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THE DEVIL AND CUSTOMER RELATIONSHIP MANAGEMENT
Informational capitalism and the performativity of the sign

Hannah Knox, Damian O’Doherty, Theo Vurdubakis and Chris Westrup

The paper takes as its starting point the diffusion of ICT applications associated with so-called ‘customer relationship management’ (CRM). CRM encourages organisations to shift their understanding of customers from an episodic and transaction-based perspective to one that emphasises continuous ‘relationship management’. CRM applications thus promise to deliver more, real-time accurate information about consumer habits and behaviours therefore allowing organisations to maximise their extraction of business value. This paper explores the ways in which such inscriptive technologies are not merely referential but also constitutive of contemporary re-presentations and ideals of the consuming subject. Focusing on what we might call the ‘digital doubles’ of customer relationship management the authors explore how such inscriptive apparatuses simultaneously work to perform an image of the consuming subject, whilst also appearing endemically prone to instability and representational excess. Through an investigation of managerial imagery of computer enabled CRM, the paper explores the ways in which ambiguity and ambivalence continue to haunt advances in corporate technologies of surveillance and tele-control.

KEYWORDS: customer relationship management; digital subjects; information technologies; surveillance; performativity

Introduction

‘One of the most significant products of the culture of capitalism’, argues Rose (1990, p. 158), ‘is reality’, as it is ‘continually formed and reformed within large companies’. Inquiry into reality, he suggests, ‘must thus be inquiry into reality formation and reality consumption’. Clearly, any such inquiry cannot but also be an inquiry into the information and communication technologies (ICTs) through which the twin labours of reality formation and reality consumption are increasingly performed. To paraphrase Austin (1962), ‘computational renditions of reality’ (Kallinikos 2006) impart to social agents the ability ‘to do things with symbols’, the power to speak, and to manipulate the world through the manipulation of signs. At the same time, this technological mediation of the world, and of the human subject, remains a socially, culturally and historically situated set of practices and procedures. The computational machineries of reality fabrication and
consumption are, we shall argue, also ways of acting out longstanding cultural preoccupations. Our focus in this paper is the consuming subject as an object of the corporate and institutional apparatuses of reality ‘fabrication’ and ‘consumption’.

In line with much of social theory (e.g. Hayek 1949; Giddens 1994), management texts typically represent the consuming subject as an active, autonomous and increasingly knowledgeable agent. Collectively, consumers comprise an often nebulous but nevertheless powerful entity: ‘the market’; and as everybody knows, the market cannot be ‘bucked’. Consumer choice, exercised through the market, thus functions as a sort of ‘reality principle’ for business enterprises. In one of a series of turn-of-the-century IBM television ads on ‘business nightmares’, a businessman is describing to his psychoanalyst a disturbing dream in which he is being chased by an anonymous crowd that he cannot outrun:

**Analyst:** From whom?
**Businessman:** I am not sure. They are wearing masks – they are tough customers.
**Analyst:** Customers? What do they want?
**Businessman:** Everything! Now!

The meaning of the dream, the psychoanalyst opines, is that he is too slow, he can’t adapt – and he is ‘in denial’. Such a diagnosis is hardly surprising. In the ‘digital era’, it has become an article of faith that traditional business models are in the process of breaking down under pressure from increasing competition and consumer empowerment and sophistication. This new reality requires new ‘individual [customer] centric’ models of doing business. There is an urgent need, it is claimed, to re-configure the organisation in ways that ever more closely reflect the shifting consuming subject. Staying for a moment with the premise of the IBM ad, it is worth noting that the anonymity of the customer (underscored by the wearing of blank masks) is the stuff of which business nightmares are made.

Customer relationship management (CRM) technologies enable the ‘problem’ of the customer (the object of knowledge) to be re-posed: from one of anonymity to one of fragmentation. At a time when electronically mediated transactions are generating more and more recorded trails, and surveillance fears reach fever-pitch (Albrecht & McIntyre 2005), much of this material remains, it is claimed, post hoc and unsystematic (Abbott 2001). The meaningful re-integration of this data thus becomes a key business objective. In response CRM systems claim to integrate and systemise this data by ‘[aligning] business processes with customer strategies in order to build customer loyalty and increase profits overtime’ (Rigby et al. 2002, p. 102). CRM systems thus promise user organisations the ability to, *inter alia*, identify customers by attribute and behaviour; distinguish between them by profit contribution; facilitate better decisions on product design and promotion; target customers as individuals and as segments; as well as measuring promotional effectiveness and return on investment. CRM packages are thus promoted as fully-fledged Latourian (1987) ‘centres of calculation’ where, it is claimed, a comprehensive and predictive knowledge of the consuming subject can be assembled out of partial traces (such as transaction data, surveys, questionnaires, loyalty schemes, etc.). CRM thus claims to do what ‘all the king’s horses and all the king’s men’ could not, and put Humpty Dumpty together again.

Many of the critiques of CRM and its associated data-mining and profiling technologies are articulated in terms of the politics of what should be allowed to be
made transparent and what kinds of data should be kept private (e.g. Garfinkel 2001; Tavani 2010; see Garsten & Montoya 2008 on the politics of transparency), and what impact these data correspondences might have upon politics, society and the freedom of the individual (e.g. Danna & Gandy 2002). In contrast, in this paper we are interested in the way in which: 2

i. Customer Relationship Management and its associated technologies and techniques are not merely engaged in the ever more detailed re-presentation of the consuming subject, but rather in bringing into being the very ‘realities’ they ostensibly reflect.

ii. CRM technologies, and the anxieties and expectations they give rise to, can be interpreted as manifestations of longstanding cultural preoccupations regarding mimesis and the performativity of the sign.

iii. Despite the considerable scope and technological sophistication of extant CRM systems, and the (often exaggerated) visions of what they might someday accomplish, such systems remain prone to misappropriation, inversion and breakdown, and do not, at least not reliably, succeed in rendering know-able the anonymous multitudes of consumers.

We draw in this paper on an ongoing research engagement with the role played by ICTs in the production and consumption of business knowledge. The empirical work upon which this paper is mostly based, was a qualitative study conducted between 2004–6 in four organisations, one of which was a vendor of CRM systems, one a consultancy that specialized in Enterprise Systems (including CRM) implementations, and the remaining two were users of CRM technologies. The research employed a combination of open ended and semi structured interviews along with non-participant observation and interrogation of organisational documents in order to explore how this fabrication of the consuming subject is (or fails to be) accomplished.

The Family from Hell and Other Tales of Twenty-first Century Consumption

Whilst the use of CRM systems is widespread in contemporary organisations, from airlines to universities, their role has been mostly restricted to what we might call the ‘rationalisation’ of customer-facing work (e.g. Bloomfield & Hayes 2005; Knights & Jones 2007). CRM however, is said to represent something much bigger: the culmination of a decade-long shift away from an emphasis on the management of transactions to the management of relationships. In the course of a presentation at a company we will call FreeWorldSys, (a vendor of ICT ‘business solutions’) this was emphasised by ‘Anna’, one of our interlocutors, when, for dramatic effect, she pointed in quick succession at her wedding ring and then at an image of a supermarket loyalty card arguing that both those artifacts meant that a relationship was in existence:

A different sort of relationship sure, but one that also needs work if it is to continue …

Your customers have signed on the dotted line, they have taken your shilling … They have taken you into their confidence, they are [en]trusting you with their habits and preferences.

In this account, the loyalty card represents the willingness to be identified, the willingness to, as it were, stand out from the faceless multitudes of the ‘market’. CRM, she went on to argue, enables business to build on this recognition. It is about the realisation that ‘your
customer is a resource, your main resource’. Until relatively recently however, the knowledge necessary to fully render the customer into a productive resource was said to be lacking, to have been out of date or to have remained entrapped in various informational ‘silos’. Members of the audience were encouraged to reinforce this point by contributing their own tragic-comic tales of corporate flat-footedness, ignorance and confusion. For example a manager in a major financial services organization reminisced about the ‘bad old days’ (1970s–80s) when information about bank customers was kept by account number only and the organisation had but the vaguest knowledge about who banked with them or how many accounts a given customer had. Now, however, things are supposed to be different. According to a FreeWorldSys publication:

FreeWorldSys’ CYCLOPS [software platform] . . . by leveraging customer and transaction information already in your systems, we provide individually targeted loyalty programmes that maximise the lifetime value of every customer.

The imagery of lack followed by technological fulfilment tended to underpin the accounts of our interlocutors, such as the tale of ‘The Family from Hell’ that was related to us during a visit to FreeWorldSys. Different members of the family in question, so the story goes, would lurk near the checkouts of various branches of a large British supermarket chain we refer to here as ‘GoodSense’. The family would collect discarded receipts looking for the ones where the shopper had not collected loyalty points. They would then approach the checkout staff and, claiming the receipt as their own, ask that the missing points be registered retrospectively to their account. By this means, the family is said to have been amassing (and cashing out) loyalty points in astronomical quantities. Their modus operandi however is, in the tale, also the cause of their undoing as the customer loyalty account failed to show anything approaching a stable shopping ‘pattern’. This in turn enabled GoodSense to discover the scam, identify the perpetrators, and ensure a conviction. A triumph then for corporate knowing over fraudulent behaviour? The tale as told to us in FreeWorldSys hinted at a different moral. According to Anna the story told not only of a victory for the corporate gaze but also of its blind spots. For her it was instructive that all the action in the tale takes place around supermarket checkouts:

What happens up to now? Say the customer walks in. And they have your loyalty card. You do not know they are in here. You only find out they’ve been when it’s too late [to sell them anything], when they are at the checkout. Well, that’s what we are now changing.

In this type of narrative, technological innovations such as the introduction of smart cards and RFID (radio frequency identification) technologies have the potential to transform what used to be post hoc into ‘real time’ knowledge. The chip in the loyalty card will be able to signal the presence of the customer as soon s/he comes within read range. If so desired, closed circuit television cameras can track the bearer’s movements throughout her/his visit. To quote again: ‘You will be able to see what they looked at and did not buy but put it [sic] back on the shelf’. It is of course easy to make too much of the ‘ideal logic’ of a technological system. For instance, in the course of illustrating the above point, Anna had to excuse herself: she was too short she explained for the camera to be able to focus on her. She quickly pulled out a crate apparently kept there for that purpose, climbed on top and, what we might call, the ‘eye of the CYCLOPS’ obligingly swerved to focus on her.
CRM could be understood as located at the nexus of a number of technologies of visibility, inspection and inscription (e.g. Lace 2005). According to Michel Foucault (1977), contemporary techniques and practices of surveillance and documentation should be viewed as attempted solutions to the political-administrative problems posed by the ‘mass’. In the modern era, he claimed, rational administration can no longer tolerate the opacity and sheer unknowability of the mass. In Western modernity, it is no longer the ‘anonymous’ masses that observe the rituals and ceremonies of the elites. Instead it is now the many who are subjected to the gaze of the few. The various administrative apparatuses of surveillance, Foucault (1977, p. 191) argued, have ‘lowered the threshold of describable individuality and made of this description a means of control’. For Foucault, this individuality is fabricated by means of a range of administrative technologies and devices such as identity documents, dossiers, filing cabinets, and ultimately, calculating machines. These work to individualise the formerly ‘nameless’ mass(es) into knowable and calculable subjects. There is by now an extensive literature that identifies and explores how these processes operate in contemporary organisations (e.g. Miller & O’Leary 1987). Increasingly, it is not only the employees of an organisation who are subject to the corporate gaze. Computer-enabled CRM promises the means through which an organisation might expand its knowledge and control beyond currently taken-for-granted organisational boundaries. The technologies upon which CRM depends provide the means for carrying out the ongoing corporate labour of assembling and putting into circulation what we might term a veritable ‘digital double’ of the consumer. CRM technologies promise that complex informational biographies of individuals can now be constructed, producing a parallel ‘virtual world’ where subjects’ behaviour is increasingly recorded in an ever more fine-grained informational forms. If, as Walter Benjamin (1979, p. 217) once wrote, ‘every day the urge grows stronger to get hold of an object at a very close range by way of its likeness, its reproduction’, then contemporary information technologies promise the ultimate gratification of that urge.

CRM-related technologies promise to fill in what was an apparently empty relationship between anonymous consumers and ignorant vendors, with an ever-expanding network of representations which, when properly interrogated are bound to reveal important truths about subjects – both to themselves and to others. For instance, in FreeWorldSys, and elsewhere, we were proudly shown various technological devices designed to utilise the information collected and archived in order to predict and shape the behaviour of the consuming subject. Among those devices, the one that is, to date, most widely deployed in actual retail settings is the ‘smart trolley’ (e.g. Ody 2003; compare Cochoy 2007). A trolley is ‘smartened-up’ by being equipped with a small computer which identifies the customer by ‘reading’ the information on a loyalty card. The computer is able to sense the proximity of the individual shopper to a product and drawing on stored knowledge of that individual’s purchasing history adjust the prices shown on its miniature screen: ‘For you Harry, this Argentinean Red, 20% off!’3 A ‘smart trolley’ can thus give voice to the siren song of consumer commodities. This is then the mission of CRM technologies: as summed-up in Hamel and Prahalad’s (1996, ch. 4), exhortation, it is ‘to amaze customers by anticipating and fulfilling their unarticulated needs’.

There might be on the other hand those who set themselves up to systematically resist such temptations, those, for instance, ‘who drive from store to store, clipped coupons in hand buying discounted goods and practically nothing else’ (Baker 2008, p. 51). Those that is, who insist in behaving like the ‘rational consumers’ of (neoclassical)
economic lore; ‘barnacles’ in marketing terminology (Werner & Kumar 2002). If the system identifies ‘bona fide barnacles . . . pushing smart carts through a supermarket . . . it might make sense to fill their screens with off-putting promotions for full price caviar and truffles’ in an attempt to ‘fire’ them (Baker 2008, p. 52).

It should be clear from what has been said so far that the role of ‘digital doubles’ is not merely referential but also performative. They constitute ‘a self-reflexive use of reference that in creating a representation of an ongoing act, also enacts it’ (Lee & LiPuma 2002, p. 195). As we have seen, the promise of CRM is often articulated as the vision of the customer as a ‘resource’ whereby customer actions can be reincorporated in data-form back into marketing strategies. Consumer behaviour will, it is hoped, no longer be a source of uncertainty – the stuff business nightmares are made of – but will become instead the object of reliable, even predictive, knowledge. The various information technologies employed in the delivery of CRM (including RFID tagging, data mining, and so on) thus collect, compile and combine continually updated data (Elmer 2004; Kallinikos 2006) including age, income, education, consumption habits, credit history and the like, in order to fabricate and place under corporate control ever more efficacious electronic representations of the consuming subject.

Perhaps such labours are, as some argue, invested in a fantasy and the consumer is indeed ultimately ‘unmanageable’ (Gabriel & Lang 2006). Indeed simulation, as Bogard (1996) argues, is precisely the process that feigns what it does not (or cannot) possess (Nichols 2004). It is perhaps not surprising that digital doubles appear to enjoy a peculiar, even ambivalent, form of existence, located in the intersection of reality and fantasy, of the actual and virtual worlds (Bogard 1996, p. 27). Digital doubles are thus creatures of a contemporary ‘technological imaginary’ (McNaghten et al. 2005). They thus enact preoccupations which cut across otherwise diverse cultural forms such as science and fiction, politics and commerce. To dismiss therefore such informationally simulated doubles as but a pale reflection of their ‘originals’, the flesh-and-blood consumers who are seemingly ‘reduced’ by their rendering into a ‘resource’ (a digital ‘double’), is to overlook the ways in which such processes of re-presentation echo much broader cultural preoccupations regarding the limits and possibilities of the autonomous subject in the Information Age.

The Post-Modern Predicament of Yakov Petrovitch Golyadkin

It is perhaps more than a coincidence that the seemingly inexorable spread of the administrative machineries of representation described by Foucault (1977), was, almost from the beginning, haunted by spectres of the subject in crisis. From E.T.A. Hoffmann’s stories of doppelgängerism, to Stevenson’s Dr Jekyll and Mr Hyde, to Levin’s Stepford Wives, the tale is told of the Occidental subject as prone to fragmentation and dissolution (Herdman 1990). Against this backdrop the ambivalent figure of the ‘double’ functions as a potent vehicle for the articulation of such anxieties. In Dostoevsky’s 1845/1866 story The Double (1985), for instance, the anti-hero, Titular Councillor Yakov Petrovitch Golyadkin, is haunted by another Golyadkin, one who is:

completely different but at the same time absolutely identical . . . so that . . . no one . . . would have taken upon himself to determine just who is the real Golyadkin and who the counterfeit, . . . who the original and who the copy. (p. 64)
Golyadkin finds himself unable to shake off this ‘other’ Golyadkin, who keeps impersonating him at work and at home and interfering in his life, gradually driving him mad. Indeed, wherever Golyadkin goes, more ‘exact likenesses’ of him keep springing up, ‘so that there was nowhere to escape from these exact likenesses’ (p. 190).

In Dostoevsky’s tale, the origin of these doubles remains obscure, leaving open the possibility that they might be products of Golyadkin’s increasingly disturbed mind. Oscar Wilde’s (1891) Picture of Dorian Gray, on the other hand, locates the genesis of the double in the process of representation. Dorian Gray never seems to age, despite living a life of debauchery and dissolution. Instead the symptoms are only visible on his portrait kept locked away in the attic. There has been in other words an illicit substitution of representation for reality, of the sign for the referent – the double sin of witchcraft and idolatry.4 The Faustian nature of such substitutions is in turn spelled out in the 1913 German film, The Student of Prague (see Baudrillard 1988). In the film, the Devil offers an impoverished university student a great deal of money for something seemingly insignificant: his reflection in the mirror. The student, Balduin, readily agrees and the Devil summons the image from the mirror and walks away with it. The newly wealthy Balduin does not miss his mirror image, not, that is, until he suddenly comes across himself. The Devil has endowed Balduin’s reflection with an independent life and has put it into circulation. Now there are two of them. Like Golyadkin, Balduin engages in a futile struggle to reclaim his identity as the double starts to shadow him, interfere in his life, and even commit crimes for which Balduin is blamed.

If information age folklore is to be believed, Golyadkin’s and Balduin’s predicament is now becoming endemic (e.g. Johnson 2008; see Figure 1). In one well-known tale of contemporary doppelgängerism, former salesman Bronti Wayne Kelly spent years unable

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**FIGURE 1**

Bank mail-shot addressed ‘To the Real Theodore Vurdubakis’.
to obtain employment despite extensive experience and good qualifications. During his time in the wilderness he accumulated hundreds of rejections from prospective employers. In those rare cases where he was offered a job, he would be fired within days and without an explanation. Kelly’s savings soon ran out, he had to sell his house and file for bankruptcy. He became homeless, sleeping rough in the streets and washing in public toilets. It was only after four desperate years that he was eventually given an explanation. Kelly’s wallet had been stolen back in 1990 while Kelly was serving as a USAF reservist. The wallet had contained his driver’s license, Social Security card, and military ID. It turned out that during all those years the (still unknown) thief had been giving Kelly’s identity to the authorities every time he was arrested for his numerous crimes. Kelly’s ‘data profile’, circulating and proliferating in the network of computer databases used by employers in their background checks, included an ever-lengthening record of arrests and convictions for crimes ranging from shoplifting to arson. Eventually the police provided Kelly with a ‘Certificate of Clearance’, which he has to carry with him, and which officially states that Bronti Kelly is not the criminal with whom he co-habits that identity. Even this however seems to have failed to rid Kelly of his malevolent ‘digital double’. He has since been rejected from another 50 jobs—a sign that the erroneous data is continuing to haunt him. He is said to be considering changing his name, the ultimate surrender so to speak, to the ‘Other Kelly’.

For many contemporary commentators, corporate concerns with protecting the public from identity theft merely diverts attention from the real identity thief—none other than those same corporations whose data collection and manipulation activities increasingly imperil the autonomy (to say nothing of the privacy) of the subject. The so-called ‘sovereign consumer’ thus appears as a kind of ‘corporate dope’ with the invisible hand of the market seemingly increasingly replaced by the concealed hand of management. Corporate digital doubles and their associated computer mediated, forensic, actuarial and diagnostic procedures, are even viewed as symptoms of an ongoing transformation of Euro-American societies into ‘control societies’ where:

> Marketing is now the instrument of social control and produces the arrogant breed who are our masters. Control is short term and rapidly shifting, but at the same time continuous and unbounded, whereas discipline was long term, infinite and discontinuous. (Deleuze 1995, p. 181)

According to *The Economist* (1999) the Faustian deal has already been struck. Privacy, the editorial argues, has been irreversibly eroded. This erosion does not come about as the result of the actions of some Orwellian central authority. Rather, it is the logical outcome of consumers’ willingness to give away piece-by-piece seemingly insignificant but ever-increasing amounts of personal data in return for various benefits such as supermarket loyalty points; to paraphrase Arendt (1965) we might speak of the banality of surveillance. While it is no longer possible to restore even the levels of privacy enjoyed in the 1970s, most people, the editorial claims, do not actually care. They do not miss what has been given away. Further erosion is therefore inevitable, so ‘[t]he best advice is: get used to it’ (p. 12). If that is indeed the case, then Euro-American consumers appear to have gotten a particularly bad deal, having sold their doubles for a fraction of the price obtained by Balduin!

Those anxious about the terms of the Faustian contract, typically articulate their anxieties in terms of the overarching knowledge and capabilities of the data collectors
over the ignorance and incapacity of the consumer to fight back (e.g. Albrecht & McIntyre 2005). For those on the other hand whose faith in the science(s) and technologies of management survives unshaken, it may be tempting to interpret the various tales of disruption and doppelgängerism recounted in this and the previous sections as merely describing sites and instances where the technological-administrative labour of reference was not properly performed. Recall for instance the moral of the tale of the ‘family from hell’ as related to us in FreeWorldSys. In this view, such phenomena point to the need for further, and more creative, technological and administrative solutions to the problem of the (faceless) mass, solutions that would admit less noise and outside interference.

It is worth noting at this point, that the ‘problem of the mass’ should not be understood as referring solely to collections of human individuals. Indeed, the very technologies utilised in rendering such masses ‘transparent’, often merely succeed in deferring rather than ‘solving’ the problem. To take a classic ‘Foucauldian’ example, the problem of monitoring the urban multitudes, is often merely deferred to the equally intractable problem of monitoring multitudes of CCTV screens. Similarly, the ICT-facilitated quest for ever-more fine-grained knowledge of individuals and their social interactions can easily result in masses of (therefore) meaningless data. This has in turn prompted the development of a whole range of new applications designed to interrogate this mass. By ‘super-crunching’ (Andrejevic 2010) masses of data, such applications aim to identify (predictive) patterns of relations between data items. Such technologies therefore seek to solve problems of reference by eschewing the quest for causality (depth), in favour of correlation and pattern recognition (surface) (see Andrejevic 2010). As Anderson (2008) puts it in his celebratory account of this particular dream of transparency:

massive amounts of data and applied mathematics [can] replace every other tool that might be brought to bear. Out with every theory of human behavior, from linguistics to sociology. Forget taxonomy, ontology, and psychology. Who knows why people do what they do? The point is they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves.

The pre-dictive patterns derived from such computer mediated acts of knowing, might be seen as analogous to financial derivatives which also operate at arm’s length from the realities they constitute as well as describe (Callon 1998; Kjellberg & Helgesson 2007). From this point of view, ‘digital doubles’ constitute but a particularly prominent instance of a re-cognisable pattern; one possible ‘story’ that the data might ‘tell’.

For a typical ‘derivative’ of this techno-logic, consider the ‘Threatprint’ a tool recently proposed by ICT consultancy Detica (a BAE Systems company) for predicting criminal activities (especially terrorism). This tool, it claims, will enable law enforcement agencies, (i) ‘to avoid being overwhelmed by data’; (ii) ‘to avoid a systemic invasion of Privacy’; (iii) ‘to predict, and ultimately influence’ [criminal and] terrorist behaviour’ (Detica presentation, Sutherland 2008, p. 7, see Figure 2). A ‘Threatprint’ is a virtual object assembled via the mining and profiling of electronic data already generated in the course of everyday consumption activities, movements and social interactions. By focusing on linkages between the ‘digital footprints’ generated by possible criminal activities (rather than persons) it is possible, Detica claims, to trace out and predict the contours of events that are yet to happen. The electronic traces of a criminal/terrorist action (e.g. lengthy stay in Pakistan AND ticket bought by third party AND more than one tickets paid via the same credit card, etc.), it is argued, pre-figure the event itself and a thorough study of such
traces in the light of particular threat scenarios (the ‘threatprint’) will reveal the preventative actions to be taken in the present.

Steven Spielberg’s (2002) *Minority Report* can be seen as a dramatisation of the cultural logic of derivation that underpins database divinations and other ‘CRMancies’. Based on a story by Philip K. Dick (2000), the film depicts the society in the year 2054 as one preoccupied with the quest for predictive knowledge of the human subject. One way in which this preoccupation is manifested is in the operations of ‘Pre-crime’. The aim of the ‘Pre-crime’ is the identification and apprehension of criminals before their crimes have been committed. In the film, the hero, John Anderton (played by Tom Cruise), is on the run having been officially identified as a pre-criminal. Anderton attempts to evade detection in the anonymity of urban crowds. In 2054, however, this is no longer possible. Foucault’s (1977) opaque anonymous mass which had so offended the modern will to knowledge and control is no more. Public spaces are saturated with commercial iris scanners designed to identify, monitor and target consumers. Wherever Anderton goes he is hailed by name by the ‘smart’ advertising billboards attempting to entice him: ‘John Anderton, you look like you could use a Guinness!’ By 2054, it appears, Hamel and Prahalad’s (1996) vision has indeed come to pass. In desperation Anderton resorts to an eye transplant carried out by an underground doctor. After the operation he is shown entering a GAP store whereupon he is immediately greeted by the apparatus as ‘Mr Yakamoto’ – presumably the late owner of his new black-market eyes – and asked whether he enjoyed the tank-tops he acquired in his previous visit there.

In the wave of publicity that accompanied the film’s release much was made of the fact that the technological devices portrayed were designed by a panel of technical experts and futurists convened by Spielberg with the aim of producing an accurate picture of the future. In fact *Minority Report* was often referenced by our interlocutors, usually in order to note how something that had appeared amazingly futuristic only two or

FIGURE 2
three years earlier, could be achieved ‘right now’ with RFID technology much more cost effectively. According to ‘Jerry’, a management consultant specialising in Enterprise System implementations including CRM, RFID should be understood as performing in the ‘real world’ a role not dissimilar to that of ‘cookies’. The shopping experience as portrayed in Minority Report, he argued, is one already familiar to online shoppers who, as a matter of course, expect to be recognised, to have shopping suggestions thrust at them, and so on. Widespread use of RFID would therefore allow this mode of consumption to seep out of the ‘virtual’ into the ‘real’ world. Currently, there are indeed some signs that this ‘seepage’ is underway. UK retailers such as Tesco and Marks & Spencer have recently (and controversially) been experimenting with RFID tags. In what is probably the best-known case, Phillips announced that it was providing clothing retailer Benetton with washable RFID tags, which would be woven into the labels of 15 million items (e.g. RFID Journal 2003a). Benetton sales staff, it was argued, ‘could easily identify repeat visitors on arrival and give priority service to these more loyal, and hence more valuable customers’ (Banham 2003). Even though the ensuing outcry (see Figure 3) seems to have resulted in Benetton’s plan being put on hold, such cases were nevertheless often mentioned to us as indicating the building up of a possibly unstoppable technological and business momentum (see RFID Journal 2003b, 2003c). As Evans (2005, p. 111) notes, RFID tags in clothing offer a cost-effective ‘alternative [to Minority Report’s biometrics] way of identifying customers – as long as they didn’t swap clothes!’

Much of the technological gadgetry discussed here, from CYCLOPS to the biometric technologies portrayed by Spielberg (see also Evans 2005; Knights et al. 2001), to the weaving of RFID tags in clothing, can be viewed as enrolled in the performance of the complex referential work deemed necessary to keep representations and represented, signs and referents, properly aligned with one another. If the vision of ‘Customer

FIGURE 3
Anti-RFID protest (Source: www.boycottbenetton.com; reprinted with permission).
Relationship Management in Minority Report (the ‘future of CRM’) is compared with that of IBM’s ‘business nightmare’ described earlier (presumably now the past of CRM) what is particularly striking is the reversal in the imagery of the chase. In the IBM advertisement it is the businessman that is chased by a faceless crowd of consumers. In the future conjectured by Minority Report on the other hand, it is the (no-longer anonymous) consumer that is relentlessly pursued by the electronic apparatuses of customer relationship management.

**Performative Signs**

Dorian Gray’s picture, Balduin’s mirror image, and Minority Report’s Pre-crime (or for that matter ‘pre-consumption’) are all testaments to a fascination with what we might call the double life of the sign: representations are portrayed, we have suggested, as not merely referential, but as performative. Importantly, as we pointed out earlier, our interest in this performativity must alert us not only to its capacity to succeed in its representational function, but to the work that must be done to effect its performative powers. Commenting on the view of sympathetic magic propounded in James Frazer’s (1890) Golden Bough, Taussig (1993, pp. 47–48) dwells upon Frazer’s:

> notion of the copy, in magical practice, affecting the original to such a degree that the representation shares in or acquires the properties of the represented. To me this is a disturbing notion foreign and fascinating not because it so flagrantly contradicts the world around me but rather, that once posited, I suspect if not its presence, then intimations thereof in the . . . habits of representation in the world about me.

Intimations – or perhaps something more? Euro-American habits and practices of representation are crucially dependent upon the various ‘information’ technologies which increasingly mediate social organisation. ‘Modern’ information technology and ‘pre-modern’ magic could be said to share a particularly close kinship in that both are conceived as loci for the ability to effect transformations of the material world through the manipulation of ‘mere’ symbols (Davis 1999). This claimed power is perhaps best encapsulated in the concept of digitally created ‘virtual realities’ (VR), as popularised by the ‘cyberpunk’ literary genre (e.g. Gibson 1984, 1988), as depicted in films like the Matrix trilogy, and as enacted in online environments such as Second Life. In this sense then, the different applications and associated imaginaries that make up CRM could be viewed as reflecting a broader (‘post-modern’) cultural preoccupation with the efficaciousness of the electronic sign, which cut across commercial, technological, literary and media domains.

In the case of sympathetic magic, a potential incomprehensibility on the part of the analyst as to how the sign is able to affect its referent in material terms, typically leads to an analysis of the social practices and cultural beliefs through which such effects are realised (e.g. Cannon 1942; Evans-Pritchard 1976). As we have begun to show in this paper, a similar approach needs to be taken in seeking to understand the ICT enabled ‘power effects’ said to obtain between sign and referent in digital ‘doubling’.

In ‘pre-modern’ Christian Europe, magic, the esoteric art of the efficacious sign was widely assumed to presuppose and require a deal with the Devil. For instance, Hawkes (2004) notes that for Thomas Aquinas the agency that executes a magician’s spells:
cannot be the magician himself, for human beings cannot achieve objective effects by subjective force alone. It cannot be God, for God does not submit His will to human command, nor can He be invoked with spells or images. It cannot be the signs themselves, for signs naturally possess no performative power. The agent who performs the magical action can only be a spirit who does not serve God. Despite what the magicians claim to believe, all magic is in fact performed by Satan or his subsidiary demons . . .

Such Christian anxieties, anxieties that culminated in the convulsions of iconoclasm and enacted in Protestant prohibitions against images of the divine, were underpinned at least in part, by the suspicion that if nature and reality are the realms of God, then artifice and simulation may be the realm of the Devil (Leyerle 2001), a notion echoed in Balduin’s sale of his image to Satan.

Commentators from Sigmund Freud (1933) to Arthur C. Clarke (1976) have often alluded to the tendency of advanced technologies to adopt the themes – and one might add, replicate the mystique – of magic. If magic is to be understood as the promise of power over things and over others, this is also what information technologies currently promise (e.g. Davis 1999). Whatever we might mean by ‘post-modernity’ it is in many ways coterminous with an increased awareness of, and preoccupation with, the performative rather than merely denotative aspects of representation (Hawkes 2004; Anderson 1990). It is therefore highly appropriate that the computer has been elevated to the emblematic technology of the present age (Poster 1990).

How then, to return to Aquinas’ question, do we account for CRM techniques’ purported ability to make signs efficacious, assuming of course that – contra Albrecht and McIntyre (2006) – the delineations of authenticity and artificiality no longer fits easily with a distinction between God and Devil? What exactly are the processes through which representations, as Taussig (1993) puts it, come to share in or acquire the properties of the represented?

In their account of the rise of Tesco to pre-eminence among British supermarkets, Humby, Hunt and Phillips (2006, p. 139) describe such a process:

Take each product, and attach to it a series of appropriate attributes, describing what that product implicitly represented to Tesco customers. Then by scoring those attributes for each customer based on their consistent shopping behaviour [known from their loyalty card accounts], and building those scores into an aggregate measurement per individual . . . Measuring customers on these criteria should start to create distinct profiles . . . in shopping, so that it might be possible to identify the busy urban couple who shopped for ready meals but loved to be adventurous and spent a little extra. Or the health-conscious shopper who buys fresh fruit and vegetables, and avoids red meat but sometimes eats chicken. Or indeed any one of the distinct shopping characters we all see in our local supermarket, and think ‘I know who you are’.

When each profile was isolated, it was ‘tested against other factors – for example, how often did they typically shop and when? What magazines did they read?’ (p. 144). The tools employed in the diagnostic process include Osgood’s (1964) ‘Semantic differential procedures’ which are used for measuring ‘abstract or judgmental concepts’ (Humby et al. 2006, pp. 140–142), such as ‘fast’, ‘fresh’, or ‘adventurous’, by means of 20 seven-point Likert scales. ‘Using the scores for all these attributes, an Osgood profile becomes a map of
the connotations for the product or concept’ (emphasis added). ‘With 20 scales agreed as a way of grading every product’ on Tesco’s shelves, 45,000 Osgood profiles were constructed, ‘one for every product from anchovies to asparagus, whisky to washing powder’, yielding approximately 1.2 million individual ratings. Combining these profiles with information such as income, age, marital status etc., gained from other sources (such as geo-demographics, loyalty card data, etc.), Tesco created ‘Shopping Habits’, ‘a picture of what attitudes and beliefs drive our [consumer] behaviour’. These are the basis for identifying, or perhaps constructing, Hamel and Prahalad’s (1996) ‘unarticulated needs’: Customers can be given incentives to purchase the same products that others who share their ‘Shopping Habits’ (say ‘adventurous,’ or ‘finest’) have already purchased. This is an experience familiar from the online world: ‘We’ve noticed that customers who have expressed interest in X have also ordered Y’. To paraphrase Taussig (1993), what we have in this account is the notion of the copy, (the digital double), affecting the original to such a degree that the represented begin to share in or acquire the properties of the representation.

The efficaciousness of the sign is thus explained by recourse to formal systems of ‘scientific’ management and its presumed powers to classify, describe and mediate the relationship between the world and its representation. As Lien (1997) has suggested, this kind of marketing operates by establishing a totemic relationship between the world and its representation. Totemism, it will be recalled, describes the establishment of classificatory correspondences between the natural and the social orders. Totem animals and plants, for instance, provide an ostensibly natural basis for the classification of social groups (e.g. Douglas 1966). In the case of ‘customer relationship management the preoccupation is with re-configuring the world of goods and the world of the consuming subject into mirror images of one another’ (Lien 1997).

At the same time, for many commentators CRM and its associated techniques epitomise a quintessentially Foucauldian (post)’modern’ exercise of power (Zwick & Dholakia 2004). This is a panoptic power which shapes identity and works through the channelling of desire. In their discussion of the Tesco case, Humby et al. (2006, p. 146) note that the success of the programme is shadowed by a certain cultural ambivalence. Consumers, they say, ‘are enthusiastic about participation in the process’ but when made aware of the sheer ‘volume of data that the company running the scheme has collected, they are less comfortable’. They quote Simon Davies, founder of the privacy rights group Privacy International:

to get discounts you have to accept the imposition of a loyalty card and consent to give up personal data. That consent is a fraud, it’s a bit like slavery to your supermarket.

To borrow from Anna’s wedding ring metaphor, the ‘relationship’ part in the customer relationship management is according to Davies, more akin to a ‘Stepford’ marriage. The ‘supermarket slave’ is an oxymoronic creature, the monstrous progeny of Friedman and Friedman’s (1976) free-market choice and Deleuze’s (1995) control society. Unsurprisingly, Humby et al., having spent most of the book explaining how, with sufficient data, consumer agency can indeed be harnessed in the pursuit of corporate objectives, attempt to banish associations with the ‘Stepford’ consumer, arguing that:

[a]ny supermarket that attempted to ‘enslave’ its customers, rather than reward them, won’t be able to run a scheme in the long term because participation . . . will dwindle . . .

(p. 147)
And yet, given that for many commentators the supermarket represents the paradigmatic institution of post-modernity, like the medieval castle – or the industrial age factory – standing as a metaphor for the zeitgeist of an age (Anderson 1990), the spectre of the Stepford consumer cannot be so easily exorcised. A caricature though it might be, it is at the same time a reminder of the cultural ambivalence that surrounds the status of the cognising human subject in informational capitalism.

Concluding Remarks

Martin Heidegger (1977) famously argued that the relationship between knower and known in Occidental modernity – whether the object of knowledge is the natural or the social world – increasingly becomes a relationship of appropriation. He therefore describes the distinctiveness of modern technology in terms of ‘enframedment’, as the process through which the world and everything in it, human beings included, is harnessed as a repository of resources, a ‘standing reserve’ or ‘stock’ (Bestand) (Heidegger 1977). The mighty Rhine, for example, is ‘enframed’ by the power plant and ‘put to work’ as a reliable source of hydroelectric power. Against this backdrop, supermarket shelves in their transcendence of seasons and geography exemplify no less than the Rhine dam, a world remade as a standing reserve. Correspondingly, the consuming subject itself is, as we have seen, electronically re-presented in terms of the goods on those shelves. As Humby et al. (2006, p. 122) put it, ‘You are what you eat’. Or as we might put it ‘you are how you can be appropriated’.

Insofar as contemporary computer-mediated forms of surveillance and digital inscription also involve the attempted technological conquest of tyche, they can be said to generate their own versions of a digital ‘standing reserve’ (see Figure 4) (Knox et al. 2008). They indulge the desire to tame the flux of social life, to ‘enframe,’ so to speak, the Heraclitian river (Chia & Tsoukas 2002) of matter and action into a plane of capturable information. They instantiate what MacKenzie (1999) calls ‘the historically recent and still growing technological channelling of events into networks of inscriptions or marks mobilised through algorithmic or programmed devices’. Events, transactions and relationships are, as it were dis-assembled and re-assembled ‘by passing through the bottleneck of coding’, and made subject to the rules, practices and procedures on which such codings depend (Kallinikos 2009, p. 189). The creation of a ‘digital reserve’ is thus the condition of existence for the various wonders of social organization in the ‘information age’.

We have suggested that one effect of such coding practices has been to produce the dream of the digital double, which might allow a new kind of relationship to become established between vendor and consumer. Yet we find that these same orderings are increasingly vulnerable to disruptions and translation errors as the ‘real’ gets processed through the digital. For Heidegger, it will be recalled, the processes of ordering the natural and social worlds are processes punctuated by technological breakdown, followed by technological fix, further breakdown and further fix. Tyche is therefore not eliminated, but re-emerges in new guises. In a similar vein, the ‘digital reserve’ is generative of its own forms of instability, its own forms of flux and disorder.

Whilst CRM and related technologies seem to promise the imminent disposal of ‘the mass,’ we are persistently reminded that the ‘digital reserve’ seems to go hand-in-hand with a ‘digital uncanny’ which like Aquinas’ devil haunts the quest for transparency...
and performativity. Thus, even in those sites subject to the highest levels of tracking and surveillance, like airports, we find that the disposal of the anonymous mass remains incomplete. For instance, Facial Analysis Comparison and Elimination System (FACES) scanners designed to verify passengers’ facial characteristics against their passport photographs and security databases were recently installed at Manchester International Airport as a prelude to a national rollout. These scanners are interlinked with MI5 and MI6 computers and are designed to make 15 billion binary (yes/no) decisions per second. In practice, however, the system was producing too many false negatives and causing large queues to form. The machines were therefore re-calibrated to resolve this problem. A leaked report, however, shows that they are now generating too many false positives, being reportedly unable to distinguish between the face of Osama bin Laden and that of the actress Winona Ryder (e.g. Gardham 2009).

Even the inscriptive machineries of Minority Report, which might be taken to portray the ultimate in attempts to render ‘the mass’ transparent and overcome the unpredictability of human agency – ‘enframing’ taken to its logical conclusion – appear enmired in ambiguity.
Anderton, whose job is to enforce the system’s conclusions, and whose faith in it is – to start with – unquestioned, soon comes to realise that the facts which the system records are not merely representations but performances of reality. Thus the crime he is projected to commit is being orchestrated by person or persons unknown while the crime scene itself, which the system has ostensibly accurately recorded, is in fact ‘a set-up’ purposely designed to enrage him into committing the pre-dicted crime (Friedman 2006, p. 53).

Advocates and critics of informational capitalism have tended to share the assumption that processes of electronic surveillance and record-keeping are assembling ever more ‘comprehensive data portraits of our social lives’ (Andrejevic 2009, p. 324). The electronic record has become, it is implied, a kind of mirror where social events and individual actions are routinely reflected (e.g. Lace 2005; House of Lords Constitution Committee 2009, ch. 2). There is by now an extensive body of work within sociology, cultural theory, surveillance studies and beyond, which endeavours to highlight and explain this process and its social, moral and organisational consequences. We have in this paper sought to trace out some of the new twists that the continuing diffusion of CRM-related technologies add to these ongoing debates. We have argued, for instance, that such technologies involve more than just the accurate recording of the activities of social actors. ‘Digital doubles’ are increasingly presences in their own right rather than mere reflections cast by ‘originals’. Indeed, all sorts of strange entities are generated by traffic between the digital and the real, the thing and its reflection.

Of course, as we have seen, the ‘magic’ of informational capitalism (not unlike the Devil in The Student of Prague) involves precisely the summoning of such ‘reflections’ into the world. CYCLOPS and the rest of CRM’s ‘profiling machineries’ (Elmer 2004) are in this sense devices for orchestrating the traffic between virtual and real, digital doubles and human ‘originals’. At the same time, this machinery appears endemically prone to instability and representational excess. It is therefore hardly surprising to discover that the circuits by means of which digital doubles and other such ‘derivatives’ are assembled, mobilised and traded, are themselves not immune to misappropriation, inversion and drift (e.g. Ciborra 2002). As Callon (1998) has observed all market-making endeavours crucially entail engaging, in one way or another, with the excesses or ‘overflows’ that such [en]framings inevitably produce. It is because of, rather than in spite of this, that ‘Customer Relationship Management’ provides us with a useful vantage point from which to study Rose’s (1990) reality-making and reality-consuming apparatuses at work in contemporary corporate settings. It is at the very moment where the ostensibly autonomous consuming subject appears at risk of collapsing into its ICT generated ‘derivatives’ that we become aware of practices, histories and social relations which simultaneously explain the power of the sign to perform reality, and which articulate the risks that various ‘alignments’ of ‘representation’ and ‘reality’ might entail.

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NOTES
2. We would like to thank one of the anonymous referees in prompting us, and helping us, to clarify these points.
3. Anna in the course of a ‘smart trolley’ presentation.
4. That is performative signification, and objectified subjectivity respectively (see Hawkes 2004).
5. In the film, it will be recalled, it is biometrics that is used to identify and monitor customers.
6. As Levi-Strauss (1962) put it, the distinction between the classes of ‘man’ and ‘animal’ provides the conceptual basis for social differences.

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