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# DRESSAGE AND THE ILLUSION OF ENTERPRISE CONTROL\*

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## Abstract

A recent stream of information systems research emphasises the institutional or structural forces that can be embodied in an enterprise system. Other research focuses on the locally idiosyncratic adoption patterns of users after an enterprise systems implementation. To understand the tension that arises when these opposing views meet, we draw on Foucault's notion of *dressage*. Dressage implies the exercise of total control by a governing body over the activities of its inhabitant population. In a context of enterprise systems, dressage is reflected in the control-rooted standardised rationality which is inherent in such systems, as well as in the ostensive compliance of individuals to such systems. Dressage highlights that enterprise systems may contain elements of non-productive control, and that responses to such control may appear to be compliant, whereas non-standardised locally idiosyncratic activities persist outside of the system's gaze. These "organic" activities may be vital for organisational flexibility and for ongoing effective organisational performance.

Keywords: Dressage, Enterprise Systems, ERP, Control, Dispositif, Compliance, Situated Practice

\* The first two authors publish alphabetically to recognize co-first authorship

## Introduction

Enterprise systems such as enterprise resource planning (ERP) systems represent a unique form of information technology in that they are intended to be all-encompassing and by nature aspire to integrate all the applications and business processes of an organisation (Davenport 1998; Robey, Ross, & Boudreau 2002; Markus, Axline, Petrie, & Tanis 2000; Kallinikos 2004). Such systems are intended to homogenise organisational processes without necessarily considering the circumstances that give rise to their emergence or to the context in which they are performed. Therefore, the implementation of an enterprise system often leads to a tension between the unified, rationalised process logic prevalent in the system, and the idiosyncratic, locally situated social logic inherent in existing organisational practices.

A recent body of research on the effects of enterprise systems in organisations discusses the interplay between structural forces and emergent social action in the wake of an implementation (Elmes, Strong & Volkoff 2005; Boudreau & Robey 2005; Kallinikos 2004; Gosain 2004; Sia, Tang, Soh, & Boh 2002). The logic that is inherent in enterprise systems is one that is integrative in nature and that standardises operations across organisations using generic “best practices” (Davenport 1998; Markus et al 2000). Prevailing understanding of local work practice, however, indicates that organisations are comprised of a multitude of emergent social conventions that are comprised of situated, ongoing interactions among organisational members (Orlikowski 1996). These situated interactions organically give rise to socio-cultural systems that are dynamic in nature and that both shape and are shaped by local group formations, power relations, construction of personal and organisational identities, and scripts for technology usage (Gal, Yoo & Boland 2005). This local logic is intimately tied to the proximate issues, demands, and processes that organisational members face in their daily activities.

The expected compliance with prescribed behavioural scripts inherent in an enterprise system, when combined with widely varying localised actions, can be potentially harmful for the organisation when conflicts between these global and local logics arise. In this paper, we explore one mechanism which can resolve such conflicts by enabling standardised processes and locally emergent social behaviours to co-exist. This mechanism is *dressage*.

The notion of dressage was introduced by Michel Foucault (1977) to explain the manner in which societies regulate their members’ behaviours and ensure their obedience. Dressage occurs when individuals perform a task simply for appearance of conformity when their behaviours are closely scrutinised by government representatives or by management. Dressage implies that individuals will perform certain activities not because they help productivity, but because they give an impression of compliance. The practice of dressage enables the creation of a space where locally emerging social processes and a centrally integrated phenomenon such as an enterprise system can co-exist.

In what follows we will first discuss the interplay between a centralised system and local behaviours as manifested in information systems literature. Then we will elaborate on Foucault’s view of dressage. Next we will link the notion of dressage to enterprise systems and offer illustrations of the phenomenon from our research. Finally we will discuss how similar phenomena have been treated in the literature, and conclude with some insights that Foucault’s framework might offer for enterprise systems research.

## Enterprise Systems Tension

Research on enterprise systems has traditionally focused on implementation issues and success factors, and is typically normative – addressing ways to “succeed” with an enterprise system implementation (Robey et al 2002; Soh, Sia, Boh, & Tang 2003; Kallinikos 2004). A recent body of research, however, focuses on the effects of enterprise systems on organisations and discusses the interplay of structural forces and situated social action in the wake of an implementation (Elmes, Strong & Volkoff 2005; Boudreau & Robey 2005; Kallinikos 2004; Gosain 2004; Sia, Tang, Soh, & Boh 2002).

Some of this recent research stresses the structural aspects of enterprise systems. For example, reminiscent of Weber’s “iron cage”, enterprise systems are thought to embody institutional forces that

limit the mindfulness of individuals (Gosain, 2004). Enterprise systems also make it increasingly difficult to work outside of their dictated bounds, essentially by constructing “modes of human involvement,” and cutting off sources of exploration and improvisation from business processes (Kallinikos, 2004). Structural properties of enterprise systems led some researchers to believe that they may facilitate organisational efficiency (through routinisation, standardisation and predictability) at the expense of flexibility of operations (Newell, Huang, Galliers, & Pan, 2003). Unless managers specifically act to distribute authority during an enterprise systems implementation, “organisational life will become increasingly rationalised and more controlled” (Sia et al 2002, p.35) and enterprise systems will effectively strengthen management power and the existing bureaucratic hierarchy.

Although many researchers focus on the structural aspects of enterprise systems, others stress the locally situated reactions of individuals in the face of system implementation. For example, users can respond to enterprise systems in a variety of unexpected ways, such as avoidance, “reinvention” of the system (overcoming its restrictions), and engaging in improvisational learning (Boudreau & Robey 2005). Enterprise systems can also empower users through real-time access to a wide variety of data (Elmes et al, 2005, Davenport, 1998). In addition, since organisational circumstances are constantly changing, “blind adherence to built-in procedures and unreflective accommodations to non-standard situations can have serious negative consequences” (Elmes et al 2005 p.31). Because users intuitively understand that such “blind adherence” may be inconsistent with their effectiveness under dynamic, changing conditions, many of them will increase their level of reflective action, thereby reconciling changing events with the “unforgiving” enterprise system. (Elmes et al 2005).

Taking into account that although enterprise systems are integrative in nature their implementation may yield multiple responses, implies that the context in which a system is implemented plays a part in shaping how it is used. To better understand this point we will present the notion of ‘situated practice’.

## **Situated Practice**

Individuals are typically portrayed in the IS literature as “socially thin” one-dimensional users of technology, and generally remain undifferentiated and under-theorised (Lamb and Kling 2004). The prevailing view of the user does not take much account of the active role that individuals play in shaping the technology; their roles and practices that take place outside of the realm of the system; and the ways in which users work around or disregard the configurations set by designers both for users and the technology (Ciborra 2000). The approach we take treats users as “social actors”, a term which better captures “the complex and multiple roles that people fulfil while adopting, adapting, and using information systems” (Lamb and Kling 2004). Inherent in this conceptualisation are two important notions: the agency of individuals, and the situated social context in which individuals operate.

When using computer systems, social actors do not always obediently follow formal processes, nor do they fully retain lessons from previous training on a system. Rather, they may learn while using the system, create work-arounds, improvise, or avoid using the system altogether (Boudreau & Robey 2005; Fleck 1994). This is because all aspects of their work cannot be acceptably captured and codified within a process (Fleck 1994), and process conditions deviate regularly and change over time (Elmes et al 2005). Formally defined processes, such as those enterprise systems are intended to support, are notoriously known for not reflecting the manner in which organisational practices actually unfold (Brown & Duguid 1991, Mintzberg 1979). Hence “working to rule” is a powerful method for subversion of management efforts (Schein 1996).

Individual reactions to a technology are socially negotiated and driven by local concerns. Patterns of interaction with the technology do not necessarily correlate with established management plans or with the way the technology is meant to be used. Instead, users’ interactions with technology are situated within a local social context (Orlikowski, 1996; Suchman, 1987; Ciborra 2002). Organisational structures and processes, such as scripts for using technology or standardised processes formulated in the technology, do not exist outside of individuals’ actions and do not precede them. Such structures and

processes cannot be separated from the ongoing activities that constitute them. Structures are constantly in the process of being enacted through the ongoing action of individuals and groups within varying organisational settings (Orlikowski, 1996), and are dynamic entities that are continually in flux.

Enactment involves organisational actors' accommodations to and experiments with the everyday contingencies, breakdowns, and unintended consequences that they encounter (Orlikowski, 1996). These actions largely take the form of improvisation, and involve tactical manoeuvres, bricolage, tinkering, and negotiation (Ciborra 2000). The routines established from these emergent activities embody vital knowledge-in-practice that is accumulated through ongoing interactions among actors, and evolve over time (Feldman 2000).

From this perspective, the implementation of a new technology is not viewed as a grand plan which unfolds in accordance with some pre-determined blueprint. The implementation process unfolds through the everyday situated actions of organisational actors as they go about performing their daily activities and interacting with one another and with the new technology. When standardised business processes of an enterprise system are introduced, they are often merely "layers of new practices over existing ones" (Ciborra, 2000, p.120). Put another way, "one set of social relations and resulting work organisation systems becomes overlaid, like geological strata, with another" (Webster, 1991, p.217). The existing practices do not disappear, but abstractions of new practices, in the form of codified processes, are imposed on them.

Existing practices embody enactments of social structures and routines that have been institutionalised over time and organically constituted individual and group identities, power relations, and behavioural scripts, and are intimately tied to local social conditions. Therefore, these practices will typically be at odds with a set of formalised practices that are prescribed by the implementation of the system, whose inherent logic is, inevitably, at least partially incongruent with the local social ecology. This incongruence can lead to tensions between a logic that is embedded in locally situated practices and abstracted formalised practices embedded in the system. These tensions can be addressed in multiple ways. For example, through some sort of change process, the local environment can transform to align better with the system (Markus, 2004). Conversely, through improvisation, enterprise systems can be adapted and changed to lessen or eliminate this incongruence (McGann, 2005). Both of these concepts emphasise the user-system interaction and tend to downplay the stream of ongoing activities that may take place outside the scope of the system – thus they do not necessarily take into account the multidimensionality of users and their practices (Lamb & Kling 2004). These concepts also assume that the system is utilised by users for productive ends.

Another way to address the tension between local and formalised practices is by employing the idea of dressage. Dressage is proposed as a form of rigid managerial control represented in an enterprise system, and users' reactions to it. It involves organisational actors using the system not for productive reasons but merely for the sake of appearing compliant, while performing productive activities outside the scope of the system. We will further elaborate on the idea of dressage below.

## **Dressage**

Dressage typically refers to the training of a horse in obedience and deportment; the execution by a horse of precise movements in response to its rider. It therefore implies a complete and undisputed adherence to received orders. Foucault situates this notion within a larger socio-historical context and expands its application. In his seminal work, *Discipline and Punish: the Birth of the Prison*, Foucault describes the "emergence from a Classical era of an all-encompassing disciplinary drive that became ubiquitous during the Modern era" (Hopper & Macintosh, 1998, p.127). Such disciplinary drive manifests itself when societies develop a network of apparatuses, which Foucault terms *dispositif*, to exercise strict control over their citizens. The desired effect of these apparatuses is a disciplinary society with a population that may be easily managed, subjected, used, transformed and made more efficient (Foucault, 1977). Under such conditions people are committed to compliance to the point that they willingly delegate their moral

autonomy and responsibility to obedience to the rules, to being observed and governed by an external force – the state (Jackson & Carter, 1998).

The *dispositif* rests on a number of fundamental principles of discipline and control which constitute the base for its functioning. The first principle is *the art of distributions* (Foucault, 1977). This involves allocating people into prescribed spaces, both physical and social. Allocation into physical spaces entails specifying special purpose, self-enclosed spaces inside of which individuals can be confined. Monasteries, army barracks, school or factories are some examples of such spaces. The intention of this confinement is “to know where and how to locate individuals...to be able at each moment to supervise the conduct of each individual, to assess it, to judge it...to calculate its qualities” (Foucault, 1977, p.143). Allocation into a social space implies the division of society into functional and hierarchical compartments (e.g., schools and classes, organisations and departments) and the assignment of individuals to specific ‘social slots’ within them. “Assigning individual places made possible the supervision of each individual and the simultaneous work of all” (Foucault, 1977, p.147).

The second principle concerns the *control of activity* (Foucault, 1977). This principle is meant to constrain the range of actions that individuals perform and to keep them under close scrutiny by establishing a temporal rhythm, and by regulating cycles of repetition for their activities. Furthermore, it specifies the precise sequence of bodily movements that are appropriate for occupants of specific physical and social spaces and defines in detail the manner in which objects are to be handled and manipulated by individuals (e.g., the proper way for a soldier to march and handle his weapon). Thus, control of the body is often achieved through its interaction with an object, such as a specialised machine or technology.

The third principle is the *organisation of geneses* (Foucault, 1977). This principle involves the division of temporal sequences into successive or parallel segments, each of which must end at a specific time. These temporal segments need to be simple and combine according to increased complexity. This succession “reveals a linear time whose moments are integrated, one upon another, and which is oriented towards a terminal, stable point; in short, an ‘evolutive’ time” (Foucault, 1977, p.160).

The fourth principle is the *composition of forces* (Foucault, 1977). Within the system of the *dispositif*, the individual body becomes an element that may be placed, moved, and articulated on others. Its core qualities are no longer the principle variables that define it; but the place it occupies within a larger system that organises and classifies people, places and functions. “The body is constituted as a part of multi-segmentary machine” (Foucault, 1977, p.164).

**Table 1: Principles of Discipline & Control**

Principle	Purpose	Example Tactics
<i>Art of Distributions</i>	Locate individuals for supervision	- Allocation of individuals to prescribed physical or social spaces
<i>Control of Activity</i>	Constrain actions of individuals	- Specification of bodily movements, rhythm of actions and activity cycles
<i>Organization of Geneses</i>	Delimit and structure processes	- Parsing of individual activities
<i>Composition of Forces</i>	Depersonalise individual identities	- Identification associated strictly with role in the system

The *dispositif* sets up society as a system that is made up of a carefully measured combination of forces which requires a precise system of command. All activities of the disciplined individual must be sustained and punctuated by injunctions whose efficacy rests on brevity and clarity; the order does not need to be explained; it must trigger off the required behaviour without eliciting any questioning or inquiring (Foucault, 1977). “From the master of discipline to him who is subjected to it the relation is one of signalization: it is a question not of understanding the injunction but of perceiving the signal and reacting to it immediately, according to a more or less artificial, prearranged code. [This places] the bodies in a little world of signals to each of which attached a single, obligatory response: it is a technique of training, of dressage” (Foucault, 1977, p. 166).

Unlike typical surveillance which observes what is done simply for corrective purposes, dressage requires the body to perform and demonstrate compliance to whatever demands are imposed by the controller (Jackson & Carter, 1998). Therefore, it entails the carrying out of tasks by individuals simply for the sake of compliance. Under dressage, individuals will engage in tasks not for reasons of productivity but for the sole purpose of satisfying the disciplinary demands imposed on them by the *dispositif*. Dressage, therefore, implies not only control for the sake of organisation and efficiency, but also control merely for the sake of control.

Thus, the two faces of dressage emerge. On the one hand, there exists a relentless pressure that originates from a centralised source of authority for an ongoing, uncompromising obedience on the part of the members of an organised social system. This pressure, as reflected in the four principles of the *dispositif*, demands that individuals conduct themselves according to a strict set of rules in a manner that leaves no room for independent reflection, thought or exercise of free will. This can be called *dressage as control*. On the other hand, the very demand for obdurate observable behavioural obedience enables the creation of a space in which individuals and groups can express the organic logic of their local social ecology. Ideally, the *dispositif* directly enforces the exercise of performative obedience which encapsulates the full range of behavioural possibilities of members of a population, thereby ensuring complete compliance. However, the *dispositif* has no ability to directly control the emotions or intents that motivate such behaviours. Although Foucault assumes that when the *dispositif* has reached a state of perfection such control will no longer be needed because the individual’s psyche has already been fully disciplined and tamed, in reality, this is the case only in extreme, dystopic, cases such as in Orwell’s 1984. More commonly, individuals are able to perform certain acts in a way that may appear compliant yet to attach meanings to their behaviour that contradict the requirements set up by the *dispositif*. Further, the *dispositif* concerns itself with making sure that a detailed adherence is kept to a set of prescribed activity scripts and that the expected outcomes of these scripts are achieved. The most important outcome of the activity scripts, however, is not their productive effect but rather their immaculate execution (i.e. control for the sake control). Therefore, as long as this is accomplished, there remains a possibility to engage in alternative scripts that do not conflict with the ones that have been established by the *dispositif*. We call this *dressage as response*.

## **Dressage and Enterprise Systems**

When applying the idea of dressage to explain the tension between local and formalised practices that is created during an implementation of an enterprise system, one face of dressage is represented by the organisation’s management and its effort to expand its control over organisational processes. This effort finds expression in the introduction of an enterprise system. The other face of dressage is represented by the response of the employees to the implementation of the system and exemplifies how they are able to appear to be compliant to the system’s demands, yet manage to conduct their productive work outside the scope of the system in a way that reflects their locally situated social practices.

Conventional management thought has at its core the notion of control. Practical management literature provides models and tools to enhance and support control over businesses processes – production, distribution, marketing, sales etc. It privileges the ideal image of organisations as well structured pyramids – the orderly process of strategic planning, the prescriptions on how to measure and control

technological and human resources. Thus, drawing heavily on Taylor’s legacy, enterprises systems look to reproduce within organisations the fundamental principle of positivist thinking: the centrality of measure and control; technology as a powerful set of tools augmenting human action and thinking; the need to pull the messy everyday world toward a mechanical view of the organisation characterised by definable and representable forces, linkages and dynamics (Ciborra, 2000). Of course, modern enterprise systems support practices associated with “post-Fordist” activity as well, such as just-in-time supply and continuous improvement. However, even such modern practices embody the logic of traditional top-down power dynamics (Webster 1991). The challenge is how the top of the pyramid can plan and steer the organisation at the bottom.

Enterprise systems are a logical extension of this line of thinking and represent a modern solution to an industrial-age problem – that of oversight and control. A main goal of enterprise systems is to standardise a large amount of organisational processes by dictating their pace and form in a unified manner, and by locating them on an integrated, transparent technological platform that would be accessible from multiple locations and to multiple actors. Essentially, enterprise systems can be viewed as a form of dispositif within an organisation. Above we specified four principles of discipline and control which constitute the base for the functioning of the dispositif. Next, we will present short illustrations from our research, which demonstrate those principles in a context of an implementation of an enterprise system, and the employees’ reaction to the implementation.

## Empirical illustration

We leveraged data from three research projects. Given our interest in phenomena that take place after an implementation, we chose sample cases that have already implemented enterprise systems and associated standard processes. We drew upon a convenience sample, using locations where we are engaged in ongoing research projects that have already completed major portions of enterprise system implementation. Although all cases involve what can be classified as ‘enterprise systems,’ the cases did not implement the same exact type of system, nor were they implemented for the same reasons.

**Table 2: Sample Cases**

<u>Research Site</u>	<u>Description</u>	<u>Functional Focus</u>	<u>Enterprise System</u>	<u>Interviewees*</u>
Government Agency	Large research agency	Entire organization	ERP	68
Manufacturer1	Large multinational corp	Sales & Implementation	ERP, CRM	29
Manufacturer2	Medium division of large corp	Engineering	PLM (PDM)	12

*\* a number of interviewees were interviewed more than once*

In the case of the government agency, the enterprise resource planning (ERP) system was recently rolled-out across ten centres nationwide, and involved integrated financial management functionality in the first phase and “full cost” in the second. In the past, the centres essentially acted as independent “silos,” each with its own financial management system. The ERP system was intended to provide a single backbone across the agency; hence the term ‘integrated’ financial management. After putting this backbone in place, the agency was looking to exercise greater control of centre activities and increase their accountability by allocating all their activities to approved programs. By increasing accountability, the ‘full cost’ functionality of the enterprise system was intended to aid in aligning organisational activity and focusing it on projects that were officially funded by the U.S. Congress.

The first of the two manufacturers that we study has an ERP system and two types of customer relationship management (CRM) systems in place. Once an order is received, a salesperson inputs it into the ERP system, and subsequent management of the order occurs within processes surrounding the ERP system. One of the CRM systems is used primarily for forecasting, while the other is used primarily for its ability to access order data from the ERP system in a more user-friendly manner. Neither CRM system



is widely used by salespeople as a relationship management system, as it is not required, and salespeople often prefer to keep their own records. Submission of orders to the ERP system, however, is required in order for orders to ship.

The second manufacturer has implemented product lifecycle management (PLM – often described as enterprise product data management, or PDM) to manage its product-related data. PLM systems grew out of engineering groups of manufacturing firms. They often integrate with ERP systems, and are intended to manage unpredictable design and product information, as well as associated processes. The division in question has utilised PDM within their engineering department for a number of years, and only recently has integrated it with the engineering department of a new corporate headquarters following the company's acquisition.

In analysing the interview data from these three studies, we found examples that illustrate each of Foucault's principles of dispositif (i.e., dressage as control) and which elicited dressage as response. We describe them below. It should be noted that no example purely describes one principle alone. All examples reflect a number of principles, yet each one best highlights one.

**Art of distributions.** This principle involves the distribution of individuals in physical and social spaces:

A large government research agency has a number of centres throughout the U.S., each historically utilised its own budgeting and accounting system. Central management had very little visibility into the "stovepipes" of each centre. With the implementation of an ERP system, and with pressure from the U.S. Congress to be more accountable for only sanctioned projects, the expectation was to remove the barriers among centres, and have a single, integrated database across the entire agency. Agency-wide visibility of budgetary data was deemed important to this effort. Therefore a formal budgeting system (i.e., "full cost" functionality of the enterprise system) was created that meticulously categorises projects and subprojects by assigning them to physical centres and departments within the centres. This visibility is intended to be quite granular and extends to local research groups of often just a handful of people. Fundamentally, this budgeting system reinforces allocation of people into both physical (centres) and social (projects) spaces through the allocation and tracking of budgetary funds across centres, departments, and work groups via the enterprise system.

The enterprise system, through its "full cost" functionality, is supposed to provide complete visibility into the internal functioning of each centre. However, this visibility is not always realised:

"Full cost" functionality of the enterprise system is intended to keep costs consistent with the approved programs in the agency. One mid-level manager who works for a director of one of the centres at the agency acts as a sort of budget balancer. She keeps a spreadsheet that is separate from the enterprise system which details approved projects and whether projects are ahead of or behind schedule. She works with local managers that are over-budget to informally access funds from groups that are under-budget. To the Agency's central headquarters, through the eyes of the enterprise system, it appears that the funds are being allocated according to budget. True expenses, as represented on the spreadsheet, are far less consistent with prediction.

**Control of activity.** Control is manifested through micro-management of an individual's body gestures, the temporal rhythms of her activities, and her relationship with and handling of objects. The interface of an enterprise system, combined with anticipated use practices, is intended to control the individual's actions not just while interacting with the system, but also while performing activities outside of the system:

A large government research agency has implemented an ERP system that is expected to be used by all scientific researchers for order procurement. Researchers in the past would often handle their own orders, or work through localised processes for acquisition. They have been trained on the enterprise system, and are now expected to engage in their well-defined role during procurement processes through the enterprise system. Using the purchase requisition

form, the system's interface guides the researcher in this activity by providing a template for purchase requisitions, and by requiring that certain fields be filled out in their entirety. If certain fields cannot be filled out immediately, the researcher must engage in detailed, complementary processes to complete the information required for the requisition.

In the example above, the ERP system prescribes a detailed set of sequentially ordered activities that researchers need to follow. However, some responses circumvent these prescriptions:

An expectation of the enterprise system implementation was that all researchers would enter their own purchase requisitions. In one department, the researchers did not like this new policy, and their administrative person agreed to do all of the purchase requisitions for the researchers in that department. The researchers are thus freed from learning that portion of the enterprise system and the administrative person feels empowered through her new status as the department's enterprise system expert. In another department the manager did not allow this to take place, and the researchers complete their own purchase requisitions. In yet another department the researchers have given their authorisation codes to a non-employee contractor, so that this person can order small supplies and necessities. To the Agency's headquarters, all departments appear identically compliant to the prescribed process.

**Organisation of geneses.** This principle involves parsing time into manageable chunks that combine according to increased complexity. This principle is particularly salient with enterprise systems, as they often require a linear depiction of processes during their implementation. For example, the most commonly used tool for mapping processes during an SAP implementation is the event-driven process chain (EPC). An EPC maps the functions, and associated objects, between events that are presented in a linear fashion. Although events can progress sequentially or in parallel, and the notation certainly allows feedback loops, the process models do follow a top-down or left-right linear trajectory. By codifying processes in such a manner, the implementation team customises the system and incorporates business rules that are intended to support and constrain activity according to a linear rationalisation. An example from Manufacturer 2 of such a process follows:

A midsize manufacturer was purchased by a Fortune 100 company. In an effort to integrate engineering departments of similar product families across its subsidiaries, the company implemented an engineering change (EC) approval process. After parts and assemblies are released for production, they might occasionally need to be changed. In such cases, design changes must go through headquarters before they can be approved. The process is linear, where the plant worker or engineer fills out a change request form, an engineer makes the change and initiates the process in the enterprise system. Then the change automatically routes through the process, getting approved by a checker (another engineer), the engineering manager, and headquarters. Due to email reminders and other such workflow devices, a change can be expected to be approved within 24 hours.

The linearity of this process is quite evident. As the change progresses through its approval process, the decision making authority is more powerful at each step, as steps roughly conform to the organisational hierarchy. From loftier heights of the organisation, decision-making contains more uncertainty (Thompson 2003), and involves greater complexity. Again we find that work practices do not align with the expected process, although they appear to do so in the enterprise system:

This division manufactures highly customised assemblies that often have unique or short-run parts. Many times such parts are in production when engineering changes are required, and shop-floor personnel walk over to an engineer to describe the problem. Rather than hold up production waiting for corporate approval, engineers make changes for parts in production and immediately provide prints to manufacturing, sometimes on the spot, then follow up with an official change process. By the time the official paperwork reaches the production personnel, the change has already been in place for a day, and the parts have often been manufactured.

**Composition of forces.** This principle evokes images of an organisation as a cybernetic system with discrete inputs, outputs, resources, activities, and feedback loops. Humans are anonymous components in this system. They get treated based on their functional role and serve purposeful duties specified by it. Following is an example from Manufacturer 1:

A large manufacturing firm looks to its enterprise system to control the order expediting process. After a sale is placed, the manufacturing division notifies sales of the anticipated shipping date. If this date is not acceptable, salespeople must initiate an expedite process. In the past, salespeople would call manufacturing plants directly, or frequently involve management to improve the ship date. These practices were not orderly, and led to some confusion. Often interpersonal ties or management power would enable salespeople to gain favourable ship dates. With the new system, all salespeople are expected to go through an administrator to expedite the shipment of an order. That administrator submits the expedite request into the system, and may contact one key person in the manufacturing plant to arrange and prioritize shipment. Shipment will now be prioritised based on the objective criteria of 'first-come / first-served,' the size of the order, and the end-customer of the salesperson.

This process describes an attempt to eliminate the ability of salespeople to use their personal relationships during expediting process. Instead, salespeople are treated based solely on their functional role. The logic of this process doesn't allow for the expression of individuality and instead relies on rational system logic. Although salespeople appear compliant to the enterprise system, response to this process is not as expected:

Because of difficulty coordinating order prioritisation when sales personnel had direct communication lines to manufacturing plants, a portion of the enterprise system was appropriated to provide a single, unequivocal process for all salespeople to use for expediting orders. Thirteen salespeople interviewed unanimously indicated that this expedite process is relied on to expedite an order only in non-critical cases. If a case had any criticality, salespeople worked through an interpersonal network to negotiate with other salespeople, and with contacts in manufacturing plants and management to determine relative criticality, exchange favours, and creatively reallocate products between orders outside of the system. The result is that, while from the enterprise system's viewpoint, the expediting process seems to be unproblematic, product allocation among sales representatives is informally optimised via negotiation through a network of personal relationships.

## **Discussion**

Based on the examples given above it can be argued that an enterprise system supports legitimate productive activity and improves efficiency, and this is most certainly often the case. But along with the organisational benefits associated with the productive goals of control, there are also elements of dressage – control for the sake of control. However, despite management pressure for compliance and its desire for increased control as embodied in the enterprise system, organisational practices have their own inertia which does not always correspond to managerial and technical standards that are imposed upon them.

The intention behind the implementation and use of enterprise systems is to create a situation where management has control over formalised processes and over the individuals that perform them. This reflects the idea of the *dispositif*. However, enterprise systems are not perfect control mechanisms, and the grip of management does not extend to the entire organisation, nor does it cover the full range of activities that take place in it. Employees therefore, while required to show compliance to the system, can carve a space outside the scope of the system where existing organisational processes and established social practices can find expression. On the one hand, they have to use the system and its various applications and do so to create an image of obedience which is observable by management, even though these uses do not necessarily serve productive ends. On the other hand, employees engage in a wide range of activities that go undetected by management. These activities reflect the locally situated logic of their

ongoing enactments of social arrangements, power relations and technology uses, and which often have a tangible productive effect. These two sets of activities, formalised and unformalised, are not necessarily contradictory or mutually exclusive (Mintzberg, 1979). In fact, often times they support and complement each other in a way that contributes to the overall effectiveness of organisational processes.

Although researchers have not identified the phenomenon of dressage in the context of an enterprise system, similar concepts have been discussed in other contexts, often fleetingly. For example, the notion of “gaming the system” arises in economic discussions of agency and incentive theory, where agents frame their work to better align with incentives (Courtney & Marschke 2004). This is the logical extension of Williamson’s (1975) insistence of the opportunism and “guile” that agents will exhibit, under certain conditions, taking advantage of “gaps” in governance structures. This expression is also used in other fields such as health care. Physicians are “gaming the system” when they “exploit resource rules’ ambiguity and flexibility to bypass the rules while ostensibly honouring them” (Morreim 1991, p. 443).

Management and information systems literature also provides a number of examples of phenomena that resemble dressage. In presenting their view of decision making in organisations, March and Olson list various reasons that one will engage in formal decision processes. One such reason is that a formalised decision process constitutes “an occasion for executing standard operating procedures, and fulfilling role expectations, duties, or earlier commitments, rather than sincerely participating in an effort to make and implement a decision” (March & Olson 1976, p. 11). Star describes a unique interaction between an individual and the “standardised technologies” of society, and illustrates the individual’s response as that of a *cyborg*: “In a sense, a cyborg is the relationship between standardized technologies and local experience; that which is between categories, yet in relationship to them” (Star 1991, p.39). Parnas and Clements (1986) contrast the organic, iterative reality of software development with the rationalised formal structure, and argue that it is important to “fake” the rationalised process.

Commenting on the same issue yet more broadly, Ciborra maintains that enterprise systems, often implemented as tools of central control, can actually promote a “drift” of system appropriation away from its intended usage, as the new processes interact with the existing routines. Because of this drift, the implementers of the enterprise system respond with initiatives for further process rationalisation, which ironically lead to further drift (Ciborra 2002; 2000). Drift is caused by *in situ* responses to enterprise systems that are comprised of what Ciborra calls *derive*. There are many forms of *derive*, some of which resemble dressage. For example, users can “bypass existing routines” by working around the system to engage in productive activity.

Perhaps the concept most similar to dressage is Brown and Duguid’s *processing* (2000). They indicate that routine is important for standard output and coordination, but improvisation is imperative for addressing change. They describe the attempt of individuals to reconcile the “gap” between the formal routines and their actual practices as processing. Processing “provides a screen between what people do and what people say they do. It helps turn unauthorized practice, however effective, into authorized routine, however inept” (Brown & Duguid 2000, p. 110). Brown and Duguid indicate that the nature of formal processes themselves encourages such behaviour, and often people are not even aware of their processing.

The fundamental difference between dressage and the abovementioned concepts lies in Foucault’s framework of *dispositif*, discipline, and docility. Situating the phenomenon of dressage within a detailed theoretical framework yields a more refined view of the phenomenon itself and helps place it in a broader context. The most important insight arising out of Foucault’s framework is the idea that enterprise systems contain elements which reflect management’s drive to have control not for the sake of increased efficiency or productivity, but merely for the sake of having control. We termed this *dressage as control*. In traditional management literature, management activity is thought to be important for coordination of productive activity among individuals and functional groups (Lawrence & Lorsch 1967, Malone & Crowston 1994). Therefore management control is implicitly assumed to contribute to the productivity of the organisation. Rarely is the notion of control for the sake of control addressed, although it is likely a

component in many rationalised, top-down programs such as an enterprise system. We do not claim that such control is the prevailing logic within an enterprise system, nor do we claim that it is prevalent in every aspect of an enterprise system. Rather, we seek only to call attention to the possibility that it is an existing element in management practice.

Just as dressage highlights the non-productive aspects of managerial control, it also highlights the resourcefulness of social actors. As enterprise systems often underestimate the multidimensionality of local contingencies and change trajectories, it is important to appreciate the flexibility of people in acting as a real-time buffer between their organic structuring and standardised processes. In this sense, individuals act as “shock absorbers” (Zuboff & Maxmin 2002) of structures that are inconsistent with changing requirements. This type of activity manifests itself in the various actions of individuals which defy the logic of the enterprise system and take place outside of its scope, but which directly support organisational effectiveness. These activities are accompanied by system-usage activities which give the impression of compliance but which do not serve productive ends. We termed this *dressage as response*. One can expect that as managerial control initiatives stray further away from productive requirements, shock absorption activities will be increased – which may, in turn, spur more disciplinary control.

In addition, dressage highlights the need for the reconciliation of locally situated activities with enterprise logic. Top-down decision and planning exercises might not be implemented as they are planned (March & Olson 1976), and, in actuality, are often merely reflections of the organic activity (Mintzberg 1979). However, the necessity of a formal representation of structure is undeniable, even the formality associated with informal structures, and its visibility is imperative for organisational and cultural cohesiveness (Mintzberg 1979). As organic, local structuring and situated action are important to successful continuing operation, a reconciliation of these two, often conflicting logics is vital to the ongoing prosperity of an organisation. This reconciliation activity is of course not sufficient, but it is a necessary condition for organisational adaptation, flexibility, and agility.

A final benefit from using Foucault’s framework lies in the four principles of discipline and control that stand at the basis of the *dispositif*. These principles constitute a preliminary classification scheme with which to approach data and make sense of it. They provide a basic framework to analyse, explain and compare varied forms of control systems.

## Conclusion

In this paper we adapted Foucault’s concept of *dressage* to address the tensions that can arise when an enterprise system is implemented in an organisation. Such a process of implementation carries with it potential conflicts between a standardised process-logic that is inherent in the enterprise system and an organically structured, locally situated logic that is embedded in existing organisational practices.

It is important to keep in mind the two faces of dressage: *dressage as control* and *dressage as response*. Our theorising points to a potential relationship between these two forms of dressage, whereby one might lead to the other in a sort of spiral: control for control sake evokes compliance for compliance sake. Thus, the ideal of complete enterprise control remains unattainable, or rather, an illusion.

When implementing an enterprise system, management would be well-served to understand the relationship between the two faces of dressage when looking to understand the reasoning behind certain managerial mandates, as well as anticipated employee reactions. Normative conclusions depend greatly on the goals and managerial assumptions of any given context. For example:

- A management team that believes in strict, military-type control may use this framework to leverage all principles of the *dispositif* to strengthen control and better eliminate alternative courses of action.
- A more humanistic management team may choose to take this insight and better align formalized processes with organic practice – perhaps limiting the scope of the formal to allow explicit room

for situated action. They might use this framework to differentiate between productive control and control for its own sake.

- If data from an enterprise system is used to drive strategic decisions, a managerial team might question the representativeness of the integrated, rationalized data present in the system, given the potential presence of dressage as response.
- Dressage offers another dimension to discussions of user acceptance and resistance of technology. Dressage as response essentially indicates that both acceptance and resistance can take place simultaneously.

By situating the tension between localised and centralised logics within a larger and richer conceptual framework, we attempted to elucidate some of the aspects of enterprise system implementations which have previously remained unexplored. As next steps in this research program, we plan to open the black box of the enterprise system artefact (Orlikowski & Iacono 2001) and understand which functions and features in an enterprise system align to which aspects of Foucault's disciplinary principles. Another important direction will be to address other mechanisms for reconciling the tension between the enterprise system and the situated practice, as dressage illustrates but one.

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