this case with apomictic capability—this is 'backcrossed' with a plant from the target genus to excise unwanted hybrid features, which usually takes at least four generations. Interspecific hybridisation is based on a 'natural' evolutionary model—wide hybridisation events have been central to the development of a number of key human crops in the past.¹¹

From a temporal perspective, wide crossing is a breeding practice where temporal emergence is 'thematised' methodologically (cf. Pickering 1995:9–27): in this sense, 'unruly' mixing of distinct genomes during 'meiosis' underpins the

technique, generating novelty. The temporality of research and development therefore demands an open-ended, flexible funding arrangement and timeline. An apomictic maize created via wide crossing would thus constitute a new species, which could *not* be easily 'switched' on and off via a 'Genetic Use Restriction Technology', for example. It would be resistant to intellectual property rights, although some control over production and distribution could be exerted via patenting and plant breeders' rights. As the time needed to achieve success is an unknown variable, the practice may also clash with the calendar for deliverables enshrined in a PPP contract.

The breeding technique can thus be said to comprise a relational, self-conscious 'dance of agency' (Pickering 1995:21–22) between technology, human actors, and the creative agency of plant species, with the objective of producing hybrid apomictic maize. Its ethos is one of 'revealing' (aletheia) rather than 'enframing' (Gestell) (Heidegger 1993). Enframing is symptomatic of an instrumentality associated with procedures of commodification central to producing biocapital; revealing is, to an extent, temporally subversive of such goals through valorising emergence (Feenberg 2005, Pickering 2008). Additionally, the end result would be a species of plant whose genomic and reproductive identity was resistant to commodification. It would be challenging to control 'unauthorised' recycling of cloned seeds via existing regulatory means. A resistance to transformation into biocapital thus remains at the level of both the relation of the final product to IPR, and in terms of research and development practices. Ultimately, this form of apomictic maize would exhibit those classic subversive qualities associated with

an Apomixis Technology—i.e. a capacity for seed saving, and for crossing with commercial hybrids, thus rendering them apomictic and undercutting corporate markets. This breeding practice was embedded in a flexible research programme where structured procedures were subordinated to emergent wide hybridisation results, under the control of Marceau as PI.

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Molecular genetics was initially utilised within the CILLOT Project in association with 'flow cytometry', a technology for accelerating screening of wide hybrids for apomictic capability. This facilitated а modest level of technical instrumentalisation, although it had a minor role. Within the Syndicate, by contrast, a selection of genomic technologies were implemented, financed by corporate members (e.g. AFLP-PCR, RFLP analysis; see Leblanc et al. 2009:594). These could facilitate technical manipulation of the enduring temporality of plant reproduction and so render apomixis functional to commodification (Grimanelli et al. 2005). As Helmreich (2007:294) proposes: 'contemporary biological science has become expert at stopping, starting, suspending and accelerating cellular processes, wedging these dynamics into processes that look like a molecular version of industrial agribusiness'. The objective, arguably, is subordination to disciplinary procedures (Foucault 1977). Scientific arguments were made within the PPP for the greater efficiency and instrumentality of such technical practices, which lent weight to the argument that the project would stand a greater chance of succeeding if the objective was creation of a GM apomict (Grimanelli et al. 2001). Corporate partners thought that GM techniques would also enable IPR and technical control over apomictic maize (Marceau, pers.comm. 2008).

The project's 'molecular turn' is comparable to what Rose (2007) has termed 'molecularisation'. As Rose writes: 'molecularisation strips tissues, proteins, molecules ... of their specific affinities—to a disease, to an organ, to an individual—and enables them to be regarded, in many respects, as manipulable, and transferable elements or units, which can be delocalised' (2007:36). This disciplinary programme also has an inherently temporal quality. Landecker (2005:2, emphasis retained) comments:

These powerful techniques themselves belong to a genre of experimentation directed at *making cells live differently in time*, in order to harness their productive or reproductive capacities ... [L]ong-standing genres of intervention in cellular plasticity and temporality are now moving from the background into the foreground of biochemistry and molecular biology, disciplines previously focused on knowledge of gene sequences and molecules in a more disembodied, atemporal fashion.

As a consequence of molecularisation, plant DNA was instrumentally functionalised ('enframed') by Syndicate scientists utilising new biotechnological techniques, with contingent processual aims which correlated with the creation of biocapital. This 'techno-cellular' processual temporality of deterritorialisation and re-embedding to enable future utility, bears resemblance to that of 'time in advance of itself, where ... the future becomes present. This time [is] predominant in competitive capitalism' (Gurvitch 1964:33). 'Natural processes'

were thereby reassembled into instrumentalised processual constructions. For corporate partners, these biotechnologies also promised to create GM products which could be patented, hence enabling production of biocapital.

In sum, then, the shift to a processual scientific idiom and practices of disciplinary deterritorialisation and re-embedding was accompanied by a structural engineering of procedures, timeframes and futures. This was mediated by legal contracts. The principal side-shadows of this monoculture were the alternative technologies, and alternative futures that wide hybridisation and the Marceau heteroculture of idioms and techniques might impel. ¹³ While processual idioms and templates were not absent from Marceau's heteroculture, they did not play a disciplining role, given greater flexibility in research practices and a related valorising of emergence—which arguably comprised an Arendtian 'ethic of the interval' (Braun 2007). By contrast, the procedures engineered by Syndicate contracts and timescales ensured that processual ideologies of genomic understandings of apomixis remained dominant in a timescape comprising multiple trajectories, temporal modalities, and tempos. Process, for the Syndicate, acted as a means of disciplining and controlling knowledge practices, enabling 'molecularisation' whose goal is to render apomixis manipulable. It was embedded in turn in a wider configuration of political economic relations—that of the corporate stranglehold on the global seed industry. It is an illustration of how processual knowledge and organisational practices operate together, as Arendt (1958: 232-33, 1968:62) proposes. In this way, 'process' was discursively employed to weld a conflictive field of force and

emergence into a disciplined transit through time towards a specific goal—a commodifiable apomixis technology, or nothing. A goal, one should add, that remains virtual due to the unruly actions of plants which, to date, have resisted such instrumental disciplining.

RESISTING PROCESS—LE CHANGEMENT CONTINUEL IN CONTEMPORARY LANGUEDOC

History ... no longer speaks of the changeless but, rather, of the laws of change which spare nothing.

—John Berger, And our faces, my heart, brief as photos

During fieldwork in a peri-urban commune in Languedoc, processualism took a markedly different form. While there were many processes of an Arendhtian nature that structured everyday life in the village of Villeneuve—from the production processes associated with commercialised wine growing to those procedures which individuals encountered in a wide range of working practices in service and light industries in the nearby city of Narbonne—among the most conspicuous examples of processualism was its invocation to characterise the contemporary epoch. A vivid example was supplied by a fisherman, Raymond Cabart. Cabart came from a family of fishermen who had worked the lagoon of Villeneuve for many generations. Indeed, his own name first made an appearance in the village archives in 1698, when a forebear called Raymond Cabart signed as a member of the village council. On first appearances, his life

was emblematic of such symbolic continuity and enduring temporalities. Yet in conversation, it emerged that for Cabart, life around him was anything but enduring. His characterisation of modern times was neatly captured in the expression he often repeated, *tout a changé*—everything in local life had changed.

Monsieur Cabart was the first of many informants to speak of an epoch of changement continuel—incessant change—which had apparently gripped life in Villeneuve since the 1960s. This characterisation cropped up frequently as I conducted research on historical consciousness in the locality, and is a more open-ended, flexible processual idiom than was encountered in the previous case. When I informed new acquaintances that I was keen to learn about life in Villeneuve, I was often referred to le changement continuel that now dominated everyday life. Indeed, I would normally be told that tout a changé – 'everything has changed' - which would be followed by selection of empirical contrasts between the changeability of life today and the enduring quality of life in the 'old days' to make the point. This portrait of contemporary history as comprised of contrasting historical epochs, adjacent intervals in the 'flow of time' (le temps qui coule) divided by a major rupture in Villeneuvois life that took place (I was told) in the 1960s was not just on show for outsiders such as myself. It was frequently conjured as a temporal and historical frame of reference for interpreting everyday events, and comprised a moral and temporalising resource which les Villeneuvois used to decipher the contingencies of everyday existence and, at times, symbolically invoke their collective identity. Contemporary Villeneuve was

said to exist in a flux of incessant changes, but this processual epoch was offset by an *enduring* idiom of how life was lived in the past, a collective portrait of a time prior to the 1960s when life was stable and unchanging that subverted the processual present.¹⁴ Let us now explore the context for, and saliency of this processual motif.

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Villeneuve is a village of some 600 permanent inhabitants, and lies on a brackish lagoon bordering the Mediterranean Sea, some 10 kilometres from the city of Narbonne in Southern France. The lagoon supports one of the two economic activities for which the village is locally renowned: it is still fished by a handful of artisanal fishermen for eels. As for the other, much of Villeneuve' arid, stony earth is planted with vines whose grapes produce the local variety of Corbières wine. The population, however, is far from comprising an integrated community living off fishing and agriculture. While 55% of permanent residents claim to be from the village, the other 45% are recent immigrants, and 30% of the housing belongs to second-home owners, of predominantly urban, north European origin. 15 These social distinctions as perceived by the anthropologist are viewed as such by local people as well. Any sense of community is thus fragmented, and on-going tensions exist between Villeneuvois and other inhabitants—who many Villeneuvois view as 'colonizing' the village in a pejorative sense, contributing to their marginalization and dispersal as a social group, and driving up house prices to an unaffordable degree. Agriculture and fishing are also no longer the dominant sources of employment: only 13% of the village live exclusively off viticulture and fishing, as opposed to 75% in 1946, and those who grow grapes

do so to supplement an income derived from other jobs. More than 60% of the active population work in the shops, service industries, and factories of nearby Narbonne. The village council is also largely comprised of incomers; and the 'intangible cultural heritage' (UNESCO 2003), as we might term it, of indigenous Villeneuvois is increasingly appropriated for the heritage tourism projects of incomers.

If the preceding description comprises a contemporary snapshot of the village, during the 1960s life was significantly otherwise. To begin with, the population, 367 in 1968, stood at less than half its current number, and over 50% of the village's working adults still laboured within the *commune*, chiefly in viticulture and fishing. Only a third of women worked, as opposed to two-thirds at the turn of the 21st Century. Notably, second home owners possessed a fifth of the available housing, and there were few incomers. The village still 'belonged', then, to the Villeneuvois. The chief ritual events of the year also revolved about established local industries: the *fête de la vendange* ('harvest fête') in October, and the *fête des pêcheurs* ('fishermen's fête') in July, were the mainstays of the year's festivities. They would disappear or pale in significance by the late 1970s, to be replaced by festivals that were increasingly oriented towards tourism by the early 21st Century.

Villeneuve was rocked by the unstable political economy of viticultural capitalism throughout the late 19th and 20th centuries, and is no stranger to change. But at a general level, many cultural features of everyday life in the 1960s also pertained

to the 'deep' or 'enduring time'¹⁷ of long-term traditional practices—from the cooking and eating of homegrown or locally hunted food, to the widespread playing of ritualized practical jokes, to the communal evening *veillées*. Such everyday practices, which comprised core emblems of Villeneuvois belonging, had been consolidated in their current forms during the long 19th century of viticultural expansion, with the emergence of a Languedocian working class rooted in pre-capitalist 'peasant' living traditions (Fabre and Lacroix 1973). Ultimately, then, this enduring social time, if fractured and rent by the periodic convulsions of viticultural capitalism, still retained its potential for symbolization as the cusp of an epoch of long-term temporal continuity, in relation to the duration of a life being lived. This rendered the lived experience of the 1960s qualitatively different from life at the turn of the 21st Century.

The 1970s, however, would bring the consolidation of ruptures in living traditions that were already in progress: the decline of viticulture and contraction of the agricultural workforce; new work in industries such as the Narbonne tile factory or supermarkets; the spread of car ownership and 'technologies of comfort' such as the washing machine; and a shift in the authority of living traditions symptomatic of the times. In sum, enduring time was being substituted by more *erratic* forms of social timespace. Significantly, there was also a broadening of cultural horizons and conceptions of identity, as the mass media rendered Villeneuvois more conscious of a world beyond the immediately tangible. This encouraged local identification with regional, French and European imagined communities (Anderson 1983). It also precipitated a

rupture in the local temporal fabric,¹⁹ as the past loosened its ties to the cultural media of communal oral history, to be invoked more frequently via the mass media of televised history, the local papers, the *lieu de mémoire*, on an expanded spatio-temporal scale (cf. Le Goff 1992:90–97, Nora 1997). These historical transitions provided the foundation for contemporary conceptions of process and stasis, which I now address.

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I have written at length elsewhere about how the manner in which Villeneuvois invoke a past of enduring social traditions is not validated by the historical record (Hodges 2010). Rather, it is more directly concerned with the positing of group belonging in relationship to a shared past. The contrast drawn by Villeneuvois between a processual present and a static past was thus partly an historical mythologisation, exaggerating those enduring qualities of a communal past and the changeability of the present. Villeneuvois had in fact authored a myth of origin to satisfy the needs of the present—which had conspicuous precedents. Most significantly, this mythologisation portrays the diverse population of the pre-1960s, comprised to a significant degree of migrants who had arrived to work in viticultural capitalism, as a small community dominated by relatives of contemporary indigenous residents. Such a portrait clearly strengthened indigenous claims to the locality at a time when their dominance was under threat by a new generations of incomers and economic developers.

If mythologisation of the past was therefore a way of addressing present needs, when the contemporary epoch was invoked, it was done with greater

ambivalence and complexity. Bringing into focus our interest in the processual, what is characteristic about the contemporary Villeneuvois epoch is thus its metaphorical grounding in changement continuel. In part, it was invoked and constituted in binary opposition to the previous epoch, to characterise a fluid present or runaway world; in part it made reference to a vague, open-ended and unpredictable future of uncertainty and change. And the future itself was not usually given a secure character beyond this notional evocation of difference, although at times it might become a more empirical, nuanced set of possibilities, if queried. There is a clear parallel with radical modernist periodisations, of course. A past epoch of enduring time and organic community is set off against a contemporary era of disillusion, and erratic time—and imagined in local terms. Extending this parallel, the notion that contemporary societies subsist in a globalised panorama of continual change is a truism for modern social theory; as is the echo in anthropological theory that all human life is fluid, processual and in a state of becoming beneath the multiplex cultural practices of global human diversity (Hodges 2008:399-403). Putting aside evident differences, it is clear that such invocations—rural French, academic, anthropological—are processual at a foundational discursive level.

Villeneuvois invocations of *changement continuel*, then, invoke wider processual tropes which are scaled to local contexts of cultural meaning and practice. In turn, the *time of the interval* in Villeneuve, this mythologised, communal past, furnishes a resource in the globalized, uncertain, processual timescapes of modern France, creating an 'interval' in local and wider hegemonic narratives of

changement continuel to house enduring values and invoke collectivity. This invocation of an enduring idiom and past epoch also embodies the subversive alternative of a non-processual temporality; and implies that such a time of enduring social traditions might one day emerge. In Villeneuve, then, processualism is rhetorically invoked as a shorthand for an encroaching modernity and its local agents, and takes its place in a figurative and conceptual scheme for local identity politics and resistance to such developments.

In sum, the Villeneuvois processual idiom invoked French language tropes of change, flow and flux that conjured that 'integrated series of connected developments' which Rescher (2000:22) views as characteristic of processualism, with an ineliminable temporal dimension. Yet it was focused on an open-ended, uncertain future, and change, contingency, and emergence were thus viewed as endemic to it. While this appears less structured than the processual biological idiom and legally-sanctioned, disciplinary processualism of the Apomixis Syndicate, it concords with contemporary anthropological formulations of social life as flux-like, processual and in a state of becoming in a foundational sense. It is in this sense, then, that processualism can be viewed as a polythetic category of cultural practice. Making 'process' visible as a temporalising practice, and placing it within the frame of social critique, enables ethnographic purchase on this complexity. To achieve this, certain temporal assumptions latent in anthropological analysis must be set aside. How might the temporal modalities of analysis be reconfigured to render this explicit?

TOWARDS AN IMMANENT ANTHROPOLOGY

[I]mmanence always remains to be made, that is, conceptualised. This, however, does not amount to turning immanence into a concept ... [T]he plane of immanence is never given as such, or fully intuited; it needs to be drawn through the creation of concepts. In a sense, such a task is neverending ...

—Miguel de Beistegui, *Immanence: Deleuze and Philosophy*

Where should an 'anthropology of process' turn for critical precedents, in an academic and wider world where the discourse of 'process' is dominant? Let us begin by extending our commentary on Arendt, before drawing out insights from the preceding examples and discussion. Arendt's critique of processualism is interwoven in a complex fashion with her guiding theory of 'natality', and is recognised as a precursor of Foucault's work on 'biopower' (Agamben 1998). She viewed the processual idiom and processual temporalities as operating on multiple levels in society—some positive, many negative. Processualism, she argues, gained ground with the growing hegemony of scientific outlooks and the influence of historiography on Western historical consciousness, but was simultaneously embedded in the expansion of capitalist economic organisation, in which working activity is subordinated to end products and profit (Arendt 1958). It took on instrumental roles in the operation of power within the totalitarian regimes of the 20th Century (Arendt 1951), and is also a key feature of so-called 'disciplinary societies' in the early 21st Century (Hardt & Negri 2000).

Processualism is also central to Arendt's concept of natality. 'For Arendt,' writes Passerin d'Entrèves (1994:53), 'the modern worldview is characterised by its emphasis on the idea of process, on the 'how' of phenomena, be they natural or historical, and by the corresponding loss of the idea of Being.' The natality concept, by contrast, highlights the human capacity to bring novelty into the world, thus disrupting the automatism of processes (and temporal continuum) and initiating novel acts and processes. The ontological fact of birth underwrites, for Arendt, this human freedom, and is invoked each time an individual introduces some new action into the world. Natality is central to Arendt's critique of the hegemonic processual temporalities that, in her view, adversely underwrote key domains of 20th Century cultural practice. It allowed her to argue for the value of the 'time interval between birth and death' that could act as an existential frame with which to structure the span of a meaningful human life (Arendt 1958:97; cf. Braun 2007:19-21). Ultimately, it enabled her to produce a philosophical outlook that displaced 'process' from its symbolic and conceptual throne and conjure a world in which alternative idioms and practices might crowd into view, and 'time' itself take a differential form. Arendt's approach is thus multi-layered, granting recognition of the value of the process concept and the insights it permits—while enabling critique of its cultural hegemony and use as a totalising frame.

Arendt provides a critical, socio-historical purchase on processual idioms and regimes that can inform ethnographic critique. The process concept is a dynamic

temporal bridge between past and future that enables multiplex conceptual invention and co-ordinated action, in historically contingent forms (Rescher 2000). Processual idioms, often grounded in synoptic and organisational models of processual time, thereby serve foundational roles in processualist cultural practices, and processual regimes of truth in a range of contexts. The social scientific processual idiom, in a comparable fashion, identifies 'time' as a foundational frame, and imagines it as a flow or flux that enables processual study—and indeed, the continuities and transformations of real-world processes (Smith 1982). In this way, the world is conceptualised as a processual realm, and action and event framed and subordinated to selected pasts and futures. To what extent, then, might this 'temporal ontology' obscure conflictive fields of temporal practice, social complexity, and related virtual side-shadows?²⁰ What does processual time render invisible, that an immanent, differential temporal idiom could induce? And to what extent is its prominence in anthropological theory reflective of the hegemony of processualism, in its many forms, in contemporary societies, particularly as it pertains to neo-liberal globalisation?

Anthropology, as Bourdieu put it, is 'fieldwork in philosophy' (Bourdieu 1990), and in this case, philosophical writings on temporal immanence offer a pathway to clarifying this anthropological problem. An 'immanent anthropology', substituted for a processual anthropology, does not imply a wholesale rejection of the 'processual turn'. Rather, it demands nuanced recognition of the temporally constructed nature of processes—and other genres of continuity, rupture and transformation, analytical and ethnographic—and an exploration of

the consequences of such insights for anthropology. It finds an origin and foundation in a genealogy of thought that adheres to and informs the writings of philosophers of immanence such as Spinoza, Deleuze, Foucault, Bergson or Nietzsche. The principal insight of such philosophers is an exclusion from conceptual schemes of any taken-for-granted assumptions of a transcendence of Being. All that exists of timespace resides and differentiates 'within' the living present, a Spinozan principle of 'immanent cause' which produces by remaining in itself, that for some is reconceptualised as a 'plane of immanence' (Deleuze and Guattari 1994). As Agamben (2000:226) writes: 'Immanence flows forth ... [y]et this springing forth, far from leaving itself, remains incessantly and vertiginously within itself'. In this sense, any event belonging to a 'process', conceived immanently, is a form of birth, with no transcendent or procedural frame (Whitehead 1979).²²

Nevertheless, as Agamben points out (2000:227), an aspiration to or invocation of transcendence cannot be wholly excluded from philosophical or social theories which adhere to the principles of immanence:

...[I]mmanence is not merely threatened by [the] illusion of transcendence, in which it is made to leave itself and to give birth to the transcendent. This illusion is, rather, something like a necessary illusion in Kant's sense, which immanence produces on its own and to which every philosopher falls prey even as he tries to adhere as closely as possible to the plane of immanence.

In this regard, the illusion of transcendence is the corollary of any form of intelligible discourse, and Husserl (1966) provides one well-known, if problematic model for how human consciousness subverts the immanence of being in time with his theory of 'internal time consciousness'. In temporal terms, then, a principal tenet of an immanent anthropology must be that discursive aspiration to temporal transcendence should be rendered *self-aware*—and where appropriate, subverted. This operation would require a deconstruction of assumptions of transcendence inherent in social scientific usages of process, and the substitution of a reflexive analytical frame ontologically grounded in temporal immanence that can accommodate the multiplicity of timespace.

This philosophical discourse of temporal immanence must now be reframed for anthropological practice. Let us draw on our ethnographies of 'process' as a starting-point. I have illustrated how a major shift in trajectory within frontier research in ag-biotech development was enabled by a foregrounding of processual idioms in knowledge practices, and processual agreements for public-private partnerships—a will-to-power that mediates the conflictive timescapes of research via legal sanction and a range of disciplinary procedures, thereby excluding undesirable side-shadows. I have examined how processual idioms operate quite distinctly in rural Languedoc, enabling discursive identification of an oppressive contemporary 'other' which enables resistance and subversion of cultural and economic hegemonies by local people. By utilising an <u>immanent temporal frame</u>, it is possible to analyse how such processualism attains social form, and assess its efficacy, rather than taking process for granted as a

foundational feature of social life. In the case of the Apomixis Syndiate, this informed a critical perspective on how processualism was a key element of transitional, disciplinary practices engineered to produce biocapital. In the case of Villeneuve, it enabled the identification and analysis of a processual idiom as a temporal critique of contemporary hegemonies, and facilitated a temporally-nuanced interpretation of local identity politics. Both exploratory cases, taken comparatively, reveal the cultural embeddedness of processual idioms and temporalities, and the anthropological implications of analysing this cultural figure and organisational practice in its socio-historical context.

It would be an error to directly correlate how process operates in these contexts with social scientific usages, which themselves are embedded and contingent. It should also be noted that philosophies of immanence have Western European origins.²³ Without doubt, an extended ethnographic study of links between metaphors of fluidity, change, process, and the social context of anthropological practice and writing would reveal much about processual practice among Western anthropologists. But it is clear from the theoretical literature cited above that discursive and organisational processualism enable temporal relations of continuity of action, and an at times unreflexive analytical frame that are central to contemporary anthropological discourse, and would benefit from such analysis. In sum, 'processes' permit what is at stake in the rhythmic tension of the moment to be mediated by a transcendent linkage of past and future. Processualism is a key conceptual tool and action framework for willing pasts and futures into procedural alignment, whether at the level of wider cultural

practice, or academic anthropological discourse. Let us conclude by critically assessing selected manifestations of timespace implicit in such practices, alongside conceptions afforded by an immanent perspective and tradition.²⁴

Under the processual regime, time thus becomes the spatial flow which we colonise, rather than this differential, conflictive field of force which we conjure through our practices. In this sense, 'real time' exists in the same way for all social actors, just as reality is said to exist and we project our representations onto it—a temporal incarnation of the scheme-content distinction (cf. Davidson 1973, Henare et al. 2007:12-14). Used as a doxic analytical frame, likewise, process 'cools' the tensions of becoming. It obscures the virtual 'fullness of time' (Morson 1994) through its monological focus on constructing interconnections between successive actualisations 'over time'. By contrast, the task of an anthropology of immanence is to render visible this act of mediation—while acknowledging that immanence itself, as 'reality in the making', must ultimately elude anthropological practices of conceptualisation and representation (cf. de Beistegui 2010:192). The actualization of an event is immanent in time—time is not the transcendent measurement of the event. 'Past and future,' Turetzky writes, 'and consequently all time, arise in the moment. This moment is not in time as one moment among many in a container, it is time' (Turetzky 1998:109). Time is likewise not a flowing or flux-like backdrop for anthropological analysis but an emergent property of events. It is a differential multiplicity, materialistic, multivectorial, complex, aleatory (Deleuze 2004, Hodges 2008). Such images enable us to think process from Arendt's standpoint: as a contingent figure for

configuring 'time' that both enables and disables. And as a concept that must be displaced from a totalising discursive role, which often marks seminal social scientific usages of 'process' (e.g. Bourdieu 1977, Smith 1982, Wolf 1982), if we are to detect the temporalising practices and reterritorialisations integral to how 'processes' are constructed.

'Processual practice' therefore operates to disembedded and reincorporate intensities into pathways of actualisation. We can recall that, when integrated with disciplinary programmes, this is a key dimension of practices of instrumentalisation and rationalisation (Feenberg 2004), as suggested by the first of our cases, above. One overlap between this wider processualism and totalising invocations of process where they occur in social scientific discourses lies in how the social sciences themselves can constitute disciplinary activities (see Hodges 2011). To be processed, to be disciplined, is to enter into procedure. All such disciplinary programmes arguably operate through making life available for reembedding in processual cultural practices—that is to say, practices intended to create an ordered course of action or complex linkage between pasts and futures. Many are grounded in corresponding images of fluid time. Processualism, conceived polythetically, is perhaps the dominant temporality of the disciplinary society, in its many forms.²⁵ To create an interval in process, therefore, is an act of freedom in Arendt's sense: the time of the interval. Such intervals exist as perpetual side-shadows that many procedures may be said to work continuously to exclude (de Certeau 1984, Pickering 1995).

In this respect, it is important to displace these fluid idioms—to speak, at times, of the *pulse* of timespace, an immanent, differential pulsation which contracts and conflicts and in which everything is at stake;²⁶ or employ shifting metaphors, as appropriate, that reflect the topological qualities of timespace (e.g. Serres & Latour 1997); or view the eternal renewal of metaphors as a method for combating the transcendental impulse and engaging with immanence itself (de Beistegui 2010, Deleuze & Guattari 1988). In this sense the quest for an anthropology of immanence compels an 'immanent anthropology'. Concepts no longer constitute empty forms awaiting content, or different representations of the same social reality, but are actively produced in analytical and ethnographic practice. If this is similar to the position advanced in the 'ontological turn' in anthropology, what has been lacking, arguably, is temporal nuance (cf. Hodges 2008). An immanent anthropology acknowledges the 'radical constructivism' endorsed by other anthropologists (e.g. Henare et al. 2007, Latour 2007, Viveiros de Castro 2002). Yet it engages with temporal immanence to reframe the radical construction of processes, for example, as socio-material temporalizing practices—concerned with the creation of epochal moments—rather than transcendent frames for analysis. Social life is no longer posited as existing within the 'flow of time', but as generated in an immanent field. Conjuring such modalities of time might, ultimately, enable more effective anthropological purchase on conflictive, multiplex 'timespace in the making'. And inspire a complementary, radically constructivist anthropology of contingent temporal actualisation—human and non-human—within time's plasticity.

NOTES

01/05/2012.)

¹ See: http://www.oxfordreference.com/views/ENTRY.

html?subview=Main&entry=t27.e11947, accessed 01/05/2012. Compare: process (n.): early 14C., 'fact of being carried on' (e.g. 'in process'), from O.Fr. proces 'journey' (13C.), from L. processus 'process, advance, progress,' from pp. stem of procedere 'go forward'. Meaning 'course or method of action' is from mid-14C.; sense of 'continuous series of actions meant to accomplish some result' (the main modern sense) is from 1620s. (Dictionary.com, http://dictionary.reference.com/browse/process, accessed

² Lyman (2007:220–24) reviews anthropological usages of process prior to the 1980s, illustrating how the trope did not occupy the foundational place it does today.

³ Fabian (1983:24) writes: 'As soon as a culture is no longer primarily conceived as a set of rules to be enacted by individual members of distinct groups, but as the specific way in which actors create and produce beliefs, values, and other means of social life, it has to be recognised that Time is a constitutive dimension of social reality'.

⁴ For Rescher (2000:22): 'A process is an actual or possible occurrence that consists of an integrated series of connected developments ... that are systematically linked to one another either causally or functionally ... Processes develop over time: any particular ... process combines existence in the present with tentacles that reach into the past and future'. He identifies three key characteristics: '1. A process is a complex of occurrences—a unity of distinct stages or phases ... 2. This complex of occurrences has a certain temporal coherence and integrity, and processes accordingly have an ineliminably temporal dimension. 3. A process has a structure, a formal generic patterning of occurrence, through which its temporal phases exhibit a fixed format' (ibid.:24).

⁵ See Bourdieu 2000:206–45 for clarification of these issues, towards the end of his career.

⁶ Consider also 'process philosophy'. Some process philosophers propose a transcendent concept of process comparable with contemporary social scientific discourse. Others such as Whitehead (1979) argue for a radical conceptualisation of 'process', closer to the immanent philosophy of Spinoza and Deleuze, asserting that any occasion belonging to a 'process' is an incidence ('concrescence') of novelty or form of 'birth' with no transcendent frame.

⁷ See Hodges 2008:408–17 for analysis of one possible foundation for the temporal ontology that underpins this approach.

⁸ Agromonde is a French state-funded organisation focused on research and consultancy in the fields of agriculture, biodiversity and the environment, chiefly for the developing world. Pseudonyms are used for companies and individuals mentioned here, and some inconsequential details have been changed for legal and confidential reasons.

¹² T-GURT allows seed saving, but any genetic enhancements require activation by a spray. V-Gurt controls GM plants by ensuring that second-generation seeds are not fertile. These are known as 'terminator-technologies' and are currently subject to a UN moratorium.

¹³ 'Sideshadowing relies on a concept of time as a *field of possibilities*. Each moment has a set of possible events (though by no means every conceivable event) that could take place in it. From this field a single event emerges ... Sideshadowing restores the field and

⁹ 'International Rice and Wheat Improvement Center'.

¹⁰ Hodges 2012 provides a study of Marceau's project and its transformation into the 'Apomixis Syndicate'.

¹¹ E.g. *Triticum aestivum* (common bread wheat).

thereby recreates the *fullness of time* as it was ... we do not see contradictory actualities, but one possibility that was actualised and, at the same moment, another that could have been but was not' (Morson 1994:118, 120–21). Sideshadows can be of ephemeral, or durable consequence. Their potential for actualisation can be tied to a contingent historical context or endure. Timespace can thus be grasped as emergent, differential, and dialogical, incorporating the actual *and* its virtual sideshadows (Hodges 2012:26–27, cf. Deleuze 2004). Giving processual 'direction' to cultural practice requires obviating selected sideshadows, and actualising others.

¹⁴ I analyse this periodization in Hodges 2010, providing more detail than is possible here.

¹⁵ This overview masks differentiation within these social groupings.

¹⁶ Censuses of 1946 and 1999.

For Gurvitch, *enduring time* is where 'the past is projected in the present and in the future. This is the most continuous of the social times despite its retention of some proportion of the qualitative and the contingent penetrated with multiple meanings ...

Among the social classes it is the peasant class, and among the global societies the patriarchal structures which appear to actualize this time' (Gurvitch 1964:31).

18 Erratic time is that 'enigmatic series of intervals and moments placed within duration.

This is a time of uncertainty par excellence where contingency is accentuated, while the qualitative element and discontinuity become prominent eventually. The present appears to prevail over the past and the future, with which it sometimes finds it difficult to enter into relations ... This is the time of global societies in transition, as our society of today so often is' (Gurvitch 1964:32–33).

¹⁹ Those cultural media used for the evocation and co-ordination of time and activities, and time's dimensions (past-present-future). These might include calendars, clocks and

so on involved in 'time reckoning'; but also other symbolic media such as language with its complex temporal markers or narrative genres (cf. Gell 1992:118–26).

- ²¹ An 'immanent anthropology' should be distinguished from influential forms of 'immanent critique' associated with the Frankfurt School, although this is not to say that they are incompatible. Likewise, no theological association is intended.
- ²² Deleuze writes: 'we have no other continuities apart from those of our thousands of component habits', yet '[h]abit draws something new from repetition—namely difference' (2004:94–95).
- ²³ Immanence is also a feature of philosophical systems from other parts of the world, e.g. Zen Buddhism.
- ²⁴ An allowance should be made for the limited number of social scientific approaches grounded in Whitehead (1979) and comparable process philosophers. See note 6.
- ²⁵ Hardt and Negri (2000:23) gloss: 'The disciplinary society is ... constructed through a diffuse network of ... apparatuses that produce and regulate customs, habits, and productive practices ... [D]isciplinary institutions (the prison, the factory, the asylum, the hospital, the university, the school, and so forth) ... structure the social terrain and present logics adequate to the "reason" of discipline. Disciplinary power rules in effect by structuring the parameters and limits of thought and practice'.
- ²⁶ Turetzky (1998:109) writes of Nietzsche's philosophy of time: 'Time is not a flow, but a pulsation. If time merely flowed it would lack tension and no differentiation would occur. The whole of time is at stake in the rhythmic tension of the moment'.

²⁰ See note 13.

REFERENCES

Agamben, G. 'Time and History: Critique of the Instant and the Continuum', in *Infancy and History: Essays on the Destruction of Experience*. London: Verso.

Agamben, G. (1998) *Homo Sacer: Sovereign Power and Bare Life*. Stanford: Stanford University Press.

Agamben, G. (2000) 'Absolute Immanence', in *Potentialities: Collected Essays in Philosophy*. Stanford: Stanford University Press.

Anderson, B. (1983) *Imagined Communities. Reflections on the Origin and Spread of Nationalism*. London: Verso.

Arendt, H. (1951) The Origins of Totalitarianism. New York: Harcourt, Brace.

Arendt, H. (1958) The Human Condition. Chicago: University of Chicago Press.

Arendt, H. (1968) 'The Concept of History', in Between Past and Future. New York: Viking.

Asad, T., J. Fernandez, M. Herzfeld, A. Lass, S.R. Rogers, J. Schneider and K. Verdery. 1997. 'Provocations of European Ethnology', *American Anthropologist* 99(4):713–30

Barnes, J. (1987) Early Greek Philosophy. London: Penguin.

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

Bourdieu, P. (1990) The Logic of Practice. Cambridge: Polity.

Bourdieu, P. (2000) Pascalian Meditations. Cambridge: Polity.

Braun, K. (2007) 'Biopolitics and Temporality in Arendt and Foucault', *Time and Society* 16(5):5–23.

Davidson, D. (1973) 'On the Very Idea of a Conceptual Scheme', *Proceedings and Addresses* of the American Philosophical Association 47:5–20.

De Beistegui, M. (2010) *Immanence: Deleuze and Philosophy.* Edinburgh: Edinburgh University Press.

De Certeau, M. (1984) The Practice of Everyday Life. Berkeley: University of California Press.

Deleuze, G. (2004) *Difference and Repetition*. London: Continuum.

Deleuze, G. and F. Guattari (1988) *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Athlone.

Deleuze, G. and F. Guattari (1994) What is Philosophy. London: Verso.

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

Feenberg, A. (2004) 'Modernity Theory and Technology Studies: Reflections on Bridging the Gap', in T.J. Misa, P. Bray and A. Feenberg (eds) *Modernity and Technology*. Cambridge, Mass.: MIT Press.

Feenberg, A. (2005) *Heidegger and Marcuse: The Catastrophe and Redemption of History*. New York: Routledge.

Foucault, M. (1977) Discipline and Punish: The Birth of the Prison. London: Allen Lane.

Foucault, M. (1980) Power/Knowledge. London: Harvester Wheatsheaf.

Giddens, A. (1979) Central Problems in Social Theory. London: Macmillan.

Grimanelli, D., J. Tohme and D. González-León (2001) 'Applications of Molecular Genetics in Apomixis Research', in Y. Savidan, J.G. Carman, and T. Dresselhaus (eds) *The Flowering of Apomixis*. Mexico DF: CIMMYT.

Grimanelli, D., E. Perotti, J. Ramirez and O. Leblanc (2005) Timing of the Maternal-to-Zygotic Transition during Early Seed Development in Maize. *Plant Cell* 17(4):1061–72

Gupta, A. and J. Ferguson (1997) *Culture Power Place. Explorations in Critical Anthropology*.

Durham: Duke University Press.

Gurvitch, G. (1964) The Spectrum of Social Time. Dordrecht: D. Reidel Publishing Company.

Hardt, M. and A. Negri (2000) Empire. Harvard: Harvard University Press.

Heidegger, M. (1993) 'The Question Concerning Technology', in *Basic Writings*. London: Routledge.

Helmreich, S. (2007) 'Blue-green Capital, Biotechnological Circulation and an Oceanic Imaginary: A Critique of Biopolitical Economy', *Biosocieties* 2:287–302.

Henare, A., M. Holbraad, and S. Wastell (2007) 'Introduction: Thinking Through Things', in *Thinking Through Things: Theorising Artefacts Ethnographically*. London: Routledge.

Hodges, M. (2008) 'Rethinking Time's Arrow: Bergson, Deleuze and the Anthropology of Time', *Anthropological Theory* 8(4):399–429.

Hodges, M. (2010) 'The Time of the Interval: Historicity, Modernity, and Epoch in Rural France', *American Ethnologist* 37(1):115–131.

Hodges, M. (2012) 'The Politics of Emergence: Public-Private Partnerships and the Conflictive Timescapes of Apomixis Technology Development', *Biosocieties* 7(1):23–49.

Koltunow, A. and U. Grossniklaus (2003) 'Apomixis: A Developmental Perspective', *Annual Review of Plant Biology* 54:547–574.

Koselleck, R. (1985) Futures Past: On the Semantics of Historical Time. Cambridge, Mass.: MIT Press.

Landecker, H. (2005) 'Living Differently in Time: Plasticity, Temporality and Cellular Biotechnologies', *Culture Machine* 7, an e-journal at:

http://culturemachine.tees.ac.uk/Cmach/Backissues/j007/articles/landecker.htm

Lyman, R.L. (2007) 'What is the "Process" in Cultural Process and in Processual Archaeology',

Anthropological Theory 7(2): 217–250.

Morson, G.S. (1994) *Narrative and Freedom: The Shadows of Time*. New Haven: Yale University Press.

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

Osborne, P. (1995) The Politics of Time. Modernity and Avant-Garde. London: Verso.

Passerin d'Entrèves, M. (1994) *The Political Philosophy of Hannah Arendt*. London: Routledge.

Pickering, A. (1995) *The Mangle of Practice: Time, Agency and Science*. Chicago: University of Chicago Press.

Pickering, A. (2008) 'New Ontologies', in A. Pickering and K. Guzik (eds) *The Mangle in Practice: Science, Society, and Becoming*. Durham: Duke University Press.

Rescher, N. (2000) Process Philosophy. Pittsburgh: University of Pittsburgh Press.

Richards, P. (2004) 'Private versus Public? Agenda-setting in International Agro-Technologies', pp. 261–288, in K. Jansen and S. Vellema (eds) *Agribusiness and Society:*Corporate Response to Environmentalism, Market Opportunities and Public Regulation.

London: Zed Books.

Rose, N. (2007) *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century*. Princeton: Princeton University Press.

Serres, M. and B. Latour (1997) *Conversations on Science, Culture, and Time*. Ann Arbor: University of Michigan Press.

Smith, M.E. (1982) 'The Process of Sociocultural Continuity', *Current Anthropology* 23(2):127–142.

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

Turetzky, P. (1998) Time. London: Routledge.

White, L.A. (1959) The Evolution of Culture. New York: McGraw-Hill.

Whitehead, A.N. (1979) Process and Reality. New York: Free Press.

Wolf, E. (1982) *Europe and the People Without History*. Berkeley: University of California Press.