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Strategy and War: The Historical and Theoretical Origins of Strategic Management

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1. Introduction

Research in business history has increasingly drawn upon concepts originating from the field of 'strategic management', particularly in connection to the work of Alfred Chandler.¹ Here, attempts have been made to respond to calls for providing a theoretical foundation to business history.² It is striking that many such studies have adopted modern business management approaches without, however, discussing their suitability for addressing historical facts or locating them more precisely within their historical context. Indeed, the strategy concept that began to play a crucial role in the economic literature beginning in the 1950s is utilized in an extremely variegated, and sometimes even confusing, manner. A recent business primer lists a selection of 40 different definitions, which are nonetheless hardly elaborated on by the authors.³ What, after all, is to be understood by such terms as 'growth strategy', 'strategic action' or 'strategic manoeuvres'? What are the implications of the various uses of the strategy concept and how can they be made fruitful for business historical research? In the following, the complex theoretical constructs relating to these terms – which originate from strategic thinking on war and military – will be discussed and placed in their historical context in five chapters, starting with ancient Chinese and Greek texts.

¹ Alfred Dupont Chandler: *Strategy and Structure. Chapters in the History of the Industrial Enterprise*, Cambridge, Mass. 1962.

² Hartmut Berghoff: *Business History*, in: Neil J. Smelser/Paul B. Baltes (Ed.): *International Encyclopedia of the Social and Behavioral Sciences*, Bd. 2, Oxford 2001, pp. 1421-1426.

³ J. B. Quinn/H. Mintzberg/R. M. James: *The Strategy Process. Concepts, Contexts and Cases*. Englewood Cliffs 1988; Dodo zu Knyphausen-Aufseß: *Theorie der strategischen Unternehmensführung. State of the Art und neue Perspektiven*, München 1995 and Rolf Eschenbach/Hermann Kunesch: *Strategische Konzepte. Management-Ansätze von Ansoff bis Ulrich*, Stuttgart³1996.

This conceptual study was motivated by my work on the business strategies of the German iron and steel industry during the German Empire and the First World War, where I discussed in depth the viability of strategic-management approaches for research in business history.⁴ As a business historian who has worked extensively on the war economy and the defence industry, I am interested in the extent to which strategic approaches can be utilized for business-historical research. As a former director of a master's programme and researcher in peace studies, I would like to examine the implications of strategic management approaches for a civilian economy.

2. The Use and Abuse of Military Theory from Ancient China to Clausewitz

A glance at management-department bookshelves clearly shows the discipline's fascination with strategic thinking. Most prominent are war strategies described in ancient Chinese and Greek texts, like Sun Tzu's 'The Art of War' and Thucydides' 'Peloponnesian War'.⁵ Next to them one finds the theoretical treatises on war from modern German military tacticians like the generals Carl von Clausewitz and Helmuth von Moltke.⁶ A thorough examination of the development and content of this line of economic research shows that what might seem at first to be a fad or possibly historical recreational reading for stressed managers, in fact, reflects the core of the discipline. A closer look thus clearly reveals different direct and indirect connections to military and war theory. Many studies on strategic management, for example, are based on the strategy concept from Clausewitz, as I would like to show in the following sections of my paper.

⁴ Stefanie van de Kerkhof: Von der Friedens- zur Kriegswirtschaft. Unternehmensstrategien der deutschen Eisen- und Stahlindustrie vom Kaiserreich bis zum Ende des Ersten Weltkrieges, Essen 2006, PhD-Thesis in Economics University of Cologne 2004.

⁵ Athanassios G. Platis/Constantinos Koliopoulos: Thucydides on Strategy. Grand Strategies in the Peloponnesian War and their Relevance Today, London 2010; Neil Morpeth: Thucydides' War: Accounting for the Faces of Conflict, Hildesheim u.a. 2006.

⁶ John Baylis/James J. Wirtz/Colin S. Gray: Strategy in the Contemporary World. An Introduction to Strategic Studies, 3rd Ed. New York 2010 (1. Ed. 2002); .P. Linnert: Clausewitz für Manager, München 1970/1971.

The term ‘strategy’ originally comes from the Greek *stratós* (the army) and *agein* (lead, act).⁷ When first contracted as the word *strategós*, it was used to mean the ancient military leader or commander and, later, also referred his art of war. In addition, the ancient Greek concept of *strataegeo* also appears to have described a higher level of success-driven goal planning in state governance, which was closely tied to warfare.⁸ In the 18th and 19th century, strategic thinking and its formulation by the Prussian generals Carl von Clausewitz and Helmuth von Moltke was in vogue. The concept discussed and defined by Clausewitz has retained its popularity – at least in part – to the present day.⁹ *Webster’s New World Dictionary* thus defines strategy as ‘the science of planning and directing military operations’.¹⁰ Even economists and management consultants have explored Clausewitz’ ideas.¹¹ Hill and Jones have furthermore noted in their standard work: ‘The planning theme remains an important component of most definitions of management strategy.’¹²

It is worth, in any case, taking a closer look at one of the source texts for the modern strategy concept.¹³ In his theoretical work ‘On War’, Clausewitz writes: ‘Strategy (is) the use of engagements for the objects of war’. In this sense, then, strategy is defined by the two following key elements: firstly, a purpose or goal orientation with a focus on potential overall success, which may only result from adequate knowledge of the entire system or the entire organization; secondly, a

⁷ A. Welge/Al-Laham: *Strategisches Management*, Wiesbaden 1999, p. 12; H. Mintzberg: *The Decision School: Reconsidering the Basic Promises of Strategic Management*, in: *Strategic Management Journal* 11 (1990), pp. 171-195; R. Evered: *So what is Strategy*, in: *Long Range Planning* 16, 6 (1983), pp. 57-72; I. Bracker: *The Historical Development of the Strategic Management Concept*, in: *Academy of Management Review* 5 (1980), pp. 219-224.

⁸ J. B. Quinn/H. Mintzberg/R. M. James: *The Strategy Process. Concepts, Contexts and Cases*. Englewood Cliffs 1988, p. 2; Aloys Gälweiler: *Strategische Unternehmensführung*, Frankfurt a.M./New York 1990, p. 65f.

⁹ See Beatrice Heuser: *Reading Clausewitz*, London 2002 or *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge 2010; Edward Luttwak: *Strategy: The Logic of War and Peace*, rev. enlarged edition Cambridge, Mass. 2002 (1st ed. 1987); Christopher Bassford: *Clausewitz in English: The Reception of Clausewitz in Britain and America*, New York 1994.

¹⁰ Charles W. L. Hill/Gareth R. Jones: *Strategic Management. An Integrated Approach*, Boston 1989, p. 5.

¹¹ J. B. Quinn: *Strategies for Change: Logical Incrementalism*, Homewood, Ill. 1980, p. 155-168; Gälweiler: *Strategische Unternehmensführung* (1990), p. 59-69 and B. von Oetinger/T. von Ghyczy/C. Bassford [The Boston Consulting Group] (Ed.): *Clausewitz on Strategy. Inspirations and Insights from a Master Strategist*, Hoboken 2001.

¹² Hill/ Jones: *Strategic Management*.

¹³ See Margrit Müller (Ed.): *Structure and Strategy of Small- and Medium-Sized Enterprises since the Industrial Revolution*, Stuttgart 1994.

structured, long-term planning process which is in need of constant monitoring and adjustment. In addition, principles and rules should be developed for the entire system or the entire organization that may only be acquired through experience, that is, military and political history.¹⁴ Similar ideas about refining a strategy are found in Helmuth von Moltke, who remarks: ‘Strategy is the practical adaptation of the means placed at a general’s disposal to the attainment of the object in war.’¹⁵

How is the adaptability of the strategy concept to be properly understood? Modern economists stress that Moltke’s definition is in general agreement with modern theories concerning the specificity of a business, whereby a strategy should take account of the unique, specific and unrepeatable character of each particular enterprise. Military and business strategies are also both experiential, their basic principles and rules being derived from experience and empirical evidence.¹⁶ What’s more – and this must be underlined – there is a ‘basic correspondence in a completely similar way of thinking’.¹⁷ Evidence of this way of thinking and the basic characteristics defined by Clausewitz can be found in most scholarly publications on business strategy.

3. Military Think-Tanks in the Second World War: the Manhattan Project and HBS

The strategy concept’s particular emergence in economics and entry into economic thought does not appear to have been dealt with in any of the numerous works on strategic management.¹⁸ Neither intellectual histories of the Cold War mentioned this phenomena nor has it been an issue for studies in the military-

¹⁴ Carl von Clausewitz: *Vom Kriege*. Ungekürzter Nachdruck, Augsburg 1998, p. 148.

¹⁵ Helmuth von Moltke: *Militärische Werke*, 13 Bände, Berlin 1892-1912. See also Welge/Al-Laham: *Planung* (1992), p. 166 and Hinterhuber: *Strategische Unternehmensführung*, Vol. I, p. 7 and 104.

¹⁶ Hinterhuber: *Strategische Unternehmensführung*, Vol. 1, p. 7; Gälweiler: *Strategische Unternehmensführung* (1990), p. 60-63 and 70.

¹⁷ Gälweiler: *Strategische Unternehmensführung* (1990), p. 64. In German: „fundamentale Gemeinsamkeit in der völlig gleichen Denkweise.“ See also Marc Trachtenberg: *History and Strategy*, Princeton 1991, p. 15.

¹⁸ Richard L. Lynch: *Strategic management*, Harlow e.a. 2009; R. Nag/D. C. Hambrick/M.-J. Chen: What is strategic management, really? Inductive derivation of a consensus definition of the field, in: *Strategic Management Journal* 28, 9 (2007), pp. 935–955; R. Whittington: *What is strategy – and does it matter?* London 1993.

intellectual-Complex of the USA.¹⁹ This could be due to the fact that the concept and the research field are much more closely linked to the military than may at first be apparent. The primary aim of my paper is to identify and discuss these connections. I am particularly interested in the linkages between the research conducted by a group of game theorists on behalf of various U.S. military or military-related institutions and today's economic sub-discipline strategic management. Here, the so-called Manhattan Project and Harvard Business Schools (HBS) alumni will be highlighted.

The emigrated mathematician and physicist John von Neumann and economist Oskar Morgenstern were especially prominent in adopting strategic ideas during the Second World War and the beginning of the Cold War. Little is known, however, about von Neumann's role as a strategic advisor to the U.S. government and the Pentagon.²⁰ It is certain, nonetheless, that he was in the service of the U.S. military from 1943 at the latest.²¹ He was a consultant for the Manhattan Project in Los Alamos, where the first atomic bomb was supposed to be built.²² He also appears to have come into contact with Morgenstern through Carl Menger, Jr., a leading member of the Austrian School of Economics.²³ Both had emigrated, and Morgenstern also served as an advisor to the U.S. government and military. His game-theoretical research and paper 'The Question of National Defense and International Transactions and Business Cycles' provided the foundation for this work.

¹⁹ David C. Engerman: Rethinking Cold War Universities. Some Recent Histories, in: *Journal of Cold War Studies* 5 (2003), pp. 80-95; Ron Robin: *The Making of the Cold War Enemy. Culture and Politics in the Military-Intellectual Complex*, Princeton 2001; Noam Chomsky e.a. (Ed.): *The Cold War and the University. Toward an Intellectual History of the Postwar Years*, New York 1997; John Ferris: *Coming in from the Cold War. The Historiography of American Intelligence, 1945-1990*, in: Michael J. Hogan (Ed.): *America in the World. The Historiography of American Foreign Relations since 1941*, Cambridge 1995, pp. 562-598.

²⁰ F.e. in Fred Kaplan: *The Wizards of Armageddon*, New York 1983; John von Neumann: A Model of General Equilibrium, in: *Review of Economic Studies* 13 (1945-46), p. 1-9, Newspaper Article „das spiel hat erst begonnen“ of Josef Karner: URL: <http://matrix.orf.at/bkframe/991107_1.htm> (11.6.2003) and biographical annotations: URL: <<http://www.econlib.org/library/Enc/bios/Neumann.html>> (11.6.2003).

²¹ Max Rauner: Formelsache. Spieltheoretiker berechnen Krieg und Frieden. Irrtum nicht ausgeschlossen, in: *Die Zeit* No. 16, 10. April 2003, p. 41.

²² Biographical Informations URL: <<http://www.econlib.org/library/Enc/bios/Neumann.html>> (11.6.2003).

²³ Vienna University-Archive, Homepage of Vienna University: URL: <<http://www.univie.ac.at/dieuniversitaet/2002/wissen/10000730.htm>> and Duke University, Morgenstern-Papers: URL: <<http://scriptorium.lib.duke.edu/dynaweb/findaids/Morgenstern>> (11.6.2003); Karner: URL: <http://matrix.orf.at/bkframe/991107_1.htm> (11.6.2003).

Besides his theoretical studies, Morgenstern remained interested in defence-industrial issues after the Second World War.²⁴ In 1948, Von Neumann became a consultant for the RAND Corporation and engaged himself in zero-sum games to model the conflict between the USA and the UdSSR. The main focus of RAND at that time was “exploring the possibilities of nuclear war and the possible strategies for such a possibility”.²⁵

Morgenstern and Neumann founded game theory, first set out in their ‘Theory of Games and Economic Behavior’ (1944).²⁶ The „Concise Encyclopedia of Economics“ is supposed that „Morgenstern had convinced von Neumann that game theory applied to economics.“²⁷ Besides its positive reception, it was also the first book in which the strategy concept was used for modelling in economics.²⁸ On closer inspection, Neumann and Morgenstern’s modelling appears to have been still fairly rudimentary. A key behavioural theoretical premise of their work was that strategic and, in this case, economic action is always determined by the assumptions about the opponent’s behaviour. They moreover limited their study to a specific game situation: zero-sum games. The economic impact of these observations was considered to be of largely marginal significance. Mostly because of the high degree of abstraction, they only applied their form of game theory to markets dominated by a few suppliers.²⁹ This provoked criticism from a variety of academic disciplines.³⁰

²⁴ Morgenstern-Papers, URL: <<http://scriptorium.lib.duke.edu/dynaweb/findaids/Morgenstern> > (11.6.2003), Duke University and Oskar Morgenstern: Spieltheorie und Wirtschaftswissenschaft, Munich 1963.

²⁵ See biographical dates of Neumann at Standord University: URL <http://www-cs-faculty.stanford.edu/~eroberts/courses/soco/projects/1998-99/game-theory/neumann.html> <7.6.2012>.

²⁶ John von Neumann/Oskar Morgenstern: Theory of Games and Economic Behavior, Princeton 1944; in German: Spieltheorie und wirtschaftliches Verhalten, Würzburg 1961, p. 79. See also Robert Duncan Luce/Howard Raiffa: Games and Decisions, New York 1958; A. W. Tucker/R. D. Luce (Ed.): Contributions to the Theory of Games, Princeton 1959.

²⁷ Biography of John von Neumann in „The Concise Encyclopedia of Economics“, „Library of Economics and Liberty“: URL: <<http://www.econlib.org/library/Enc/bios/Neumann.html>> (11.6.2003).

²⁸ Ruprecht Hammerschmidt, in: Die Zeit, Nr. 44 (1999), URL: <<http://www.Oeffentliche-finanzen.de/zeit/neumann.htm>> (11.6.2003).

²⁹ Von Neumann/Morgenstern: Theory of Games and Economic Behavior; Duke University, URL: <<http://scriptorium.lib.duke.edu/dynaweb/findaids/Morgenstern>; URL: <<http://www.Oeffentliche-finanzen.de/zeit/neumann.htm>> (11.6.2003).

³⁰ Duncan Luce/Raiffa: Games and Decisions: Introduction and Critical Survey; Gibbons: Game Theory for Applied Economists; Kreps: Game Theory and Economic Modelling; Dixit/Skeath: Games of Strategy; McMillan: Games, Strategies, and Managers: How Managers Can Use Game

For instance, it can be argued that game-theory research frequently assumes the – tacit – premise that the game is conducted for the purpose of profit and also, in the case of the game situation constructed by von Neumann and Morgenstern, of eliminating the opponent. Moreover, the conditions of play are generally not only abstract, but also greatly simplified, being based on two players who, according to the goal of ‘winning the game’, are called opponents instead of participants. Peaceful cooperations or other methods of non-violent conflict resolution between opponents in business were neglected or even used in strategically or tactically organized manners. According to Mirowski’s and Leonard’s research this could be the result of the military influence on the evolution of game theory.³¹

The idea that businesses are in a constant state of war with one or more competitors is also put forward in one of the first, yet rarely mentioned, study on business strategy from Ewing W. Reilley.³² He published his article ‘Planning for Strategy of the Business’ in 1955 in the American manager magazine *Advanced Management*, which examined strategic-planning processes in organizations.³³ Although his article is rarely referred to in modern strategic-management textbooks, it should be recognized nonetheless as a first contribution to a complete line of research. In my view, there are two reasons for this neglect: firstly, Reilley’s own professional history, contacts and knowledge; and, secondly, the fact that the article’s content still appears modern today in that it depicts a wide range of contemporary instruments.

Theory to Make Better Business Decisions; Bierman/Fernandez: Game Theory with Economic Applications; Gardner, Games for Business and economics; Philips: Competition Policy: A Game-Theoretic Perspective; Weibull: Evolutionary Game Theory; Samuelson: Evolutionary Games and Equilibrium Selection; Shelton: Gaming the Market.

³¹ Philip Mirowski: When Games Grow Deadly Serious. The Military Influence on the Evolution of Game Theory, in: Craufurd D. Goodwin (Ed.): Economics and National Security. A History of their Interaction, Durham, NC 1991, pp. 227-255; Robert J. Leonard: From Parlor Games to Social Science. Von Neumann, Morgenstern, and the Creation of Game Theory: 1928-1944, in: Journal for Economic Literature 33 (1995), pp 730-761.

³² In contrast, Mintzberg argued, that the modern use of the strategy concept is based on the book of W. Newman: Administrative Action: The Techniques of Organization and Management, Englewood Cliffs, N.J. 1951. Henry Mintzberg: Strategy Formation: Schools of Thought, in: James W. Fredrickson (Ed.): Perspectives on Strategic Management, New York u.a. 1990, pp. 105-235, here: p. 113. In his article „The Design School. Reconsidering the Basic Premises of Strategic Management“, in: Strategic Management Journal 11 (1990), pp. 171-195, here p. 172, Mintzberg wrote that Newman developed his concept after a written consultation of Reilley and McKinsey.

³³ Ewing W. Reilley: Planning The Strategy Of The Business, in: Advanced Management, December 1955, pp. 8-12.

Reilley was a Yale and Harvard graduate and a successful business consultant. He became a partner at the management consultancy McKinsey & Company, which was founded in 1926 and closely followed the ideas of the Harvard Business School,³⁴ and then became president of the McKinsey Foundation for Management Research. Like von Neumann and Morgenstern, he was heavily involved in the defence-industry field.³⁵

Reilley's concepts largely corresponded to those of von Neumann and Morgenstern and were also greatly influenced by military strategic planning. He compared the business-planning process to the work of a general staff and the conditions for a business's development to a wartime situation that required strategic planning.³⁶ Although this notion was consistent with very conservative, national ideals and the thought of the Second World War and the early Cold War's 'Ice Age', the arguments Reilley made in the 1950s (cleverly supported by practical examples) remain quite modern. He strongly stressed the importance of considering the personal and psychological issues relating to employee and manager behaviour and the entire business environment. He drew his insights from empirical examples, and, in reference to implementing sensible business expansion, he identified numerous strategic necessities such as precise self- and market analysis, optimized goal setting, employee motivation and the integration of these goals into the company's long-term business planning.³⁷

Overall, Reilly's business-strategy approach shows an ambiguous outcome. On the one hand, it places surprising emphasis on still-relevant, modern management methods, but also on business communication and leadership skills. On the other hand, its undertones reflect conservative and competitive attitudes, sometimes even those that are militaristic and nationalistic in tenor. The exact role the corporate identity of the Harvard Business School played in the 1950s needs to be

³⁴ The Company was founded 1926 by James O. McKinsey as a small management consulting office. Since 1933 Harvard-Alumni Marvin Bower restructured and expanded the enterprise and changed the companies profile in „management engineering“ to a more fashionable „management consulting company“. „Our History“: URL: <<http://www.mckinsey.com/firm/history/1920s.asp>> (25.6.2003) and URL: <<http://www.mckinsey.com/firm/history/1930s.asp>> (25.6.2003).

³⁵ Reilley: Planning The Strategy, p. 8 and McKinsey, URL: <http://www.mckinsey.com/firm/history/1940s.asp>; and URL: <<http://www.mckinsey.com/firm/history/1950s.asp>> (25.6.2003).

³⁶ Reilley: Planning The Strategy, p. 8.

³⁷ Reilley: Planning The Strategy, p. 8-12.

examined more closely.³⁸ Kenneth R. Andrews (1916-2005), for example, had also been a professor at HBS since 1957 and wrote his own texts on strategic issues shortly after Reilley.³⁹ Andrews, though, used a much broader concept than Reilley, defining strategy as “the pattern of objectives, purposes, or goals and major policies and plans for achieving these goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be”.⁴⁰ Although points are highlighted in the detailed market and business analysis that were raised earlier by Reilley, the strategy concept here is more general and leaves off making any allusions to the military.

4. The Role of Chandler and Ansoff

Alternative proposals for the strategy concept were also developed at HBS. Alfred Dupont Chandler’s “Strategy and Structure” appeared in 1962. Born the son of Alfred I. Dupont in 1918, Chandler served in the U.S. Navy from 1940 to 1945 and from 1954 while also a lecturer and professor at MIT. After leaving Johns Hopkins University for HBS, he soon became an internationally renowned professor of business history.⁴¹ During his time at MIT, which was like scientific research at Stanford and Johns Hopkins University influenced by military research, Chandler wrote his award-winning work.⁴² In this book he defined strategy as “the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources

³⁸ First studies are John Trumbour (Ed.): *How Harvard Rules. Reason in the Service of Empire*, Boston 1998; Robert L. Geiger: *Research and Relevant Knowledge. American Research Universities since World War II*, New York 1993; Geiger: *Science, Universities, and National Defense: 1945-1970*, in: *Osiris* 7 (1992), pp. 26-48; Seymour Martin Lipset/David Riesman: *Education and Politics at Harvard*, New York 1975.

³⁹ *Who’s who in America, Year 1992-1993*, Vol. K, p. 85. Early examples are: Kenneth R. Andrews: *A Concept of Corporate Strategy*, BP 795, a course not available from the Intercollegiate Case Clearing House, Soldiers Field, Boston (Mass.) o.J. (1965) and with E. P. Learned and C. R. Christensen: *Problems of General Management*, Homewood (Ill.) 1961; Learned/ Christensen/ Andrews/William D. Guth: *Business Policy. Text and Cases*, Homewood (Ill.) 1965, p. 17ff.

⁴⁰ Learned/Christensen u.a.: *Business Policy*, p. 17.

⁴¹ Biographical Information on Alfred D. Chandler at Harvard Business School: URL: <http://dor.hbs.edu/fi_redirect.jhtml?facInfo=bio&facEmId=achandler> (11.6.2003).

⁴² Michael Aaron Dennis: *A Change of State. The Political Cultures of Technical Practice at the MIT Instrumentation Laboratory and the Johns Hopkins University Applied Physics laboratory, 1930-1945*, PhD Thesis Johns Hopkins University 1990; Stuart W. Leslie: *The Cold War and American Science. The Military-Industrial-Academic Complex at MIT and Stanford*, New York 1993; Rebecca S. Lowen: *Creating the Cold War University. The Transformation of Stanford*, Berkeley 1997.

necessary for carrying out these goals".⁴³ His definition of strategy as a 'determination of the basic long-term goals and objectives of an enterprise and the measures for achieving them' is considerably narrower than the one put forward by Andrews.⁴⁴ It seems as if Chandler's strategic approach was based on the concepts of Neumann and Morgenstern which Chandler might have got noticed through John McDonald, a former journalist of the famous Fortune magazine who wrote popular books on game theory, strategy and business.⁴⁵

The other major thesis advanced by Chandler – 'structure follows strategy' – implies that the strategy of large enterprises to implement vertical integration and diversification also has an impact on the corporate structure, especially with regard to the configuration of the management hierarchy. Chandler referred back to the transaction-cost approach of Coase and Williamson,⁴⁶ He emphasized how the beginning of the institutionalization of strategic planning accompanied the professionalization of management.⁴⁷ Chandler, however, does not indicate how strategic planning entered into entrepreneurial thought or the extent to which the military concept and defence-industrial research may have played a role. He essentially uses – mostly unquestioningly – the strategy concept of Clausewitz and Moltke. Such ahistorical use was commonplace in subsequent follow-up studies at HBS, including one by Bruce D. Henderson, founder of the Boston Consulting Group,⁴⁸ and one by the highly successful business consultant Michael Porter. These helped to establish a specific strand of the sub-discipline strategic management.

⁴³ Chandler: *Strategy and Structure*, p. 12 f. See Welge/Al-Laham: *Planung*, p. 168.

⁴⁴ Chandler: *Strategy and Structure*, pp. 1-17. See also Georg Schreyögg: *Unternehmensstrategie*, Berlin/New York 1984.

⁴⁵ John Quail: *Social Context, the 'New Synthesis' and the Road to Strategy and Structure*, Working paper, presented at the Management History Research Group Conference, University of Central Lancashire 2012 quotes John McDonald: *A Ghost's Memoirs*, Cambridge, Mass. 2003, pp 41-43. Archival sources on the cross-links between von Neumann, Morgenstern and Chandler are available at The John McDonald Papers Collection, Beinecke Rare Book and Manuscript Library, Yale University. McDonald published – influenced by the first – widely in game theory ("Poker: An American Game", in: *Fortune*, March 1948) and in strategy ("A Theory of Strategy" 1949; *Strategy in Poker, Business and War*, Norton 1950, reissued in 1963, 1989, and 1996, and in a Japanese edition).

⁴⁶ Schreyögg: *Unternehmensstrategie*, p. 58f.

⁴⁷ Alfred D. Chandler Jr.: *The Visible Hand: The Managerial Revolution in American Business*, Cambridge, Mass. 1977 and Schreyögg: *Unternehmensstrategie*, p. 58ff.

⁴⁸ Bruce D. Henderson: *The Origin of Strategy*, in: *Harvard Business Review* 67 (6/1989), pp. 139-143.

Another direction of research emerged from defence-industry related inquiry at private universities like HBS. Thus the Russian natural scientist and economist Igor H. Ansoff,⁴⁹ who came to university economics from the defence sector at RAND and Lockheed, developed his own influential ‘strategic management’ approach.⁵⁰ The RAND Corporation in Santa Monica, California, was founded at the beginning of the Cold War and highly supported by the Douglas Aircraft Company, one of the main contractors of the US Ministry of Defense. This institution aimed to “continue in peacetime the advances in knowledge that civilian research scientists had been recruited to develop during the war. Early research was conducted for only one client—the U.S. Army Air Forces—and focused exclusively on U.S. national security. In 1948, Project RAND separated from Douglas Aircraft and became the RAND Corporation.”⁵¹

After having served to this institution, Ansoff became well-known in academic circles for his first major work published in 1965, ‘Corporate Strategy’.⁵² In contrast to other proponents of his sub-discipline, he argued here (as well as in his subsequent books) from an explicitly management-oriented perspective.⁵³ He particularly stressed the need for a rapid strategic response to ‘weak signals’ inside or outside of the business.⁵⁴ Later he developed his theories into a consistent ‘strategic management’ approach, afterwards increasingly applied to the external challenges facing the business. Ansoff emphasized above all the political and social factors in society, and urged entrepreneurs to pay more attention to their impact on businesses.⁵⁵

⁴⁹ Ansoff’s date of birth remains quite unclear. Strategic Planning Society: URL: <<http://www.sps.org.uk/August2002Igor-Ansoff.htm>> (16.6.2003) and CV of Jack Williams on behalf of the death of Ansoff, 16.6.2002, in: San Diego Union-Tribune, URL: <http://www.signonsandiego.com/news/obituaries/20020716-9999_1m16ansoff.html> (16.6.2003).

⁵⁰ Ibid. and CV of Ansoffs at the dutch section of Price-Waterhouse-Coopers: URL: <<http://www.pwcglobal.com/nl/engliaa/igoransoff.html>> (16.6.2003).

⁵¹ See <http://www.rand.org/about/glance.html>.

⁵² Igor Ansoff: Corporate Strategy: An Analytical Approach to Business Policy for Growth and Expansion, New York 1965. Also URL: <<http://www.sps.org.uk/August2002Igor-Ansoff.htm>> (16.6.2003).

⁵³ Habel: Strategische Unternehmensführung, p. 1.

⁵⁴ H. Igor Ansoff: Managing Surprise and Discontinuity – Strategic Response to Weak Signals, in: Zeitschrift für betriebswirtschaftliche Forschung 28 (1976), pp. 129-125.

⁵⁵ Igor Ansoff: Towards a Strategic Theory of the Firm, in: Igor Ansoff (Ed.): Business Strategy, Harmondsworth 1969, pp. 11-40; Igor Ansoff: Corporate Strategy. An Analytic Approach to Business Policy for Growth and Expansion, Harmondsworth 1968; Igor Ansoff: A Quasi-Analytic

Although Ansoff, unlike Chandler, followed Reilley's lead, a careful examination is still lacking of how his concept of 'strategic management' came about and whether it was in fact subject to strong defence-industrial impulses.

While the concept and the content of strategic management or strategic business planning in the case of Chandler and Ansoff diverged strongly from early on until the beginning of the 1970s, the conceptual debate also spread from the late 1970s with the explosion of strategic approaches.

5. Porter's Competitive Economy and Other Influential 'Schools'

With the debate's broadening, a number of different 'labels' emerged such as 'strategic planning', 'business policy', 'strategy formulation' and 'strategic management'.⁵⁶ The founding of the 'Strategic Management Journal' and the 'Journal of Business Strategy' contributed to the subsequent institutionalization of the discipline from 1980.⁵⁷ At least ten different schools of thought appeared, from the oldest, the Design School, to the most recent, the Configurational School. The Design School, which understood strategy formation as a conceptual process, embraces older works produced at HBS by Andrews, Learned, Christensen and Bower. In parallel, Ansoff developed the Planning School, which emphasizes more formal processes. This elicited criticism, since the experience of the managers was hardly taken account of in the formalized procedures. Recognized as rigid, inflexible, deterministic and bureaucratic, this model is now viewed to be quite conservative and thought to offer little by way of innovation.⁵⁸ In attempt to synthesize the models of both schools, HBS graduate Michael Porter published the highly influential book 'Competitive Strategy' in 1980.⁵⁹

Approach to the Business Strategy Problem, in: Management Technology 4 (1964), pp. 67-77; Igor Ansoff/Roger P. Declerc/Robert L. Hayes (Ed.): From Strategic Planning to Strategic Management, London e.a. 1976, pp. 39-78; Igor Ansoff/John M. Stewart: Strategies for a Technology-Based Business, in: Harvard Business Review 45 (1967), pp. 71-83.

⁵⁶ D. Schendel/C. Hofer: Strategic Management: A New View of Business Policy and Planning, Boston 1979.

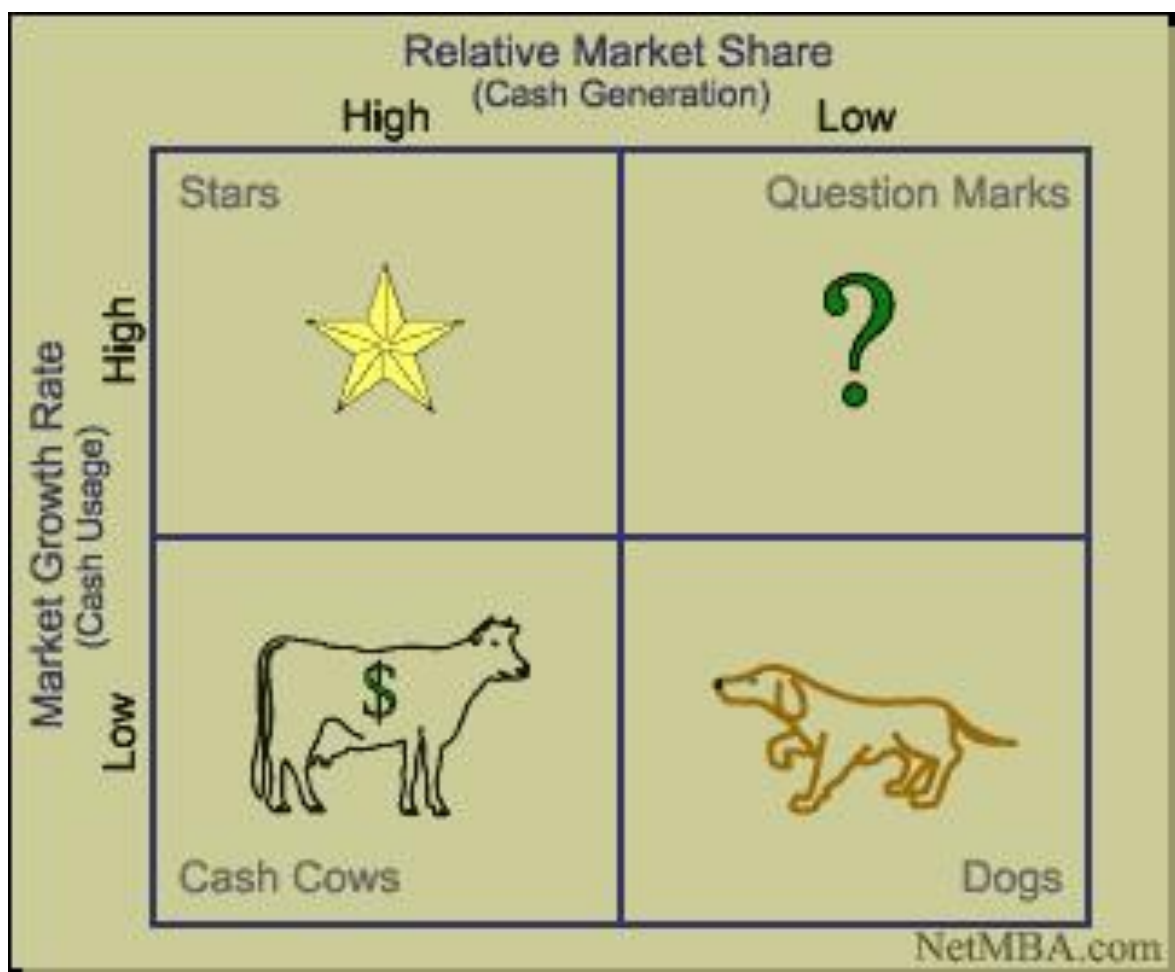
⁵⁷ Donald C. Hambrick: The Adolescence of Strategic management, 1980-1985. Critical Perceptions and Reality, in: Fredrickson (Ed.): Perspectives on Strategic Management, pp. 237-261, especially pp. 237f.

⁵⁸ Mintzberg: Strategy Formation, pp. 108-123.

⁵⁹ Michael E. Porter: Competitive Strategy. Techniques for Analyzing Industries and Competitors, New York 1980; Porter: Cases in competitive Strategy, New York 1983; Porter: Competitive Advantage, New York 1985. Detailed Information on Porters CV: Eschenbach/Kunesch: Strategische Konzepte, pp. 227-246.

Here, he provided the impetus for the Positioning School, which prescriptively and analytically investigates the substance of competition-oriented strategies and has moreover had tremendous influence on practice. This not only resulted in Porter's own follow-up studies,⁶⁰ but also in the refined four-field matrix of the business consultancy The Boston Consulting Group (BCG) and the PIMS matrix (Profit Impact of Market Strategies).⁶¹

The Boston Consulting Group-Matrix



Source: NetMBA.com

⁶⁰ Michael E. Porter: From competitive advantage to corporate strategy, in: Harvard Business Review 65 (3/1987), pp. 43-59; Porter: Towards a dynamic theory of strategy, in: Strategic Management Journal 12 (1991), pp. 95-117.

⁶¹ Mintzberg: Strategy Formation, pp. 124-137.

Most of these studies were principally inspired by Clausewitz. By the late 1960s, BCG's portfolio matrix was used to analyse products or a company's business segments, which were assigned to one of four areas to improve the overall relative market share.⁶² The matrix includes four standard strategies with vivid and hence often-referenced terms in economics: cash cows, stars, dogs and question marks.⁶³ While there were a number of criticisms about this matrix, they did not, however, relate to the strategic dimension.⁶⁴

To be sure, Porter turned his attention to general strategies, but he was also looking for other goals beyond the previously highly regarded market share. He used industrial economic theories from industrial organization, emphasizing the importance of analysing industry and corporate data for developing competitive strategies.⁶⁵ With the saturation of markets in the 1970s, Porter's industry and competition-oriented approach became dominant. By the end of the 1980s, this was followed by the 'classical' sales market-oriented approaches of the consulting firms BCG, McKinsey and Arthur D. Little.⁶⁶

In general, the industry-oriented approaches of the Positioning School that were successful in practice met with criticism similar to the remarks made against the Design and Planning Schools. They were also deemed inflexible, formal/abstract, quantificatory and overly reliant on calculation. Strategic learning is given no more consideration here than political factors, even though Porter's competitive strategies and strategic political manoeuvres are quite similar (e.g. as regards market entry barriers, licensing, limited access to raw materials).⁶⁷

⁶² Concerning portfolio-methods Hinterhuber: *Strategische Unternehmensführung*, Bd. I, pp. 106ff.

⁶³ Porter: *Competitive Strategy*, 10. Ed., pp. 450ff.

⁶⁴ Welge/Al-Laham: *Planung* (1992), pp. 197-202., Kreikebaum: *Strategische Unternehmensplanung*, pp. 89f.

⁶⁵ Based on older studies like Mason's Price and production policies of large scale enterprises, in: *American Economic Review* 29 (1939), Papers & Proceedings, pp. 61-74; Bain: *Industrial organization*, New York 1968. See Porter: *The Contributions of Industrial Organization to Strategic Management*, in: *Academy of Management Review* 6 (1981), pp. 609-620; David J. Teece: *Contributions and Impediments of Economic Analysis to the Study of Strategic Management*, in: Fredrickson (Ed.): *Perspectives on Strategic Management*, pp. 39-90. See Mintzberg: *Strategy Formation*, pp. 124-137.

⁶⁶ Welge/Al-Laham: *Planung* (1992), pp. 197ff.

⁶⁷ Mintzberg: *Strategy Formation*, pp. 130-136.

In addition, among the later descriptive approaches, there was the less influential Entrepreneurial School, which embraced the entrepreneurial typology of Schumpeter, Cole, Strauss and McClelland.⁶⁸ The questions raised here were not answered by the unproductive Cognitive School, which adopted various insights from cognitive psychology and was influenced by March and Simon's concept of 'bounded rationality'. With regard to these psychological challenges, however, the Planning School, the Design School and the Positioning School were unable to provide any satisfactory solutions. This first productive response came with the advent of the Learning School, with its main proponents Lindblom, Quinn and Mintzberg.

An early reference to learning in organizations was already made in Lindblom's essay "The Science of Muddling Through" (1959) and the (in the interim) more positively received publication from Cyert and March (1963).⁶⁹ But it was Quinn's book, "Strategies for Change: Logical Incrementalism", that would become the catalyst for this school of thought in 1980.⁷⁰ Mintzberg's influential definition of strategy is "pattern in action", which enables him to distinguish consciously realized strategies from suddenly ('emergent') ones. Other less influential trends in strategic management include the Political School, the Cultural School (especially in Sweden) and the Environmental School.⁷¹ In contrast, the more integrative approach of the Configurational School is represented, along with Mintzberg, by Rumelt, Fredrickson, Bart and Snow and Miles.⁷² Influences here came mainly from the modern science of history, and to some degree from catastrophe or biological equilibrium theory.

⁶⁸ Referring to older entrepreneurial theories like Joseph A. Schumpeter: Art. Unternehmer, in: L. Elster/A. Weber/F. Wieser (Ed.): Handwörterbuch der Staatswissenschaften, Jena 1928, pp. 476-487; Arthur H. Cole: The Entrepreneur: Introductory Remarks, in: American Economic Review 58 (1968), pp. 60ff. and D. McClelland e.a.: The Achievement Motive, New York 1953.

⁶⁹ C. Lindblom: The Science of „Muddling through“, in: Public Administration Review 19 (1959), pp. 79-88; R. Cyert/J. March: A Behavioral Theory of the Firm, Englewood Cliffs, N.J. 1963.

⁷⁰ J. Quinn: Strategies for Change: Logical Incrementalism, Homewood, Ill. 1980.

⁷¹ Mintzberg: Strategy Formation, pp. 151, 159-179. Good examples are M. Hannan/J. Freeman: The Population Ecology of Organization, in: American Journal of Sociology 82 (1977), pp. 929-964; M. Hannan/J. Freeman: Organizational Ecology, Cambridge, Mass./London 1989; H. Aldrich/S. Mindlin: Uncertainty and Dependence: two Perspectives on Environment, in: L. Karpik (Ed.): Organization and Environment: Theory, Issues and Reality, London 1978, pp. 149-170.

⁷² Mintzberg: Strategy Formation, pp. 179-188; Richard P. Rumelt: Strategy, structure, and economic performance, Cambridge 1974; R. Miles/C. Snow: Organizational Strategy, Structure

It is an approach that strictly examines singular phenomena, with an aim however toward categorization. According to this comprehensive approach, strategy is defined as “the pattern or plan that integrates an organization’s major goals, policies, and action sequences into a cohesive whole. A well-formulated strategy helps to marshal and allocate an organization’s resources into a unique and viable posture based on its relative internal competencies and short comings, anticipated changes in the environment, and contingent moves by intelligent opponents.”⁷³

6. New Approaches for a Civilian Economy?

Whether system theoretical, ethical, evolutionary or institutional economical in nature, there has been an increasing use of innovative ‘strategic management’ approaches from economics and the social sciences since the beginning of the 1990s.⁷⁴ The two most important influences come from contingency theory and transaction-cost theory.⁷⁵ Since the beginning of the 1990s, researchers of the contingency approach such as Kirsch, Bamberger and Wrona and Teece have developed a resource-oriented perspective: the ‘resource-based view’. Here, the importance of business-specific resources is emphasized instead of market opportunities and the structure of the respective industry.⁷⁶ Along with an innovation-driven corporate culture and implicit organizational knowledge, this particularly includes physical resources (buildings, machinery), technology (patents) and financial and human resources.⁷⁷

and Process, New York 1978; C. Bart: Product Strategy and Formal Structure, in: *Strategic Management Journal* 7 (1986), pp. 293-312.

⁷³ Op. cit. Welge/Al-Laham: *Planung* (1992), p. 169.

⁷⁴ Peter Milling: *Systemtheoretische Grundlagen zur Planung der Unternehmenspolitik*, Berlin 1981; R. Edward Freeman/Daniel R. Gilbert, Jr.: *Corporate Strategy and the Search for Ethics*, New York 1990; Werner Kirsch: *Wegweiser zur Konstruktion einer evolutionären Theorie der strategischen Führung*, München 1996; Richard A. Nelson: Recent Evolutionary Theorizing About Economic Change, in: Günther Ortmann/Jörg Sydow/Klaus Türk (Ed.): *Theorien der Organisation. Die Rückkehr der Gesellschaft*, Opladen 1997, pp. 81-123.

⁷⁵ Habel: *Strategische Unternehmensführung*, pp. 5f.

⁷⁶ See also Joseph Mahoney/Rajendran Pandian: The resource-based view within the conversation of strategic management, in: *Strategic Management Journal* 13 (1992), pp. 363-380; Robert M. Grant, The resource-based theory of competitive advantage: implications of strategy formulation, in: *California Management Review* 33 (3/1991), pp. 114-135; Jay Barney: Firm resources and sustained competitive advantage, in: *Journal of Management* 17 (1991), pp. 99-120.

⁷⁷ George Stalk/Philip Evans/Lawrence E. Shulman: Competing on Capabilities: The New Rules of Corporate Strategy, in: *HBR* 3-4 1992, pp. 57-69.

According to one definition of this latest line of research, strategy concerns “the business’s fundamental, long-term behaviour (policy combinations) and relevant components in relation to its environment for achieving its long-term goals. It is therefore germane to statements made in reference to at least four areas: the extent of the business’s relationship to the environment..., the business’s resources and its associated ability to reach its strategic goals ... the business’s competitive advantage ... and the synergy created by the strategic decisions”.⁷⁸ Although the environment is included as a critical element along with resources, just as with the early studies and publications of the Prescriptive and Descriptive School, the militaristic and antagonistic elements of the corporate strategy remain: i.e., a specific opponent is borne in mind. Hanssmann indicates here the overtly normative positioning: “With regard to the direction of the impact, and in close analogy to a military situation, it is common to distinguish between aggressive, defensive and exit strategies.” In the economic realm, these are then characterized as long-term growth, stabilization and contraction strategies.⁷⁹

The problems that arise from this notion of strategic behaviour as one that reflects ‘the efforts of businesses in the market to win out against actual or potential competitors or to fend off newcomers’ was prominently addressed by Oliver E. Williamson. He used transaction-cost theory to make amendments to ‘strategic management’.⁸⁰ A number of premises and assumptions were consequently underlined. The micro-analytical approach – unlike the neoclassical economic model – deliberately proceeds from an intertemporal context and uncertainty. In a comparison of economic institutions (e.g. with regard to market and transaction costs) the business is understood as a control and monitoring system and not, as in Gutenberg, as a production function. Other behavioural assumptions include the empirically verifiable bounded rationality and the opportunism of actors, as well as risk neutrality in contradiction to the ‘facts’.

⁷⁸ Definition of Welge/Al-Laham: Planung (1992), p. 170. Charles W. Hofer/Dan Schendel: Strategy Formulation: Analytical concepts, St. Paul u.a. 1978, pp. 23ff.

⁷⁹ F. Hanssmann: Quantitative Betriebswirtschaftslehre, München-Wien³ 1990, p. 257.

⁸⁰ Oliver E. Williamson: The economic institutions of capitalism: firms, markets, relational contracting, New York, NY 1985. German Translation: Die ökonomischen Institutionen des Kapitalismus. Unternehmen, Märkte, Kooperationen, Tübingen 1990, p. 309, p. 312. Williamson was a student of Kenneth J. Arrow, Chandler, R. H. Coase and H. A. Simon, see p. 344. Recently published is Strategy research: governance and competence perspectives, in: Fundamentals of business strategy 5 (2008), pp. 302-330.

Despite this relatively simple model, Williamson is able to demonstrate that strategic behaviour is generally highly problematic and analytically very complex.⁸¹

Indeed, the results of further studies confirm the influence of individual intentions on strategy formation and the collective strategic behaviour of the organization. It could not be clarified, however, exactly how the personal values of managers impact individual strategic intentions and the policies of the business. Here, in addition to the empirical value research and decision theory, it was possible to obtain new findings on the formation of strategies.⁸² It should be noted, however, that studies on strategic management generally always assume that businesses, in contrast to a limited wartime situation, find themselves in a so-called 'war' that is more or less on going, perpetual and of indefinite duration (Gälweiler).⁸³ These implications are also found in game-theoretical approaches, which are, however, of only limited help in the analysis of more complex empirical cases. On the other hand, the premise that the objective of the game should be reduced only to a targeted profit is useless for empirical questions. A business's objectives thus might also include maintaining market position or a modified earnings situation. Overall, strategic management reflects a blend of experience-based competition-oriented approaches that are rooted in Darwinian 'survival of the fittest' principles. Inherent to these are strictly antagonistic principles, process-driven thinking, notions of feasibility and military conflict-resolution mechanisms.⁸⁴ These principles urgently require further rigorous historicization and historical research themselves if they are to be at all useful for a civilian economy.

⁸¹ Williamson: Die ökonomischen Institutionen, pp. 317, 321-326.

⁸² R. Miles/C. Snow: Organizational Strategy, Structure and Process, New York u.a. 1978; A. Noel: Strategic Cores and Magnificent Obsessions: Discovering Strategy Formation through Daily Activities of CEOs, in: Strategic Management Journal (Special issue, 1989), pp. 33-49; Sabine Habel: Strategische Unternehmensführung im Lichte der empirischen Forschung. Bestandsaufnahme und kritische Würdigung eines komplexen Forschungsfeldes, München 1992; W. Boeker: Strategic change: the effects of founding and history, in: Academy of Management Journal 32 (1989), pp. 489-515.

⁸³ Gälweiler: Strategische Unternehmensführung; G. Johnson: Managing strategic change – the role of strategic formulae, in: John McGee /Howard Thomas (Ed.): Strategic management research, New York 1986, pp. 71-87; H. Mintzberg/J. Waters: Of strategies, deliberate and emergent, in: Strategic Management Journal 6 (1985), pp. 257-272.

⁸⁴ Some of these principles played an important role in academic discourses of the Cold War as David C. Engerman e.a. (Ed.): Staging Growth, Modernization, Development, and the Global Cold War, Amherst/Boston 2003 have pointed out.