a commander with extraordinary gifts.[17] That RMA obliged France's enemies to respond as best they were able with a focus on those dimensions on which they could improve, and which offered a fair prospect of strategic success. The patterns of response comprised a mixture of symmetrical and asymmetrical behaviour, both generically on the adversary dimension of strategy, and in detail on the political, geographical, economic, temporal, and so forth dimensions. Although each of strategy's dimensions influences every other one, arguably implying a chaotic complexity overall, still it is sensible to seek relative excellence where best one can so as to structure conflict with favourable terms and conditions.

A MATTER OF DIMENSION

Clausewitz recommends five broad 'elements of strategy': 'moral, physical, mathematical, geographical, and statistical'.

> The first type ['moral'] covers everything that is created by intellectual and psychological qualities and influences; the second ['physical'] consists of the size of the armed forces, their composition, armament and so forth; the third ['mathematical'] includes the angle of lines of operation, the convergent and divergent movements wherever geometry enters into their calculation; the fourth ['geographical'] comprises the influence of terrain, such as commanding positions, mountains, rivers, woods, and roads; and finally, the fifth [statistical] covers support and maintenance.[18]

It would be a gross understatement to say that Clausewitz's approach, with its five broad elements of strategy, is both insightful and useful. That granted, and for all the elegance in its apparent simplicity, in my view it is too parsimonious to be useful enough for this enquiry. That judgement holds even if one superimposes upon the five elements his 'remarkable trinity' of passion, chance, and reason, which he associated respectively primarily with 'the people', 'the commander and his army', and the 'government'.[19] That trinity approximates identification of social, military, and political dimensions of war.

As an editor and translator of *On War*, Michael Howard applied a variant of Clausewitz's structural analysis in his seminal 1979 article, 'The Forgotten Dimensions of Strategy'. Howard argued

persuasively that strategy's logistical, operational, and social dimensions had been seriously neglected by recent strategists in favour of the technological. It is no criticism of Howard's essay to say that his argument, though generally inspirational and exceptionally relevant to this enquiry in its indictment of an undue technicity in modern and contemporary strategic thinking, does not provide an analytical framework capable of bearing the traffic of the historical case studies in Chapters 6–8. As with Clausewitz, so for Howard, an explicitly more inclusive theoretical framework is necessary.

The 'third cut' at analysing strategy through a structural-functional lens, my tri-clustered 17 dimensions as listed in Figure 5.1, is of course the framework applied in my case studies. Admittedly, structural-functional intention can appear to be obscured by such naked itemisation. I believe that a full formal 'wiring diagram' for my approach to the analysis of strategy, though in principle feasible, would not be helpful (which is why Figure 5.1 is strictly illustrative). I am determined to avoid a characteristic error committed by many scholars of decision-making. Specifically, their 'wiring diagrams' of the (somewhat idealised) decision-making process tend simultaneously to be trivial because they reveal the obvious, and overcomplicated because of the mind-boggling complexity they demonstrate. Paradoxically, those diagrams are not complicated enough because the real world of decision-making contains nexuses and feed-back loops on a scale and of such a character as to warrant description as chaotic by any definition. As earlier discussion demonstrated, the periodicity and even the life-cycle of RMA can be shown by simple graphics. Such is not the case for the structure and working of strategy.

Strategy is both static and dynamic. It is an eternal phenomenon with permanent dimensions, yet also it is a process that unfolds over time. Time must be recognised explicitly as a strategic dimension.[20] Six points are vital for understanding strategy's structure and dynamics.

First, strategy's dimensions are analytically distinctive, but in practice each affects, or certainly could affect, the performance of the others synergistically for net positive or negative results. For example, a tactically peerless but short-range Wehrmacht, supreme in combat effectiveness, could no longer deliver campaign success when policy required it to perform in Russia in geography whose terrain was too extensive as well as a climate too extreme for its logistical infrastructure to be effective.[21] Several crucial disconnects proved fatal. The Germans simultaneously prosecuted their war in the east with too few troops to cope with the enemy in his geography and too many to be effectively supportable logistically. The military effectiveness of the Wehrmacht, measured as its combat power, had meaning only with reference to an historically specific time, place and adversary (inter alia).[22] In addition, distinctive though the dimensions are in principle, in reality there are many fuzzy boundaries between them. I choose to distinguish between people, society, and culture, for example, but the fences around these categories are low and contain many openings. Similarly, economics and logistics can be

understood to merge with military administration, while the asserted dimensions of politics, organisation, and command assuredly overlap. This fuzziness is not a problem; it is just the way things are and acceptance of it is a price worth paying for the flexibility granted by recognition of many, rather than fewer, items.

Figure 5.1: The Elements/Dimensions of Strategy: Three Cuts

First cut:	***Carl von Clausewitz (1832)***	
	1. Moral	4. Geographical
	2. Physical	5. Statistical
	3. Mathematical	
	(Also: passion, chance, reason; or social, military, political)	
Second cut:	***Michael Howard (1979)***	
	1. Logistical	3. Social
	2. Operational	4. Technological
Third cut:	***Colin S.Gray (2002)***	
	(a) People and politics	
	1. People	4. Politics

	2. Society	5. Ethics
	3. Culture	
	(b) Preparation for war	
	6. Economics and logistics	9. Information and intelligence
	7. Organisation (defence planning)	10. Theory and doctrine
	8. Military administration (recruitment, training, procurement)	11. Technology
	(c) War proper	
	12. Military operations (fighting performance)	14. Geography
		15.Friction and chance
	13. Command (polotical and military)	16. Adversary
		17. Time

Second, there is no hierarchy among the dimensions of strategy. Normatively one may argue for ethics, or people, or politics, but in practice there can be no rank order, at least not with reference to strategic effectiveness. Whether or not strategy should be ruled by moral or political values, the necessary strategic performance can be enabled or undone by advantage or disadvantage on any of the 17 dimensions. Several of the dimensions appear to stand out as extraordinary sources in the shaping of strategic behaviour. For example, people, the human element, in a key sense have to be the fundamental engine driving the strategic theme in history. That human element, though widely variable in performance, offers an unchanging range of characteristic patterns in behaviour. For another example,

time is the one dimension that literally cannot be corrected: if it has gone, it has gone. Commanders can be changed, additional forces can be raised, equipped, and trained, but lost time is exactly that. Many categories among my preferred dimensions (such as politics, society, ethics, geography, military operations, technology, and the adversary) all but invite special pleading on their behalf.

Viewing strategy, and war, with Clausewitz as a gestalt, graphical representation of its structure must demonstrate an absence of hierarchy and an all but impossibly complex network of connections. Quite literally, in the world of strategy everything relates to everything else. Figure 5.2 offers a simplified description of the structure and working of strategy.

Commandant Jean Colin had the matter right when he wrote in 1912:

> There is no hierarchy among the elements of war; one cannot pretend that one is more important than another. One day Napoleon said, 'Victory is to the big battalions'; the next day he declared that 'in an army the men don't count', that 'one man is everything'. Genius triumphed over numbers at Dresden and succumbed at Leipzig.[23]

The claim that there is no hierarchy among strategy's dimensions is not a pedantic scholarly point. Instead it penetrates to the heart of the analysis required in the chapters below. A sustainable argument for such a hierarchy could amount to the thesis that there is one, perhaps several, dimensions in which relative weakness may be beyond compensation from elsewhere. The obverse argument, for effective functional equality among dimensions for overall performance, means that in principle compensation could be found for particular weaknesses. In other words, poor performance on any dimension has the potential to wreck the entire strategic enterprise.

Third, the second point, which argues against hierarchy, is true because strategy is a whole, a gestalt, comprising many inalienable elements. No dimension can be discarded for reason of its inconvenience. For example, strategy cannot be conducted 'beyond geography',[24] or in the absence of a technological story, or by people bereft of strategic culture. Every dimension is present with, is integral to, strategy, whether one likes it or not and no matter how one elects to slice the strategy pie into constituent parts.

Fourth, because every episode in strategic history is unique, the historical reference for each dimension must always be locally specific and to some degree variable (e.g. even the geography of a conflict may vary as campaigns ebb and flow). Although there can be no all-case ordering of rank among strategy's dimensions, there should be patterns in relative importance specific to particular episodes of conflict. Albeit subject to change over time, belligerents will show more or less persisting patterns of relative strength and relative weakness across the dimensions. For example, in the

Napoleonic Wars, Britain's strategic performance benefited from economic strength, a typically sound enough foreign policy, a permissive geography, unmatchable (at least, difficult to match) naval strength, and eventually exceptional battlefield leadership at the tactical level.[25]

Fifth, strategy is a synergistic, sometimes even a chaotically nonlinear, enterprise wherein strength or weakness on any dimension can influence the strength or weakness of other dimensions. To illustrate: an insular national geography is a source of strength if one enjoys control of the sea. But if the national geopolitical situation is one combining insularity with maritime weakness, then the sea is likely to play geostrategically as a broad highway for invasion.[26] More contentiously, modern history provides possible examples of excellent, at least competent, fighting armies betrayed by incompetent policy-makers and higher military commanders on behalf of ethically enervating causes.

The German Army in the Second World War may fit this category. To identify German political, strategic, and operational incompetence is not a hard claim to sustain. Enervation caused by ethical weakness is more debatable. Although Nazi ideology had a dire effect upon the critical structure of Germany's war(s), and hence upon its prospects for victory, on the other side of the equation that ideology almost certainly enhanced the average potency of German fighting power. Soldiers have to be led as well as commanded, and leadership is all about inspiration and motivation. The cult of the *Führer* and its attendant racial and national ideology certainly helped many young Germans to be better warriors. Although historians try to study this topic in a scholarly way, we are still too close to the Second World War for scholarship on the influence of Nazism to be untainted by unhelpful attitudes.[27]

The case of American performance in Vietnam is especially complex, because it embraces generally incompetent, or worse, political and higher military leadership and command,[28] good enough tactical skills, too little sharp-end fighting power on the ground, what many considered to be a noble political cause, and a local ally seriously reluctant, if not unable, to conduct systemic reform. This discussion is not interested in the US war in Vietnam per se, only in establishing the principle that each dimension of strategy in a conflict influences every other one. The policy that governed the conduct of the war denied US soldiers a fair prospect of success, while the operational art practised in the field by the US Army rendered an already exceedingly difficult mission as close to impossible as makes no difference.[29]

Sixth, contrary to the message from some of the more distant shores of chaos theory, strategy's dimensions can be manipulated purposefully in the quest for advantage and the struggle against disadvantage. Such purposeful strategic manipulation is entirely normal; indeed it is business as usual for strategically competitive polities. For example, a belligerent that knows itself to be tactically disadvantaged could in principle seek compensation through excellence at the operational level of war:

that is very much how the Red Army defeated Hitler's Östheer in 1942–45.[30] Such compensation will not always be possible. For example, arguably the US mission in South Vietnam in the 1960s and 1970s was so disadvantaged on that conflict's political dimension, that no measure of excellence in economic strength, in technology, or even in tactical combat effectiveness, could compensate. It is worth noting that weakness-strength vis-à-vis each dimension of strategy is a scale likely to register historical data on a bell-shaped curve. By that I mean that, for example, while a few military commanders are heroically incompetent, and a few warrant the label of genius, most occupy the bulge of the curve as being average and good enough, ceteris paribus. By and large one needs only to perform well enough on each dimension. Given the pervasiveness of friction and chance in strategic affairs, an enemy is more likely to be overcome by the consequences of his own errors than by purposeful brilliance on our part. Strategic performance inherently is a relational variable. One does not have to win elegantly: one just has to perform better on the day than does the enemy.

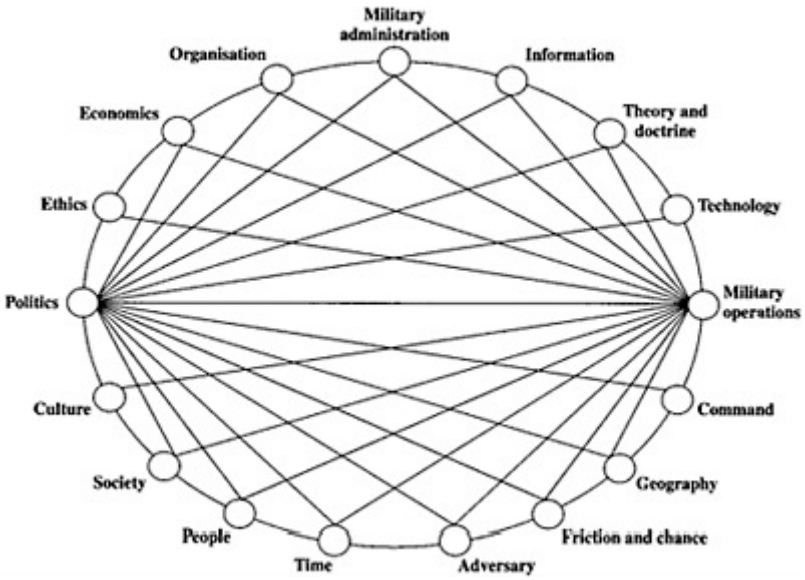

Figure 5.2: The 17 Dimensions of Strategy

The 17 dimensions are displayed non-hierarchically.

Each dimension is always 'in play' and can influence every other dimension.

In this figure I have chosen simply to show the connections to and from two dimensions only, politics and military operations. Display of the nexuses for every dimension would result in a visually impracticable graphic.

This section concludes with the briefest useful description of the focus of each of my preferred dimensions. As a general rule the categories are close to self-explanatory. However, it is well to be certain that every item in the toolkit of theory is properly identified formally.

1. *People* refers to the human face of strategy. There is a human face to all of strategy's dimensions. Strategy is decided upon and executed at every level of performance by real people who have all the strengths and weaknesses-physical, emotional, psychological—that people are wont to exhibit. Individuals matter in their individuality, and they can matter profoundly. At the sharp end, in military operations, strategy is done tactically by actual people performing as warriors, reluctantly or otherwise (not by generic, abstract 'armed forces').

2.*Society* means the social collective and the many ties of community which bind individuals as well as the processes that give them a sense of cultural identity. To date, sociology and social anthropology have not been well enough represented among the disciplines contributing to modern strategic studies.[31]

3. *Culture* refers to the ideals, the documents and other artefacts, and to the habits of behaviour (styles) characteristic of particular communities.[32]

4. *Politics* means the purpose(s) for which strategy is designed and executed. Also it refers to the consequences of military behaviour.[33] Politics can refer both to policy and the process of contention that produces policy (i.e. the policy process, writ large). This bifocality permeates Clausewitz's use of *Politik*.

5. *Ethics* encompasses the whole range of moral issues relevant, or believed by some to be relevant, to strategic behaviour.

6. *Economics and logistics* brackets the economic resources mobilisable for strategic purposes and the assets of supply and movement which comprise the vital enabling infrastructure for all military activities.

7. *Organisation* for the making of strategy and the direction and higher conduct of war refers to the structure and process of policymaking and of defence and force planning (including war planning). Plainly, this dimension shades into politics above, and military administration, command, logistics, and military operations below. The history of the twentieth century showed unmistakably the distinguishable importance of the quality of organisation for strategy.[34] The bridge that is strategy is very much made by the kind of structure and process represented by this dimension.

8. *Military administration* is by and large what Clausewitz means by 'merely preparations for war'.[35] This category refers to the recruitment, organisation, training, and equipment of the armed forces.[36]

9. *Information and intelligence* encompasses all aspects of information relevant to strategic performance. This dimension includes the dynamic states of knowledge— certainly the variable data and information—enjoyed by actual and potential belligerents. In addition, this category embraces all of the activities implied by the term 'intelligence'.

10. *Theory and doctrine* are the ideas current, including those officially authoritative, which purport both to explain strategic phenomena (theory) and to provide explicit guidance for behaviour (doctrine).

11. *Technology* refers to the quality of science and engineering expressed both in the machines that serve as weapons systems and in those that support such systems. To avoid apparent pedantry, from time to time technology will be employed analytically as shorthand for weapon systems, but only in contexts where that meaning is unambiguous.

12. *Military operations* covers all aspects of military performance in the field (or battlespace)[37] against the enemy. By analogy, a play may have an outstanding cast, a superlative script, an inspiring director, and an elegant theatrical venue. But the question remains, how well will the play be performed on the night? This dimension focuses upon the actual tactical doing of strategy by forces in action or threatening action. There is an obvious sense in which military operational performance is entirely a variable dependent upon the other dimensions of strategy. However, while the military effectiveness generated by strategy's elements can only be instrumental for strategic effectiveness on behalf of policy, that effectiveness is tied in to complex feedback loops. The pertinent values—of relative advantage and disadvantage—for strategy's dimensions are not simply the linear and perhaps nonlinear producers of military operational outcomes. By positive or negative feedback from the course of battle, those dimensional values change with events. For example, the geographical terms of conflict can change as battlefield success alters each side's geographical position. By conquering France and the Low Countries in May-June 1940, Germany advanced its air power and sea power—as well as its land power-to the Channel and Atlantic coasts. Clausewitz risks overstating the most essential of relevant truths when he insists that 'Combat is the only effective force in war; its aim is to destroy the enemy's forces as a means to a further end.'[38] It would be difficult to overemphasise the significance of his subsequent elaboration that 'If a decision by fighting is the basis of all plans and operations, it follows that the enemy *can frustrate everything through a successful battle*.'[39]

13. *Command* refers to the variable quality of performance by political and military leaders both as leaders and as commanders.[40] Obviously, this performance is tied closely to politics/policy and to organisation for strategy-making and execution, but still it is usefully distinguishable.

14. *Geography* is the playing field on which all strategic behaviour is conducted. It both shapes armed forces which must operate in particular physical regimes (land, sea, air, space, electromagnetic

spectrum), it defines the belligerents,[41] and more often than not it is the stake in a conflict. Contrary to the argument of some unduly postmodern theorists of cyberwar, nothing occurs beyond geography.[42] Geography truly is inescapable.

15. *Friction and chance* conflate two themes from Clausewitz. Friction, both general and generic to the conduct of war (and defence preparation, one should add), as well as specific to unique situations, occurs in a context of uncertainty.[43] Chance embraces the accidents of bad luck and the opportunities for creative behaviour opened by good luck, neither of which could be anticipated in detail. Although accidents do happen, many such events are preventable, and are prevented, by prudent strategic practice. For example, it is bad luck if a staff officer with campaign plans is captured by the enemy. However, although such a risk cannot be reduced to zero, elementary precautionary behaviour can greatly reduce this hazard.[44]

16. *Adversary* points to the quintessentially relational nature of strategy. Strategy is the intelligent bridge between means and ends which invariably is constructed in the context of a foe with an independent, albeit interacting, will who is out to thwart you. All references to strategy 'working' mean working against an adversary motivated, and in principle able, to deny you strategic success. Just as military action makes strategic sense only with reference to its political consequences, so strategic performance has to mean influence secured, or not, upon a foe. Even when strategy-making lacks for a dominant enemy, and instead is addressed only 'to whom it may concern', still it has to be conceived and planned with reference to a foe, albeit a generic one. Recall Clausewitz's telling metaphors. 'War is nothing but a duel on a larger scale. Countless duels go to make up war, but a picture of it as a whole can be formed by imagining a pair of wrestlers. Each tries through physical force to compel the other to do his will.'[45]

17. *Time* states an obvious constraint upon all strategic behaviour. In common with geography, and indeed with our (in)human nature, time is inescapable. However, unlike geography and human nature, time is rigidly unforgiving. In the apt words of Napoleon: 'Strategy is the art of making use of time and space. I am less chary of the latter than of the former; space we can recover, time never'; and '[t]ime is the great element between weight and force.'[46]

THEORY AND PRACTICE

Although theory and historical practice, explanation and historical evidence, must conduct a constant dialogue, theirs cannot be a partnership of equals. The