DURHAM UNIVERSITY

A Cultural Economy Approach to Performativity in Central Banking

The Lively Practices of Financial Stability.

John Morris. 5/5/2015

Theoretical Note:

Contributing to the current debate about financial performativity, this article seeks to explore the multiple and overlapping layers of performativity within central banking. The specific focus is upon the press conferences of the Bank of England which coincide with the release of their Financial Stability Reports and results of their stress testing exercises. Three positions in the debate about financial performativity are identified and outlined – namely, 'Austinian', 'generic', and 'layered' performativities. Moreover, Gilles Deleuze's writings on difference, the article also analyses the disruption and creativity that is also present in the central bank's press conferences. The ostensible production of financial stability by the Bank is thus shown to draw attention to an additional layer of financial performativity that has been previously neglected in cultural economy research, what are termed 'lively practices'

4, 156 words (excluding reference list).

John Morris, Durham University

1. Introduction

'I knew that good *theatre-* being clear and calm, conveying an impression of competence and credibilitycould be as important to confidence as good substance...Ever since high school I had dreaded public speaking. Now I had to *perform* for the first time...My voice waivered. *I tried to sound* forceful, but I just sounded like someone trying to sound forceful' (Geithner 2014 *emphasis added*).

In his recent autobiographical account of financial crisis governance, former Chair of the Federal Reserve Bank of New York and US Treasury Secretary Tim Geithner provides an insight into an area of his job that his academic training and technical expertise as a central banker has not prepared him forthe ability to 'perform' in front of journalists and cameramen in press conferences. The context to this excerpt was that Geithner was giving an important speech during the Global Financial Crisis, about how stress testing would bring about confidence in the financial system. The stress testing may have been announced by the Treasury, but it was the progeny of the Federal Reserve. This later institution is a central bank, which is a distinct entity to a commercial bank and provides a number of regulatory, supervisory and governmental functions, including supervision of the financial system and the production of financial stability reports (FSRs). As such, financial stability reports appear twice a year and aim to both highlight 'developments affecting the stability of the financial system, and promote the latest thinking on risk, regulation and market institutions' (FSR 1996a). The Bank of England has always produced the review in partnership with another organization, initially this was with the Securities and Investments Board and then from 2000, with the Financial Services Authority. In the aftermath of the Global Financial Crisis, the FSA was split up into two sections, the Financial Conduct Authority, and the Prudential Regulation Authority. Within this change, was the creation of the Financial Policy Committee (FPC). The FPC is charged with identifying, monitoring and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system. The FPC of the Bank of England has been releasing financial stability reports through press conferences since 2011.

From the vantage point of ethnographic research into central banking and financial governance more generally, central banking involves 'writing the economy' (Smart 2006; Holmes 2009, 2014). Such research pays close attention to the behind the scene processes of designing macroeconomic models, the internal lobbying for their introduction into central bank methodology, and the writing and printing process of the Inflation Reports. In particular, Smart (2006) goes into great detail about the interaction between the Bank of Canada and the financial press, taking his reader inside the press 'lock up' where reporters receive the *Monetary Policy Report* two hours before its general release. It is important to remember however, that although In monetary policy, central bankers are well aware of the propensity for 'open mouth operations' as future oriented policy tool in monetary policy (see Krippner 2007) there remains little in this literature on the *delivery of a performance* that Geithner alludes to in the previously quoted section. Simply put, the central banker's stutters and stammers, creativity and improvisations are elided.

There is, of course, a wider literature that is directly concerned with questions of financial performativity (Callon 1998; de Goede 2003, 2005; Mackenzie 2003, 2004a/b, 2005, 2006a/b, 2007; Mackenzie and Millo 2003; Callon *et al* 2007; Langley 2008, 2010; Clarke 2012; Brassett and Clarke 2012). In this wider literature performativity has generally been considered in either one of two ways. The first approach, often labelled 'Austinian' performativity, claims that economic theories and models contribute, in some way, to the construction of the economy. The second approach, known as generic performativity, construes performativity as the reiterative practices through which a discursive operation produces the effect that it names (Butler 1993, p.2) and is thus associated with 'the physical production and repetition of discourses and practices' (Clarke 2012, p.264). And, while the most recent approach in the debates hosted in this journal has held that both of these conceptions of performativity are mutually compatible or 'layered' due to a dual focus on context and historicity (Clarke 2012, p. 268), it remains the case, that not unlike the existing literature on central banking, the financial performativity literature pays little attention to stutters, pauses and delivery, instead choosing to marginalise them as 'misfires' (See Callon 2010, p.164).

Following my initial exposition of three dominant positions in the debate about financial performativity - namely Austinian, generic and layered performativity – the second section below focuses on the press conferences of the Bank of England which coincide with the release of their Financial Stability Reports. The intervention this paper makes is to analyse video material of financial stability press conferences through the work of Gilles Deleuze (1968) to think about disruption and creativity in the performances of central banking. The intervention then is to argue for an additional layer of performativity, that of the lively practices. The authority of central banks and bankers persists even through speculative practices that may prove to be unsuccessful. There is then, something wider in which we can ground the performativity of the economy, namely the *manner* in which an action is performed.

2. Three Approaches to Performativity

The most widely utilised entry point to the performativity literature is that which is commonly classified as the Social Studies of Finance (SSF). For such approaches, the technical discipline of economics is thought to 'shape' and 'format the economy, rather than recording how it functions' (Callon 1998, p.2; see Mackenzie *et al* 2007). And, although Callon's own writings on performativity take an altogether different direction¹, he has provided inspiration for sociologists such as Donald Mackenzie (2006). On Mackenzie's formulation, Austinian Performativity' holds for circumstances in which the reflexive use of the model in some way leads to the world gradually conforming to its depiction within the model (Mackenzie 2004a). Mackenzie's work makes the case most effectively when analysing how the Black-Scholes-Merton formula, used in the pricing of options, itself employed assumptions that were initially unrealistic but became increasingly less so due to changes in the reality it sought to represent (Mackenzie 2004a, Mackenzie and Millo 2003).

At the analytical foundations of this conception of the performative is J.L. Austin's analysis of language in which a speech act, such as a chairman opening a board meeting, is said to bring about the effect

¹ Chris Clarke takes Callon 'in parallel with Butler' because Callon suggests that 'markets are not always existing, natural or intelligible in terms of a-historical laws, but require continuous effort (or performance) to maintain and grow' (C. Holmes 2009, p. 440 cf. Clarke 2012, p. 265).

which it names. In such a situation, one is actually doing something, *opening the meeting*, rather than merely *reporting* the event of a meeting of a board of directors (Austin 1962). When Butler reads Austin, she draws a distinction between the illocutionary, which 'brings something into being', such as a judge convicting a defendant, and the perlocutionary, which 'alters an ongoing situation' (Butler 2010, p. 151). As Christophers points out, it is the alteration of the ongoing which is associated with the most prominent work in SSF (2014, p.18). The performativity of economics for SSF is thus a technical-material one in which economics is both 'at large' and 'in the wild.'

However, the performative account provided by authors such as Mackenzie (2003), does not exhaust the types of performativity at play in finance *tout court*. Instead, performativity has alternatively been construed as the reiterative practices through which a discursive operation produces the effect that it names (Butler 1993, p.2). For example, Clarke and Robert's recent article on gender in central banking argues that we can see that 'masculinity' is performed in at least two distinct and yet overlapping ways by the Bank of England Governor Mark Carney (2014, p. 6). Within finance, the application of this approach is most commonly associated with the work of Marieke de Goede (2005), and later developed in Paul Langley's work on everyday financial subjectivities (2008a) (See also Langley 2010; See also Thrift 2000, Aitken 2007, Langley 2010 and Brassett and Clarke 2012). The object of interest here is how the category of performativity can be utilised within broader Foucauldian concerns with the triad of power-knowledge- subjectivity.

As Langley explains, de Goede's (2003; 2005) approach is initially 'derived from the work of Judith Butler which is itself grounded in a Foucauldian reading of power and Derrida's deconstructionist engagement with Austin' (Langley 2010, p.74). Such an approach attempts to displace discourse in favour of matter; a move from discursive practices of meaning making to material practices. However, if we advance and read de Goede's more recent (2012) contribution on '*Speculative Security*', we find that her reading of Butler is now through Bialasiewicz *et al* (2007) which:

'moves us away from a reliance on the idea of (social) construction, towards *materialization*, whereby discourse 'stabilizes over time to produce the effect of boundary, fixity and surface' (Butler, 1993: 9, 12). Discourse is thus not something that subjects use in order to describe objects; it is that which constitutes both subjects and objects' (Bialasiewicz *et al* 2007, p. 407).

This later reading now recognizes the distinction between discursive and non-discursive phenomena but maintains that "discourses constitute the objects of which they speak." Consequently, the researcher's attention is refocused on processes of materialization whereby "*discourse stabilizes over time* to produce the effect of boundary, fixity and surface" (de Goede 2012, p.32).

At this stage of the debate, it is important to note that not all accounts of performativity sit in one or the other of the two camps presented above. So for example, Douglas Holmes argues that the way in which central bank practitioners have long worked with the assumption *that talking about future intentions* on interests rates is just as important as actual rate decisions. This is because the policy discourse shapes market expectations. Holmes' (2009, 2014) approach is particularly interesting because he is seemingly providing some kind of third way – an interweaving of 'words' and 'action'- of representations and interventions- (Mackenzie, Muniesa and Sui 2007, p.5 cf. Holmes 2014,p.23). Indeed, and as Chris Clarke explains, both seemingly competing conceptualisations of performativity contain a common emphasis on context, historicity and contingency. (Clarke, 2012:268). In line with this argument, Clarke goes onto to propose the notion of overlapping or 'layered performativities'.

3. A Fourth Approach: Lively Practices.

The intervention this paper seeks to make then is to argue that the performativity of the economy is not just anchored in the mere reproduction of discourse laden actions, but *the qualitative way* in which these actions are performed. So while Governor Mark Carney gives us a clue to locating the performative force of the central bank when he refers to the' mandate that the FPC has been given by Parliament' (Carney, June 2014), this is not as helpful as it at first seems.

An initially tempting analytical route is to conceptualise members of the FPC as 'petty sovereigns' in the sense articulated by Butler in *Precarious Life* (2004). Here Butler is trying to capture the managerial power behind sovereign decisions. The analogy here is to decisions such as changes in interest rates, or indeed when to inject money into the economy through quantitative easing. Alternatively, if an unnoticed but fundamental agency is key for Butler, then alternative explanation for the discursive force of the FPC could be that it is an instance of Bourdieu's 'habitus', where the high ranking officials are an embodiment of established contexts of authority. Here habitus refers to the 'lasting dispositions, trained capacities and structured propensities to think, feel and act in determinant ways' (Wacquant 2005, p. 316).

However, I want to suggest here than neither of these existing routes adequately capture what is at play here. For, as Butler argues, petty sovereigns have minimal accountability because they 'do not offer either representative or legitimating functions to the policy' (Butler 2004, p. 62). Given that Members of the FPC at the press conference both represent the Bank and explain and legitimize policy, they cannot be considered petty sovereigns. Neither does this concept lead us to the nods, gestures and stutters that we began with at the paper's outset. Secondly, it is possible to critique Bourdieu's formulation by aligning the argument with those made by Butler, to reject the formulation in which 'utterances are functionally secured in advance by the ''social positions'' to which they are mimetically related.' Instead then, there are instances where 'an utterance gains force through breaking with prior positions' (Butler1997, p. 145). For example, the decision by the Federal Reserve *not* to provide a rescue package for Lehman Brothers in 2008 despite having previously done so for other institutions.

Thus, the entry point must be different. In particular, geographers Thrift and Dewsbury (2000, p. 414), argue that a 'major apprehension' with generic performativity is the lack of creativity and 'free play', as the existing account prioritizes ultimately restrictive discursive operations. For example, the gendered subjects that we encounter in Butler 'unconsciously' resignify 'a self-identical principle which forecloses an analysis of the variable nature of social action and change' (Thrift and Dewsbury 2000, p. 414). The critique then, is that if generic performativity is about a performance of something, then perhaps the consequence is to lose touch of the liveliness and potential for disruption from the 'performance' of central banking.

3.1 Deleuze and Difference: Creativity and not knowing the outcome.

A Deleuzean take on performativity is interested in how repetition can be contrast to a pure difference in which 'risky, creative and experimental' actions can anticipate but 'not know' their outcomes' (Williams 2003,p. 16). A Deleuzian performativity is one which is sensitive to the creativity of performance, rather than merely the ritualistic performance of existing categories and symbolism. To make this point, Thrift and Dewsbury suggest we think in terms of possibility, the real and representation for generic performativity, and the virtual, the actual and practice for a more Deleuzian variant of performance (Deleuze 1968, p. 263). Thrift and Dewsbury read Deleuze as arguing that 'the realisation of the possible operates by the principles of imitation and resemblance', in this case the repetition of discursive operations. Because 'there are many possibles, any realisation of any one of them necessarily limits these potential possibles to only one'. To take this further and to relate to Deleuze's work on difference (1968), 'the possible comes to completion only by being figured and represented as realisation, and thus filling the hollow or gap that difference resides in, nothing new is created.' Without difference, or the 'interval between, the new cannot take form' (Thrift and Dewsbury 2000, p. 416). This representation can be contrast to practice. In representation, 'we know the outcome', with practice we can only...guess' (Thrift and Dewsbury 2000, p. 416). On such Deleuzian terms, difference is something 'risky and experimental', an action which can anticipate but 'not know its outcomes' (Williams 2003, p. 16). The two examples I utilise here are improvisation and humour.

3.2 Improvisation

Here I first push away at the layer of lively practices to show improvisation of one of the speakers, the Bank of England's Executive Director of Financial Stability. It is a difficult question, and I have selected it because it is not an obvious question related directly to an event, but instead draws together statements made by Haldane, and Mark Carney over the reforms to Banking conventions in the Basel III Capital Accord:

Ben Chu, (The Independent): A question for Andy Haldane. In your recent 'Dog and the Frisbee' speech you seem to suggest that the thrust of the Basel III approach which is the emphasis on complexity might be misconceived. Mark Carney, who we now know is going to be the next Governor of the Bank of England, suggested that your concerns were uneven and not based on a full appreciation of the facts. Are we looking at a misunderstanding there or is it a fundamental difference on the philosophy of how you regulate the banking sector?

Andy Haldane: Just a couple of points on that if I can, Ben. So on the Basel III question just to be absolutely clear what I said in the speech you mentioned. There's no question in my mind - and I've said it repeatedly - that Basel III was a significant improvement over Basel II, in particular in clarifying and simplifying and raising the numerator of the capital ratio, okay. But the part it left untouched was the denominator, which is risk weighted assets and concerns we have about its opacity, about its complexity, about its inconsistency - in fact exactly the things we discuss in today's Report...on to the second point, I mean if you, as I know you have, if you were to put Mark and I's speech cheek by jowl, you would find not so much as a fag paper of difference between them on the regulatory reform agenda. The particular issue you mention actually concerned the leverage ratio. And guess what? The country - one, that has a leverage ratio, and two, has been one of the biggest supporters of it because it protected them from the storms we've had over the last few years - was indeed Canada, and has indeed been Mark.

So I think, insofar as there's anything at all, there is complete consistency on what we want by way of the future regulatory agenda, and improving risk weights are one element of that.

(Questions and Answers, November 2012)

At this stage, although confirmed, Carney had not started working at the Bank of England. In light of its unpredictable nature, I characterize the response as improvisation by Haldane, as to not create any friction between himself and the incoming Governor Carney. Haldane has to be resourceful in his answer. This can be contrast to the following extract, where the respondents seemingly have a response prepared in advance for a question regarding Paul Tucker's future as Deputy Governor as he was overlooked for the Governor's job in favour of Mark Carney. Haldane then, makes use of what he has available, evidence of Carney's record as Governor of the Bank of Canada, to defuse a politically charged question in a way that does not undermine or critique the future Governor. This can be contrast to the much more scripted seeming response of King and Bailey to a question about Bailey's future.

Chris Giles, The Financial Times: I'm sorry, we've all been terribly British about this so far, but I do think that we have to ask Paul Tucker if he would comment on his future after the recent appointment of Mark Carney. But I also wanted to ask another question - a proper question -

Mervyn King: You asked one. Paul will answer that, and then you can come back to your second question next time round. Paul.

Paul Tucker: I'm the Deputy Governor for Financial Stability. There's a job of work to be done; I'm doing it.

Mervyn King: Next question.

(Questions and Answers, November 2012)

The latter exchange conveys a sense of a pre-meditated shutting down of an avenue of discussion as quickly as possible, without any elaboration. King immediately hands over to Tucker, seemingly confident in the answer Tucker will provide. This can be compared to the former passage which was a much longer and effusive discussion and rejection of a politically charged question. Haldane appears to be thinking on his feet and improvising, rather than citing an answer he has rehearsed. This then, is another lively practice.

3.3 Humour

The second lively practice I want to distil from these Questions and Answer sessions is the dimension of comic 'imagination' to a conception of lively practices, to sit alongside stuttering, mishearing, and improvisation (Bergson 1935, p. 41). Firstly I turn to a brief moment in a press conference, in which laughter emerges as a response to Larry Elliott's unorthodox question. It is then, a journalist who demonstrates creativity within the Q&A format to ask a question in relation to the LIBOR manipulation allegations being levelled at certain banks:

Larry Elliott, (The Guardian): I just wondered whether you saw any parallels at all between what's been going on in the financial sector with that and whether the mis-selling of swaps and manipulation of Libor is the equivalent of rubbish bags piling up in the streets in the Winter of Discontent? And is there a broad similarity between those two historical movements, do you think? And that perhaps the City even now doesn't quite get it in the way that the trade unions didn't quite get it at the end of the 1970s?

Mervyn King: That's a very interesting hypothesis [laughter], and I'd encourage you to write more on it so that we can reflect on it. I don't think my expertise is in the area of recent UK political history, so I think this is something I'd like to reflect on before drawing clear parallels.

(Questions and Answers, June 2012)

Mervyn King's response, which I have characterized previously as bemusement, can be characterised as a practice prior to a proper speech act from the Governor- which King is referring to when he mentions that it is pre- 'reflection' and the official drawing of parallels by the Governor. The Governor is not sure of the consequences of a speculative answer. Humour then, demonstrates imagination in terms of both questions asked by journalists, but also this later aspect is that which constitutes a gamble whose consequences are unknown. Finally, I consider a brief exchange, in which Mark Carney attempts to inject some humour into the end stages of the Press Conference. Carney is responding quickly to a sporting metaphor used by Nils Blythe to indicate that the press conference is winding down. I would suggest then, that Carney is reacting instinctively to what has just preceded. His joke is a gamble and he does not know whether or not it will provoke laughter:

Nils Blythe: We're into extra time, but we'll take one more quick question from Ed. Mark Carney: Injury time.

(Questions and Answers, November 2013).

I have used these examples then, to bring to the forefront another aspect of performativity, the creativity of humour. This is exhibited in creative posing of questions by journalists, and the prereflective bemusement on behalf of the Governor. Further, imagination and creativity is clearly evident in Andrew Haldane's improvised response to an awkward question about his future manager. Finally, the humour and laughter highlighted in these examples is seemingly emblematic of lively practices in the press conference. These are gambles, the outcomes of which are not known. Importantly, often the success such examples of creativity and imagination relies on the manner or context with which the line is delivered. This notion of delivery within performance is often absent in accounts of the performativity of economic life.

4. Conclusions

Several issues of the *Journal of Cultural Economy* (2010, 2012) have drawn our attention to the multiple ways in which the concept of performativity can be applied to the economy and the financial sector (See Callon 2010, Butler 2010, du Gay 2010, Clarke 2012). Contributing to this, the present article has sought to sketch out an empirically grounded theoretical intervention which attends to the creativity and improvisations we know are a part of financial governance. Such moments have hitherto been elided in work characterised as Social Studies of Finance or Cultural Economy. This is the thought that current studies of performativity of finance miss the point that performance is as much about the delivery and the way something is said, as it is its linguistic content and meaning.

This article has presented three existing approaches to performativity found in an existing interdisciplinary literature. These are Austinian performativity, generic performativity and layered performance. Furthermore, the paper has argued that to better understand the performativity of the economy we must add an additional layer, a layer that is generally marginalised by generic and Austinian performativity' – lively practices. And here I transpose Deleuzian ideas from Thrift and Dewsbury (2000) to look at gambles with unknown outcomes in financial stability press conferences. Here, I presented examples of humour, laughter and improvisation to foreground lively practices.

In closing, I want to suggest that lively practices do matter for theorising the economy because it is this delivery and performance of the central banker that financial media pick up on and report to the general

public. If it is politically significant that the Subprime Crisis was narrated as a traumatic event and therefore to be governed in a particular way (Brassett and Clarke 2012), then it is surely just as important when the *Financial Times* reflects on the character, judgement and 'impeccable timing' of a central banker such as Mario Draghi of the European Central Bank in 'ending the Eurozone Crisis' (5th March 2015).

References

Amin, A. and Thrift, N. (2004). The Blackwell Cultural Economy Reader. (Oxford: Blackwell Publishing).

Aitken, R. (2007). *Performing Capital: Towards a Cultural Economy of Popular and Global Finance*. (Basingstoke: Palgrave Macmillan).

Austin, J.L. (1962). How To Do Things With Words . (Oxford: Clarendon).

Bergson, H. (1935). Laughter: An Essay on the Meaning of the Comic. (London: Macmillan).

Bialasiewicz, L,. Campbell D,, Elden , S., Graham, S., Jeffrey, A., Williams A.J., (2007). 'Performing security: The imaginative geographies of current US strategy'. *Political Geography*, Vol 26, Issue 4: 405-422.

Brassett, J and Clarke, C. (2012). 'Performing the Sub-Prime Crisis: Trauma and the Financial Event', *International Political Sociology* (2012) 6, 4–20.

Butler, J. (1990). Gender Trouble: Feminism and the Subversion of Identity. (New York: Routledge).

Butler, J (1993). Bodies That Matter: On the Discursive Limits of Sex. (London: Routledge).

Butler, J. (1997). Excitable Speech: a Politics of the Performative. (New York: Routledge).

Butler, J. (2004). Precarious Life. (London: Verso).

Butler, J. (2010). 'Performative Agency.' Journal of Cultural Economy, 3:2:147-161.

Callon, M. (1998). The Laws of the Markets. (Oxford: Blackwell).

Callon, M. (2010). 'Performativity, Misfire and Politics', *Journal of Cultural Economy, Vol. 3, No. 2, July 2010*: 163-169.

Callon, M., Millo, Y. and Muniesa, F (eds). (2007). Market Devices (Oxford: Blackwell).

Christophers, B. (2014). 'From Marx to Market and Back Again: Performing the economy. *Geoforum* 57 (2014): 12-20).

Clarke, C. (2012). Financial Engineering, Not economic Photography', *Journal of Cultural Economy*, <u>Volume 5</u>, <u>Issue 3</u>, 2012 : 261-278).

Clarke, C and Roberts, A. (2014). 'Mark Carney and the Gendered Political Economy of British Central Banking', *British Journal of Politics and International Relations*, 2014: 1-23.

Cochoy, F. Giraudeau, M. and McFall, L. (2010). 'Performativity, Economics and Politics: An Overview' *Journal of Cultural Economy*, <u>Volume 3</u>, <u>Issue 2</u>, 2010: 139-146.

de Goede. (2003). 'Beyond Economism in International Political Economy', *Review of International Studies /* Volume 29 / Issue 01 / January 2003: 79-97.

de Goede, M. (2005). Virtue. Fortune, and Faith: A Genealogy of Finance. (Minneapolis: University of Minnesota Press).

de Goede, M. (2012). Speculative Security: The Politics of Pursuing Terrorist Monies (London: University of Minnesota Press).

Deleuze, G. (1968). Difference and Repetition. (London : Bloomsbury).

Deleuze, G. (2002). 'The Actual and the Virtual', in Tomlinson, Habberjam and Albert (eds) *Dialogues II* (London:Continuum): 112-115.

Dewsbury J-D. (2000). ``Performativity and the event: enacting a philosophy of difference" *Environment and Planning D: Society and Space* 18: 473 – 496.

du Gay, P. (2010). 'Performativities: Butler, Callon and the Moment of Theory', *Journal of Cultural Economy*, Volume 3, Issue 2, 2010: 171-179.

Fischer, S. (2005). *IMF Essays from a Time of Crisis: The International Financial System, Stabilization and Development* (Cambridge, MA: MIT Press).

Geithner, T. (2014). Stress Test: Reflections on Financial Crises. (New York: Crown Publishers).

Hall, R.B. (2008). Central Banking as Global Governance: Constructing Financial Credibility. (Cambridge: Cambridge University Press).

Holmes, D.R. (2009). 'Economy of Words', Cultural Anthropology, Vol. 24, Issue 3: 381-419.

Holmes, D.R. (2014). Economy of Words: Communicative Imperatives in Central Banks. (London: University of Chicago Press).

Krippner, G. (2007). 'The Making of US Monetary Policy: Central Bank Transparency and the Neoliberal Dillema, *Theory and Society*, December 2007, Volume 36, <u>Issue 6</u>,: 477-513

Langley, P. (2008a). *The Everyday Life of Global Finance:* <u>Saving and Borrowing in Anglo-America</u>. (Oxford: Oxford University Press).

Langley, P. (2008b).' Sub-prime mortgage lending: A cultural economy.' *Economy and Society*. 2008;37: 469-494.

Langley, P. (2010). '<u>The Performance of Liquidity in the Subprime Mortgage Crisis</u>.' New Political Economy. 2010; 15:71-89.

Langley, P. (2015). Liquidity Lost: The Governance of the Global Financial Crisis. (Oxford: Oxford University Press).

Loxley, J. (2007). Performativity. (London: Routledge).

Mackenzie, D. (2003). "An Equation and its Worlds: *Bricolage*, Exemplars, Disunity and Performativity in Financial Economics," *Social Studies of Science* 33 (2003): 831-868.

Mackenzie, D. (2004a). 'Physics and Finance: S-Terms and Modern Finance as a Topic for Science Studies', in Amin, A and Thrift, N (eds), *The Blackwell Cultural Economy Reader*, (Oxford: Blackwell):101 -120.

Mackenzie, D. (2004b). "The Big, Bad Wolf and the Rational Market: Portfolio Insurance, the 1987 Crash and the Performativity of Economics," *Economy and Society* 33 (2004): 303-334.

Mackenzie, D. (2005). "Mathematizing Risk: Models, Arbitrage and Crises," in Hutter, B. and Power, M (eds), *Organizational Encounters with Risk* (Cambridge: Cambridge University Press): 167-189.

Mackenzie, D. (2006a). "Is Economics Performative? Option Theory and the Construction of Derivatives Markets," *Journal of the History of Economic Thought* 28(2006): 29-55.

Mackenzie, D. (2006b). *An Engine, not a Camera: How Financial Models shape Markets* (Cambridge, MA: MIT Press).

Mackenzie, D. (2009). *Material Markets: How Economic Agents are Constructed* (Oxford: Oxford University Press).

Mackenzie, D and Millo, Y. (2003). 'Constructing a market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange', American Journal of Sociology volume 109 Munber 1 (July 2003):107-145.

Mackenzie, D, Muniesa, F, and Siu, L. (eds) (2007). Do Economists Make Markets? On the Performativity of Economics (Princeton, NJ: Princeton University Press).

May, T. (1997). Reconsidering Difference. (Pennsylvania: Pennsylvania State University Press).

Millo, Y and Mackenzie, D. (2009). 'The usefulness of inaccurate models: Towards an understanding of the emergence of financial risk management'. *Accounting, Organizations and Society,* <u>Volume 34, Issue 5</u>, July 2009: 638–653.

Muniesa, F., and Callon, M. (2007). 'Economic Experiments and the Construction of Markets'. In *Do Economists Make Markets?*, edited by Mackenzie, Muniesa and Siu,(Princeton NJ: Princeton University Press).:163-189).

Smart, G. (2006). Writing the Economy: Activity, Genre and Technology in the World of Banking. (London: Equinox).

Thrift, N, (2000). 'Performing Cultures in the New Economy', Annals of the Association of American Geographers, Volume 90, Issue 4, 2000 :674-692.

Thrift, N., and J.D. Dewsbury. (2000).' Dead Geographies: and how to make them live', *Environment and Planning D: Society and Space* 2000, volume 18: 411-432

Valdez, S. and P, Molyneux. (2010). *An Introduction to Global Financial Markets*. (Basingstoke: Palgrave MacMillan).

Wacquant ,L. (2005). Habitus. (International Encyclopedia of Economic Sociology) J. Becket and Z. Milan. London, Routledge: 316.

Williams, J. (2003). *Gilles Deleuze's "Difference and Repetition": A Critical Introduction and Guide* (Edinburgh: Edinburgh University Press).