The Historical Genesis of Modern Business and Military Strategy: 1850 - 1950

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Abstract

Previous histories of business strategy have seen it as a translation from the military arena, whether as a new post-Second World War discourse, or at the end of a line of thinking stretching back to roots in Ancient Greece. In this paper, through a study of the emergence of both business and military strategy, we reveal a fundamental shift within both arenas in the mid-19th century whereby it is new disciplinary practices, in particular the grammatocentric and pedagogic practices of writing, examining and grading - as introduced at West Point - that create a new kind of individuals - new disciplinary experts - who transform both business and military strategies and structures within a new power-knowledge regime. We explore the interpenetration of the business and military worlds, through West Pointers' roles in US business development and in the Civil War - the first great industrial war. The new power-knowledge regime engenders new truth-effects of measuring and calculating so as to systematically relate means to ends. In the business arena, the development of new, large organisations, such as the Pennsylvania railroad, with a divisionalised 'line and staff' structure, is founded on an intensification of accounting and statistical data collection. In the military arena, the new focus on logistics in the Civil War operationalises the role of the General Staff. A new discourse of military strategy emerges which refocuses attention from success on the field of battle (the primary concern of writers up to and including Clausewitz) to the wider - ultimately global - geo-political concern with control of resources and prevention and deterrence of war. This new discourse is first articulated by Mahan - himself brought up in the West Point environment - in *The Influence of Sea Power upon History* (1890). He sets the modern strategic agenda and develops, in the military sphere, the discourse which is adopted and adapted after the Second World War as the 'new' business strategic thinking. This historical framework positions 'strategy' as a power-knowledge regime - comprising both disciplinary power relations and disciplinary expert knowledge and constituted through practices and discourse - that is inherent in modern military and business organizations. It is through strategy - and within its inherent limitations - that they both now inevitably utilise formalised internal structures and meticulous accounting of their past to evaluate ends and means and thereby strive to objectify and rationally control what lies externally and in the future.

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Introduction: Why we need to understand the history of strategy

In this paper we intend to address the following double question: precisely how and when did the modern practice of strategy emerge? For we shall show that the modern practice must be distinguished from earlier ideas of strategy, and that a qualitatively new practice emerged at some point since 1800. Just as the 'modern business enterprise' has no parallel in earlier business history, and just, equally, as there is nothing equivalent to the modern power of accounting in business, so within the business world strategy becomes an insistent presence where before it was a conspicuous absence. In parallel, in the military sphere, strategic discourse has been refocused from its traditional concerns with marshaling operations in the immediate field of battle to the logistical relation of means (not necessarily military) to geo-political ends (e.g. Builder, 1989, p.49) We shall argue that these innovations in both the business and military arenas are intimately linked as aspects of the modern 'disciplinary' world: a world firstly where disciplinary techniques of power are widespread, but also where disciplinary forms of knowledge arguably play an even more significant role.

We contend that much conventional analysis of strategy - both business and military - is misdirected because it has as yet no proper understanding of the *history* of strategy. Too often it has been presumed (as opposed to being proved) that there is a continuity in the idea of strategy that leads back to its etymological origin in ancient Greece, where we find the military term *strat-egos*: the 'army's leader'. This is a most damaging presumption. Not so much because it gives license to the modern captains of industry to picture themselves in a line that stretches back through Napoleon to Alexander the Great (macho fantasies in business will always find their self-justification[i]), but because it obscures the global significance of the 19th-century transformation that made strategy's appearance in business, and its reformulation in the military arena, both immediate and inevitable. Moreover, it reinforces the paradoxical supposition that business strategy must itself be an import from military strategy, even though it has now become widely accepted that the 19th century US development of complex business organizations cannot be attributed to transfer from the military sphere (Chandler, 1977).

Therefore we shall devote some time here to showing precisely how the modern construct of strategy, as practiced both in business and also in the modern military world, is something quite different from 'strategy' before the 19th century; and to exploring the genesis of both kinds of strategy. We shall find that, rather than being (military) parent and (business) offspring, they are siblings, indeed twins. But that begs a prior question. What is 'strategy'?

Our answer is brief: strategy is a form of 'power-knowledge'. However that does not mean that it has always had the *same* form. To determine the precise form, one must first examine the *practices* through which the 'doing of strategy' is carried on. And that, we contend, is where the confusion has come in. At the moment of definitive

break in the 19th century the kind of power that goes under the name of 'strategy' is transformed, because a new set of practices are brought into play. Strategy becomes a 'disciplinary' construct (in the double sense intimated above, a form of disciplining, and a form of expert discipline-based understanding). And our point is that only in this new form can it, and does it, become a significant feature in the conduct of business. Similarly, from the military viewpoint, strategy can be viewed as a form of power-knowledge which constitutes the enabling link between current means (which are not necessarily military) and a desired end-state. Moreover, thanks to the power of writing and examination, soldiers and other practitioners of strategy, are now better placed than ever to measure 'objectively' current means against desired end states.

This transformation has been obscured because of the presumption, so easily made, first that there is an unbroken continuity in the meaning of the term, stretching from its Greek origin down through its subsequent development in the military world, and second that this continuity matters. The great names in strategy only underline this 'self-evident truth': Alexander, Aeneas Tacticus, Julius Caesar, Aelian, Machiavelli, Frederick the Great, Napoleon, Clausewitz, Bismarck, Moltke, Mahan. But taken *en masse*, all reinforce the presupposition that strategy is pre-eminently the product of the military mind. 'Self-evidently' strategy enters business from the military domain. It is not so. On the contrary, a new discourse of military strategy is invented *alongside* business strategy. Indeed, under our analysis it is the same people who invent both.

Our purpose, then, in collaborating as a team of business, accounting and military historians and theoreticians is to enable us to use history to understand theory.

Section 1 briefly considers the nature of 'disciplinary' power, and what it means to say that strategy as a form of *knowledge* as well as of power comes to be 'disciplinary'. It stresses the need to examine the emergence of the *practices* that constitute modern strategy, and focuses on how strategy combines the practices of writing, examination, calculation and valuation.

Section 2 considers how these practices could have remade strategy into its modern form. It briefly reviews how recent work (e.g. Hoskin & Macve, 1988; 1990; 1994a) has challenged Chandler's (1977) thesis of the 'irrelevance' of the military to the development of modern business organization and has suggested that the modern practices of managerialism and accounting have a joint historical genesis, not in the military sphere *per se*, but more crucially in the sphere of *military education*.[ii] It was the revolution in the education at the US Military Academy at West Point from 1817 that represented a new kind of 'human engineering' and transformed both business and military discourse. In the light of revisions offered here to Chandler's historical analysis, we suggest that strategy comes not before structure but alongside it in the new organizational structure of managerialism that enters both the business and military domains in the middle of the 19th century: both are simultaneous outcomes of the new power/knowledge nexus.

The following section then takes up the possible objection that strategy has a continuous history stretching back into the military past and back to its Greek etymological root: this objection is challenged by briefly tracing the earlier history of the practice of military strategy and demonstrating its 19th century transformation. (A fuller account is given in Appendix A.) In this section we advance the thesis that

Clausewitz is not the first of the modern, but the last of the pre-modern, strategists. In Section 4, we next address the question: why is it that modern strategy appears to show up, both in the business and military fields, in mid-19th century America? The reason, we suggest, is that in both cases it is the West Point graduates who implement it: first in business in the 1850s, then in the Civil War with the development of the Staff Office. Correspondingly, the first theorist of modern strategy, we suggest, is not Clausewitz, but Alfred Mahan: an American, who although not himself a graduate of West Point, was born and brought up there.

In Sections 5 and 6 we ask how this revised history of strategy is relevant to modern theory in both spheres, military and business. Has not the advent of 'nuclear technology' in the 20th century brought a far more fundamental shift in the nature of military strategic doctrine? Has not the growth of globalized business in the 20th century fundamentally altered the nature of strategic business thinking? We suggest in both cases that the answer remains 'No'. Our history of the 19th century discontinuity, albeit tentative, is indeed a history of the present.

In conclusion we therefore suggest that there are two major implications from doing this history. First it is important to provide strategy with a history, in order to prevent false assumptions from claiming the status of truth. Second, if our account here of the why and how of strategy's emergence is valid, then its growth in power and significance in business (and the development of its own academic discourse) can be seen (alongside and parallel to that of accounting) as an outcome of the prior shift in power-knowledge relations. Whatever its inherent limitations, 'strategy' - inconceivable before the disciplinary shift - becomes inevitable once it has taken place. Business cannot now distance itself from the military discourse of strategy by externalising it as a post-Second World War import: rather both business and war have become the 'war of the accountants' (Van Creveld, 1978, 202).

1:   The nature of 'disciplinary power'.

'Disciplinary power' is the key form of power that makes the modern world run; but 'disciplinary power' is a term much misunderstood. It is not enough to talk of the power effects of disciplining: what is equally involved is the rise and rise of sustained cognitive growth.

Writing, examination, grading: these are the practices that constitute 'disciplinary power'. From small, unobserved beginnings in a tiny elite world (medieval European universities; the 19th century US Military Academy [Hoskin & Macve, 1994b]), there emerged a new 'human success system': this set of practices, turning things into writing, constant examination, and numerical grading of performance, constituted an as-yet-unparalleled way of (a) forming human subjects and (b) running human organizations.

We have suggested that these new practices embody two new interacting principles: new dynamics that come to drive the power-knowledge interaction. The first is 'grammatocentrism', as power and knowledge become increasingly exercised through writing. As individuals and organizations we are 'grammatocentric', i.e. centered on writing, in a world where the written takes priority: we operate via texts, handbooks,

plans, data, models, memos, evaluations, budgets, accounts, analyses; and then at a meta-level we construct accounts of the accounts, meta-narratives, meta-analyses, new models, critical theories, and so on. Secondly there is the principle of subjecting everything (including all this new writing) to constant examination and grading. This is the principle of 'calculability'. The mark is the invisible technology that lies beneath this. It does not just put a number on performance, it puts a value on the person. It provides for the first time in history an objective measure of human success, and failure.

From around 1800 a generation in the USA 'learned how to learn' in a historically new way. Later, as adults, they came to construct power-systems that stressed examination, grading and the centrality of writing. Among these were the first modern systems of managerialism and accounting in both the business and military spheres. And this same generation also came to construct knowledge-systems that stressed the same three practices. Thus emerged the modern academic discipline-form in which our work is still carried on. [Consider its central practices: aspirants can only enter this specialist world by succeeding in written, graded examinations: they then become successful, disciplinary experts only by constant examination of specialist problems, and then writing up the results of their analysis and passing the critical examination of their peers. Consider also how closely this description maps key practices through which one now becomes a successful player in the corporate or military managerial world.[iii] This, we are suggesting, is no coincidence.

2.   The Disciplinary Genesis of the 'Modern Business Enterprise': Alfred Chandler Re-examined

Recent work (e.g. Hoskin & Macve, 1990; 1994b) has applied this general insight to re-evaluate the emergence of the 'modern business enterprise' in the US. This is described by Chandler (1962, 1977) as a necessary and rational *response* to prior economic and technological change. Specifically:

> 'Modern business enterprise is the institutional response to the rapid pace of technological innovation and increasing consumer demand in the United States during the second half of the 19th century.' (Chandler, 1977, 12)

However, Chandler himself concedes that there is something strange here. His 'pioneers of modern management'

> 'were a new type of businessman. It is worth emphasizing again that they were salaried employees with little or no financial interest in the companies they served. Moreover most had had specialized training.' (1977, 95)

In fact when one looks closer at the first key changes, at the Springfield Armory (single-unit factory management) and on the Western Railroad (multi-unit enterprise), the two pioneers, Daniel Tyler and George W. Whistler, are even stranger. Neither ever ran a business in their lives; the one thing they have in common is that they had gone through the *same* specialized training, as cadets at the US Military Academy at West Point. The two were in fact classmates, graduating together in the Class of 1819.

Therefore we have argued that historians of modern business have generally been looking at the wrong technological stimulus, for they should have been looking at the development of the *invisible* technologies: writing, examination, and grading. The reason why the USA (then only a marginal player on a world economic scene dominated by Britain) invented the 'modern business enterprise' around 1840 is to be found at West Point before 1820.

From 1817 West Point became perhaps the most 'disciplinary' institution anywhere. Its fourth Superintendent, Sylvanus Thayer, having gone to Paris to ascertain what was taught at the *Ecole Polytechnique* and how it was taught, brought the deployment of writing, examination and grading to a new pitch. On the French model he used numerical marks to grade all aspects of academic performance: but in addition he created files for all aspects of behaviour and began to run the institution like a modern CEO. He is perhaps the first modern 'human engineer', with West Point his little human laboratory.

In an institution of only some 200 cadets he introduced his own line-and-staff system. From 1817 he divided the Academy into two 'divisions', creating in each a line management system (involving both officers and cadets). Daily, weekly and monthly reports were required, all in writing. There were continual relays of written communication and command, going from the bottom to the top of each line, before being consolidated and passed to the central 'Staff Office', which consisted of Thayer, a personal clerk and two hand-picked cadets. One of these two cadets was George Whistler.

It was a truly modern 'grammatocentric' organization. Everything was centered on the use of *writing* to run the organization. Thayer even discarded the traditional leader's role of direct, visible command. He left this to his Number Two, the Commandant. He kept himself in the Staff Office, ruling his world indirectly by the power of writing, and hardly ever being seen in person. And combined with writing was the ubiquitous practice of examination, so that Thayer equally deployed 'calculability' at every turn. Daily, weekly, termly and annually, all grades were entered, weighted, summed and averaged. Every cadet was precisely ranked and known on his performance from the day of entry to the day of graduation: and assignment to favored Corps was strictly by order of merit. These cadets were the first to live under what is commonplace today: a constant system of objective accountability.

What though does all this have to do with 'strategy'? Our argument is this. 'Administrative coordination' is a power-knowledge invention, not a response to prior economic or technological stimuli. Reversing the presumed direction of change, this new disciplinary practice is what makes possible the new economic order that Chandler identifies, where the 'visible hand' overwhelms market forces, bringing in its train 'imperfect competition and misallocation of resources' (1977, 4). Thayer's West Point revolution was fundamental. A second generation of 'Thayer' graduates succeeded the likes of Tyler and Whistler, and it was one of these, Herman Haupt (Ward, 1971), Superintendent of the Pennsylvania Railroad, who introduced there, from 1849 onwards, a strategic reorganisation, grounded in the collection and analysis of operating statistics and costs, and laid the foundations for the development of the USA's largest railroad (Hoskin & Macve, 1993; 1994b).

Managerialism in all its aspects is an expression of this historic reversal. It is always about 'action at a distance', effected primarily through multiple forms of writing, and only secondarily through speech. It is 'grammatocentric' carried on via a constant stream of memos, directives, orders, budgets, accounts, evaluations, etc. It generates a whole set of variations of writing: pictorial, diagrammatic representations (the organization chart, graphics, tables, flow charts, matrices, now also available in computer graphics). But it is also action through constant examination and grading: of accounting data, personnel evaluations, norms and variances, targets and outcomes, projections and post-mortems.

Thus managerialism institutes a certain way of constructing space/time relations. Its orientation to time is - like that of accountability - towards the future, a future it strives to know by drawing on the medium of objectively measured past performance. To this end it re-writes time. It is not just that clock-time replaced body-time, clock-time is then re-written (e.g. as the 'machine-hour') to produce a new quality of time-control and time-knowledge. Concerning space its reach is similarly extensive and intensive. By extension of the simple originating practices in administrative coordination managerialism can know and control the furthest reaches of organizational space, and actively construct new scales of organizational complexity and size (e.g. divisionalization, matrix structures); at the same time, it penetrates intensively down into every tiny corner of the organization. It is a kind of 'panopticism' (Foucault, 1977). But specifically it is a grammatocentric panopticism.

Thus inevitably managerialism invents strategy, for strategy is simply one more manifestation of this desire for grammatocentrism and calculability. Like management accounting it takes and examines past data to produce a way of seeing the future. Like the line-and-staff structure within which it first emerges, it actively promotes the intensification of the principles which underlie its existence. Clearly Chandler is right here: there is a constant reciprocal movement between strategy and structure. Also strategy is unthinkable without structure. Historically it comes into existence only in the first instance in organizations where we find the staff office above and beyond the operational lines. However does it therefore *precede* structure? It must at least be feasible, if the analysis we advance here has any validity, that in that first instance it comes into existence *alongside* it. Following the moment of discontinuity when a new 'disciplinary' relation between power and knowledge begins to take shape, modern business strategy and structure - and indeed modern management accounting - can emerge as complementary aspects of the new power-knowledge apparatus. And apparatus must be just the word. For business hereafter becomes an apparatus of uninterrupted objective examination and constant grammatocentric activity.

3: Towards a Re-analysis of the History of Strategy

How does this explanation square with the history of strategy, as generally understood? The first point to make is that it does not entirely dismantle Chandler's thesis. It does not attack his history of the subsequent evolution of the 'modern business enterprise'; it does not either necessarily attack him on the question of where strategy comes from. But then he does not ever explicitly raise this question. He offers definitions, whereby the strategic is differentiated from the tactical:

> Strategic decisions are concerned with the long-term health of the enterprise. Tactical decisions deal more with the day-to-day activities necessary for efficient and smooth operations. (1962, 11)

Strategy is then slightly redefined in the conclusion (1962, 383), as 'the plan for the allocation of resources to anticipated demand' (while structure is 'the design for integrating the enterprise's existing resources to current demand').

We gather that strategy is concerned with forward planning and analysis, and implicitly must take into account, dependent on the level of the executives involved, different levels of 'business horizons and interests'. At a normative level, Chandler is clear that in any large segmented or divisionalized business organization strategy *should* emerge. Where it does not, and where

> 'entrepreneurs ...concentrate on short-term activities to the exclusion... of long-range planning, appraisal and coordination, they have failed to carry out effectively their role in the economy as well as in their enterprise.' (1962, 12)

However, in the end, the answer that he comes up with to the question of 'why and how strategy?' only reiterates the view outlined above, viz.:

> 'Strategic growth resulted from an awareness of the opportunities and needs - created by changing population, income and technology - to employ existing or expanding resources more profitably.' (1962, 15)

In our view, for the reasons set out above, this is to acknowledge discontinuity, but to fail to explain it.

However the major alternative histories do not even do that. They accept what we would describe as 'surface manifestations' of strategy at face value. Of these the most dominant is the old presumption that 'strategy' is a unitary concept with a continuous history that leads back eventually to either a Greek or other military precedent (e.g. Cummings, 1993). Alternatively we get the presentist view, that nothing counts as strategy until there is a modern academic discourse of that name.

In one of the very few studies that considers the history of strategic management head-on, Bracker (1980) combines both of these tendencies. First he refers us to strategy's distant origins, right back to its 'first mention in the Old Testament', but concentrating mainly on its Greek etymology. He is very bullish on this, suggesting that the verb *stratego* means to 'plan the destruction of one's enemies through the effective use of resources' (1980, 219). [More usually it is taken to mean 'to lead an army' (Liddell & Scott, 1871).] He even contends that

> 'the underlying principles of strategy were discussed by Homer, Euripides and many other early writers'.

This might come as a surprise to Homer and Euripides. Homer (an oral poet who never wrote) sings of the confrontations and machinations of fighting heroes. Euripides, the playwright, unfolds stories where complex motives and excessive

ambition, desire and lust lead inevitably to tragedy, nemesis and, too late, recognition of the folly of men's ways: hardly the 'principles of strategy', if sometimes the fate of unwary strategies.

Bracker then shifts to the other extreme. The strategic viewpoint, after briefly flourishing in ancient Greece (particularly, he adds, in the ideas of Socrates):

> 'was then lost, for all practical purposes, with the fall of the Greek city-states and was not to rise again until after the Industrial Revolution.' (219)

Even then, it only really emerged after the Second World War, as business 'moved from a relatively stable environment to a more rapidly changing and competitive environment' as a result of '(1) the marked acceleration in the rate of change within firms and (2) the accelerated application of science and technology to the process of management.'[iv] The founding fathers of strategy switch from being Homer and Socrates to being Von Neumann and Morgenstern.[v] Thus either strategy has always been there, or it has been called forth by the needs of high-tech, knowledge-intensive modernity.

What, though, if we do go behind these two supposed histories? First, if we return to the Greeks, it is true that they did develop an intellectual and reflective discourse on what was to become known as 'the art of war'. But that phrase itself should alert us to one central aspect of strategy's ancient history. War, like philosophy, rhetoric and kingship, was an Art, in Greek a *techne*. As such it comprised two dimensions: technical skill and ethical goodness.

As such it is a discourse foreign to modern concerns. Certain big-picture issues that would be taken-for-granted today simply fail to enter the frame of intellectual reference. For instance there is no concern with logistics, with the economics of campaigning, none even with systematic planning. The focus is purely on conflict in its immediate aspects. One structural difference that particularly stands out in ancient warfare is the absence of any staff structure. In a famous phrase, 'the general is the strategy'. This arguably remains true down into the 19th century. We have to wait till then for the first modern war - the American Civil War - for a central Staff Office whose concerns transcend the battlefield to encompass a broader set of factors including operational and logistical planning.[vi]

If we revert to the terms we used previously, there is in the ancient world no set of practices that promote the viewing of the military situation globally, by turning all aspects of it into writing and subjecting them individually and in combination to examination: there is no calculus of decision-making. No amount of hero-worship for Alexander or Caesar changes that. Though the Greeks had a word for it (*strategia*), we cannot take it for granted that they also had the modern conceptual framework within which we locate 'strategy'. Even the primary meaning of *strategia* is not 'strategy', but the office, or period, of command (Liddell & Scott, 1871).

The subsequent history of strategy down to the late 19th century is equally full of pitfalls for the unwary. There is certainly no coordinated holistic vision. (The major surviving writers before Clausewitz are reviewed in Appendix A.) Military art

encompasses the tasks of drilling and training the army, educating young aristocrats to be officers in military academies, and beyond this the projection and direction of campaigns. But still 'the general is the plan'. He will increasingly use mathematics and science but the horizon of strategy remains set by (a) the skill of that one individual and (b) the idea that his success is generated *on* the field of battle.

The development of military thought during the nineteenth century, and its continuing emphasis on the battlefield, appears to have been the result of a preoccupation with the exploits of Napoleon. Most junior officers during this period possessed at least a passing acquaintance with the history of the Napoleonic wars, while those in more senior positions quickly came into contact with the works of Clausewitz and Jomini, whose attempts to distil the essence of Napoleonic warfare proved highly influential.

A central feature of the popular mythology surrounding the Napoleonic wars was the swift, climactic battle which resulted in the decisive destruction of one or other of the armies engaged. Napoleon had made his reputation during the period when the rising power of nationalism was dramatically changing the scope of warfare. Limited professional war, in the eighteenth-century mould, was replaced by an altogether new form, motivated by nationalistic fervour and sustained by mass conscription (Addington, 1984, 17 & 21-2). The strength of national sentiment backed by the manpower reserves of whole countries made victory in war harder to attain than previously. Napoleon nevertheless found a solution by seeking to engage the enemy in a decisive battle which, if skilfully executed, would inflict massive casualties and thereby destroy his opponent's will to continue fighting.

> I see only one thing, namely the enemy's main body. I try to crush it, confident that secondary matters will then settle themselves.[vii]

The decisive battle is in fact one of the most spectacular aspects of Napoleonic military history (Addington, 1984, 26-7), although its position in the theoretical writings of the early nineteenth century was not necessarily as central as has often been claimed.

In Europe a concept of war emerged which was largely based on a distorted interpretation of the writings of the Prussian military theorist Karl von Clausewitz (1780-1831).[viii] More often quoted than read, Clausewitz - like his Swiss contemporary Jomini - exercised a profound impact on successive generations of military thinkers, and even today he is widely held to be the first great military theorist of modern times.

Clausewitz defined strategy as the "use of engagements for the object of the war". As Michael Howard (1983) has noted, in producing such a narrow - even simplistic - definition of strategy Clausewitz was effectively clearing the air prior to embarking on an investigation of the particular aspect of strategy which most interested him - namely the conduct of military operations. Within this limited purview he is rightly honoured for the extensions that he brought to the pre-modern discourse, having analysed a wide range of factors bearing on military success, including the psychological and the contingent. Nevertheless, strategy still revolves around the traditional notion of annihilating the opposition on the field of battle.[ix]

Clausewitz's most celebrated work, *On War* (first published in 1832), bears witness to two major influences: his experience gained as an officer during the Napoleonic wars; and his adherence to the German (Kantian) school of philosophy which was imbued with the spirit of search for the 'absolute' or 'regulative idea' of things (Rothfels, 1944, 94-6). This combination of experience and philosophy led him to develop the theoretical concept of 'absolute war' as a starting point for understanding the phenomenon of war in the real world (Rothfells, 1944, 101-03).

The primary objective of *absolute* war was viewed by Clausewitz to be the destruction of the enemy army by means of the decisive battle.[x] Thus:

> Destruction of the enemy forces is the overriding principle of war, and, so far as positive action is concerned, the principal way to achieve our object.

and:

> destruction of the enemy's forces is generally accomplished by means of great battles and their results; and, the primary object of great battles must be the destruction of the enemy's forces (Clausewitz, 1976, 258).

As a result of the dramatic Prussian victories during the second half of the nineteenth century, the writings of Clausewitz gained European-wide popularity. However, he had died before finishing his work, and this, combined with his metaphysical style of writing, tended to obscure his meaning. Consequently, subsequent readers who were seeking ready formulas for military success tended to misinterpret his writings, and absolute war came to be viewed not so much as an abstract theoretical concept but as a practical prescription for victory on the battlefield. Nowhere is this tendency more pronounced than in the case of the French general Ferdinand Foch, whose writings upheld the destruction of the enemy by means of the decisive battle to be the sole method of victory. According to Foch:

> it is to the theory of *decision by arms* that war is now wholly returning; one can now apply no other. Instead of condemning Bonaparte's battles as acts less civilised than those of his predecessors, this theory considers them as the only efficient means; it seeks to repeat them by seeking the same sources of action as he had (Foch, 1918, 42).

Likewise, the British Army's *Field Service Regulations* (1909) stated that the '*destruction of the enemy's main force on the battlefield*' was the '*ultimate objective*' of operations.[xi]

Clausewitz was not translated into English until the early 1870s, and thus it was Jomini's interpretation of Napoleonic precepts - expounded in his *Art of War* (1838) - that influenced American military thought and the early conduct of the Civil War (Weigley, 1973, 77-91). The central feature of Jominian strategy was the requirement to generate maximum possible strength at a decisive point in the theatre of operations, while ensuring that the enemy could only bring an inferior proportion of his strength to bear there. This situation might most easily be attained by an army which was operating on interior lines of communication relative to those of the enemy. Interior

lines would permit the disparate parts of an army to concentrate more rapidly than those of the enemy, thus facilitating the latter's defeat in detail.[xii]

Jomini's preoccupation with lines of communication and the decisive point within the theatre of war lent his strategy a geometrical character that harked back to the (pre-Napoleonic) eighteenth century. Like Clausewitz, however, he by no means neglected battle as a feature of warfare and was aware that Napoleon:

> seemed convinced that the first means of effecting great results was to concentrate above all on cutting up and destroying the enemy army, being certain that states and provinces fall of themselves when they no longer have organized forces to defend them (Brinton *et al*, 1944, 88)

Indeed the great attention paid by Jomini to lines of communication was designed to enable one's own army to seek battle on the most favourable of terms (Maxwell, 1993, 36). Furthermore, whatever misgivings Jomini's writings may have communicated about the central role of battle were submerged by the popular American consensus on the nature of Napoleonic strategy (Weigley, 1973, 89). Thus by the turn of the twentieth century, American soldiers (like their British counterparts) were being advised that the "*enemy's main army is always the true objective*" (Wagner, 1904, 43, with emphasis in original).

Thus we can see that Napoleon's enduring influence ensured that the battle of annihilation had become a central feature of European military thought by the late nineteenth century. It was considered that in future wars, as in those of the past, victory would best be procured by seeking out the enemy's main force and destroying it in a general engagement.

Our review of the history of military strategy therefore offers no clear basis for translation from the military past into the business present. The ancient past of strategy is another country, and the dominant nineteenth century military discourse (focussed on the Napoleonic battle of annihilation) also offers no easy line of descent. So why do we contend that a definitive discontinuity occurs in the mid-19th century in both the military and business spheres? The answer, we suggest, lies in the emergence of the new disciplinary practices which fundamentally shift the focus of both business and military strategy and are to lead, by the end of the century, to a fundamental reformulation of the military strategic discourse, and thence, in the 20th century, to its adoption and adaptation as the discourse of modern business strategy.

4. The Genesis of Modern Business and Military Strategy

> Intensified competition and increasing traffic brought two further significant structural developments in the organization of the large railroad during the years following the Civil War. One was the building of a separate Traffic Department to administer the getting and processing of freight and passengers. The other was the creation of a central office manned by general executives ... (who) concentrated less on day-to-day operation and more on long-term problems of cost determination, competitive rate setting and strategic expansion. In both

these developments the Pennsylvania made the largest contribution.
(Chandler, 1965, 37-40)

Discovering the invention of *modern* strategy, we suggest, requires re-examining the history told by Chandler. The focus here though has to be on the period after 1850, for this is the period when the Pennsylvania Railroad, whose role Chandler rightly highlights here, gets established. The 'prime mover' in the reorganization of the railroad is its superintendent, the West Point graduate, Herman Haupt, who, despite having no previous business experience (except in running a school [Ward, 1971]), introduced there, from 1849 onwards, a strategic reorganisation, grounded in the collection and analysis of operating statistics and costs, and laid the foundations for the development of the USA's largest railroad (e.g. Hoskin & Macve, 1993, 1994b). The Pennsylvania is the organization where modern business practice takes shape, so the conclusion must surely be that strategy does not precede structure. Rather, they are indissolubly linked, as soon as 'disciplinary' practices are finally and definitively put in place.

Now we can explain our contention that it is the same people who invent modern business and military strategy. The key link is the American Civil War (1861-65) which was essentially the first 'industrial' war, the first war in which the logistical element of strategy ultimately predominated over its operational counterpart. Likewise, and for this reason, it was the first war in which a general staff (remote from the day-to-day distractions of the battlefield) ultimately controlled the direction of events. But this change did not happen immediately, or easily. Indeed, before the new disciplinary way intervened the Union Army was to lose the opening (Napoleonic-style) battles in the face of operationally superior Confederate generalship.

Indeed, initial operations during the American Civil War were dominated on both sides by the desire to destroy the enemy in a decisive battle of annihilation. The American historian Russell Weigley has shown that even the war's most capable soldiers were motivated to this end. Confederate general Robert E. Lee's operational brilliance enabled the South to hold out in the face of the Union's preponderance in manpower and material resources, although his aim in each case was to bring the Union army to battle under conditions in which he could deal it a knock-out blow (Weigley, 1973, 92-127). This, too, was the intent of the majority of Union generals until the offensives of General Ulysses S. Grant ushered in a new approach to the conduct of war (Weigley, 1973, 128-52).

Grant succeeded in crushing the Confederacy where his predecessors had failed by dint of developing a new systematic application for the operational deployment of the superior Union numbers. No slouch himself in operational terms, he considered that the separate Union armies had, in the past, 'acted independently and without concert, like a balky team, no two ever pulling together'.[xiii] He subsequently prevented the Confederate armies from manoeuvring and offering mutual support, by co-ordinating the advance of his forces on several fronts, with the overall intent of bringing Lee into open combat where Union numbers and firepower would prove decisive (McPherson, 1988, 722). But his campaign of 1865 relied equally heavily on the General Staff's unprecedented success in mobilising the Union's superior manpower and industrial

strength. Logistical planning, as much as operational virtuosity, proved vital to the Union victory in the first industrial war.[xiv]

The American Civil War has been much studied, but one aspect that is still deeply unsatisfactory concerns the precise emergence of this Staff Office. Perhaps that is the result of the great liability exposed here - namely, because it has been seen as a military innovation. Perhaps historians have been looking in the wrong place. What they should be considering is not the fact of the General Staff as such (since we know that early general staffs emerged in Napoleonic Europe), but how a *successful* system of operating a General Staff was put into place.[xv] The two top 'staff men' in the new regime were the Secretary of War, Stanton, and the General in Chief, Henry Halleck, who, known as 'Old Brains', had graduated from West Point in the mid-1830s.

Here, in the field of military organizational reform, we come to the crucial role of the railroads, and their managers. The Union side quickly marshaled a considerable roll-call of such talent. Haupt's former subordinate, Thomas Scott, made Assistant Secretary of War. Chandler's (1965) great hero, Daniel McCallum of the New York and Erie Railroad, appointed 'Superintendent of Railroads', and finally Haupt himself. As a sign of his distaste for the military, he stipulated that he should not be required to wear uniform and should draw no pay beyond expenses: on those conditions he became Chief of Construction and Transportation. Ironically he and McCallum ended up working with (when they were not working against) each other. Given this confluence of men who knew how to operate disciplinary systems, a new organizational culture began to take over the running of the war.

Perhaps all one can draw attention to at present is the contingency and the emergence of the 'conditions of possibility': perhaps it has to do with the assembly of a 'critical mass' of West Point veterans (another figure who shows up, now as a General, is Daniel Tyler, who - after instigating the reforms at the Springfield Armory - had quit the army in 1834). Certainly previous historical accounts, which have tried to paint either Stanton or Halleck as the primary cause for the new way of warfare have failed to convince. At least we now have a plausible alternative. For we are faced with a problem like that of the Pennsylvania Railroad. Out of the most unpromising of outlooks, somehow came a new successful mode of operations. We have some of the same people involved. Occam's razor suggests it makes sense to consider their contribution.

And what of the business arena after the Civil War? There is one particular disciplinary pay-off produced by the managerial innovation on the Pennsylvania that cannot be ignored. This is the Andrew Carnegie story. Carnegie is the first great industrial robber-baron *cum* captain of industry. He perfects the art of running an industrial organization by the numbers: in a Foucauldian-style phrase repeated by Chandler:

> 'the men felt and often remarked that the eyes of the company were always on them through the books.' (1977, 268)

Yet Carnegie seems to be, in Social Darwinian terms, the 'missing link'. He was just 17 when he was hired by Thomas Scott in 1853, on the western division of the Pennsylvania. He learned well and quickly. He became Scott's special protégé, indeed Scott bankrolled him for his first major investment. But most of all, he was in at the

birth of Haupt's grammatocentric, calculable system for running a business. He did well out of the Civil War, by investing in that most necessary commodity for a transport-hungry army, iron rail manufacture. But he did not stop at that. He drew, like the men who ran the Pennsylvania, on both sides of the power-knowledge equation. By the 1870s he had a double competitive advantage over his rivals in iron and steel. First he knew, to a degree that they apparently did not, the operating costs of his production. He scrutinized, just like Haupt (Ward, 1971), 'the minutest details of cost of materials and labor in every department ... day to day and week to week'. (Chandler, 1977, 267). But equally he invested constantly in disciplinary knowledge. He sent to Europe for the best experts in metallurgy and furnace construction; he paid them accordingly. Truly we can say of him that as a young man he had seen the future. In his maturity he made sure it worked.

However, it is in the military sphere that a new *discourse* of strategy emerges. It is Alfred Mahan, - a navy man - whom we now claim as the first *theorist* of modern strategy (and by first we mean first in the business or the military fields). He is the first man to articulate the essence of modern strategy: that it is something that must stretch indefinitely over time and space, continuous, ubiquitous, and constantly under appraisal. Where the European devotees of Clausewitz (Moltke, Schlieffen, Foch) were still obsessed with war as such, Mahan switches the frame of reference.

It was while studying the course of the second Punic War that Mahan apparently first gained his insight into the broader significance of sea power. Having noted the significant advantages which command of the sea conferred on the Romans *viz-à-viz* their Carthaginian opponents, he was struck:

> by the enormous impact which Roman sea power exerted simply by its existence. He wondered if perhaps sea power had an influence on historical events far beyond the immediate impact of battles lost or won (Till, 1982, 30).

His subsequent major works, *The Influence of Sea Power upon History, 1660-1783* (1890), and *The Influence of Sea Power upon the French Revolution and Empire* (1892) are testament to the significance of this initial insight. Looking away from conflict as such, they advance the proposition that what matters is pre-emptive control, restriction through dominance of the range of possible enemy actions. The lessons of history revealed that the first naval necessity was to control sea *approaches*, not to operate from shore-bases on one-off sorties. Moreover, since sea and land power interlock, his ideas carried broader implications for strategy as a whole. For Mahan, the horizons of strategy transcended 'immediate' operational concerns associated with the annihilation of the enemy, to extend continuously into an indefinite future, and extensively over all conceivable space. Thus the only strategic position became constant vigilance, 'looking outward' from a clearly defined territory which must extend into the ocean. Actual geographical boundaries had now became irrelevant and dangerous; boundaries were instead what was written by the imposition of power.

With Mahan, strategy *begins* from logistics. Victory comes not on the battlefield but by dominating whole geo-political areas (which can then be subdivided into 'theatres of war' if the worst-case scenario unfolds). However the key is dominance, to be

achieved via trading wealth and control of economic resources - an approach with a more than contemporary resonance now that the 'space' to be dominated has been extended from land and sea to both air and extra-terrestrial space.

Mahan re-structures the discourse of strategy, in a way that rapidly affects military thinking. In Britain, Germany and the US his books became a theoretical justification for an orgy of naval building. The strategy of engagement in the First World War and even more the Second is affected by Mahan's thinking (remember Pearl Harbor). Moreover, this kind of globalizing approach is also that which will come to frame business thinking in the new global multidivisional corporations that are beginning to take shape during the very period in which he is writing.

Who was Mahan? Alfred *Thayer* Mahan was born and raised at West Point.[xvi] Born in 1840, he lived the first 14 years of his life in the world of grammatocentrism and calculability.

> His father was Dennis Hart Mahan, whose classes on the art of war and military engineering were known to an entire generation of West Point cadets. Even though Mahan caused his father some disgruntlement by choosing to attent the Naval Academy at Annapolis rather than West Point the elder Mahan nevertheless influenced his son's historical and intellectual methodology. The father's interest in the strategic thinking of Henri Jomini impressed the younger Mahan with the importance of fitting things into an orderly system. (Till, 1982, 30)

We have suggested how the disciplinary practices at Thayer's West Point engendered a new power-knowledge regime which would invent strategy and structure for the complexity of modern business and military development. Certainly in the military sphere, for whatever reason, the important lesson of the Civil War was that industrial war had made logistics into a vital component of strategy. From the mid-nineteenth century onwards, only under exceptional circumstances could operational virtuosity alone produce victory. Subsequent history confirmed this.

The conduct of the two World Wars would demonstrate how important the new strategic discourse had become in an age when conflicts were increasingly global and resource intensive in character. Both World Wars were ultimately attritional conflicts in which victory went to the side which won the 'battle of production'. In both instances, strategy proceeded from logistics, and in both instances German operational virtuosity proved to be no substitute for a sound human and material resource base.

But the conventional histories of business strategy focus on the transfer of discourse after 1945. And by 1945, had not military strategy itself been transformed yet again by the quantum leap in destructive capacity inherent in nuclear weapons? Even if our research has clarified the history of strategy up till then, how can it be a history of the present and of relevance to the modern theory of strategy?

5. The History of the Present: Military Strategy after 1945.

The dawn of the nuclear age in 1945 gave military minds a host of new problems to confront, but at the same time it gave rise to the civilian strategist. The sheer

destructive effect of nuclear weapons undermined attempts to integrate them into traditional military force structures and planning concepts which aimed at achieving victory over the enemy. Instead, the civilianisation of nuclear strategy emphasised war-avoidance through deterrence, rather than war-fighting in pursuit of what could only be a phyrric victory.

Even under these new conditions, however, the strategic discourse articulated by Mahan retained its relevance. The first reason for this was the continuing presence of conflict at 'sub-nuclear' levels. The proliferation of nuclear weapons after 1945 was a symptom of the emergence of a new world order, dominated by two power blocs whose uneasy relationship was characterised by mutual suspicion and, on occasion, outright antagonism. And yet, while nuclear weapons may have deterred another world war nevertheless, as some of the first 'nuclear' strategists (Brodie & Brodie, 1973, 282-2) observed, beneath the nuclear umbrella there was still scope for conflict in all its traditional forms. Beyond Europe a global struggle for influence and access to strategic resources ensued, which encompassed all means including military action, which itself often became highly attritional (and thereby resource intensive) in character, as for example in Korea and Vietnam. Closer to home, 'fighting' the Cold War demanded much more than the creation and maintenance of large standing forces. Truman's policy of 'containing' the Communist threat was initially articulated in political and economic terms. It was militarised by the outbreak of the Korean War in 1950 but, after the crash rearmament programme which ensued, maintaining the long-term economic health of the new transnational Atlantic economy was once more viewed as a priority. Cold War strategy was predicated as much on logistical factors as it had been during the two World Wars.

The second important reason why Mahan's modern discourse retained its relevance lies in its 'future-orientation'. This same orientation underlies the deterrence regime which dominated after 1945. As the proliferation of early-warning systems during this period suggests, the price of peace had become constant vigilance. The practice of strategy was no longer predicated on the destruction of the enemy, but on maintaining the ability to predict and deter aggression over the long term. Limited advantages might be sought and achieved, but the battle of annihilation had become a recipe for global catastrophe.

In summary, therefore, the advent of the nuclear age has by no means undermined the modernity of the strategic discourse which was articulated at the end of the nineteenth century. The focus remains on logistics and on a future-orientation.

6.   The History of the Present: Implications for the Theory of Strategy Today.

Returning to our starting point, the concern of this paper has been not simply with re-writing the history of strategy, but with re-thinking strategy as it is and exists today, as 'disciplinary power'. Clearly we confront here a discourse of great power and status in both the business and military fields - a power-knowledge regime creating both new truth effects and new power relations - and yet the linkages between these two arenas of discourse have more often been simply assumed or left to one side, as if they were relatively or indeed fundamentally autonomous. That, we hope, is something which has now been put under serious question. For, if our analysis is correct, then there is

no such simple relationship, but instead one that is both complex in its past, and important in the present.

Our history suggests that strategy, as it was developed in the mid-19th century, is something significantly new and different from strategy as exercised and discussed before the shift into modernity, or rather into a 'disciplinary' world. What existed previously was without doubt a form of power, and one dependent on expert knowledge, but both the power and the knowledge exercised were different in their concerns and effects. Both the practice and the discourse concerned with the '*strategos*' were not focussed on the concerns of today's strategy: the logistical, the coordinative, the big temporal and spatial picture, the integrated and coordinated 'organization' of time, space, objects and persons, establishing a position within a measured, calculated and totalised space and time. There was an absence of the practices of writing, examining and grading, constantly deployed, and so of a practice of strategy across entities, controlled at a higher level than the *strategos*, or for purposes beyond the immediate battle, siege or campaign.

But, secondly, this is more than just a claim that the genesis of these practices, in some unspecified way, as if by osmosis, made strategy possible. What our historical reconstruction suggests is that these practices, as new modes of communicating, of learning, and of valuing, were internalised by specific individuals, and were then translated by them into particular versions of this new formation of 'strategy', but all discontinuous with the old. Therefore, even though there is a historical significance in tracing such personal and coincidental histories (which are therefore manifestly not purely coincidental), that is not all that is significant historically, for the two fields are not linked purely at the level of the *dramatis personae* but much more profoundly, from the outset and still today, through their shared practices and discourses.

Certain cherished assumptions therefore fall. For instance the idea that business strategy comes from military strategy in some wholly derivative way (e.g. as in Bracker (1980) where it only begins after the Second World War); or alternatively that it is something essentially autonomous - a view which has been shared by most modern approaches to strategy (whether in the rationalist form in which it appears in Chandler, Williamson, Ansoff, Porter *et al.*, or in the more nuanced, context-sensitive processual form of Mintzberg, Pettigrew, *et al.*). This view has even affected radical critiques of modern business strategy. Thus, Knights and Morgan (1991), in wishing to capture the limitations of this discursive field, argue that 'it is possible to identify a discourse of strategy that has a specific relation to corporate business. This discourse has its own historical conditions of possibility, ...it has particular truth effects which are disciplinary on subjects and organizations' (1991, 255).[xvii] But their insights are, for us, compromised by their decision to mark business strategy off from its military sibling, as well as by their analysis of the role of strategic knowledge solely as mystification.

Our conclusion is that all these ways of seeing strategy, including this type of critical meta-analysis, are trapped in a historical (and therefore, in this case, theoretical) cul-de-sac. For in every case a fundamental separation is maintained between the business and military fields, so that the integral relation is always held at arms length. There is therefore a kind of general historical amnesia, which produces, in different ways, a shared ahistoricism.[xviii] But in our view, this now needs to be transcended, for the

relation between business and military discourses needs to be thought through, in a way which is both more nuanced, and more historically reflective about the interplays between the discourses.

We can here only begin the attempt to develop such a theoretical approach. We would focus initially on three major elements: strategy and structure; the 'totalising' nature of strategic discourse; and the paradox that its success is best demonstrated where it is most redundant. And here we may note that, given their common genesis, we should not be surprised to find that these features also reflect the problematic nature of modern accounting, which has been likewise subject, from its beginnings, to sustained critiques of its limited rationality and, more recently, of its legitimation of power relations reflecting vested interests, but yet is now also an inseparable constituent of the nature of the modern organization (e.g. Hoskin & Macve, 1990).

First, given our history, we can abandon the presumption that either strategy or structure in some sense comes first, in favour of a recognition of both as aspects of the same disciplinary breakthrough, a transformation at a prior level of the practices through which people as individuals (such as Haupt) learned to learn, and through which simultaneously the formal and social organization of their learning was restructured. At which point, one can instead see, within both the military and the business fields, a reconstitution of ways of seeing and acting. Through knowing what had happened, in writing, via accounting and examining, men like Haupt began to extrapolate to what could happen: the future could be made in the image of the past and the world beyond the organization could begin to be made subject to the organization by being remade in its image – a process hastened and extended almost exponentially once the Railroad began to prove successful through this 'strategic' vision, and so became copied by others. Then indeed the world outside the organization did become remade in its image, as it has continued to be down to the present.

From this new vantage point, looking now at both the military and business discourses, and so seeing a joint significance in the structural changes engineered on the Pennsylvania Railroad and in the Union Army Staff Office, we may suggest that what is of most significance is that structure itself is formalised, and written as a location of expert knowledge and power-relations - and that it thereby can become the object of discourse - not that a *particular form* of structure is invented. So the focus on the accounting-driven, line-and-staff theme does not require us to see the 'M-form' as its apotheosis or ideal-type. The divisionalised structure - ultimately the 'M-form' - is rather its first elaborated version - and for that reason a powerful one - but once managerial structure is written, its precise version will vary in relation to local, cultural, and contextual factors.[xix] Such a conclusion is consistent with recent comparative research which looks beyond the US (e.g. Whittington, 1992; Whitley, 1994). In which case, there will be a continuing range of possible such forms, as evidenced by the limits to the 'success' of the M-form over such alternatives as the holding company within Europe over the past three decades (Whittington & Mayer, 1997).

Second, one may begin to see what distinctive features are shared between the two discourses, business and military, and so get a better sense of what strategy invokes, and where its *inherent* limitations as mode of truth lie. From its 19th century

invention, it is a totalising discourse, turning not just space and time into a shared grid, but turning objects, events and activities into calculated accountable nodes in that grid. It is a high-powered writing, examining and grading machine. If one looks from this perspective at the first extended literary discourse in the new strategic genre, Mahan's *Influence of Sea Power Upon History* (1890) (surely an unpromising title for 'Management Book of the Month'), its particular and wider significances become much more apparent.[xx]

Thus we should not be surprised if, since their common genesis in the mid-19th century, there has been continual interpenetration and transformation between these two worlds. Here the conventional view that the discourse of business strategy derived from the military discourse after 1945, and was 'discovered' then, still reflects an important aspect - but only one aspect - of the story. For the internal development of the logic of such a totalising discourse has enabled military and business strategy in their modern forms to say versions of the same thing. The outcome of the attempts, begun by Mahan, at totalising strategy, the knowing through re-writing of all relevant space and time, was the vision of total war - which experience then showed not to be total and definitive. The First World War proved not to be the 'war to end all wars', and the end of the Second proved only that there was now a possibility of a totalising which would, for humans, end time and space as we knew them. So, both under pressure of empirical data and from within the discourse of military strategy itself, 'totalising' was at this point reconstituted, not by abandoning it and relapsing into pure localisation, but by developing a new range of levels of the possible within strategy: the global scenario, the regional, and the limited war.
It was, historically, in this context that business began to adopt and adapt the military discourse to 'discover' its own articulate discourse of strategy (that which the business-academic tradition has taken as being the discovery of strategy as such). But the overlap must be seen as a more subtle one. Thus, some pioneers of business strategic discourse pick up on the dynamics of the first form of 'totalising' military discourse, becoming the first 'big strategists' (e.g. Ansoff, 1965; 1969). But then we also get those who take up, unconsciously no doubt, the newly revised version. In Porter (1980, 1985) for instance, we still have the same commitment to total writing, examining and grading of corporate possibilities, but now two possible major outcomes: either the dominance outcome, in terms of price or product leadership, or the regional, limited one within the 'niche' market.

This way of seeing how these two discourses have always been linked, even given the chronological priority of the articulation of the military discourse, may help us to see how business strategy is always trapped and limited in precisely the way, structurally, that military strategy is, by the practices through which it is exercised. So we discover the same internal evolution of discursive possibilities, only within a shorter time-span, and, equally, the same structural range of positively reasoned conclusions and recommendations. Of course, we are not the first in here proposing a critique or meta-analysis of business strategy's supposed rationality, there being now many meta-analyses of 'big strategy' discourse.[xxi]

Finally, we suggest that the kind of historical critique we can now offer of both discourses has an implication not readily visible before. Our third point, therefore, is that, if there is the commitment to totalising, in a simple or more elaborate contextualised form, at the heart of all discourses of strategy, we need to recognise the

double paradox which emerges out of the fact that strategy's great success (like structure's and accounting's) lies in its ability to turn both the world and time into a space for writing, examining and grading. The paradox is the same in both cases. First, concerning time, strategy will (like accounting) be most successful where the future is like the past (since what it writes is the past re-written, however sophisticated its rewriting) but that is when it is most unnecessary; meanwhile, it will be most necessary when the future is different from the past, which is when it will be most useless. But, second, it also confronts a spatial complement of this temporal paradox - i.e. that in terms of controlling organizational space, it will always be, through its deployment of disciplinary practices and its alliance with structure, most apt at dealing with the space in-here; and it is therefore not surprising that strategy as practice (military or business) devotes most of its real-time effort to controlling that space (through the various mixes of strategic centralisation and operational decentralisation). However, strategic *success* actually needs control of the space out-there, where the enemy/competition lies: but that is where strategy proves so easily disproven and overturned, whether by counter-strategy or simply by events.

The argument against strategy therefore is essentially the same as that against accounting. Yet both remain centrally significant aspects of modernity. There is, we suggest, a reason for this, even if it cannot be that these are such demonstrably rational procedures. The reason is that for much of the time, and over much of the world, strategy and accounting work: and the trick is that the more the future has been made like the past, through a general dissemination and internalisation of disciplinary re-writing of the past, and the more the outside has become like the inside through an analogous spatial process, the more organizations can - for the present - succeed, through writing their own rules of engagement. But that is precisely where the demoralising danger lies, as it does also in the modern organizational power of accounting. In each case, the best 'rational' case that can be made is perhaps that of a negative justification: strategy, like accounting, is to date the least bad alternative. The trumpet we have may give forth an uncertain sound, but this is the trumpet we have inherited and consequently it is currently the *only* trumpet we have. It offers our best plan so far for the near impossible task of bringing down the walls of Jericho. At least, by appreciating its peculiarities and limitations, we *may* be able to prevent those walls simply crashing down around our ears.

So, in conclusion, we have sketched out here three major theoretical issues (concerning strategy and structure; the 'totalising' nature of strategic discourse; and the paradox of its success through redundancy) that we see emerging from our interpretation of the historical genesis of both business and military strategy, and their subsequent interpenetration. In so doing, we are perhaps opening a space for a new level of discursive possibility, which in time may not be occupied solely by radical meta-analysis but also by more historically and theoretically aware formulations of strategy as such. Dent (1990) concluded his study of research at the interface between accounting and strategy with the following caveat: that while

> '(s)trategy research, of both the normative and descriptive variety, had made valuable contributions to the organizational literature...it is not a field with uniformly strong empirical research traditions.'

We have argued here that lack of strong emprical grounding is certainly the case where its history is concerned. At the same time, we have suggested that from the empirical re-examination of its history there emerges a consequent need for theoretical reformulation as well if we are to understand both its inherent limitations and its inescapable disciplinary power.

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APPENDIX A: STRATEGY BEFORE THE 19th CENTURY

This Appendix reviews the major surviving writers before Clausewitz. First, until the 15th century the discourse of strategy remained dominated by the ancient authorities, and those authorities remain at a vast distance from any modern discourse, even of military strategy.

There is no coordinated holistic vision. The earliest surviving writer Aeneas Tacticus (4th century BC) wrote several short books on specific topics: the preparation for war, provisions (marking a vestigial concern with logistics perhaps), encampments, plots and stratagems, and words of command. The focus of this writing shows in his surviving work on the defense of a fortress, which deals with such relevant immediate topics as the disposition of troops and how to keep morale up and discontent down. It is a set of recipes and homilies, with frequent asides about plots, traitors and secret messages. But it offers no overall structure, no sense of system for integrating and appraising information or testing alternatives, let alone 'planning the destruction of one's enemy by the effective use of resources'.[xxii] Subsequent writers like Onosander (1st century AD) wax more philosophical (he writes on the nature of the good General). Onosander even recognizes the value in drilling troops to get their responses automatic. But this is the limit of the discourse. Finally the last great name, Aelian (2nd century AD), is just a distillation of these earlier concerns. There are no broader horizons.

Only in the late 15th century do we find any change. And that change, at first, does not involve superseding the ancient texts: Aelian, Frontinus *et al.* are still the great authorities. The first change is in the actual lay-out of the texts, as an aspect of the changing post-medieval power of written knowledge.

From the 12th century there had been a new concern with textual order and layout, with organizing texts for greater visual clarity (Hoskin & Macve, 1986). This begins in the western European world of scholarship: the men initially involved in re-writing texts for silent visual examination are also the men who invent the university, the place that initiates the formal examination of students. It is in fact within this world of new knowledge-production that 'control' is invented. The move towards visual clarity got its greatest technical leap forward in the 15th century after the introduction of printing. In printed books, for the first time, multiple copies of texts could be supplemented with information-rich, accurate tables, maps and diagrams. A kind of semiotic reversal can even take place, as for the first time more informational content can be carried in the pictorial than in the verbal part of a text.

The impact on military texts is at first slow then dramatic (see Hale, 1988). At first printed visual aids are very schematic: from 1550 they become elaborate and information-rich. Thus Beroaldus' 1496 edition of Aelian includes some 20 diagrams of simple lines of battle. But Robortelli's 1552 Aelian, which is the first edition to carry the text in both Greek and Latin, supplements the text with over 50 illustrations 'so that the whole may be more easily understood'. It is almost mathematical overkill (he provides a diagram lining up a whole phalanx of 4096 men, adding lines stretching the distance of the relative command of major officers). But the point is that it is systematic. He even provides 'time-lapse' pictures of drill manoeuvres (e.g. how to wheel).

By this time authors are also writing their own texts. Machiavelli's *Art of War* dates to 1521 (however, although popular it is not very influential in changing actual warfare, and does not advance the semiotic change: being Machiavellian, its forte is in elaborating the ancient obsession with stratagem and intrigue). Compare this to the slightly later Cataneo's *Libro Nuovo di Fortificare, Offender et Difendere* (Brescia, 1567). This provides detailed geometrical plans for setting artillery to cross-fire, and provides accurate tables for arranging battle lines. By the time of a 1616 English edition of Aelian the pictures have totally taken over: there is even a centre-fold laying out in loving detail 1024 men and their 64 officers.

Most significant of all, however, both for its mathematical/semiotic innovation and its impact on strategy, is *An Arithemticall Militare Treatise named Stratioticos* (1579, 1590) by the father and son team, Lenoard and Thomas Digges. This English pair, both famous mathematicians, are the men who train the troops of Maurice of Nassau, and Maurice is the man usually credited (McNeill, 1982), in around 1590, with developing the first army to triumph through scientific method: (their competitive military advantage was their total discipline in rapid fire, produced by the constant circulation of the musket men through three ranks, third loading, second priming, first firing). But Maurice was only the catalyst. The system is the invention of this father-and-son-team. Their 1590 edition describes how they had already developed and taught Maurice's officers this application of simple mathematics plus constant drill, as a means 'to maintain Skirmish as it were in a ring march' (1590, 109).

The point of this digression into military history is this. There is by 1600 an evolving Art of War, but ironically this is totally derived from applying a new power of writing.[xxiii] And even then, this cannot be confused with the modern practice of strategy. The Digges's approach sets the discursive frame for the next two hundred years.

Notes:

[i] But c.f. topically the 'superwoman mother of five children', Nicola Horlick, former head of Morgan Grenfell's pension fund business and her attempts to storm the male citadels of the bank in London and Frankfurt. *Independent*, 18 January, 1997.

[ii] The theory that suggests that the genesis of US management is to be found in army innovations themselves (e.g. O'Connell, 1985; Smith, 1985) is not discussed in detail here (it will form the subject of another paper) but does not fit the historical data as effectively as our thesis, that this genesis is rather to be found in the domain of military education.

[iii] This is particularly apparent in the US Army, where promotion currently requires demonstrable familiarity with an officially approved series of texts (including works of strategy and military history and biography). However, by contrast, there remains a strong ethos in the British Army that 'books belong in libraries'. But, given the fundamental importance of 'doctrine' and its interface with rapidly changing technology in modern armies (e.g. Stone, 1995; 1996), the manner in which expert knowledge is transmitted in the British context remains to be explored further, for example by examining how 'communities of knowledge' are constituted by less formal means.

[iv] He is here citing Ansoff (1969, 7)

[v] He cites their 1947 text as the first 'to relate the concept of strategy to business'

[vi] One clarification: we are not suggesting that successful armies manage to succeed without considering logistics. Modern scholarship has shown the importance of the logistics dimension to pre-modern generals. D. Engels does it for Alexander the Great in Alexander the Great and the Logistics of the Macedonian Army (Berkeley: Univ. of California Press, 1978); Geoffrey Parker does it for the Spanish versus Maurice of Nassau in The Army of Flanders and the Spanish Road, 1567-1659: The Logistics of Spanish Victory and Defeat in the Low Countries Wars (Cambridge: CUP, 1972). Our point is that there is no pre-modern discourse that factors this necessary dimension systematically into the analysis and practice of strategy.

[vii] Quoted in Chandler (1966, 141)

[viii] For a detailed investigation of the extent to which Clausewitz's writings influenced British and American military thinkers during the years prior to 1914 see Bassford (1994), especially 104-12.

[ix] It is true, of course, that Clausewitz considered war too important to be left to the generals and that government should exercise overall control, but he provided no mediating organisational mechanism for enabling and ensuring this: a general staff is still lacking. Thus there is still not that necessary modern concern with the whole field of operations, where preparedness must continue indefinitely into an infinite future. Even in his dictum that war is but "the continuation of politics with the admixture of other means" Clausewitz remains fixated on the theatre of operations *per se*.

[x] The conduct of war in the real world would not necessarily approach the theoretical extremes of absolute war, however.

[xi] General Staff, War Office, *Field Service Regulations*, Part I, *Operations* (London: HMSO, 1909, Reprinted, with Amendments, 1914), 133 (with emphasis in the original). For a more detailed discussion on the enduring presence of the Napoleonic-style battle in British military thought see McInnes & Stone (forthcoming 1997).

[xii] For an overview of Jomini's writings see Brinton *et al*, 78-92.

[xiii] Quoted in James M. McPherson, *Battle Cry of Freedom: The Civil War Era* (Oxford: Oxford University Press, 1988), 722.

[xiv] By electing to concentrate on the operational element of strategy at the expense of the logistical, Clausewitz had ensured that his work would decline in relevance as the industrial revolution gathered momentum during the first half of the nineteenth century. However, within a generation some glimpse of the modern frame of reference appears, as Jomini (1971, 252-68) systematically considers the problems of logistics, and provides an analysis of how to coordinate the ordering, transportation and storage of supplies. It is only a glimpse: Jomini does not confront the question of army-wide integration and coordination, but only coordination and planning of logistics at the tactical and operational levels. Thus he does not fit the profile of a Chandler 'pioneer', although he articulates the importance of the functions undertaken by a central administrative staff in any modern army.

It is therefore interesting to note that in the same decade men in the US Army, particularly the Ordnance Department, begin to tackle the same kind of problems. Interesting because Jomini is one of those products of the reformed French *Grandes Ecoles*, to which Sylvanus Thayer looked when designing his own ultra-disciplinary system for West Point. And, as it transpires, the Americans who produce the first successful nuts-and-bolts army reforms - again they do not effect change system-wide

- are all from the post-Thayer generation of West Point graduates. (Important innovators include George Talcott, Chief of Ordnance from 1842, the 'soldier-technologist' Alfred Mordecai, and Daniel Tyler.)

[xv] The creation of the Prussian 'Great General Staff' between 1803-09 provides a case in point. As McNeill notes, this new organisation provided an 'intellectual stronghold within the Prussian army for intellectually vigorous officers'. In accordance with reforms instituted by the Hannoverian Gerhard Johann David von Scharnhorst, from 1808 Prussian officers were appointed and promoted on the basis of their performance in professional examinations. Appointment to the General Staff likewise required a period of study and examination at a special school for officers aspiring to higher commands. Since the seventeenth century Prussian civil officials had been recruited from German universities, and after 1770 they had to sit an examination. Thus after 1808 the system of Prussian officer recruiting fell in line with methods already extant within the civilian state (McNeill, 1983, 216-7). For a discussion of the development of the German university see Clark (1989). The relationship between such European developments and their transformation in the US context calls for our further research.

[xvi] His father, Dennis Mahan, graduated head of the West Point Class of 1824, and from 1832 to 1871 lived and worked there as Professor of Military Engineering.

[xvii] We acknowledge the dynamic of the argument which informs their analysis, and their concern with how strategy is not purely neutral but an exercise of power, not just over organizational members, or in relation to other companies, but also on behalf of strategists themselves, who 'secure their sense of meaning, identity and reality through participation in the discourses and practices of strategy' (1991, 269). There is a real importance in seeing this power as positive, in relation to the powerful as well as those subject to it, something which may be missed, not only bv the rationalists but the processualists, who 'in reporting the political machinations surrounding strategy, may merely encourage a more reflective and efficient approach to its implementation'. The case of military strategy is discussed by Knights and Morgan, but is now relegated to being prior and separate. Ironically, given their Foucauldian persuasion, they therefore see it (1991, 258-9) as having emerged in itself for purely internalist military reasons: 'notions of strategy had been central to military discourse from the late 18th century' (discussed at greater length in Knights and Morgan, 1990). Even more ironically, given their inherent critique of demand-response techno-rationalist theories of business strategy, they see its development after the Second World War as a response to techno-rationalist change when 'advances in communications technology facilitated the use of military information and surveillance techniques as strategic devices which could break-down temporal and spatial distances' (1991, 258).

[xviii] Here the ahistoricism to be overcome is similar to that to be found until recently in the mainstream discourse on management accounting. A leading US scholar such as Robert Anthony could concede that he had no knowledge of the early history of cost accounting until he read about it in Chandler's work, by which time he had been a professor for almost two decades (Anthony, 1989). He did not know about books like Knight's Risk, Uncertainty, and Profit (1921) until he was in graduate school; 'nor did I know about the early history of management accounting until I read Al Chandler's Strategy and Structure and The Visible Hand, which were published even later' (1989, 1).

[xix] In any writing of structural form, accounting is fundamentally implicated. For the M-form organisation, accounting's ROI is the way in which performance is written, examined and graded (e.g. Ezzammel, et al., 1990).

[xx] If we just take Mahan's opening sentence, we find already writ large a commitment to turning a totality of relevant space and time into a written, examined text: 'The definite object proposed in this work is an examination of the general history of Europe and America with particular reference to the effect of sea power upon the course of that history' (Preface, p. iii). It even sounds like an examination question, but of the most ordered and totalised kind. And within this text (as we then read on in the book), the field of analysis is now articulately remade as a totalised entity, where space is already coordinated or available for coordination, through being made subject to the examination of the grammatocentric gaze and where time is already being most meticulously measured in terms of timely planning, constant readiness, and instant capability of response. What has been added to this, in terms of practices, is essentially the articulation of refinements on the basics: why be reactive when (having made time and space into writing) one can be proactive, and one can plan contingent possibilities, when readiness can be internalised and disseminated across all available space, when the old strategic concerns with intelligence (with knowing the enemy's 'truth') can be served and extended in so many high-tech ways, bugging, decoding, recoding, using spy satellites, etc. (none of these high-tech ways is of course restricted to either the military or the business worlds).

[xxi] It has been critiqued not only in processual terms concerning the limits to which such rationality applies within the organization, given contingent, individual and sociological factors (e.g., Mintzberg,

1994; Pettigrew, 1985), but also, for example, by signalling the theoretical inadequacy of the approach, in terms of its failure to see the logical limits of planning, and the necessity of recognising that system always has to work through human, contingent interactions, so that analysis should begin from recognising the centrality of that interplay (Zan, 1987; 1995).

[xxii] For a flavor: 'Attack the enemy where you are not unwilling to do battle, and where you will not be at a disadvantage in the fight.' (16, 7): it deals with how to set up effective patrols, how to deal with panics, how to handle mercenaries and civilians, etc. We learn (8, 2-5) that his book on Preparations discussed the kinds of blockades and diversions that will hamper or divert an enemy, destroying food, poisoning water, etc. It is all about the tactics and stratagems requisite to commanders in a 'theatre of operations'.

[xxiii] This is something that Foucault (1977) also overlooks, when he traces the emergent history of the 'architecture of visibility'. He rightly notes that this is developed first in the form of the military camp, but fails to notice that this is first done not 'on the ground' but in writing, in these new geometrically complex Arts of War. For example du Bellay's *Instructions for the Warres* (1589) describes how to form a camp of interior squares. From a halberd placed in the ground, one marks out 'a square place which shall be 170 paces in length', which is then subdivided 'into four other squares each 65 paces and in the cross formed a street of 40 paces'. Thus geometrical order and visibility come first via the new world of textual power.