

‘I end up with the question “why”, but I don’t start with it’: Interview with Geoffrey Parker

Herman Roozenbeek, Jurriën de Jong, Leonard Blussé, Maurits Ebben and Jaap de Moor had a conversation with Geoffrey Parker at the seaside resort of Noordwijk, at exactly the same place where we interviewed Sir John Elliott two years ago. While we were driving up to the beach, Professor Parker tried to find out what questions we were going to ask, but we just asked him what kind of ice cream he liked. Here are his spontaneous answers to spontaneous questions as they were selected and noted down by Jurriën De Jong.

This morning in your lecture you talked about the style of government in the Spain of Philip II. Spain in the sixteenth century is always seen as a very centralised state. Is this a reliable picture?

We really have to get away from the idea of a unified Spain; until the eighteenth century that just doesn’t exist. What we do have is a remarkably unified Castile. And within Castile by the sixteenth century the authority of the crown is remarkably powerful. There are very few institutions that can stand up to the monarchy in Castile. The other parts of the peninsula—Aragon, Navarre, Catalonia—are areas in which the king’s authority is mediated through institutions. It’s not a unique division; you find the same in France with the *pays d’état* and the *pays d’élection*. Just so in Spain: the polities that have strong representative institutions tend to be on the periphery.

This creates what H. Koeningsberger has called ‘composite monarchies,’ and he has argued that they were the norm for the sixteenth and seventeenth centuries.¹ What I think he understates is that within the composite monarchy you can have a core which is extremely powerful, which is able to mobilise resources in an unusually effective way. And although Castile, for example, is much less populous than France, it actually can mobilise more effectively because there are very few obstacles to royal power. So it seems to me that in Castile you do have perhaps

the most absolute government of Europe in the sixteenth and seventeenth centuries.

Generally, the decline of Spain in the seventeenth century is seen as a result of economic and social problems. This morning in your lecture you ventured another possible factor, concerning the management of information and the style of government under the Habsburgs.

This is the result of trying to apply modern techniques of analysis and modern strategic concerns to early modern problems on the assumption that there are probably some underlying similarities. It is clear that one of the great problems of today, especially in war, is the temptation that extraordinary good communications give to the central authority to interfere and micro-manage. And it seemed to me that when I considered this and looked at the evidence from the reign of Philip II, exactly the same happened: he created a remarkably effective and comprehensive system of information-gathering that gave him access to data from all over the world and led him to believe, I think falsely, that he knew everything. And with that knowledge, he became more and more prepared to overrule the theatre commanders on the grounds that, although they might understand the local situation, he had the big picture, he knew best. And that seems to me the fatal miscalculation then, just as it is a fatal miscalculation now.

But is this system linked only to the reign of Philip II, or does it extend further into the seventeenth century?

It's difficult to see whether it begins with him, because in 1559, on the journey between the Netherlands and Spain, the ship containing most of the government archives was lost at sea, and so we don't entirely understand the governmental system of Charles V. One reason why there is no first class biography of the emperor is because of the loss of those papers. The system is certainly there in the early years of the reign of Philip II but probably in order to get that degree of sophistication in information gathering you need a stable centre, and Charles V never provided that. Instead he toured around all the time. He also delegated a great deal, whereas Philip did not delegate. Sitting at the centre he was able to build up the networks with a degree of permanence which had not been there before.

It certainly survives his death. Philip III and Lerma and more notably, as John Elliott has shown, Philip IV and Olivares clearly have the same sort of structure, which gathers enormous amounts of information and channels it to the centre where all the decisions are taken. A great process

of consultation takes places while policies are being formulated, but once they're formulated it is almost impossible to change them for two reasons. Number one: the government will not delegate to the theatre commanders. Number two: there is a tendency to accept only that information which coincides with the policy already chosen. That's called 'irrational consistency': you stick to the policy even when it is clear that the data don't fit. Thomas Kuhn talked about this in his *The Structure of Scientific Revolutions*.² He called it the 'paradigm'. It is extremely difficult for scientists to recognise that the paradigm no longer works, and I think that is equally true of statesmen.

Olivares' domination of Spanish policy is no less complete than that of Philip II. So I see that system continue until it's clear that Spain has collapsed as a great power in the 1640s, 1650s and 1660s. The problem is that in certain phases, I believe, information technology creates a surge of knowledge that leads to the illusion that it is safe to intervene and micromanage. We saw that in the 1970s, when for the first time satellite communications provided an almost instantaneous link up between theatre commanders, area commanders and the supreme commander in the White House. You had it in 1914 when the telephone and the telegraph gave almost instantaneous communications between diplomats and their governments in a way that had not existed before. And I think you had it in the sixteenth century, in the reign of Philip II in particular, when the increased sophistication of the diplomatic, the espionage and the postal systems suddenly channelled in further knowledge which had not been there before.

It takes time for statesmen and soldiers alike to adjust to the fact that, although they have exponentially more knowledge than before, it is still not enough to justify changing the rules. It's as if there's a new horizon. There is a quantum leap and it allows people—especially politicians and statesmen—to delude themselves that the rules have changed. Indeed, with the telephone you can do lots of things. In World War II every tank had its own radio-telephone. Guderian, in 1940 in the fall of France, only avoids that problem by turning off his radio. He wants to go right ahead, so he doesn't want to hear his commander say: 'Come back'. The temptation to micro-manage when you have a new technological toy is very hard to resist, and avoiding the perils of micro-management is harder still.

What interests me are those moments at which things change. Let me give you what I think is a very sophisticated and very attractive theory of military revolution. It's called the 'punctuated equilibrium model.' It derives from a model for the evolution of the species devised by Niles E.

Aldridge and Stephen Gould.³ Their idea is that the basic tendency in evolution is balance, but that something sometimes happens which causes a very dramatic change. That change destroys the whole balance within the evolution of the species: a number of other things have to change to compensate and then you get a new equilibrium. If you apply that model to military affairs, then, for example, the invention of really powerful artillery in the West, and only in the West, in the mid-fifteenth century creates a totally new situation which requires everything in warfare to change. The evolution of the artillery fortress—the *Trace Italienne*—is another such revolution which causes everything around it to change. The creation of the ship of the line, also in the sixteenth century, is a third.

I like to study those punctuations. That's why I don't spend as much time as I should on the philosophers, who are trying to find general rules. I am not convinced that there are universal rules. Look at Alfred Mahan, who argued that there were certain universal rules of war at sea.⁴ He never considered the impact of changes in sail plans, the creation of steam power, new technology, new gunnery or new techniques of using guns at sea. These for him are irrelevant: for Mahan, the rules of warfare at sea remain the same. I just don't buy it; I don't think these theories recognise the specificity of situations, that things do change over time.

I believe if you look at how things happened you will find the cause. I end up with the question 'why', but I don't start with it, whereas most historians, I think, start with a 'why,' and only then look at 'how'. I am a historical technician, and that's the methodology that I have evolved. Although in the end I try to explain why the *Trace Italienne* works, I have never found a treatise which says: 'This is how we do it, because...' All I found is people saying: 'Jesus Christ! The French are doing this. If we don't do this too we're going to lose out'. So it seems to me that this was very much the way things happened. As Ranke said, what we really have to do is to 'tell things how they really were.' And I don't think on the whole people start out by asking why. By definition, it is an anachronistic question.

This brings us to the idea of the 'Military Revolution'. In your writings on this subject you concentrate on the sixteenth century, while Jeremy Black points to the eighteenth.⁵ Are there, in your opinion, any moments of punctuated equilibrium in the eighteenth century? And if so, why are these less important than those in the sixteenth century?

I do think so. There is a major punctuation in the 1790s with the *Levée en masse* and the ability for the first time to mobilise so many troops that

armies don't have to take fortresses. Also the creation of a road network that enables armies to move quickly in many different directions and then concentrate, which is the genius of Napoleon. There is a major disequilibrium there. I don't see that much between then and the sixteenth century. If Maurice of Nassau had come back to fight for Frederick the Great, he would have known what to do; but he would have been lost at Waterloo. Likewise, if a general from the Crimean war had been parachuted into 1914, he would have understood exactly what was going on. But if he'd been parachuted into 1918, he wouldn't have understood a thing, with airpower, mechanisation, the tanks and stormtroopers. Things can change very, very quickly after a long period of equilibrium.

Let me tell you why I think the sixteenth century is important. Four different developments took place, each of them significant. First of all you have the artillery fortress, which evolves in Italy in the 1520s and 1530s. Second, you have the ship of the line. I'm not absolutely certain of the date at which this happens, but one of the first was a Scottish ship, the *Great Michael*, built in 1511 with really big guns on its lower decks. Third, you have the development of controlled firepower on the battlefield. If you like, it's like the line of battle at sea, transposed to land. And the pioneer there was, of course, Maurice of Nassau. Again the date at which that happened is very difficult to pinpoint. I had hoped to find it at Nieuwpoort. The problem is: nobody mentions it. There's a nice map in the Dutch version of the *Nassausche Lauren-crans* that does show ranks of men firing at each other in sequence.⁶ The description explicitly refers to this. And yet, Francis Vere, who was there, says that '[w]e were not able to use our exercises, which we thought would give us a decisive advantage.' There's no question when it's invented: it is both illustrated and described in 1594, in a letter from Wilhelm Ludwig of Nassau to his cousin Maurice. But when it's put into effect is not so clear. The first use in battle may in fact have been at Breitenfeld in 1632. The fourth element is the growth in manpower, which you can pinpoint to the 1530s and 1540s. Now if you take these four things together, you have changed the equilibrium of warfare on sea and on land. And I think that's revolutionary.

All these developments seem rather closely connected to the process of state formation. How do you think that process relates to the Military Revolution? Does one cause the other?

My 'Military Revolution' argues that it is the growth of the army which forces the state to grow, but Jeremy Black has argued in his book that it's the other way round.⁷ The image I like is that of the double helix,

the DNA molecule, which consists of two interlocking spirals. I believe that at different stages you have military expansion, military change, forcing alterations in the structure of government, and at certain points the structure of government forcing or permitting or encouraging the expansion of armies and innovation. But I see these as being very closely related: it's a symbiotic relationship. I don't think that one causes the other all the time; at certain points you get that interlock. The data, to me, don't seem to be so equivocal. Once you have the big armies you simply have to expand the state. You'll have management problems and the army develops an impetus of its own. Armies grow almost by themselves. And certainly there is the element of competition. The Habsburgs, because they ruled such an enormous area, were capable of putting together a larger army than anybody else. So France simply had to field an army of equivalent size. And that forced administrative change.

There's another controversy here. It seems to me that the key period for military expansion was the 1520s and 1530s. In those two decades the size of standing armies increased very rapidly. The same two decades saw a proliferation of a new sort of fortification, the *Trace Italienne*, and I believe that there is a connection between those two. It has been hotly contested, but I believe it's true. I think that the proliferation of new-style fortifications increased army size in two ways: first, if you had twenty to thirty new-style fortifications, you had to garrison them all. And that automatically increased army size, because the total of garrisons could be 20,000 to 50,000 men. By the end of the seventeenth century Louis XIV had half of his army in garrisons. On the other hand, to take one of these fortresses you needed a very large army indeed, because you can only blockade it by cutting it off from the outside world. And to do that took 50,000 to 60,000 men. These are very large figures, and I believe that this is why army size went up. Furthermore, the increase in expenditure on the fortifications and garrisons and on the larger armies for offensive purposes forced the state to increase its taxation, forced the state to intrude more into the lives of subjects and therefore represented a major influence on the rise of the modern state.

But I think there was more than that: fortresses came to be laid out in layered lines, a defence in depth. The fortifications built by Vauban in France resembled a giant bastion. You had various lines, ending in the 'Ne plus ultra' lines. The best piece of luck Louis XIV ever had was that eighteen-month period between 1700 and 1702 when all the fortresses in Belgium were delivered to his forces. It was just an extraordinary stroke of luck, and Vauban was able to fortify them. So that when, eventually,

William III declared war and the Grand Alliance went to war against Louis XIV, France enjoyed the terrific advantage of possessing these advance fortifications. In other words, they'd already gone far beyond their frontiers and the war would end when they had lost them. But it was not French territory that was being lost; it was just the new acquisitions. France had devised a defence in depth which made it almost impossible to invade. It was almost impossible to get close to Paris. It could be done, but in the end the problems were such that, unless you took a significant number of fortresses, you couldn't go any further because your own lines of communication became vulnerable. And you couldn't take more than two or three of these artillery fortresses in a single campaign. So war just stagnated. Battles were no longer significant and generals found themselves tied down in sieges.

Now that's very interesting in Europe, and it creates a pattern, but I'm also very interested in what happens when you export that aspect of the military revolution abroad. Because it creates a bridgehead which is almost impregnable. There are very few examples of western-style fortifications being taken by non-western forces. The Dutch took Portuguese fortifications in Sri Lanka, but the king of Kandy did not.

Do you think there were other advantages that Europeans had over their opponents?

It has always struck me that one of the big differences between Europe and other centres of power is the existence of a plurality of states, which means that e.g. Columbus is rejected by England, by France and by Portugal, but there's still Castile. In China this is not so. If you're rejected by the emperor, you're finished. Likewise with technological innovation, it seems to me that there is a competition among the European states which does not exist in China.

I believe that there are five different elements in what I would call the 'western way of war,' which distinguish it from other regions. Not all of them are unique, but the combination, I think, is. First of all, it's clear that western society has always put a very heavy premium on technology. It has always favoured capital-intensive solutions over labour-intensive solutions, no doubt since it has usually been at a numerical disadvantage. Secondly, it has always exalted discipline. Right through from the hoplites and the legionaries down to the Gulf war, discipline has been a key ingredient of western warfare. Thirdly, there is a very aggressive tradition: the idea that you go for the big battle which will exterminate your enemy; that you go for unconditional surrender, total victory. Now the Chinese also like

total victories, the Chinese also favour technology, the Chinese also have discipline. But I think there are two other elements which are not found in other societies.

Fourth then, there is what I call the ‘challenge and response dynamic’: the idea that if one part of this pluralistic society has an innovation, the others have to match it. Because in war, if you don’t adapt, you go under very quickly. So, when e.g. the Flemish at Kortrijk in 1302 use pikemen offensively and stop the charge of the French, it’s noticed. And in 1314 at Bannockburn in Scotland, the Scots do the same. In 1356, at Poitiers, the French even start trying it. According to one account, a Scottish nobleman tells the French: ‘If you want to win this battle against the English, you get off your horses and you fight on foot. That’s what we Scots did.’ So you actually have a clear learning process. I don’t think you find that in many other societies, one army learning from another. The pace of this ‘replication’, to use an ugly word, differs over history. In some periods when the various competing states are disorganised and weak, so the process of challenge and response is very slow. But at other times, such as the sixteenth century with that same *Trace Italienne*, the learning process is very fast indeed—because if your enemy has the *Trace Italienne* and you don’t, you won’t last very long. Look at Siena. Siena invests in one fortress, Siena itself, and when that falls it’s the end of the war. So you have to do it right, you have to replicate, but you have to do it in the right way. The final element, which I see as the West’s secret weapon, is finance: the ability to finance prolonged war through credit. It is something which is not present throughout western warfare. The Romans didn’t need it; the Middle Ages hadn’t got it; but around the sixteenth century you find that ability, starting right here in the Netherlands and spreading from here as the ‘Financial Revolution’: the ability to borrow very large sums of money at very low interest rates. When Britain had finished with the North American Revolution, it had lost the American colonies and borrowed well over two hundred million pounds, equivalent to twenty years’ revenue, at 3 per cent. Okay, they didn’t win in the Americas, but the financial ability to survive a defeat as big as that represents the fifth element in the ‘western way of war’. And the combination is unbeatable. That is the major reason why the West expands, even before the Industrial Revolution. It has a method of fighting on both land and sea that, I think, is simply superior.

But can you explain the expansion of the West just from military factors? Isn't there room for other explanations?

It seems to me that we can no longer explain the rise of the West before the Industrial Revolution in the traditional terms of the moral superiority of the white man or superior trading organisation. The Europeans certainly possessed some advantages and one of them is their extraordinary ability to maximise their resources: they're really good on the 'economy of force'—whether in their trading companies or in missionary activities or in military activities, the West seems remarkably good at doing a great deal with very little. And I accept that. But I don't think it's quite enough. I prefer the formulation of Anthony Reid in his new book on the lands below the wind.⁸ He says there is really a sort of trilogy, three factors which explain the rise of the West in Indonesia. One is the artillery fortress, another is the ship of the line and the third is the ability of the Europeans to find local alliances and exploit local rivalries, so that they are in fact always allied with a powerful local coalition. I like that formula and I would like to test it. Reid throws it out when he is considering the western power in the Indonesian archipelago, but could it not be equally true in the Spanish conquest of Mexico and Peru?

Ross Hassig, after all, offers very similar explanations for the triumph of Hernan Cortes and a small number of Spaniards in 1519–1521.⁹ He sees the entire episode as a battle for power in the valley of Mexico, in which the Spanish serve as mercenaries on the anti-Aztec side. And when the Mexicans have been defeated, the Spaniards then turn round and blackmail their allies, thereby exploiting the victory; thereafter disease does the rest. So it would seem to me that Cortes doesn't need either the ship of the line or the artillery fortress. Alliances are enough to explain his success, because in the Americas, but only in the Americas, the Europeans possess another secret weapon, which is biological warfare. The enormous mortality takes out large numbers of the indigenous population and destabilises the rest. The actual numbers we can dispute forever; the fact is that it was a catastrophe so great that, just like the Black Death in Europe, it made people wonder if there was a God. So the collapse of the demographic structures in the New World seems to have totally disorientated the native population. Outside the Americas that did not happen.

I therefore find Reid's formula, for Africa, India and Indonesia, very attractive. It's the combination of the ship of the line, which enables the Europeans to project their power abroad; the artillery fortress, which enables them to maintain that power on land as a bridgehead; and their

remarkable skill in exploiting divisive situations, picking out allies from one side or another and playing them off against each other, just waiting until the situation develops when they can penetrate the interior. That's why the West expands before the Industrial Revolution. I have no problem with the rise of the West after the Industrial Revolution; it is very clear that, once you harness steam power and electrical power to industry, you have something which cannot be replicated outside Europe. But before that, I'm struggling with an explanation.

Does the ability of the Europeans to intervene in local politics also stem from the long-term stability in the policies of the trading companies?

Of course, some changes of policy occur within the various companies, but compared with the fluidity of Asia they preserve an extraordinary stability. It is this ability to wait and see, and to wait and exploit, that seems to me so important. E.g. when Bengal gets out of hand in the 1750s the British are there just waiting to expand their power.

But maybe they didn't want to project their power and take on the extra responsibility.

Who are we talking about here: the people at the periphery or the people back home, in the metropolis? The first time I came across this paradox was in the book of your illustrious colleague George Winius, *The Fatal History of Ceylon*, which made a very good case for saying that there was a subcolonial elite in Goa which really wanted a 'forward' policy in Ceylon and got it, but unfortunately at a time when the central government could no longer back it up. The policy was being made on the periphery with the expectation that it would be supported by the centre, and I think that was a norm. People like Jan Pieterszoon Coen were also making policy on the periphery while counting on endorsement from the centre, and usually getting it even though the central government did not really want the creation of a territorial empire in Asia. It wanted the trade, but it did not want the high defence costs, whereas the people on the periphery, of course, want security. So they want the fortified bases, and what's the point in having a fortified base unless you have a hinterland which protects it? And when you have a hinterland, then you settle it, and then you need another line of defences to protect your investments there, and pretty soon you're dragged in. I see here a permanent tension or, as Winius says, the 'Colonial paradox.'

But how do you fit the conquest of the Americas into this picture? Why does Spain go through all this effort to establish an overseas empire?

Because it's presented to them. What is Charles going to do? Who could have predicted the success of Cortes and Pizarro? And once they've conquered New Spain, they cannot allow areas like that to escape from government control. So it has to create a structure to cope with the new conquests. It must, it cannot afford not to. Surely, the Dutch East India Company in the end allows a very high proportion of expenditure on fortresses and factories because it doesn't really want to give these things up. How many fortresses are abandoned? Very few.

Because of inter-state competition?

Yes.

But as soon as these countries like India are taken over, apart from the replacement of several Indians nothing changes, except that much of the money now goes out of India.

Well, some of it does. What interests me is that the new money gives the British the ability to maintain a huge military presence on the continent, with which they can intervene anywhere. By 1780 there are over 100,000 troops in British employment. That's unprecedented. With that you can intervene effectively almost anywhere. I would say that the Bengal settlement is the turning point: it provides solid, regular, reliable income. A lot of it goes back to England, but a lot of it is kept on the spot to finance huge armies and build enormous fortifications. Fort William at Calcutta cost a million pounds. It's inconceivable that a British government would have paid that. But if your income is two million a year from the Bengal Settlement...

You say that a lot of revenue came from India, but was it not that the individuals were sending money back, while the companies were going bankrupt?

True before 1765; but again, there's a Dutch precedent for that. The VOC made what I believe you call these days 'negative profit', because in its first twenty or thirty years it was spending so much on fortresses and ships.

Throughout this interview you have stressed the importance of naval development, e.g. in the military revolution and the expansion of European power in the rest of the world. Do you find that other historians are equally aware of these influences?

It seems to me that a disparity exists between the study of naval history and military history. Naval history, especially overseas, has not really advanced very far in the last twenty or thirty years. The questions that are being asked are much the same; not many new people have entered the debate. The difference between how the Dutch fight and Chinese fight at sea is not a subject that has attracted any attention, and yet it's absolutely critical. We do have studies on the differences between the military effectiveness of Asian trained troops, European trained troops, but that has not been paralleled in naval history. I really don't know why. Whether naval historians are just more traditional or whether it's a problem of the languages. Furthermore it's much more difficult to create a navy, isn't it? You can create an army in a matter of weeks or months. But if you want a first class navy, you should have thought of it four, five years ago. It's like asparagus: if you want first class asparagus, you should have planted a bed five years ago. You can't just snap your fingers and expect it to come. And so much more investment is required for a warship; a much more extensive and sophisticated infrastructure is required. And perhaps that has discouraged such study, because the study of navies requires the study of much longer periods and therefore much more data.

Is it true that navies took so much more time to build up? The Turks were able to put a new fleet to sea in the year after they suffered a tremendous defeat at Lepanto. Also the Dutch were at some times able to build ships in a matter of months.

What you're talking about is a galley. And I think that there is a difference from galley warfare, which depends primarily on very highly trained marines. It's true that the Turks recover after Lepanto in that they create a galley fleet. What they cannot replace is the experienced troops they lost at Lepanto, and this the Christian powers recognise, because they kill all experienced personnel after Lepanto. But I'm interested to hear you say that you can build a Dutch man-of-war in a few months.

These were East Indiamen and some other, smaller types of ships.

That's extraordinary, because I know of no example in the Royal Navy where that was the case. It takes about a year from the beginning to the end. And dockyard capacity is limited; although it is the largest employer, the largest industrial enterprise in Britain by a long way, it still cannot turn out more than three or four ships a year. In a battle fleet you need twenty or thirty of them, so, by definition, you can't do it overnight, you can't do it this year, you can't do it next year: it's a process. You need a

programme, and of course, as you build new ships the old ships will need repair. The only way to have a first class navy in wartime is to maintain a first class navy in peacetime, and that's not true of armies. You can cover up your inadequacies by having large numbers of men and a certain number of NCOs who will train them. You cannot short-circuit that in a ship. Remember that a man-of-war is larger than a country house and that it has more artillery aboard than a fortress. Each of the ships that defeated the Spanish Armada had forty or forty-five guns. Not many castles boasted forty or forty-five guns, so this is a major investment; you can't simply snap your fingers. There's opportunity costs too. And again the Armada demonstrates this to the hilt; it is not possible to convert a merchantman into an effective ship of the line, because the problem is not just cutting more gun ports in the side, it's strengthening the structure to resist the recoil of the gun.

Although the Dutch did use converted merchantmen up to the 1650s.

I was reading the *Journal* of David Pietersz de Vries, a really first class account of early colonisation in New Netherlands.¹⁰ Before he goes to New Netherland he makes a number of other trips: he goes to the Mediterranean, then goes to Africa, and everywhere he goes he has to fight, and this is in the 1620s. Everywhere that man sails there's an occasion for fighting and I think that's one of the reasons why the difference between a merchantman and a warship is not quite as great as you would expect, because if your merchantman was not quite heavily gunned it would be lost. However, as security at sea in peacetime increases, one can scale down a bit the armament of merchantmen, but at the same time warships get bigger and bigger, with more and more decks, so you can't just substitute. In the end all warships look alike. One of the standard pieces of equipment of any man-of-war by the eighteenth century was a complete set of enemy flags, because you couldn't tell them apart by the silhouette. So if they ran up French colours, English colours or Dutch colours, it was the only thing that really distinguished them and it was a standard *ruse de guerre* to run up the wrong set of colours until you got really close and then haul them down to run up your own colours, because the silhouettes of these vessels were so alike. That's why I've stressed the challenge and response dynamic: in the end it creates the perfect tools of empire.

Notes

- 1 Helmut G. Koenigsberger, *Politicians and Virtuosi: Essays in Early Modern History* (London: The Hambledon Press, 1996) chapter 1. See also J.H. Elliot, 'A Europe of Composite Monarchies', *Past and Present* 137 (1992) 48–71.
- 2 Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1971).
- 3 Niles Eldridge en Stephen J. Gould, 'Punctuated Equilibria: An Alternative to Phyletic Gradualism' in: T.J. Schopf (ed.), *Models in Paleobiology* (San Francisco: Freeman, Cooper & Co., 1972). Albert Somit and S.A. Peterson, *The Dynamics of Evolution: The Punctuated Equilibrium Debate in the Naturel and Social Sciences* (Ithaca: Cornell University Press, 1992) both cited and applied to the historical process by C.J. Rogers, 'The Military Revolutions of the Hundred Years Wars' in: Rogers (ed.), *The Military Revolution Debate: Readings on the Military Transformation of Early Modern Europe* (Boulder: University of Colorado Press, 1995) 76–77.
- 4 Alfred T. Mahan, *The Influence of Seapower upon History, 1660–1783* (Boston: Little, Brown & Co., 1890). See the devastating critiques of P.A. Crowl, 'Alfred Thayer Mahan: The Naval Historian' in: Peter Paret (ed.), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986) 444–477; J.F. Guilmartin, *Gunpowder and Galleys: Changing Technology and Mediterranean Warfare at Sea in the Sixteenth Century* (Cambridge: Cambridge University Press, 1974) 16–41. G. Symcox, *The Crisis of French Seapower, 1688–97* (The Hague: Martinus Nijhoff, 1974) 227–230.
- 5 Jeremy Black, *A Military Revolution? Military Change and European Society 1550–1800* (London: Macmillan, 1991); Black, 'A Military Revolution? A 1660–1792 Perspective' in: Rogers (ed.), *The Military Revolution Debate*, 95–114.
- 6 J.J. Orlers and M. van Haesten, *Den Nassausche Lauren-crans* (Leiden 1610) folio 156 and battle-plan of Nieuwpoort.
- 7 Michael Roberts, *The Military Revolution, 1560–1660* (Belfast 1956), reprinted in Rogers (ed.), *The Military Revolution Debate*, 13–35.
- 8 Anthony Reid, *Southeast Asia in the Age of Commerce 1450–1680 II: Expansion and Crisis* (New Haven: Yale University Press, 1993) 271.
- 9 Ross Hassig, *Aztec Warfare, Imperial Expansion and Political Control* (Norman: University of Oklahoma Press, 1988) and Hassig, *Mexico and the Spanish Conquest* (London: Longman, 1994).
- 10 David Pietersz. de Vries, *Korte Historiae ende journaelsaenttykeningen van Verscheyden Voyagiens* (Alkmaar 1655).