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CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES

MASTER OF DEFENCE STUDIES RESEARCH PAPER

**POWER TRANSITION THEORY AND
THE FUTURE OF SINO-AMERICAN RELATIONS:
RETURN TO A BI-POLAR WORLD?**

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ABSTRACT

Today, there is no doubt that the United States (US) is the uncontested political, military and economic hegemon. But fuelled by a supercharged economy, the People's Republic of China (PRC) will likely challenge America's supremacy in one or more of these categories in the 21st century. As a possible competition for the hegemonic crown is being contemplated, what can current international affairs theories tell us about this slow Westward shift in power? Will China rise peacefully within the current world order?

To answer these questions, this research focuses on Organski's Power Transition Theory (PTT) as the framework for analysis of the Sino-American dyad. After reviewing the key tenets of this theory and considering its detractors' criticisms, the PTT was applied to the relationship between the US, the current hegemon, and China, the rising contender.

It was estimated that China has not reached power parity with the US but that, considering its potential domestic growth and the PRC's commitment to economic expansion, China is likely to achieve power parity in the future. China's level of satisfaction with the current world order was also appraised. Considering its ability to access the world market and secure required raw materials, China was classified as a satisfied great power. For the PTT, the combination of power parity and a satisfied rising challenger equates to a low probability of conflict. It was thus concluded that it is unlikely that a major conflict will erupt between China and the US.

The strong do what they have to do and the weak accept what they have to accept.
- Thucydides

CHAPTER 1 - INTRODUCTION

Since the economic crash of the Soviet Union in the late 1980s, the United-States (US) has been acknowledged as the uncontested hegemonic power. Despite the fact that no nation can presently challenge its status as the premier power within the current world order, the double digit economic growth that China has enjoyed over the last three decades has given pause for thoughts.¹ Many American political experts see in China's meteoric economic rise the birth of a potential challenger to the US dominance. Others, such as Kenneth Organski, are more categorical in their prediction: "The question is not whether China will become the most powerful nation on earth, but rather how long will it take her to achieve this status."² This assertion by Organski, and all that it implies, is at the heart of this research paper. In the past, such omens of change in the world hierarchy have often resulted in conflicts that have engulfed the globe.

In the last century, a number of theories and models on the nature of the international system and global power distribution have attempted to forecast future relationships. Through the historical analysis of the patterns of interactions between the states, these endeavored to tease out the rules and codes that control the "Grand Game of

¹ James A. Boutilier. *Canada and the New Pacific Paradigm*. Presented at the 23rd Annual CDAI Seminar (Ottawa: the Château Laurier, 15 February 2007), 2.

² Ronald L. Tammen et al. *Power Transitions: Strategies for the 21st Century*. (New York: Chatham House Publishers, 2000), 153.

Nations”.³ Theories such as the Long Cycle Theory (LCT, by Modelski & Thompson), the Hegemonic Stability Theory (HST, by Kindleberger and Gilpin), the Power Cycle Theory (PCT, by Doran) and the Power Transition Theory (PTT, by Organski, Kugler and Lemke) undertook to codify into laws (or law-like statements) the rules and conditions which prevail within the great powers relations. Of these thoughtfully constructed frameworks, the PTT was selected to be the key analysis tool to study the future of relations between China and the US for two reasons. First, this theory focuses on the relations between a hegemonic state and a challenger – which could foreshadow the situation between the US and China. Second, analytical studies have revealed a strong correlation between this theory and the occurrence of past world-altering conflicts.

The question that this research paper will attempt to answer is as follows: as China’s influence in the world increases, what can the PTT tell us about the future of the relationship between the US and China? Furthermore, how much faith should be put in the predictions from a theory that looks to the future through the prism of the past?

The application of Organski’s PTT to analyze the present and future of the Sino-American relationship has led to the conclusion that China is currently a satisfied challenger that will not seek to overthrow the current world hierarchy. China will look for regional hegemonic recognition in areas that it considers critical to its growth and security. Looking further into the future, the outlook for a bi-polar relationship is murkier as China’s power will increase as it benefits from the forces of globalization. It

³ Torbjörn L. Knusten, “Introduction.” In *A History of International Relation Theory: An Introduction*. (Manchester, New York: Manchester University Press, 1992), 7.

is suggested that China's growth will plateau at a level of economic power relatively equivalent to the US thus creating a balance of power reminiscent of the Cold War days. This bi-polar world will be less confrontational mainly because, while it may come to enjoy economic parity with the America, China will remain weaker in other domains. China will be an economic superpower, but will not achieve superpower status in other categories to the level that the US is perceived as a superpower.

To prepare the ground for this study, the first chapter of this paper will focus on Organski's PTT as depicted by its devotees. After a brief preface of this particular theory, and how it has evolved since *The War Ledger* published in 1980,⁴ its main tenets will be dissected. Focusing on the concept of power and a hierarchical view of international relations, in turn the notions of power, ascending and declining nations, and status quo and dissatisfied powers will be studied. Most foreign affairs pundits agree that the People's Republic of China (PRC) has replaced Russia as the most likely potential challenger to the US dominated world order. It is thus not surprising that the perspective relationship between these two great nations has been much analyzed. The last section of this chapter will present the results of studies conducted by proponents of the PTT.

The intent of the second chapter is to moderate the findings from the previous one by looking at the acknowledged and perceived weaknesses of this theory. The PTT is not without its detractors and so their criticisms will be reviewed. For comparison purposes, a portion of this chapter will introduce two chosen international relations theories. In the

last section, these two alternate theories' assessment of the relationship between the US and China will be contrasted against the PTT's findings from the previous chapter.

Armed with the information gathered from the first two chapters, the last chapter will dwell on the author's perception of the China-US dyad's future and, admittedly, is fraught with the perils associated with foretelling. This chapter's key sections will link the topics of the evaluation of power, hard power and soft power, satisfaction (or dissatisfaction) with the world order and the impact of globalization, influence and respect. Injecting this information into the PTT, the author will propose his conjectures with regard to the world order as it might be two to three decades from now. Specifically, the issue of a potential direct confrontation between these two competing nations vying for power in proportion to their perceived position within the world order will be assessed.

Finally, the conclusion of this work will review the key elements and findings before suggesting areas of study deserving increase scrutiny.

⁴ The rough concepts for the PPT were initially introduced in Organski's *World Politics*. It is in this later book (written in collaboration with Jacek Kugler) the tenets of this theory were fleshed out. A.F.K. Organski and Jacek Kugler. *The War Ledger*. (Chicago: The University of Chicago Press, 1980).

Power Transition theory is one of the most powerful intellectual tools for policymakers to understand the dynamics of world politics in this century.
- Ronald L. Tammen⁵

CHAPTER 2 – THE POWER TRANSITION THEORY

2.1 – INTRODUCTION

Great minds such as Aristotle, Hobbes and Locke have labored to develop conceptual frameworks and theories to predict the behavior of nations on the international scene. Extracted and refined from the work of these classical intellectuals, schools of thought such as Realism, Liberalism and Constructivism have found favor at one time or another with those who work in diplomatic circles and foreign affairs departments. But theories of international affairs, as correctly pointed by former US National Security Advisor Zbigniew Brzezinski, are much better at justifying the past than in predicting the future.⁶ Are today's models and theories better at anticipating the actions of the nations of the world vis-à-vis each other?

One of the latest theories, and one that has received much attention, is Kenneth Organski's PTT. Initially conceived in 1958 as a counter point to the liberal school of thought, it would not be until the publication of *The War Ledger*⁷ in 1980 (written in collaboration with Jacek Kugler) that he would formalize the canons of this framework.

⁵ Tammen et al. *Power Transitions: Strategies for the 21st Century*. 182.

⁶ "But theory – at least in international relations – is essentially retrospective." Zbigniew Brzezinski and John J. Mearsheimer. "Clash of the Titans." *Foreign Policy*, Issue 146 (January/February 2005): 48.

At its core is the belief that the world order is hierarchical in nature and that nations will endeavor to become the hegemon that sits atop this power pyramid. Probably the most novel affirmation of this theory is that power parity could possibly lead to major war under the right set of conditions. The intent of this chapter is to present the key elements of this particular theory from the point of view of its partisans. To ensure a balanced analysis, key reservations from PTT's detractors will be considered in the subsequent chapter.

The first section will introduce the PTT and the rules that underscore its interpretation of the past and current world order. Critical elements of this theory such as dominant power and challenger, ascending and declining powers as well as status quo versus dissatisfied nations will be briefly touched. The second section will gloss over how supplementary studies and analysis of this theory have refined its tenets to further enhance its degree of correlation with the advent of historical conflict directly involving the great powers. The last section of this chapter will provide the current thoughts from proponents of this theory as to the future of the China-US relationship.

This chapter will demonstrate the currency and applicability of this theory to a particular case that is bound to obsess political pundits for years to come. Its elegant and relative simplicity, as well as how closely the present world order can be explained by the PTT, will be highlighted. While most proponents predict that China is likely to surpass the US as the dominant power in the next two to three decades, experts are divided if this power transition will be a peaceful or will result in a major war. To understand how

⁷ Organski and Kugler. *The War Ledger*.

these conclusions were achieved, a brief description of the PTT, as conceived by Kenneth Organski, will first be provided.

2.2 - ORGANSKI'S POWER TRANSITION THEORY

Political science expert and published author Stephen M. Walt argues that, during the bi-polar period that followed the end of World War II, international affairs policies were dominated by the principles associated with the “Realism” school.⁸ This school, of which Kenneth Waltz, Hans Morgenthau and Robert Gilpin were the most vocal disciples, declared that relations between states were anarchical in nature and characterized by the states’ struggle to amass the greatest amount of power.⁹

It is during this period that Kenneth Organski proposed an alternative view of the world order. With roots tracing back to concepts first touched on by Thucydides,¹⁰ Organski formalized and published with Kugler his PTT in 1980. In opposition to the Realism school, the PTT is grounded on the following three pillars: there is order within the international system, there are rules that govern the department of states within the international political system and the aim of nations is to capitalize on the benefits they

⁸ Stephen M. Walt. “International Relations: One World, Many Theories.” *Foreign Policy*, Issue 110 (Spring 98): 31.

⁹ Benjamin Frankel. “Restating the Realist Case: An Introduction.” *Security Studies*, Vol. 5, no. 3 (Spring 1996): ix-xx.

¹⁰ Douglas Lemke and Jacek Kugler. “The Evolution of the Power Transition Theory.” In *Parity and War – Evaluations and Extensions of the War Ledger*, ed. by Jacek Kugler and Douglas Lemke, 3-33 (Ann Arbor: The University of Michigan Press, 1996), 7.

can extract from the current world order.¹¹ Organski challenged the wisdom of the Cold War's uneasy peace by proposing that peace is ensured by power dominance and, conversely, power parity is a key condition that could lead to major conflicts between great powers.¹²

In broad terms, the PTT petitions that the world order is pyramidal in nature with one "dominant" nation sitting at the apex of this structure. Below the most powerful nation, the great powers, the middle powers and the developing nations (or small powers) can, in turn, be found (see figure 1 for a graphical representation).¹³ Organski further submits that the dominant nation has shaped international relationship parameters to maximize the benefits it can extract from this system. This vision of the world order is stable until a challenger rises in power to defy the dominant country in order to modify the rules in its own favor.¹⁴ Can this transition from the dominant state to the rising nation result in a major conflict or will it occur peacefully? Critical to the answer is the assessment of the challenger's satisfaction level in relation to the current world order.¹⁵ It is Organski's contention that his historical analysis has demonstrated a high correlation between major conflicts and power transition when a rising challenger is dissatisfied with the benefits it is receiving from the international system.¹⁶

¹¹ Jacek Kugler and A.F.K. Organski. "The Power Transition: A Retrospective and Prospective Evaluation." In *Handbook of War Studies*, ed. by Manus I. Midlarsky, 171-194. (Boston, Unwin Hyman, 1989), 172.

¹² Lemke and Kugler. "The Evolution of the Power Transition Theory." 3.

¹³ Kugler and Organski. "The Power Transition: A Retrospective and Prospective Evaluation." 173.

¹⁴ A.F.K. Organski. *World Politics*. 2nd ed. (New York: Alfred A. Knopf. 1968), 364-367.

¹⁵ *Ibid.*, 364-367.

¹⁶ Kugler and Organski. "The Power Transition: A Retrospective and Prospective Evaluation." 173.

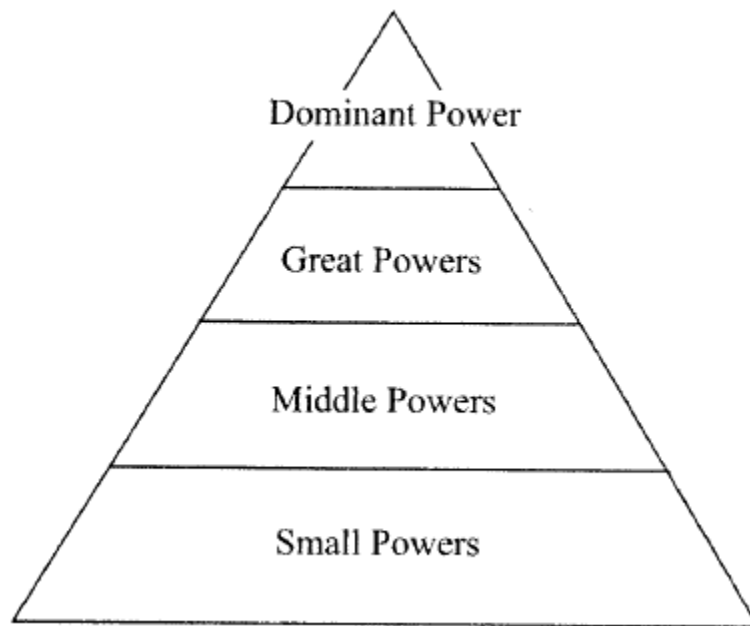


Figure 1 – Power Transition Theory – Classic Power Pyramid

Source: Tammen et al. *Power Transitions: Strategies for the 21st Century*, 7.

From the preceding brief enunciation of the PTT, there are a number of notions that are elemental to this theory. These concepts are: power, status quo and dissatisfied powers, rising and declining powers, and the critical conditions that may lead to conflict. To provide a common knowledge base that will facilitate subsequent discussions, the following paragraphs will expound on each concept in turn, starting with the question of power.

2.2.1 - Power

Organski, in an earlier publication, has defined power as: “... the capacity of an individual, group or nation to control the behavior of others in accordance with its own

ends.”¹⁷ Even though useful, this definition represents only the results and what can be achieved through the exercise of power; it does not offer how power is measured.

Among others, Kelly Kadera and Gerald Sorokin have come up with a complex combination of national characteristics (such as size of the population, size of the territory, size of the military, production of iron, consumption of coal, etc) to calculate a nation’s power rating.¹⁸ Two well known such indicators, often used in power politic circles, are the Correlates of War’s (COW) Composite Indicator of National Capabilities (CINC)¹⁹ and the Chinese’s Comprehensive National Power (CNP).²⁰ The use of such complicated reference markers was considered but then partially rejected by Organski.

In *The War Ledger*, Organski and Kugler made a strong argument that a nation’s power can be adequately represented by three factors. Extracted by Tammen et al. from the Organski and Kugler’s original work, these factors are a representation of the latent strength of a nation and its ability to produce. They are: the size of the population that can work and fight, the productivity of this critical segment of the population and, lastly, the combination of the government’s ability to rally its people around national endeavors and its facility to extract a percentage of the national wealth to support these same

¹⁷ Organski. *World Politics*. 104.

¹⁸ Kelly M. Kadera and Gerald L. Sorokin. “Measuring National Power.” *International Interactions*, Vol. 30 (2004): 216.

¹⁹ For greater details on the CINC, please see following reference. Meredith Reid Sarkees and Frank Wayman (2010). “Correlates of War Project.” *Resort to War: 1816 - 2007*. CQ Press. <http://www.correlatesofwar.org/>: Internet, Accessed March 2010

²⁰ For greater details on the CNP, please see following reference. Angang Hu and Men Honghua. “The Rising of Modern China: Comprehensive National Power and Grand Strategy. Center for China Studies at Tsinghua University. Paper published in *Strategy & Management*, no. 3 (2002). http://www.google.ca/url?sa=t&source=web&ct=res&cd=9&ved=0CDgQFjAI&url=http%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpubmed%2F12708282&rct=j&q=comprehensive+national+power&ei=WKr8S77uJ5PWNpXl0N4H&usg=AFQjCNGyy5tTHuDmvtzT55yUopzhSW_XNg; Internet; accessed 25 May 2010.

goals.²¹ Organski and Kugler argued that these three factors can be summed up in the Gross National Product (GNP)²² and that an equivalent measure of a nation's strength was achieved when compared with the more research extensive Singer-Bremer-Stuckley's measure of national capabilities.²³ It is thus the relatively simple GNP yardstick, averaged over a 20 year period, which was used to gauge the relative power of nations in their ground breaking research. One advantage of this measure is that it is relatively universal and is not subject to be hijacked by abnormal national characteristics (such as an overly large but unproductive population, large land mass but uninhabited, inflated military expenditure, etc).

Since the three factors that represent national power are all internal components, Organski and Kugler extrapolated from their research that a nation's strength came from within.²⁴ This finding was later endorsed by researcher Zhiqun Zhu: "Power transition theory emphasizes domestic growth as the most important source of national power."²⁵ Interestingly, that the power of a country comes from within goes against the precept of the Realism school which believes that power is only a relative measure. The concept that power is an internal factor is an aspect of the PTT that will have important ramifications when the future of the world order is contemplated later in this paper.

²¹ Tammen et al. *Power Transitions: Strategies for the 21st Century*. 8.

²² In this paper, GNP and Gross Domestic Product (GDP) will be used interchangeably.

²³ Organski and Kugler. *The War Ledger*. 38.

²⁴ *Ibid.*, 28.

²⁵ Zhiqun Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. (Routledge, London, 2006), 24.

The power criterion is also critical for determining which state is considered a challenger within the international system. Organski and Kugler proposed that any nation achieving at least 80%, but no greater than 120%, of the power of the dominant state is the de facto contender within the system as it is estimated to have achieved rough parity. If no nation is within that range, the three strongest nations are declared the most likely contenders.²⁶ But power is only one aspect of this theory; more significant is the issue of dissatisfaction which will be addressed next.

2.2.2 - Status Quo and Dissatisfied Powers

As later expressed in a retrospective evaluation of their own theory, Organski and Kugler postulated that most great powers are usually satisfied with the international order.²⁷ One could suggest that this assumption is logical since the dominant and great powers are expected to have shaped international institutions in such a manner as to maximize their own benefits. This is further supported by the fact that the dominant power is usually the guardian and protector of the international system. It discharges this role by underwriting and enforcing the international rules.²⁸ As noted by Dario Battistella, the dominant power creates a web of support within the great powers (status quo or satisfied states) which, in turn, help maintain the current order since it is to their benefit as well.²⁹ Conversely, one could foresee that rising powers, which were not

²⁶ Organski and Kugler. *The War Ledger*. 44.

²⁷ Kugler and Organski. "The Power Transition: A Retrospective and Prospective Evaluation." 175.

²⁸ Dario Battistella. "Théories, idéologies et méthodes: Power transitions." *Études Internationales*, Vol. 33, no. 4 (2002): 778.

²⁹ *Ibid.*, 778.

strong enough when the “rules” of the world order were being designed, may not be satisfied with the existing structure unless their interests parallel the current system.

In the review of the literature associated with the PTT, the closest statement related to how the dominant power shapes the international order to maximize its extraction of benefits comes from Douglas Lemke:

The status quo it [the United States] has promulgated includes an international financial system comprising the International Monetary Fund (IMF), the World Bank, and the World Trade Organization. ... These financial institutions provide resources (credit, capital, relief from trade dispute) disproportionately to states that organize their domestic economies in accordance with American concepts of market capitalism, free trade and respect for liberal democratic norms of conduct and human rights.³⁰

This is an approach that was also noted by Keohane and Nye in their work *Power and Interdependence in the Information Age*.³¹ Strangely enough, in their original work, Organski and Kugler do not expand on the assessment of satisfaction (or dissatisfaction) with the status quo. One has to assume that the dominant state is satisfied with the current world order because of the large portion of the “benefits” it extracts from the system. Conversely, it could be hypothesized that dissatisfaction is related to not receiving a fair share of these same benefits. It could be concluded that the level of satisfaction (or dissatisfaction) that the challenger experiences with the current world

³⁰ Lemke, Douglas. “Great Powers in the Post-Cold War World: A Power Transition Perspective.” In *Balance of Power: Theory and Practice in the 21st Century*, ed. by T.V. Paul, James J. Wirtz and Michel Fortmann, 52-76. (Stanford: Stanford University Press, 2004), 56.

³¹ Please refer to their section on “Regime Maintenance.” For Keohane and Nye, regime maintenance is about maintaining the international institutions that continue to reflect US interests. See Robert O. Keohane and Joseph S. Nye. *Power and Interdependence in the Information Age*. 3rd ed. (New York: Longman. 2001), 298.

order is a qualitative assessment.³² Could satisfaction (or dissatisfaction) at a national level be given a numerical value? It is an issue raised by Steve Chan³³ that will be addressed later in this work.

As observed by Organski and Lemke, the PTT does not require the challenger to feel aggrieved as judged by an impartial third party;³⁴ dissatisfaction can result from a state self-perceived status to be incoherent with the actual benefit it is receiving.³⁵ Satisfaction, or dissatisfaction, thus remains an internal assessment by the leaders of each individual nation.

Steve Chan has further theorized that most rising powers are likely to be status quo proponents. As indicated by their rise in power, they are currently benefitting from the current world order and should be leery of any actions that would negatively impact their positive development.³⁶ Of particular import in this assessment of benefits is the position of both rising contender and dominant power within their development curve. This issue of rising versus declining power will be the subject of the next section.

³² Steve Chan. "Can't Get no Satisfaction? The Recognition of Revisionist States." *International Relations of the Asia Pacific*. Vol.4, no 2, (2004): 208. See as well Steve Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. (Routledge, London, 2008), 7.

³³ Steve Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. (Routledge, London, 2008), 5.

³⁴ Organski and Kugler. *The War Ledger*. 23.

³⁵ Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 20.

2.2.3 - Rising and Declining Powers

Nations will rise to govern the world order and then other nations will supplement them to become the dominant power. It is a story that has repeated itself countless times since ancient history.³⁷ As previously stated, the PTT argues that this ebb and flow is the result of variation in the internal domestic growth rate between various nations.³⁸ In other words, this theory assumes that, when a nation has reached the pinnacle of its development, its overall economic growth will stabilize and may even decrease. Similarly, the rising challenger, which may have a larger population and more internal resources, having started from a lower point on the development scale, may experience a more rapid growth rate. Organski and Kugler posited that this differential in internal economic growth rate will inevitably result in the rising contender surpassing the erstwhile dominant power.³⁹

Related to this differential in growth, another criterion that may have an impact on the probability of a major conflict occurring is the speed at which the contender overtakes the dominant power. The PTT proposes that the slow rise of a contender will allow the system, and the dominant power, to adjust to the demands of the newcomer. As opposed to a meteoric growth which could leave both hegemon and challenger unprepared for the reversal in dynamics within the system and thus unable to adjust to expectations of

³⁶ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 89.

³⁷ *Ibid.*, 13.

³⁸ *Ibid.*, 62.

³⁹ Kugler and Organski. “The Power Transition: A Retrospective and Prospective Evaluation.”

greater benefits from the contender.⁴⁰ To sum up, an overly radical shift in power may destabilize the system and thus begins the slide towards war.⁴¹ What is considered a rapid compared to a normal growth rate, the theory does not specify. Just like satisfaction and dissatisfaction with the status quo, it is a matter of perception and individual assessment by the countries involved.⁴²

Will this power transition at the apex of the world hierarchy automatically result in a major conflict? Not necessarily. Even though the theory asserts that there is an alleged inevitability to this changing of the guard, many factors will influence if this transition will be an acrimonious or a peaceful one. As describe earlier in this chapter, chief amongst these will be the level of satisfaction (or dissatisfaction) experienced by the rising contender with regard to the benefits received from the current world order.⁴³

2.2.4 - Conditions for Conflicts

The previous sections introduced the concepts of power, of dominant power and challenger, of status quo versus dissatisfied states and, finally, of rising and declining powers. Putting all these elements together, what does the PTT predict with regard to conflict involving the dominant power and the rising challenger? The following paragraphs will address this issue.

⁴⁰ Organski and Kugler. *The War Ledger*. 21.

⁴¹ *Ibid.*, 206.

⁴² Going one step further, this goes back to the assessment of the benefits accrued and the relation between status and position within the world order. The greater the growth rate the more difficult it will be for the system to match expectation and the shifting of benefits.

⁴³ Battistella. "Théories, idéologies et méthodes: Power transitions." 778.

The PTT proposes that there are two essential elements that may lead to a hegemonic war: power parity and dissatisfaction. Accepting that the stability of the world order is ensured by the dominant power through its economic and military supremacy, only a state that has achieved relative power parity with the nation at the top of the power pyramid has any hope of challenging the hegemon to acquire a greater portion of power, prestige and especially wealth.⁴⁴ But rough equivalency in power between two nations is not enough; critical to the war equation is a high degree of dissatisfaction related to the distribution of benefits. The probability of war increases dramatically when the challenger perceives that its portion of benefits and privileges would be greater if it reorganized the world power structure in accordance with its aspirations.⁴⁵ It would be logical to assume that satisfied challenger do not go to war since they are receiving adequate levels of benefits from the current system. This is the argument used to explain the peaceful power transition from Great Britain to the US following WWII. In part, this specific transition was peaceful because England did not perceive its benefits would be threatened and both parties had the necessary time to adjust to the transition.⁴⁶

The question of potential timing for initiation of war was also extensively considered by Organski and Kugler. Organski had initially surmised in 1968 that the contender would be the one initiating hostilities as it gained on the dominant nation. His

⁴⁴ Robert Gilpin. *War and Change in World Politics*. (Cambridge, Cambridge University Press, 1981), 230.

⁴⁵ Kugler and Organski. "The Power Transition: A Retrospective and Prospective Evaluation." 175.

⁴⁶ The transition between England and the US was in part that both promoted the same international system. In addition, the rise of the US was gradual. Some experts argue that the US had achieved power parity with England as early as in the late 18th century.

reasoning was that the challenger would become impatient with an international structure that did not adequately reward its status. Further analysis would lead Organski and Kugler to the conclusion that: "... the challenger did not attack *before* but only *after* it had surpassed the power of the dominant country."⁴⁷ Organski and Kugler contented that any conflicts between a hegemon and a challenger would be initiated by the state that seemed to enjoy power supremacy.

This state of affairs between the rising contender and the declining, but still powerful, hegemon could lead to the following positions by both competitors. On one hand, the challenger could decide to camouflage its true power in order to prevent a preemptive confrontation initiated by a worried dominant power. On the other hand, the dominant country could decide to maximize its declared interests in order to both extract the greatest benefits while still at the apex of his power curve and to impair the rise of an upcoming challenger.⁴⁸

2.2.5 - The Phoenix Factor

An interesting finding from Organski and Kugler's research on the consequences of hegemonic wars is the development of the Phoenix Factor.⁴⁹ As stated previously, war could be initiated by a dominant power against a rising challenger with the intent to delay, or even stop, its rise in power. After reviewing the post-conflict development of

⁴⁷ Kugler and Organski. "The Power Transition: A Retrospective and Prospective Evaluation." 182-183.

⁴⁸ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 45 and 47.

⁴⁹ Organski and Kugler. *The War Ledger*. 107.

both winners and losers involved in hegemonic wars (using WWI and WWII), they uncovered that the challengers (most often the losers) rebounded more quickly from the destruction of war. In general, it would take approximately 18 years for them to surpass the winners.⁵⁰

One hypothesis for this surprising recovery is that war may have removed inefficient political apparatus as well as obstacles within the defeated country to fully embrace free market economies - the example of Japan and Germany coming readily to mind.⁵¹ If one accepts a previously discussed tenet of the PTT that a state's power directly correlates to its internal domestic economy, it is a logical conclusion that external forces (such as a major conflict) cannot ultimately prevent the rise of a challenger.⁵²

The previous section laid down the concepts and some of the logic used by Organski and Kugler to develop the PTT. Distilled to its essence, this theory argues that the hierarchical world order is dominated by a hegemon. This dominant power has shaped the world system to maximize its share of benefits. Lastly, there is an increased probability of a major conflict when a rising and dissatisfied contender achieves rough parity with the dominant power within a short period of time. In the next section, how this theory has survived being probed and pulled in different directions will be considered.

⁵⁰ *Ibid.*, 142.

⁵¹ Lemke and Kugler. "The Evolution of the Power Transition Theory." 24.

2.3 - UPDATED POWER TRANSITION THEORY

The PTT, when it was formally published three decades ago, had ambitious goals. Chief amongst them was hypothesizing on the conditions that could possibly lead to global conflicts.⁵³ Organski and Kugler also aspired to uncover the rules that governed first, the greater world order and second, the prediction of a hegemonic war. It is a theory that has received much attention and which tenets have been extensively scrutinized by various academics in the field of international affairs.

The intent of this section is to review the principal researches which support the PTT's main concepts. As previously stated, its detractors' reservations will be highlighted in the next chapter. Of particular interest will be how this theory has been updated or modified. This section will attempt to demonstrate that the PTT's core tenets have proven remarkably resilient and that most studies have only resulted in modifications or refinements.

2.3.1 – Small Wars and the Power Transition Theory

The focus of this theory was limited to hegemonic wars or, in other words, the fight for supremacy at the top of the international structure. Probably the most important advance to the PTT came from Douglas Lemke and his research on its applicability to

⁵² Organski and Kugler. *The War Ledger*. 24.

⁵³ *Ibid.*, 1.

small wars. Douglas Lemke speculated that the differences between major- and minor-wars were not so great that the theory could not be applicable to both.⁵⁴

His key argument was that, within the international hierarchy, great, middle and small powers are also members of regional and local hierarchies. This is what Lemke referred to as the multiple hierarchy perspective.⁵⁵ The same PTT's precepts apply to these smaller hierarchies: states fight for the control of regional/local power structures in order to maximize the benefits they can extract from these systems. Similarly, conflict occurs between a regional hegemon and challenger when parity is reached and when the challenger is dissatisfied with the regional status quo.⁵⁶ If one accepts that local/regional members compete for control of their hierarchy, does the same competition exist between nations in domains such as energy, naval, cyberspace, etc? Domain hierarchy is an interesting concept that the literature associated with the PTT does not address but that is worthy of further investigation.

Under this multiple hierarchy perspective, the powerful nations are few and the middle and small powers are many. The additional factor that Lemke brought to the PTT equation is distance. He argued that, in order for a state to have influence across a border, regional or local hierarchy must be composed of countries that are geographically

⁵⁴ Douglas Lemke. "Small States and War: An Expansion of Power Transition Theory." Chap. 4 in *Parity and War – Evaluations and Extensions of the War Ledger*. Edited by Jacek Kugler and Douglas Lemke, 77-91. (Ann Arbor: The University of Michigan Press, 1996), 77.

⁵⁵ *Ibid.*, 78.

⁵⁶ *Ibid.*, 80.

collocated.⁵⁷ Simplified, Lemke hypothesized that regional and local hegemonies include countries which can influence each other capitals.

Using the COW's CINC,⁵⁸ Lemke studied conflicts in South America from 1865 to 1965. He demonstrated that war did not occur when nations were unequal in power but arose in seven out of thirteen cases when the two belligerents were of equal power and one was in the process of overtaking the other.⁵⁹ Lemke's conclusion was that the PTT is more general in nature than previously thought and that the same conditions that will lead to war or peace apply, irrespective of the size of a nation or its position in the greater international power hierarchy.⁶⁰ Could this type of regional competition be perceived in a proxy Sino-US rivalry for influence and access to resources in Africa, one would have to investigate further.⁶¹

2.3.2 – Agent-Structural Addition to the Power Transition Theory

Zhiqun Zhu, for his part, proposed a refinement to the PTT. His contention was that this particular theory focuses on one quantitative evaluation of the concept of power and one qualitative assessment of the level of satisfaction with regard to the current world

⁵⁷ *Ibid.*, 81.

⁵⁸ Sarkees and Wayman (2010). "Correlates of War Project."

⁵⁹ Please refer to Tables 4.1 and 4.2 from reference. Lemke. "Small States and War: An Expansion of Power Transition Theory." 88-89.

⁶⁰ *Ibid.*, 90.

⁶¹ Zheng Bijian would argue that has no imperialist desire and "... wants to strive for peace, development, and cooperation with all countries of the world." Reference: Zheng Bijian. "China's 'Peaceful Rise' to Great-Power Status." *Foreign Affairs*. Vol. 84, issue 5 (September/October 2005): 22. Others like Piet Konings sees China involvement in Africa as "... cementing a strategic partnership and maintaining a sovereign protection against the corrosive influence of the West..." reference: Piet Konings.

order. The combination of these two criteria provides indications if the potential power transition between these powerful nations would result in a major conflict. For Zhu, the evaluation of only the satisfaction (or dissatisfaction) with the status quo was overly simplistic.

He advocated a deeper and more nuanced evaluation of the relationship between two competing states through the incorporation of the concept of the “three images” as well as the evaluation of the impact of globalization and interdependence.⁶² For the purpose of his analysis, Zhu had realigned Kenneth Waltz’s “three images”⁶³ into four categories (international, domestic, societal and individual) that helped provide a clearer picture of “... the dynamic interactions between great powers and the constraints each power faces in an interdependent structure.”⁶⁴ The avowed purpose of this modification to the PTT was to inject an element of agent-structural interpretation to the greater international political system.⁶⁵ Put in another way, even at the stratospheric level of global politics, the human element is still present. Decision and policy makers, advisors, lobby groups, and even the general population, all have an influence on the decision making process that should not be neglected.

“China and Africa: Building a strategic Partnership.” *Journal of Developing Societies*. Vol. 23, no.3 (2007): 364.

⁶² Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 7.

⁶³ Kenneth N. Waltz. *Man, the State, and War*. (New York: Columbia University Press, 1959), 12.

⁶⁴ Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 17.

⁶⁵ *Ibid.*, 8.

In summary, Zhu subscribes to the basic tenets of Organski and Kugler's PTT; what is added is an evaluation of the environment surrounding political decisions.⁶⁶ One could perceive the addition of these parameters as a process to facilitate the qualitative evaluation of the level of satisfaction of the state. For Zhu, this addition will enhance the ability of the PTT to explain and forecast international relations.⁶⁷

2.3.3 – Critical Interpretation

Steve Chan is another professor of Political Science that has studied the PTT.⁶⁸ While not in disagreement with its principal rules, he disagreed with the results' interpretations. More specifically, through using the prospect theory and the imperial overstretch theorem, Chan proposed that, if the expected power transition results in a conflict, the declining dominant power is most likely to initiate the conflict.⁶⁹ In simple terms, the prospect theory infers that rational actors will expend more resources to prevent a loss than to pursue a gain.⁷⁰ Similarly, the imperial overstretch is the overspending of resources by a dominant power's to sustain the large commitments necessary to maintain its vast empire and thus its reputation.⁷¹ Chan's interpretation of

⁶⁶ See figure 2.1 – The dynamics of power transition: a multilevel analysis in reference. *Ibid.*, 7.

⁶⁷ *Ibid.*, 4.

⁶⁸ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*.

⁶⁹ *Ibid.*, 50.

⁷⁰ For more information on the Prospect Theory, please refer to the following reference. Jack S. Levy. "Prospect Theory, Rational Choice, and international Relations." *International Studies Quarterly*. Vol. 41, no. 1 (March 1997): 89.

⁷¹ See following reference for greater details on the causes and consequences of imperial overstretch. Paul Kennedy. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*. (New York, Random House, 1987).

this combination of forces was that they will predispose the dominant power to initiate a conflict in order to retain its position at the top of the power pyramid.⁷²

2.3.4 - Summary

Other studies have been conducted on the PTT, some of them more or less critical of Organski and Kugler's original work. Some like Houweling and Siccama have studied the validity of the indication that power transition exactly coincide with the timing of major wars.⁷³ Others like Kim and Morrow have worked to further the degree of theoretical specification of the original theory.⁷⁴ For additional research and critical analysis of the PTT, *Parity and War – Evaluations and Extensions of The War Ledger*⁷⁵ or *The Power Transition Research Program*,⁷⁶ both by Kugler and Lemke, are recommended. In the end, the main elements of the PTT remain untouched by its proponents: "... power parity provides a rich account of international relations and is a theoretical structure that has been reinforced by evidence."⁷⁷ It is now with this theory firmly in mind that the next section will focus on the US-China relationship.

⁷² Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 122.

⁷³ Henk Houweling and Jan G. Siccama. "Power Transition as a Cause of War." *Journal of Conflict Resolution*. Vol. 32, No. 1 (March 1988): 87-102.

⁷⁴ Woosang Kim and James Morrow. "When do Power Shifts Lead to War." *American Journal of Political Science*, Vol. 36, no. 4 (November 1992): 896-922.

⁷⁵ Jacek Kugler and Douglas Lemke. *Parity and War – Evaluations and Extensions of the War Ledger*. (Ann Arbor: The University of Michigan Press, 1996).

⁷⁶ Jacek Kugler and Douglas Lemke. "The Power Transition Research Program." In *Handbook of War Studies II*, ed. by Manus I. Midlarsky, 129-163. (Ann Arbor: The University of Michigan Press, 2000).

⁷⁷ Kugler and Lemke. *Parity and War – Evaluations and Extensions of the War Ledger*. ix.

2.4 – POWER TRANSITION THEORY AND THE SINO-US DYAD

The PTT focuses on the relationship between a dominant power and a rising challenger that may or may not be intent in reshaping the international structure that had been put in place and maintained by the central power. Today, the US is the uncontested hegemon. Similarly, considering its seemingly unstoppable economic growth, most international affairs specialists have identified the PRC as the most likely challenger to *Pax Americana*.

Considering the uncertainty associated with China possibly becoming the most powerful nation in the world (and thus replacing the US), it is no surprise that the Sino-American dyad has been thoroughly dissected. Many scholars have used the PTT as the lens through which they have investigated this particular relationship. This theory is equal to the task since it focuses on the transition of the world leadership between the two most powerful nations in the system.

Selected researches will be reviewed to determine the consensus amongst PTT's promoters as to the future of the relationship between China and the US. More specifically, what is the probability of a major confrontation between these two leading powers according to proponents of this theory?

2.4.1 – Organski and Kugler

The War Ledger's main purpose was to lay the foundation for the PTT. Despite conceiving a theory that was clearly intended to give guidance for future international relationship, it is with reluctance that Organski and Kugler speculated on the future world order and more specifically the Sino-American relationship. It is only in the last few pages of their seminal work that the connections between the US, Russia and China are addressed. In 1980, Organski and Kugler identified the US as the dominant power, Russia as the present challenger and China as the possible longer term challenger.⁷⁸ Using the PTT, they predicted that, further in the future, China would overtake the Soviet Union as the main rival to American supremacy.⁷⁹ While Russia was not expected to have the growth necessary to supplant the US, China on the other hand, if it “developed economically,” could become the dominant world power.⁸⁰ As an endorsement of the validity of the PTT, one has to note the accuracy of the first part of Organski and Kugler’s predictions.

While confident that two power transition (the first between Russia and China, the other between the US and China) would transpire, Organski and Kugler were disinclined to address the probability of a major conflict occurring due to these transitions.⁸¹ They simply identified that those two periods of transition would put in place the right conditions for a nuclear war between these great powers.

⁷⁸ Organski and Kugler. *The War Ledger*. 226.

⁷⁹ *Ibid.*, 26.

⁸⁰ *Ibid.*, 226.

⁸¹ *Ibid.*, 226.

2.4.2 – Tammen et al.

Tammen et al., in 2000, reassessed the validity and applicability of the PTT as a tool for formulating strategies. Their review of the current world hierarchy identified four centers of power: the US, Europe, Russia and China (and India with the potential to become the fifth one).⁸² Focusing on their assessment of the China-US dyad, it had become clearer that the PRC (having overtaken Russia) was now the current rising contender to the US-lead world hierarchy.⁸³ Tammen et al. further pointed out that India might one day play the role of contender, as it too, remains on the fringe of the current world order and thus is a potential dissatisfied great power.⁸⁴

Tammen et al. predicted that two major power transitions would occur in the 21st century. The first one, in the first half of the century, will be China dethroning the US as the dominant power.⁸⁵ The second, in the second half of the century, is India possibly overtaking either China or the US.⁸⁶ The authors cautioned that neither transition is inevitable and that both countries (China and India) face significant internal challenges prior to achieving their full potential.

These possible power transitions could either be peaceful or result in war. As described in the PTT, they hinge on the challengers' level of satisfaction with status

⁸² Tammen et al. *Power Transitions: Strategies for the 21st Century*. 42.

⁸³ *Ibid.*, 153.

⁸⁴ *Ibid.*, 7.

⁸⁵ Of note, similar to the findings from Organski and Kugler two decades earlier.

⁸⁶ Tammen et al. *Power Transitions: Strategies for the 21st Century*. 42.

quo.⁸⁷ Tammen et al. argued that there is time to make both potential contenders status quo supporters of the current international structure. If this cannot be accomplished, the alternative suggested is a reengineering of the power distributions. In simpler terms, this is the creation of alliances to stave off the potential challenger.⁸⁸ One of these is the formation of a “superblock” coalition that would include the US, greater Europe and Japan. The power supremacy that such a coalition could possibly yield would prevent a potentially dissatisfied China from reshaping the international power structure, thus ensuring stability.⁸⁹

Tammen et al. concluded that the present demographic distribution sets the stage for the future distribution of power in the world.⁹⁰ “The fundamental result of this hierarchical analysis is that *in war or peace* Asia eventually emerges as the center of the international system with an Asian state as the dominant power.”⁹¹ It is up to the US to incorporate both China and India within the list of satisfied power.⁹²

2.4.3 - Zhiqun Zhu

Zhiqun Zhu, from the University of Bridgeport, has also studied the US-China relationship. But as discussed previously, he has done so through the lens of a modified PTT which incorporates an assessment of the environment within which political

⁸⁷ *Ibid.*, 157.

⁸⁸ *Ibid.*, 175.

⁸⁹ *Ibid.*, 60.

⁹⁰ *Ibid.*, 189.

⁹¹ *Ibid.*, 193.

⁹² Battistella. “Théories, idéologies et méthodes: Power transitions.” 779.

decisions are made. First, as expected, there is no disagreement that China is the leading challenger to the US supremacy and that a power transition between the two is likely to occur in the 21st century.⁹³ Still, Zhu is cautious on the inevitability of this transition since China faces some worrisome internal challenges (social, political, military and economic) that may slow or even prevent its rise to hegemonic contender.⁹⁴

Where he is less cautious, is in his assessment of the PRC's perception of the international environment. Zhu argued that, especially because of the effects of globalization and interdependence, China is a satisfied power at the international level.⁹⁵ He further assessed the relationship between the two countries at the three other levels (domestic, societal and individual leaders) to be favorable or moving in a positive direction.⁹⁶ His overall conclusion is that there are reasons to be "cautiously optimistic." Nourished by continued cooperation and dialogue, globalization and the strength of the economic interdependence between China and the US will lead to a non-confrontational future power transition.⁹⁷ Still, he warns that the Taiwan Strait is the one issue that has the potential to completely alter this relationship and that it must be carefully managed by both side. This requirement for constant dialogue was illustrated last month when US President Obama approved the sale of military hardware to Taiwan and the flurry of diplomatic exchanges that followed.⁹⁸

⁹³ Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 8.

⁹⁴ *Ibid.*, 90.

⁹⁵ *Ibid.*, 93.

⁹⁶ *Ibid.*, 169.

⁹⁷ *Ibid.*, 131.

⁹⁸ BBC News. "China Hits Back at US over Taiwan Weapons Sale." *BBC News*, 30 January 2010.

2.4.4 – Steve Chan

Last in the review of analysis on the future of the Sino-American dyad using the PTT, is the work of Steve Chan from the University of Colorado. He is in agreement with the previous author that China, especially considering its quarter century of annual double digits economic growth, is the most likely rising contender to the hegemonic crown. But Chan is even less convinced than Zhu that the US, with its overwhelming supremacy in military, economic, diplomatic and soft power, can be realistically challenged any time soon – if at all.⁹⁹

Where Chan becomes even more controversial is in his challenge of the dominant power being automatically a satisfied status quo power.¹⁰⁰ He posited that the US is a revisionist power that is not satisfied with its share of the benefits from the current international structure. The source of Chan's argument is that the US has sought regime change in a number of occasions and has reserved itself the right to initiate preventive strikes if it feels threatened.¹⁰¹ He also submitted that the comparison between the two countries in the use of vetoes within the UN Security Council (China 2, US 68), their participation in intergovernmental organizations and their ratification of major international human rights instruments (China 5, US 3) all point to China being a satisfied power and America being a “destabilizing force for international order.”¹⁰² For Chan, the rise of China, or any other contender for that matter, will prove problematic

⁹⁹ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 9.

¹⁰⁰ Chan provides theoretical support for this argument. He relies on the interpretation of available data and a comparison of China's and US' actions in specific fields. *Ibid.*, 130.

¹⁰¹ *Ibid.*, 32.

considering the openly stated American policy of preventing the materialization of any competitor.¹⁰³

What will be China's reaction to an increasingly aggressive US? Chan assumed that it will be soft balancing. Soft balancing is the utilization of all the diplomatic and economic tools at the disposition of a country to thwart, without a direct confrontation, an opponent.¹⁰⁴ This would involve statecraft, international institutions and public opinion, the tightening of alliances, and economic pressure – all non-military options. This is exactly the type of non-military campaign advocated by two senior Chinese military officers to defeat America.¹⁰⁵ Chan's conclusion is that, even though there is a possibility of a conflict over the power transition between the US and China, it is unlikely to be initiated by China.¹⁰⁶

What can be concluded from this section? There is a consensus from those who have applied the PTT to the future that China represents the most likely challenger to the US hegemony. If that is relatively clear, murkier is the current assessment of China's level of satisfaction with its current status within the world order. Considering this uncertainty, opinions are divided if those two powers are in a collision course or if they will manage a peaceful power transition when, or if, it occurs.

¹⁰² See tables 3.1, 3.2 and 3.3 in following reference. *Ibid.*, 32-37.

¹⁰³ Campbell Craig. "American Realism versus American Imperialism." *World Politics*. Vol. 57, no.1 (October 2004): 161.

¹⁰⁴ Robert A. Pape. "Soft Balancing Against the United States." *International Security*. Vol. 30, no. 1 (June 2005): 10.

¹⁰⁵ Liang Qiao and Xiansui Wang. *Unrestricted Warfare: China's Plan to Destroy America*. (Panama City, Panama; Pan American Publishing. 2002), 38.

2.5 - SUMMARY

In this chapter, Organski's PTT was introduced to erect the foundation required for further discussion. This overture was guided by the devotees' views of this theory, but understanding that equal time will be provided to its detractors in the next chapter. The PTT provides a hierarchical and orderly vision of the international world order dominated by a hegemon. It states that domestic internal growth is the source of national strength and that the dominant power has shaped international relations in order to maximize its share of benefits. Peace within the system is threatened when a rising contender, which has achieved power parity and which is dissatisfied with the current international order, challenges the dominant state. It is worth repeating that the PTT speculates that the two necessary conditions for a major conflict to erupt during a power transition are power parity and dissatisfaction.

As covered in the previous sections, if the assessment of power is relatively straight forward for proponents of the PTT, the labeling of a challenger as a status quo or revisionist power is less so.

The Sino-American dyad is arguably the most important relationship in the 21st century. It is one that has been studied with interest by proponents of the PTT. They have had no issue in indentifying the US as the dominant power and China as the fast rising challenger. They have also extrapolated that a power transition is likely in the next

¹⁰⁶ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 130.

two to three decades. Where more nuanced opinions are generated between researchers is whether this transition is expected to be peaceful or is a major conflict more likely?

The next chapter will look at the strengths and weaknesses of the PTT as pronounced by its critics prior to deciphering what other international affairs theories might have to say about the future of US-China dyad.

He who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a God.

- Aristotle

CHAPTER 3 – ALTERNATE VIEW OF THE POWER TRANSITION THEORY

3.1 – INTRODUCTION

The study of international diplomacy and relationship is not an exact science. Trying to predict with certainty how various nations will interact with each others is indeed fraught with perils. One foreign affairs theory was introduced in the previous chapter: Organski's PTT. Its interpretation of the dynamics that surround global diplomacy was presented, but from the point of view of its disciples. The PTT claims to be able to explain the logic behind the interactions, sometimes peaceful sometimes less so, between the various world powers. This is a claim that is disputed by its critics.

The intent of this chapter is to provide a voice to the PTT's detractors and to introduce two contending theories. Weaknesses of this particular theory will be discussed and findings that diverge from the PTT's perspective will be critically considered.

This chapter is divided into three sections. The first section will address the acknowledged and perceived weaknesses of this theory as identified by its detractors. The PTT is not the only model that attempts to demystify the intricacies of international relations; there are a handful of theories that endeavor to do the same. The second

section will introduce two alternate theories, the Balance of Power Theory (BPT) and the Power Cycle Theory (PCT), which are often offered as a counter-point to the PTT. These two theories will be used in the last section to study the relationship between the US and China. Taking into consideration the information gathered on this significant relationship, this chapter will highlight where the BPT and PCT conclusions diverge (or possibly converge) when held against those reached in the previous chapter.

The PTT is not universally embraced and some of its aspects do merit further consideration. The following section will review critical elements of Organski's PTT that are considered deficient by its detractors.

3.2 - POWER TRANSITION THEORY – WEAKNESSES

Proponents of the PTT, such as Ronald L. Tammen, suggest that the strongest attribute of this theory is that it is supported by "... [an] empirical base that has been subjected to rigorous testing against 2 centuries' worth of data."¹⁰⁷ As well, it is a theory that has received much positive attention from the American intelligentsia as it panders to both Realism and Liberalism ideological pillars: a focus on relative national power and an assessment of a state's attitude towards the current world structure.¹⁰⁸ These are a strength and quality that are contested by proponents of other theories.

¹⁰⁷ Tammen et al. *Power Transitions: Strategies for the 21st Century*. 182.

¹⁰⁸ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 129-130.

This section will present the PTT's main weaknesses as exposed by its detractors. The first part of this section will deal specifically with two aspects of Organski and Kugler's original theory developments that have been identified as flawed: the overly restrictive case study selection and the true power transition during WWI and WWII. The last two parts of this section will introduce the work and arguments of two distinct researches that refute some of the PTT's basic tenets.

3.2.1 – Restrictive Case Study Selection

In *The War Ledger*, Organski and Kugler offered three simple yet restrictive criteria to identify what were considered major-wars. These criteria were: first, there had to be major powers on each side of the conflict; second, the number of battle-deaths had to be higher than in any previous war; and third, the war loser had to have surrendered either territory or population.¹⁰⁹ Restricting the study period from 1870 to 1965, this culling resulted in a sample size of only five suitable conflicts: the Napoleonic Wars, the Franco-Prussian War of 1870-1871, the Russo-Japanese War of 1904-1905, WWI and WWII. Furthermore, the Napoleonic Wars were incised from this set due to a lack of hard historical data that would support comparison testing.¹¹⁰ Among others, Siverson and Sullivan questioned the validity of a hypothesis testing methodology that relies on such a small sample number.¹¹¹

¹⁰⁹ Organski and Kugler. *The War Ledger*. 45-46.

¹¹⁰ *Ibid.*, 46.

¹¹¹ Randolph M. Siverson. and Michael P. Sullivan. "The Distribution of Power and the Onset of War." *The Journal of Conflict Resolution*. Vol. 27, no. 3 (September 1983): 485.

To create a set of data more suitable for analysis, Organski and Kugler exploded into individual state the coalitions that fought on each side of these major conflicts. Dyads were then created by pairing relevant individual nations with every other nation involved.¹¹² The result was the creation of 126 pairs that could thus be studied for power distributions and conflict involvement. Siverson and Sullivan argued that the data set thus produced was more suited to "... establishing the sufficient conditions for war."¹¹³ While a valid argument, the counter-argument is that, if the conditions for war are known, the conditions that ensured peace could possibly be inferred.

This observation, related to the dearth of case studies, can also be applied to other sections of *The War Ledger*. For example, the Phoenix Factor - the remarkably quick recovery of the challenger following a conflict with the dominant power - is based on the economic observations of countries involved in only two major conflicts: WWI and WWII.¹¹⁴ Similarly, Organski and Kugler investigated the Measure of National Capabilities - a representation of the capacity of the government to extract and focus a portion of the national wealth towards a national goal - through only three wars.¹¹⁵ Critics of the PTT are quick to point out that generalizations based on such small sample sets should be considered with a healthy dose of skepticism.

Organski and Kugler's focused on the study of the most significant conflict of all: hegemonic war. That is why their selection criteria were so restrictive; they wanted to

¹¹² Organski and Kugler. *The War Ledger*. 46-50.

¹¹³ Siverson and Sullivan. "The Distribution of Power and the Onset of War." 486.

¹¹⁴ Organski and Kugler. *The War Ledger*. 122.

ensure that the great powers were fully committed to winning.¹¹⁶ The resulting limited number of suitable hegemonic conflicts is a criticism that was acknowledged in *The War Ledger* by Organski and Kugler. They do accept that initial analysis of such parsimonious data deserved further scrutiny. They saw their work as providing interesting but tentative findings worthy of further investigation.¹¹⁷

3.2.2 – Power Transition - WWI and WWII

Another decision by the PTT's originators that has caused debates is the designation and impact of the US during WWI and WWII. Organski and Kugler have categorized the US, in one case, as a major power at the periphery (1860-1940) and then in the center of the international system (1940-1970); and in a second case, as a contender in the central system (1945-1975).¹¹⁸ Not designating the US as the dominant power within the international hierarchy, considering its measured power level during those periods, does cast some doubts on the rigorousness of this theory.

This is a theme that is picked up by authors such as Steve Chan¹¹⁹ and John A. Vasquez¹²⁰ who question minimizing the US' influence on the result of WWI and WWII. Few would argue that it is the American industrial might that tilted victory towards the

¹¹⁵ The war considered were Arab-Israeli conflicts, the Vietnam War and the Korean War. *Ibid.*, 89.

¹¹⁶ *Ibid.*, 46.

¹¹⁷ *Ibid.*, 62.

¹¹⁸ *Ibid.*, 43-45.

¹¹⁹ Chan. *China, the U.S., and the Power-Transition Theory – A Critique*. 52.

¹²⁰ John A. Vasquez. "When Are Power Transition Dangerous? An Appraisal and Reformulation of Power Transition Theory. In *Parity and War – Evaluations and Extensions of the War Ledger*. Ed. by Jacek Kugler and Douglas Lemke, 35-56. (Ann Arbor: The University of Michigan Press, 1996), 41.

Allies. Organski and Kugler used the following argument to justify their categorization: the US did not view itself as part of the central international system and thus did not try to influence the world order.¹²¹

This leads us back to the issue of power and hierarchy. One of Organski's foundation statements is that the international world order is hierarchical in nature based on national power measurement. The PTT submits as well that the international system is shaped by the dominant power. The tenets of this theory are thus turned on their head when one of the most powerful nations in the world in the 1900s is dismissed as not being a central actor in both WWI and WWII. This seeming inconsistency was indirectly addressed by Lemke's work on multiple hierarchies.¹²² It could be perceived that WWI and WWII were actually conflicts between major powers that slowly escalated until they finally involved the dominant power. This hypothesis is supported by the fact that the US was not involved in the initial hostilities and only joined the war later on.

3.2.3 – Early Critiques

Some of the earliest critiques of the PTT come from Randolph M. Siverson. In 1983, Siverson and Sullivan undertook to study the latest developments in the field of empirical research associated with the relationship between states and the distribution of power.¹²³ They were fascinated with the issue of power ratio between nations and the

¹²¹ Organski and Kugler. *The War Ledger*. 45.

¹²² This extension to the PTT will be described in more details later in this chapter. See Lemke. "Small States and War: An Expansion of Power Transition Theory." 78.

¹²³ Siverson and Sullivan. "The Distribution of Power and the Onset of War."

incidence of war. One of the four such researches scrutinized was Organski and Kugler's *The War Ledger*. As discussed earlier, one of the problems they identified is the "inadequate" data set and the focus of the testing being restricted to major powers only, to the detriment of war in general.¹²⁴ Siverson and Sullivan also pointed out that, in all the cases examined that indeed supported power preponderance as a factor of peace, Germany (or Prussia) was a member of the fighting dyad. They suggested that instead of reflecting general international affairs rules, the data was more a representation of "thwarted German expansionism".¹²⁵ Lastly, they contended that, by dismissing alliances as not reliable enough to add to national power, Organski and Kugler shortchanged historical evidences to the contrary.¹²⁶ The impact of alliances within the PTT is one area that was investigated by Woosang Kim. His conclusion was that alliances are indeed important in the calculation of power parity.¹²⁷

Despite their reservations with regard to research design flaws and restricted data sets, Siverson and Sullivan reached the conclusion that "... the greater weight of evidence is in favor of the power preponderance theory [PTT]."¹²⁸ But this reluctant endorsement is moderated by a later statement that much more research remains before a direct correlation between power distribution and war can be confidently established.¹²⁹

¹²⁴ *Ibid.*, 486-487.

¹²⁵ *Ibid.*, 483.

¹²⁶ *Ibid.*, 492.

¹²⁷ Woosang Kim. "Power Parity, Alliance, and War from 1648 to 1975." Chap. 5 in *Parity and War – Evaluations and Extensions of the War Ledger*. Edited by Jacek Kugler and Douglas Lemke, 93-105. Ann Arbor: The University of Michigan Press, 1996 "Power Parity, Alliance, and War from 1648 to 1975." 103.

¹²⁸ Siverson and Sullivan refer to the PTT as a the power preponderance theory since it states that power preponderance leads to peace. See Siverson and Sullivan. "The Distribution of Power and the Onset of War." 475.

¹²⁹ *Ibid.*, 492.

In 1984, this line of research on the relation between national power, alliances and the probability of conflict initiation is continued by Siverson and Tennefoss.¹³⁰ Under this study, a more direct comparison was made between the leading theory of the time, the BPT, and the PTT. As indicated by the title of this particular research, the authors targeted the influence of alliances, as an aggregate of power, on the initialization of conflicts. While Organski and Kugler argued that alliances impact only slightly the decision to go to war¹³¹, Siverson and Tennefoss' analysis suggested that "... alliances are an important explanatory factor in accounting for escalation."¹³² This is a suggestion that would be studied by Stephen Walt and then would be incorporated within the PTT by Woosang Kim.¹³³

3.2.4 – Lebow and Valentino

The previously reviewed papers questioned only specific elements of the PTT. The following paragraphs will now address the latest (published in 2009) and most comprehensive critique of this theory which comes from Ned Lebow and Benjamin Valentino's "*Lost in Transition: A Critical Analysis of Power Transition Theory.*"¹³⁴ They maintain that they found slim empirical statistics to support this particular theory.

¹³⁰ *Ibid.*, 1057-1069.

¹³¹ Organski and Kugler. *The War Ledger*. 26.

¹³² Siverson and Tennefoss. "Power, Alliance, and the Escalation of International Conflict." 1068.

¹³³ Kim. "Power Parity, Alliance, and War from 1648 to 1975."

¹³⁴ Richard Ned Lebow and Benjamin Valentino. "Lost in Transition: A Critical Analysis of Power Transition Theory." *International Relations*, Vol. 23 (3) (2009): 389-410.

Lebow and Valentino perceived the PTT to be an offshoot of the Realism school. It was welcomed by specialists of the American-China policies as it justifies the specter of hegemonic war with each suggestion of China's increasing clout.¹³⁵ Lebow and Valentino expressed numerous reservations with regard to the PTT. More specifically, they disputed the hierarchal nature of the international system, that the hegemon can shape the system to its advantage and acquire a disproportionate portion of benefits, that differential rate of economic growth is the cause of power transition, that conflict is initiated by either the dominant power or the challenger, that war is a mean to protect the world order or that war resolves conflict of interest between nations.¹³⁶ Due to space limitation, only two representative reservations will be analyzed: that power transition is the result of differential rates of economic growth and the issue of conflict between rising and dominant powers.

Power transition as the result of differential rates of economic growth. Lebow and Valentino are at odds with Organski and Kugler with regard to the methodology used for the measurement of a nation's strength. Disagreeing that divergent growth rate may lead to conflict and pointing out the lack of a consensus for the measurement of power, they elected to use a state's GDP times its total population as their yardstick.¹³⁷ Their intent was to use a measure that reflected the true inherent power of a state and not internal choices or potential for war (like the size of its army).¹³⁸ Lebow and Valentino's resulting study of the world structure from 1648 to 2000 provided evidence that

¹³⁵ *Ibid.*, 389.

¹³⁶ *Ibid.*, 392-405.

¹³⁷ *Ibid.*, 396.

¹³⁸ *Ibid.*, 395.

hegemonic change was very rare as were transitions involving the major powers. They asserted that, over the last 350 years, only three dominant power transitions occurred: around 1715 when Russia overtook the Spanish Empire, 1895 when the US surpassed Russia, and finally China taking the lead from the United States in 1980.¹³⁹

Since none of these transitions match the timing of major conflicts between the protagonists, one hypothesis that Lebow and Valentino push forward is that these transitions are possibly the consequence of the wars and not their cause. This argument is based of course on Lebow and Valentino own equation for power measurement. Their conclusion that *Pax Britannica* never occurred or that China overtook the US in 1980, which do not match generally accepted historical records, raise questions about the validity of their findings. This reinforces the importance of a process for evaluating power that more closely reflect reality. If the past or present cannot be explained, surely the future will be that much harder to predict.

The conflict between rising and dominant powers. The PTT deals with the specter of war between the most powerful nations within the world order. With the premise that such conflicts are inherently costly and risky, Lebow and Valentino argue that logic does not support either the rising contender or the declining dominant power initiating such a war.¹⁴⁰ Especially if the goal is to increase power through seizing land or population, the obvious targets of opportunity would be small powers.¹⁴¹ Lebow and Valentino thus proposed that major wars are the results of the miscalculations of a great power that has

¹³⁹ Please refer to figures 2, 3 and 4 in reference. *Ibid.*, 398-400.

¹⁴⁰ *Ibid.*, 400.

attacked a smaller power which spiraled out of control through the unexpected involvement of other great powers or even the hegemon.¹⁴² After studying the events that preceded WWI, Robert Jervis reached a parallel conclusion that significant conflicts were the results of misreading intent and resolve.¹⁴³

As described by the previous paragraphs, Lebow and Valentino argued that the main precepts of the PTT could not be substantiated by their research. Moreover, this theory's justification of the timing of major conflicts did not match with power transition timings as determined from their modified power measurement. Most surprising, their analysis demonstrated that China has overtaken the US decades ago.¹⁴⁴ They proposed that this fact had not been recognized, partially because its military power is not commensurate with its internal power, but mainly because China is not interested in appearing stronger than the US. Their key conclusion is that: "For the purpose of status and balancing, perceptions of power appear more important than actual power or capabilities..."¹⁴⁵ As stated previously, their arguments are undermined by the mismatch between the power status of specific nations (such as Great Britain, The US and China) as calculated by Lebow and Valentino and their acknowledged standing during these periods.

¹⁴¹ *Ibid.*, 401.

¹⁴² *Ibid.*, 401.

¹⁴³ We need only be concerned with "... the central argument that that danger arise if an aggressor believes that the status quo powers are weak in capability or resolve." From Robert Jervis. *Perception and Misperception in International Politics*. Princeton, N.J.: Princeton University Press. 1976), 58.

¹⁴⁴ Lebow and Valentino. "Lost in Transition: A Critical Analysis of Power Transition Theory." 407.

¹⁴⁵ *Ibid.*, 407.

This section introduced weaknesses of the PTT as perceived by its critics. The main criticisms can be summarized under three themes: first, scarcity of the data used in the development of its tenets; second, specificity of this theory to hegemonic or great power wars; and third, no consensus on how power is measured. Are these perceived flaws and limitations unique to the PTT? Are other theories more precise in their evaluation? The next section will introduce two other respected international affairs theories.

3.3 - ALTERNATE THEORIES

The purpose of this section is to introduce two international relations theories that have often been used as counterpoint to the PTT: the BPT and the PCT. While there are others, what makes the comparison between these three particular theories interesting is that the issue of a nation's power is central to their predictions. Where they diverge is how this evaluation of a nation's strength shapes its future actions within the greater international order. Being the theory with the longest history, the BPT will be introduced first.

3.3.1 - The Balance of Power Theory

As perspicaciously observed by Joseph S. Nye Jr. in his study of American power: "For centuries, balance of power has been the starting point for realistic

discussions of international politics.”¹⁴⁶ Tracing back its origin to the concept of European Universalism and the Peace of Westphalia, the axioms associated with the BPT came to light in the early 17th century.¹⁴⁷ Part of the Neorealist school, this theory two key assumptions are that, first, the goal of all nations is to maximize their power and second, nations will endeavor to counterbalance the more powerful nations within the system through the creation of alliances.¹⁴⁸

In opposition to the PTT, which assumes that the international structure is hierarchical, the BPT starts with the principle that the world order is anarchic in nature. This theory further states that equal power between nations will lead to peace and conversely, predominance of power by a nation may lead to conflict.¹⁴⁹ The reasoning advanced by the proponents of this theory is that parity in power will result in no peer nation being able to subjugate its equal thus reducing the probability of war.¹⁵⁰

A central tenet of this theory is that the desired power equilibrium between various nations will be supported by the ebb and flow of alliances.¹⁵¹ But countries have also other options, such as “bandwagoning” – allying with the perceived stronger side in

¹⁴⁶ Joseph S. Nye. *Bound to Lead – The Changing nature of American Power*. (Basic Book Inc. Publisher, 1990), 35.

¹⁴⁷ This is referred to by the referenced author as the “Concert of Europe”, the closest thing to a pluralistic security community – short period of extensive cooperation. From Robert Jervis. “From Balance to Concert: A Study of International Security Cooperation.” *World Politics*, Vol. 38, no. 1 (October 1985): 58-59.

¹⁴⁸ Kugler and Organski. “The Power Transition: A Retrospective and Prospective Evaluation.” 176-177.

¹⁴⁹ *Ibid.*, 176.

¹⁵⁰ Siverson and Tennefoss. “Power, Alliance, and the Escalation of International Conflict.” 1057.

¹⁵¹ Organski and Kugler. *The War Ledger*. 16.

order to join in the spoils of victory – or remaining neutral.¹⁵² There has been a realization in later years that there is a greater range of options available to countries under the BPT and that perceptions of threats, geography and internal politics will affect the decision makers.¹⁵³ But if power parity and alliances ensure peace between the great powers, it was noted by Siverson and Sullivan that peace is not ensured between the great powers and minor powers.¹⁵⁴

One aspect that promoted the popularity of this theory is that, in essence, it is built on the assumption that deterrence worked between great powers.¹⁵⁵ While this theory held sway over American politics for a number of years with proponents such as former Secretary of State Kissinger,¹⁵⁶ it has dropped from preeminence in international affairs. Described as “a constant rule of prudent politics,” thus working adequately most of the time to stabilize the international order, the BPT was found ill suited to deal with, or even explain, rapid changes within the system.¹⁵⁷ A rigid theory which focused on the static aspect of power between states, it could not satisfactorily explain the apparent chaotic behavior of nations.¹⁵⁸ In studying the BPT, one quickly comes to the conclusion that it is less a predictive theory of international affairs than a normative strategic tool to be applied by politicians.

¹⁵² Nye. *Bound to Lead – The Changing nature of American Power*. 36.

¹⁵³ *Ibid.*, 37.

¹⁵⁴ Siverson and Sullivan. “The Distribution of Power and the Onset of War.” 477.

¹⁵⁵ *Ibid.*, 476.

¹⁵⁶ Henry Kissinger. *The White House Years*. (Boston: Little, Brown, 1979).

¹⁵⁷ Charles F. Doran. “Confronting the principles of the Power Cycle.” In *Handbook of War Studies II*. Ed. by Manus I. Midlarsky, 332-368. (Ann Arbor, The University of Michigan Press, 2000), 349.

¹⁵⁸ *Ibid.*, 350.

In summary, the BPT suggests that power parity between nations will lead to peace and that the principal mechanism to maintain this equilibrium is the formation of alliances. It is a theory that has difficulty accounting for how countries have historically deported themselves on the international scene. The issue of equilibrium is one that, in a fashion, will be picked up by the theory that will be the PCT.

3.3.2 - The Power Cycle Theory

In his study of the PCT and international affairs, Young-Kwan Yoon identified that classical realism and this theory share the concept that, in due course, the international system will endeavor to reach a balance.¹⁵⁹ Where the BPT and the PCT differ is that the later advocate that national decision makers can impact this balancing process. The aim of the following few paragraphs is to introduce the norms that are key to Charles F. Doran's PCT. Later, some elements of this theory will be compared to Organski's PTT to highlight similarities and differences.

Just like the PTT, Doran's PCT is a newer theory that aims at providing a framework to explain the actions of states on the international scene. Even though its core concepts were originally developed by Doran in 1971,¹⁶⁰ it would not be until his 1983's "War and the Cycles of Relative Power", written with Wes Parson, that the PCT

¹⁵⁹ Young-Kwan Yoon. "Power Cycle Theory and the Practice of International Relations." *International Political Science Review*, Vol. 24, no. 1 (January 2003): 7.

¹⁶⁰ Charles F. Doran. *The Politics of Assimilation: Hegemony and Its Aftermath*, Baltimore, Johns Hopkins University Press, 1971.

would receive greater attention.¹⁶¹ The PCT is based on the concepts of a pluralistic system, relative power and the assumption that national actors can affect the system. Each of these elements will be discussed in turn following a brief description of this theory.

Contrary to the PTT and the HST,¹⁶² this theory rejects the concept of hegemonic dominance. The PCT argues that no nation can dictate rules that favor its own interests to the detriment of the rest of the international community.¹⁶³ Instead, this theory speculates that all the major players have an influence on how the system runs. In other words, the rules that control the relationship between the various nations are not forced but agreed upon.¹⁶⁴

Simply stated, for the PCT, the measure of national strength is only relative to the strength of the other nations in the system. In his initial work, Doran proposed that the power of a nation can be measured through two factors: size (most often represented by GNP, territory, armed forces, military spending and population) and development (measured through per capita income, urbanization and technological sophistication).¹⁶⁵ Once their value is ascertained, each of these variables is represented as a percentage of

¹⁶¹ Charles F. Doran and Wes Parsons. "War and the Cycle of Relative Power." *The American Political Science Review*, Vol. 74, no. 4 (December 1980).

¹⁶² The Hegemonic Stability Theory takes inspiration from the rational choice model. The main tenet of this theory is that the hegemon supports the international system as long as its evaluation of the cost-benefits is in its favour. As well, the stability of the system is jeopardized when the hegemon loses its dominance. For greater details on this theory, please see reference. Gilpin. *War and Change in World Politics*.

¹⁶³ Charles F. Doran. "Power Cycle Theory of Systems Structure and Stability: Commonalities and Complementarities." In *Handbook of War Studies*, edited by Manus I. Midlarsky, 83-110. (Boston, Unwin Hyman, 1989), 94.

¹⁶⁴ Yoon. "Power Cycle Theory and the Practice of International Relations." 6.

the total aggregate. Similar to the PTT, this assessment of a state's power is averaged over a longer period. The power wielded by a nation is thus not an absolute value but a representation of its fraction of the total power within the system. The outshot of such a process is that a nation's power mutually impacts the power assessment of all the other nations being considered. The rise or fall in power growth in one or more nations, even if only minor powers, might result in a significant change in the overall system's power hierarchy.¹⁶⁶ The PCT highlights the implied competitive and dynamic nature of international affairs.¹⁶⁷ As a comparison, the PTT assumes that countries will maximize their extraction of benefits from the system which will have little impact on other countries.

Charles Doran argued that the relative power of major nations within the international system follows a standard cyclical pattern of increasing and decreasing capabilities (always as a percentage to the total strength of the system). Generalized, the elements of this cyclical pattern are ascendancy, maturation and decline¹⁶⁸ (see figure 2). This sinusoidal pattern is caused by differential rates of development within the members of the set of nations considered.¹⁶⁹ It was suggested by Daniel S. Geller that: “[t]hese

¹⁶⁵ Doran and Parsons. “War and the Cycle of Relative Power.” 947.

¹⁶⁶ Brock F. Tesson and Steve Chan. “Power Cycles, Risk Propensity, and Great Power Deterrence.” *The Journal of Conflict Resolutions*, Vol. 48, no. 2 (April 2004): 132.

¹⁶⁷ Doran. “Confronting the principles of the Power Cycle.” 334.

¹⁶⁸ Doran. “Power Cycle Theory of Systems Structure and Stability: Commonalities and Complementarities.” 85.

¹⁶⁹ This is reminiscent of the internal growth concept endorsed by the PTT.

differences results from variations in resource distribution, political development, and industrialization.”¹⁷⁰

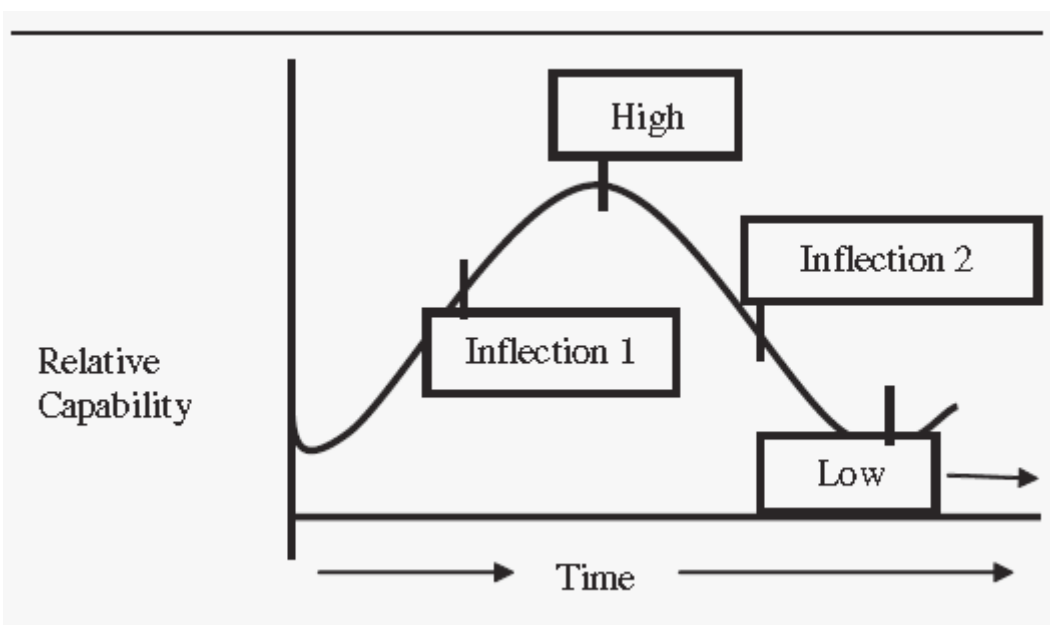


Figure 2 - Power Cycle Theory, Curve of relative capabilities with critical points. Source: Tessman and Chan, “Power Cycles, Risk Propensity, and Great Power Deterrence”, 134.

Further analysis of this relative power curve has revealed that there are four critical junctures within the cycle: the lower turning, the first inflection (or rising inflection), the upper turning and the second inflection (or declining inflection).¹⁷¹ Acknowledging that a nation’s position on its relative power cycle is representative of its international status and influence, these points become critical as they augur a divergence

¹⁷⁰ Daniel S. Geller. “Explaining War – Empirical Patterns and Theoretical Mechanisms.” In *Handbook of War Studies II*, edited by Manus I. Midlarsky, 407-449. (Ann Arbor: The University of Michigan Press, 2000), 411.

¹⁷¹ Lui Hebron, Patrick James and Michael Rudy. “Testing Dynamic Theories of Conflict: Power Cycles, Power Transitions, Foreign Policy Crises and Militarized Interstate Disputes.” *International Interactions*, Vol. 33 (2007): 4.

between a nation's capabilities and its influence on the system.¹⁷² It is this non-linear and relative nature of the power assessment that renders the occurrence of these critical junctures hard to predict.¹⁷³ The crux of the PCT is that, as a state's relative power evolves, there is a danger that the nation's political elite will misjudge or miscalculate the nation's interests and aspirations in relation to its true capabilities.¹⁷⁴ One cannot help but see the parallel between the PCT potential miscalculation and the PTT notion of dissatisfaction. For the PCT, these incongruities, or critical points, between status and influence are the potential cause of conflict within the system.¹⁷⁵

Is the fact that a nation is going through one of these critical junctures a precursor of incoming war? Doran's PCT asserts that it is a necessary but not sufficient condition.¹⁷⁶ While Doran states that these points are potent for a nation's foreign policy and thus invoke aspects of power, status and security; perhaps as significant to the probability of a major war is the influence of the decision makers. Understanding that the change in a nation's relative power is gradual in nature, perceptive political leaders should therefore adjust their state's perceptions, interests and aspirations. The danger of major conflicts is increased when either changes in status are rapid or decision makers

¹⁷² Doran. "Power Cycle Theory of Systems Structure and Stability: Commonalities and Complementarities." 89.

¹⁷³ Franz Kohout. "Cyclical, Hegemonic, and Pluralistic Theories of International Relations: Some Comparative Reflections on War Causation." *International Political Science Review*, Vol. 24, no. 1 (2003): 60.

¹⁷⁴ Geller. "Explaining War – Empirical Patterns and Theoretical Mechanisms." 411.

¹⁷⁵ Tessman and Chan. "Power Cycles, Risk Propensity, and Great Power Deterrence." 132-133.

¹⁷⁶ Doran. "Power Cycle Theory of Systems Structure and Stability: Commonalities and Complementarities." 93.

overact to these change with “... imprudent use of force or the encumbrance of unyielding foreign policy positions.”¹⁷⁷

Lastly, the PCT predicts that the probability of major conflicts rises exponentially if multiple countries are simultaneously navigating through critical points. The reason is that the system becomes stressed by the shifting of several nations’ aspirations and expectations caused by a realignment of their relative power path.¹⁷⁸ Doran argues that such upheavals in the international system were responsible for what others consider hegemonic wars such as WWI and WWII (Germany, Japan, the US and England).¹⁷⁹

Convergences. In reviewing the concepts associated with Doran’s PCT against the Organski’s PTT, one can not escape being stricken by the similarities and differences between these two theories. The most obvious parallel is the criticality of power measurement. While the variables used for national power calculation are dissimilar, the evaluation of a nation’s strength is the starting point for both theories. Similarly, both theories agree that it is differential rates of national growth that have potential to destabilize the system. While there are others, the final significant similarity between these two theories is that both rely on a perceptual assessment of the current status of a state within the greater system: for the PCT, this is reflected by the equilibrium between a country’s aspiration, interests and roles versus its capabilities and position on its own

¹⁷⁷ Geller. “Explaining War – Empirical Patterns and Theoretical Mechanisms.” 411.

¹⁷⁸ Kohout. “Cyclical, Hegemonic, and Pluralistic Theories of International Relations: Some Comparative Reflections on War Causation.” 62.

¹⁷⁹ Doran. “Power Cycle Theory of Systems Structure and Stability: Commonalities and Complementarities.” 109.

power cycle;¹⁸⁰ for the PTT, this translates into the evaluation of the satisfaction (or dissatisfaction) with regard to the current benefits it is receiving from the world order.

Divergences. There are differences between these two theories, probably the most obvious being their interpretation of the impact of power parity. For the PTT, power predominance is synonymous with peace; the PCT, for its part, leans closer to the BPT and the assumption that a power equilibrium is required for lasting peace. Also, how power is represented differentiates the two: for the PTT, power has an intrinsic value; for the PCT, power is relative (a percentage of the total system power or even a zero-sum game). The PCT basic assumption is that the international system is controlled through agreements between the great powers. For its part, the PTT views the international system as controlled by a hegemon, supported by satisfied great powers, that has adjusted the system to maximize its own gains. A third significant distinction is the influence of decision makers: the PTT expects the rise and fall of states to be almost preordained by their own internal growth; the PCT on the other hand, gives greater credit to national decision makers' ability to guide and influence their country's destiny.

As described above, Doran's PCT provides a systemic and perceptual view of international affairs. It analyses the position of a particular state on its relative power cycle against its perceived roles and status within the system. The PCT affirms that there are four critical points when a state's perceived interests and expected role may be out of

¹⁸⁰ Kohout. "Cyclical, Hegemonic, and Pluralistic Theories of International Relations: Some Comparative Reflections on War Causation." 62.

sync with its changing relative power. These junctures have the greatest potential to destabilize the system if not properly handled by decision makers.

Having introduced two alternate international affairs theories, what is their assessment of the Sino-American dyad? This will be the subject of the last section of this chapter.

3.4 - ALTERNATE VIEWS OF THE SINO-AMERICAN DYAD

While the previous chapter focused on the PTT proponents' evaluation of the US-China bonds, it is by no means the only method by which this critical association can be dissected. The intent of this chapter is to provide a brief overview of the assessment by both the BPT and the PCT of the Sino-American dyad.

3.4.1 – The Balance of Power Theory

Previously introduced, the BPT's key concept is that countries within the international system will work in concert to maintain a power equilibrium. Any rapid change within the system (a rise or decline) will result in a counter action that will aim for a return to a natural balance. Despite the fact that proponents of this theory have scarcely address the issue of the China and the US relationship, the intent of the next few paragraphs is to apply this theory to this particular pairing.

First, a comparison of the current power status of both countries must be established. The most readily available yardsticks to measure power is the GDP. Using data from the World Bank for 2008, China's GDP was \$4.326 billion (USD) while the US sat on a GDP of \$14.204 billion (USD) (see Table 1.2, Appendix 1).¹⁸¹ Then, China is only at 30.5% of the US' GDP. The more significant indicator is that China's economic growth rate was estimated by the World Bank for 2009 to hover at 12.2%; during the same period, the US struggled with a -2.4% growth rate.¹⁸² While the economic gap is still wide between these two countries, it is this differential in economic growth rate that has the greatest potential to destabilize the system under the BPT.

If guided by the BPT: how should the international system react to the increasing imbalance between the US and China? Will countries remain neutral, bandwagon with the currently stronger side (US) or support the weaker but rising power (China)? If one remains loyal to the basic tenet of the BPT, one would expect that, galvanized by the momentum of change and as long as there is a perception of threat, an alliance would gel around China to counterbalance the dominant American power.

While it could be argued that the Shanghai Cooperation Organization (SCO) and the Association of Southeast Asian Nations Plus 3 (ASEAN + 3) are alliances created to

¹⁸¹ List of Countries by GDP 2008-2009. The original source from World Trade Bank (WTO). [http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?sy=2009&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1&pr.x=22&pr.y=15](http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?sy=2009&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1&pr.x=22&pr.y=15;); Internet; accessed 17 March 2010.

¹⁸² It would be useful to recall that these numbers are associated with the sub-prime mortgage crisis that impacted economies worldwide. Data source is the CIA World Fact Book. List of Countries by GDP Growth Rate. The original source is the CIA World Fact Book. <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2003rank.html>; Internet; accessed 10 May 2010.

promote equilibrium within the system, the power balance sheet still remains tilted towards the US. The summation of power within the ASEAN + 3 is still only 81.8% of the US' economic strength (see Table 1.3., Appendix 1).¹⁸³ If other nations that have traditionally been allied to the US (such as NATO nations) are added to the score sheet, the international system slides further out of balance.¹⁸⁴

It is concluded that the acknowledged China-US dyad power imbalance does not support the axiom that underscore the BPT. This conclusion is further validated by a lack of appetite to create a coalition that would be the yin to the US' yen.

3.4.2 – The Power Cycle Theory

The relationship between China and America has received much attention from the disciples of the PCT. As described previously, the PCT uses a systemic view of the strength of a nation to assess its position on its power cycle. This will be the first step in this section.

Power (and relative power) can be expressed by the summation of a number of variables. The research by Brock F. Tessman and Steve Chan, which replicate, extend and update the original work by Charles F. Doran, was selected as the starting point for

¹⁸³ List of Countries by GDP 2008-2009. The original source from World Trade Bank (WTO).

¹⁸⁴ This does not take into consideration that ASEAN + 3 countries such as Japan and South Korea, which account for 45% of this coalition's power, are America's allies and may be reluctant to side with China against the US.

our discussion.¹⁸⁵ Power was measured by Tessman and Chan as a composite of five indicators: iron and steel production, size of armed forces, total population, coal production (or its equivalent in oil) and urbanization.¹⁸⁶ Each variable, averaged over a five year period, was given equal weight. Even though extracted from a different paper, figure 3 provides a graphical representation of the results for the countries considered key players from 1816 to 1995.

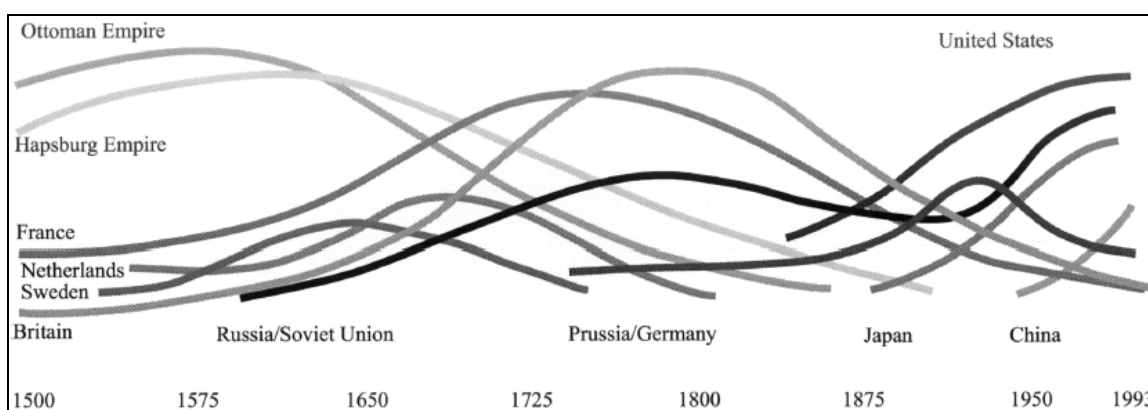


Figure 3 - Power Cycle Theory, Dynamics of changing systems structure 1500-1993.

Source: Doran, “Economics, Philosophy of History, and the “Single Dynamic” of the Power Cycle Theory: Expectations, Competition, and Statecraft”, 24.

For the two nations of interest, China and the US, analysis of the resulting data revealed that the following critical junctures had been crossed:

- a. The US reached the first inflection (rising inflection) in 1913;
- b. The US reached its high point in 1963; and

¹⁸⁵ Tessman and Chan. “Power Cycles, Risk Propensity, and Great Power Deterrence.”

¹⁸⁶ *Ibid.*, 133.

c. China reached its low point in 1947.¹⁸⁷

The interpretation of the above information is that the US went through its first critical point, also described as the “trauma of constrained ascendancy” in the early 20th century, just prior to WWI.¹⁸⁸ This corresponds to an accelerated growth rate which could be conceptualized as the US building its power base at a rate higher than the world average. In the 1960’s, while its power was still growing, America reached its “trauma of expectations foregone” or the apex of its power cycle. This point is either a representation that it had maximized the portion of the world resources it could acquire for its own benefits or that other countries were ramping up their own growth thus decreasing the US’ portion of power. In other words, since the PCT focuses on percentage of the overall power within the system, it could be conceived that power was being diffused between a numbers of countries.

Similarly, it can be observed that China has gone through its lower turning point in the mid 20th century. This point represents the “birth throes of a major power” and is probably a realistic description of China’s rise. Examining Figure 3 and considering that China is the only great power that has not reached its first inflection point, it could be hypothesized that the decreasing power growth rate experienced by the US (and other great powers) was China’s gain.

¹⁸⁷ Hebron, James and Rudy. “Testing Dynamic Theories of Conflict: Power Cycles, Power Transitions, Foreign Policy Crises and Militarized Interstate Disputes.” 12.

¹⁸⁸ Doran. “Confronting the principles of the Power Cycle.” 334

But one should be careful in analyzing these data and extrapolating their significance. First, the data set used is limited to the period before 1995. Since that date, the world has experienced tectonic changes. Even though both the use of a five-year (or even decade) time period and multiple variables are intended to prevent spikes within the system from skewing the data set, one should still consider carefully the variables used and the message that they convey.

Using the latest open source data for slightly different indicators than used by Tessman and Chan (steel production, size of armed forces, total population, oil/coal consumption and urbanization),¹⁸⁹ a quick relative power comparison was established for the same great powers considered (the US, Russia, Japan, Germany and China). The results can be found in Appendix 2, Table 1.

The results were enlightening with China topping the list at 53.8% and the US holding second place at 22.5%. This startling outcome could possibly be attributed to China's population size which directly, or indirectly, contributed to three criteria (population size, military size and oil/coal consumption). Nevertheless, China leads every single category. This would indicate that China is currently the most powerful country in the international system as perceived by the PCT. Is this a reflection of its currently accepted status?

¹⁸⁹ The change from the Tessman and Chan criteria is that, instead of coal production (or its equivalent in oil), the criterion of coal/oil consumption was used. As well, the data used was only for one year (2008) and was not averaged over five years. While these results were not average over a 5 or 10-year period, they will still provide a rough appreciation of the relative power of these countries.

Even though the data used represents a snapshot in time (one year), the results give pause for thought. There is a significant disconnect between the result of this analysis and the current perception of the power ranking between China and the US. Most pundits would agree that the US is the dominant power, not China as represented by our evaluation using the PCT. One possible explanation is that the factors used to calculate relative power no longer reflect current view or capabilities that truly represent power in the 21st century.

So what can Doran's Power Cycle Theory tell us about the future of the Sino-American relationship? First, the US reached its upper point ostensibly four decades ago. While it still remains a force to be reckoned with, its growth rate is slowing. The next critical juncture in its power cycle is the declining inflection (or hopes and illusions of the second wind). For its part, China is rising, and has been doing so for more than 60 years. The next critical juncture in its trajectory is the rising inflection. Not inconsequential to this power equation are Russia (10.2%), Japan (8.2%) and Germany (5.4%) which are also heading for their declining inflection points. While one cannot predict when these powers will reach their next critical junctures, more than one great power reaching these points at the same time could significantly destabilize the system.

In 2003, Doran's recommendation was that, considering its rise, China's emergence should be carefully managed through "... giving it a benign constructive role in international organizations, allowing integration and exposure to democratization to have its ameliorating internal effects, and yielding to China some of the status quo that it

so relishes.”¹⁹⁰ In others words, making China so integrated within the current international structure that upsetting it would be cost prohibitive for its own internal economy. Considering that the US, China and other great powers are heading for critical junctures within their relative power cycle, there will be an increased requirement for dialogue and direct involvement by the political decision makers. This is a recommendation that follows a similar suggestion from the PTT.¹⁹¹

Doran’s PCT attempts to uncover the signs that would indicate that one or more great powers might be heading towards a critical juncture within their relative power cycle. The two key components of this theory are the relative measurement of power and second, the ability of national decision makers to realign a country’s international status and aspirations against its evolving capabilities. Doran submits that it is this divergence between a country’s status and expectations that is the source of potential conflict between nations. There is then a parallel with the PTT which endeavors to ascertain if a challenger is satisfied with the current world order.

3.5 - SUMMARY

This chapter first provided a more critical view of Organski’s PTT. While it is a theory that is not universally accepted by foreign affairs’ scholars, its critics could not

¹⁹⁰ Charles F. Doran. “Economics, Philosophy of History, and the “Single Dynamic” of the Power Cycle Theory: Expectations, Competition, and Statecraft.” *International Political Science Review*, Vol. 24, no. 1 (January 2003): 45.

¹⁹¹ In Chapter 1 of this paper, Zhiqun Zhu urged the need for constant dialogue and the careful management of this important relationship. Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 131.

identified a grave enough flaw that would prevent its consideration in the study of international relationship. As well, in this chapter, two other theories were introduced to provide a counterpoint to the PTT. Using “power” as a central element, the BPT and Doran’s PCT were used to analyze the Sino-American dyad.

In the case of the BPT, the conclusion was reached that this theory has difficulty accounting for how countries have historically deported themselves on the international scene. As well, this theory expected alliance creation to counterbalance US dominance could not be corroborated.

Using a slightly modified calculation of relative power and the latest open source data, it was estimated, using the PCT, that China holds roughly 54% of the system’s power while the US sits closer to 23%. While both Organski’s PTT and Doran’s PCT use “power” as a critical consideration, the power rankings achieved are strikingly dissimilar. It was also concluded that both the PCT and the PTT recommend that the relationship between China and the US must be carefully managed in the future as the potential for conflict does exist. This means ensuring that China remains an integral stakeholder in the international system and that it receives greater benefits from being and insider than an outsider.

The most significant finding in this chapter is how critical the measure of power is to international affairs theories. And so, as the future of Sino-American relationship is

evaluated in the next chapter using the PTT, particular attention will be paid to national power assessment.

... I put for a generall inclination of all mankind, a perpetuall and restless desire of Power after power, that ceaseth onely in Death.

Thomas Hobbes¹⁹²

CHAPTER 4 – THE FUTURE OF SINO-US RELATIONSHIP

4.1 – INTRODUCTION

It has often been stated in this paper that the relationship between the US and China will shape international diplomacy well into the 21st century.¹⁹³ With due respect to both the European Union and Russia, it is acknowledged that the next century will be dominated by the bilateral relations between the US, the current dominant power, and China, the rising challenger. Even though other nations may prove to have a significant influence on this particular pairing in the future, the focus of this chapter will be limited to the Sino-American dyad.

In the first chapter, the PTT was introduced as the framework that will be used to analyze the future of the relationship between China and the US. PTT's proponents maintain that, while America is presently the uncontested premier world power, China's rising power will likely challenge *Pax Americana*.

In the second chapter, the PTT was critically scrutinized through the writing of its detractors. In addition, two other international affairs theories, the BPT and PCT, were

¹⁹² Thomas Hobbes. *Leviathan*. (Baltimore, Maryland, Penguin Books); 161.

introduced to provide a counterpoint to the chosen analysis framework. First, while some minor issues had to be carefully considered, no mortal flaw could be unearthed that would prevent the use of the PTT as a predictive tool. Second, the study of other international affairs theories highlighted the criticality of the definition and evaluation of “power.”

The purpose of this chapter is to predict the future of the Sino-American dyad through the application of the PTT. More specifically, the following question will be answered: over the next two to three decades, as the US and China jockey for supremacy over the world order, what is the probability that this struggle will result in a major conflict?

To frame the answer to this question, this chapter is divided in two parts. The first section will consider the issue of power and power measurement. While this work will remain true to the measurement of power as defined by Organski (i.e. the use of GDP), it will be argued that the criteria that characterize a nation’s strength should be expended and realigned with today’s realities. The second section will center on the evaluation of China’s satisfaction level with the world order. Elements such as China’s long term goals, globalization, and its level of influence and respect will be considered.

It will be showed that, while China has not achieved power parity with the US, there is no clear impediment on the horizon that would prevent it from realizing this goal

¹⁹³ David Kampf. “Viewpoints: Moving the G-2 Forward.” *Foreign Policy Association*, 14 May 2009; http://www.fpa.org/topics_info2414/topics_info_show.htm?doc_id=912530; Internet; accessed 03

in the future. The evaluation of China's level of satisfaction produced more nuanced results. Using archetypal indicators, the conclusion was reached that China is likely to remain a satisfied challenger. Thus a major conflict is doubtful unless a momentous rift occurs in the relationship between these two powers over a critical issue, such as the Taiwan Strait for example.¹⁹⁴

4.2 – POWER

This paper comes full circle back to the issue of power. What is power and how is it measured? In his *World Politics*, Organski defined power as the ability to have others do what you want them to do.¹⁹⁵ Later, in *The War Ledger*, Organski and Kugler suggested that power can be evaluated through the amalgamation of the economic, political, military, technological and demographic strengths.¹⁹⁶ After comparison with other more complex formulas, Organski and Kugler concluded that the GDP provided an equivalent representation of a state's power.¹⁹⁷

But, when the BPT and the PCT were studied in the previous chapter, they measured power using different processes. Using either data from the Correlates of War¹⁹⁸ or the relative strength of five specific factors: steel production, coal/oil

February 2010.

¹⁹⁴ The Taiwan Strait dilemma is a situation that has been extensively studied by political pundits. It is not one that will be addressed in this work.

¹⁹⁵ Organski. *World Politics*. 104.

¹⁹⁶ Organski and Kugler. *The War Ledger*. 31.

¹⁹⁷ *Ibid.*, 38.

¹⁹⁸ Sarkees and Wayman (2010). "Correlates of War Project."

consumption, population, military size and urbanization (PCT)¹⁹⁹, rather dissimilar power status were attributed to the same nations. Recognizing that there is no consensus on the measurement of power, it is suggested that how power is measured should not be a constant in time. In other words, how power was measured in 1980, or what capabilities made a nation powerful during that era, may not be the best representation of how power should be measured today.²⁰⁰ This is an argument that finds resonance with the writings of T.V. Paul on the issue of power.²⁰¹

What follows is a brief discussion of the capabilities that best represent power in modern day.²⁰² Having set the ground work, the concepts of hard and soft power will then be studied. This section will then conclude with a comparative assessment of the strengths of both China and US. The intent of this section is to demonstrate that the US is still a power to be reckoned with and that, even though China may match (and even surpass) the US economically, there are other aspects of its power that weaken its overall status.

¹⁹⁹ Tessman and Chan. “Power Cycles, Risk Propensity, and Great Power Deterrence.” 133.

²⁰⁰ Superpower has nothing to do with per capita income, it’s about how much influence you have on the global stage. Aileen McCabe. “China on the Brink of Becoming Superpower.” *Canwest News Service*, 15 February 2010.

²⁰¹ The issue of power was critical to T.V Paul during his research. “Interest defined in terms of power – i.e. military power – is overly restrictive ... power, interests, and norms may not be completely on opposites poles as hard realism portrays them.” From T.V. Paul. *Power Versus Prudence: Why Nations Forgo Nuclear Weapons*. (Montreal & Kingston, McGill-Queen’s University Press. 2000), 150.

²⁰² For a more in depth discussion on the migration from “Hard power” to “Soft power” that includes economics, interdependence and cultural aspects, please see attached reference. From Pierre

4.2.1 – New Concept of Power

In 1980, Organski's initial test of power was to compare GDP data to the more involved Singer-Bremer-Stuckley measure of national capabilities which took into consideration military, industrial and demographic capabilities.²⁰³ Achieving a coefficient of determination of 0.95 between the two results and considering the intrinsic variability in the capabilities measured, Organski and Kugler opted to use the simpler GDP as the measure of a nation's strength.²⁰⁴

In 2010, are GDP figures, which are intrinsically a measure of economic clout, a true representation of the strength of a nation? In other words, can it be assumed that the ability to produce goods also means that a nation has an equally strong military and productive population? I would submit that it is a dangerous assumption to make as a focus on economic growth may mask significant weaknesses. Furthermore, power in international affairs, which is the ability to influence others to do what you want them to do, implies more than simple economic pressure. This argument is supported by authors such as Nye,²⁰⁵ Strange²⁰⁶ and Pahlavi²⁰⁷ who observed that great powers have been gradually more inclined to use indirect influence than traditional "hard

C.C.T. Pahlavi, "Normpolitik: Revisiting Complex Interdependence." *Geopolitics*, Vol. 8 (September 2003), <http://www.diploweb.com/english/pahlavi2.htm>; Internet, accessed 20 May 2010

²⁰³ Organski and Kugler. *The War Ledger*. 34-37.

²⁰⁴ *Ibid.*, 38.

²⁰⁵ Nye. *Bound to Lead – The Changing nature of American Power*. 182.

²⁰⁶ This author submits that power is achieved through the control of four structural power: control over security, control of production of good and service, control of the financial system and control over knowledge (technical, religious, communication, ideas, etc). From Susan Strange. "The Persistent Myth of Lost Hegemony." *International Organization*, Vol. 51, no. 4 (Autumn 1987): 563-571

²⁰⁷ "The utility of hard power as in general shrunk, as it is less likely than in the past to produce the desired outcome." From Pahlavi, "Normpolitik: Revisiting Complex Interdependence."

power” methods. Increasingly, how a state influence another one is through oblique means.

In a theme borrowed from Organski and Kugler, it could be argued that power is ever more about perception than reality.²⁰⁸ This is the rationale behind the ideas of hard and soft power. Each will be evaluated in turn in the following paragraphs.²⁰⁹

4.2.2 – Hard Power Evaluation

The concept and evaluation of power in international affairs are topics that have been extensively debated by scholars such as Robert Keohane,²¹⁰ Susan Strange,²¹¹ Ray S. Cline²¹² and Joseph S. Nye Jr.²¹³ As a starting point for this discussion, Nye’s suggested elements of traditional or tangible means of influence will be applied: basic resources, military, economic, and science and technology.²¹⁴ How does the US and China compare for each element?

Basic Resources. Both the US and the PRC are vast countries with substantial internal natural resources. By land mass, they are ranked third and fourth in the world

²⁰⁸ Organski and Kugler. *The War Ledger*. 30.

²⁰⁹ It is realized that each criterion could be subdivided in multiple sub-elements for evaluation. There is simply not the space in this work to achieve such an extensive study and so the decision was made to limit our discussion to a few selected factors.

²¹⁰ See Keohane and Nye. “Power and Interdependence in the Information Age.” 81-94.

²¹¹ See Strange. “The Persistent Myth of Lost Hegemony.” 551-574.

²¹² See Ray S. Cline. *World Power Assessment*. (Boulder, Colorado, Westview Press. 1977).

²¹³ See Nye. *Bound to Lead – The Changing nature of American Power*.

²¹⁴ *Ibid.*, 174.

respectively with the US being slightly bigger.²¹⁵ Both countries also have a huge appetite for natural resources to support their domestic industry and both have developed an extensive web of commercial agreements to secure additional resources through out the world. Both countries have relatively limited reserve of oil and gas²¹⁶ as well as moderately healthy reserve of coal.²¹⁷ The most significant difference is in their predicted consumption level. While America is already highly industrialized, China is still under development and its energy consumption must keep escalating if it wants to increase its economic competitiveness. China will thus become progressively more dependant on foreign natural resources for its industrial growth and this partially explains its increased presence in Africa.²¹⁸ Prediction: slight advantage to the US as it already has secured its raw material needs while China will have to compete to do the same.

Military. Both countries maintain massive military forces and both are nuclear powers. China's military is numerically twice as big as the US but not as technologically capable.²¹⁹ China has been modernizing its forces but it is accepted that this military

²¹⁵ The United States is ranked 3rd in the world at 9,629,091sq km while China is ranked 4th at 9,596,960 sq km. World Statistics by Areas.

http://www.mongabay.com/igapo/world_statistics_by_area.htm; Internet, accessed 26 April 2010.

²¹⁶ Proven extractable reserves as of January 2009, Oil & Gas Journal. The United States has 21.3 billion barrels of oil and 237.7 trillion cubic feet of gas. China has 16.0 billion barrels of oil and 80.0 trillion cubic feet of gas. World Proved Reserves of Oil and Natural Gas, Most Recent Estimates.

<http://www.eia.doe.gov/emeu/international/reserves.html>; Internet, accessed 22 April 2010.

²¹⁷ Proved recoverable coal reserves at the end of 2006. The United States has 246.6 billion tonnes and China has 114.5 billion tonnes. Coal. Source is British Petroleum (BP) [http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2007/STAGING/local_assets/downloads/spreadsheets/statistical_review_full_report_workbook_2007.xls#Coal - Reserves!A1](http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2007/STAGING/local_assets/downloads/spreadsheets/statistical_review_full_report workbook_2007.xls#Coal - Reserves!A1); Internet; accessed 22 April 2010.

²¹⁸ Lake Wang. "The Good Neighbor – Why China Cooperates." *Harvard International Review*. Vol. 29, issue 3 (Fall 2007): 39.

²¹⁹ The United States has 1,473,900 active duty personnel (2008) while China has 2,255,000 active duty personnel (2006). Number of Military Personnel per country. http://en.wikipedia.org/wiki/List_of_countries_by_number_of_troops; Internet; accessed 12 April 2010.

modernization will not come at the detriment of the nation's economic growth.²²⁰

Realizing its weakness vis-à-vis the US, the People's Liberation Army (PLA) will focus on those key capabilities that are most likely to offset its opponent strengths.²²¹ Also supporting China's continued military weakness relative to the US is the long lead time for modern capabilities to be implemented, logistically supported and incorporated into doctrine.

Probably the most significant US' strength is its ability to project and support its power anywhere on the globe.²²² On the negative side, it is spending a sizeable portion of its treasure supporting its military forces' operations.²²³ As discussed previously, this substantial expenditure in support its national interests abroad is reminiscent of the concept of "imperial overstretch" attributed to Paul Kennedy.²²⁴ But even if the US was to return military spending to pre-War On Terror levels, it would still retain a considerable edge over China as it is spending eight times more (actual dollars) on its military than China.²²⁵ Prediction: the US will maintain its military advantage.

²²⁰ Scott L. Kastner. "Does Economic Integration Across the Taiwan Strait Make Military Conflict Less Likely?" *Journal of Asian Studies*. Vol. 6 (2006): 334.

²²¹ Zhanyixue translates into "the science of campaigns". Thomas J. Christensen. "Coercive Contradictions: Zhanyixue, PLA Doctrine, and Taiwan Scenarios." In *China's Revolution in Doctrinal Affairs: Emerging Trends in the Operational Art of the Chinese People's Liberation Army*. Edited by James Mulvenon and David Finklestein. The CAN Corporation, Virginia. December 2005. 313. <http://www.cna.org/documents/DoctrineBook.pdf>; Internet; accessed 22 February 2008.

²²² The 2008 US military budget was estimated at \$ 548.5 billion USD or slightly over 4% of its GDP. List of Countries by Military Expenditures. The original source is the Stockholm International Peace Research Institute. <http://milexdata.sipri.org/result.php4>; Internet, accessed 11 May 2010.

²²³ "By the end of 2008, the US has spent approximately \$900 billion in direct costs on the Iraq and Afghanistan Wars. Indirect costs such as interest on the additional debt and incremental costs of caring for more than 33,000 wounded ... these indirect costs will exceed the direct costs." The original source is the United States Department of Defense. <http://www.whitehouse.gov/omb/budget/Historicals/>; Internet, Accessed 21 May 2010.

²²⁴ Kennedy. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*.

²²⁵ Depending on the source (CIA, PRC or the World Bank), China's military budget does vary. The 2008 Chinese military budget was estimated at \$ 63.6 billion USD or 2% of its GDP. US is spending \$

Economic. For the purpose of this evaluation, it will be assumed that the GDP of both nations is a suitable representation of their economic power. Currently the picture is clear: in 2009, China's GDP was roughly one third of the US (see data in Appendix 1, Table 2.1).²²⁶ This is a situation that is acknowledged by China's Communist Party: "No matter what our economic ranking is, we still have to face the fact that our per capita GDP is still behind that of 100 countries in the world. We have a large population, a weak economic foundation, relatively fewer resources and many poor people."²²⁷ Ultimately, this is a self-serving acceptance that lets it enjoy significant benefits from a unique situation: China, with the second biggest economy, is also considered a developing country. It is thus allowed to protect its emergent industries and maintain capital control until 2028.²²⁸

Remarkably, the source of China's wealth has not been the PTT's expected domestic growth (the middle class). Most of China's population is still considered poor with a GDP per capita around \$ 3,678 USD.²²⁹ If one recalls that Organski's PTT assumed that internal growth rate is the source of a nation's strength, China is still far from having reached its full economic potential.

548.5 billion USD or 4% of its GDP. Source: List of Countries by Military Expenditures. The original source is the Stockholm International Peace Research Institute.

²²⁶ The original source from World Trade Bank (WTO). List of Countries by GDP 2008-2009.

²²⁷ Citation from Ma Jiantang, Director of the National Bureau of Statistics. McCabe. "China on the Brink of Becoming Superpower."

²²⁸ As a developing country, China will be able to protect its developing industries and maintain capital controls until 2028. Its protection of its markets will expire in 2015. Canadian Security Intelligence Service. *China and Its New Place in the World*. Highlights from the conference, Ottawa, 28-29 September 2009. Available from <http://www.csis.gc.ca/pblctns/wrldwtchns-eng.asp>. Internet, accessed 20 February 2010.

While there is no doubt that China faces significant challenges in the pursuit of continued double digit growth rate, the speed and strength with which it rebounded from the global economic crisis would suggest that future economic parity with the US is not a farfetched goal.²³⁰ It has a plentiful pool of cheap labor and benefit from sizeable monetary surpluses that will help finance its economic development. It is thus likely that China will continue to economically out-perform the US in the future.²³¹

Considering that Organski deemed that parity is achieved when the challenger reaches 80% of the dominant nation's power, it is likely that China will attain power parity with the US in the future. Prediction: economic parity is likely to be achieved.

Science and technology. The US is recognized as a center of excellence for technology and innovation. Three different statistics will be looked at to assess this factor: innovation, higher education and research and development (R&D) spending. First, one possible measure of the strength of the science and technology sector in the US is the number of patents registered. In 2007, the US generated over 450,000 patents while roughly 245,000 patents were filed from China.²³² Second, for higher education, the number of graduating of university students will be considered representative of the

²²⁹ Central Intelligence Agency. *The World Fact Book*. http://en.wikipedia.org/wiki/The_World_Factbook; Internet; accessed 21 January 2008.

²³⁰ China has been the big winner from the Global economic crisis – its growth has rebound strongly – back into double digits during the recent quarter. Bill Emmott. “Why China is Stoking War of Words with US.” *The Times*, 08 February 2010.

²³¹ The source for the following figures is the CIA World Fact Book. China's growth rate is expected to be in the 12.2 % range while the US' is estimated to be -2.4 %. Source: List of Countries by GDP Growth Rate.

²³² The exact numbers are 456,154 patents in the US and 245,161 in China. Interestingly, for China, this represented a 28.1 % average annual growth rate since 2003. From: World Intellectual

strength of this sector. In 2005, China graduated 2.4 million university students (or 1824 per 100,000 citizens) versus 1.4 million in America (or 5123 per 100,000 citizens).²³³ Numerically, China is graduating more university students but, proportional to its population, the US is handing out almost three times more diplomas. Third, R&D will be assessed through the percentage of the GDP dedicated to this field. In 2007, China spent 1.5% of its GDP on R&D versus 2.7% for the US.²³⁴ Factoring the size of each country's GDP, the US spent about six times more actual R&D dollars than China.

Comparing the US and China performance in the science and technology domain is reminiscent of their status as economic power: both countries are strong but the US is the clear frontrunner. The US is spending twice as much in GDP percentage than China on R&D and its citizenry is generating patents at double the rate as well. The only note of caution is that China is graduating a larger number of scholars. This growing intelligentsia may, in time, have an impact on this field. One should not underestimate the intelligence and innovative spirit of a nation that, for almost five millenniums, was the world cultural center. Still, China is in a familiar position: in science and technology, it lags behind the US. Prediction: the US has the lead and China will continue to play catch-up.

Property Indicator – 2009 Edition. *World Intellectual Property Organization*.

<http://www.wipo.int/ipstats/en/>; Internet, accessed 25 April 2010. 19.

²³³ On the other hand, China's population is about four times the size of the US. If the ratio of university graduate against population size was used, the US would be graduating a greater percentage of its population. From: UNESCO Institute for Statistics. "China Leads the World in the Number of University Graduates." http://www.uis.unesco.org/ev.php?ID=7122_201&ID2=DO_TOPIC; Internet, accessed, 25 April 2010.

²³⁴ The source of this data is the World Bank. From: Research and Development Expenditure (% of GDP). <http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS>; Internet, accessed 21 May 2010.

This section focused on the elements of hard power. Specifically, it compared the protagonists' positions and attempted to judge if a reversal of these positions was likely in the near future. The summary of the findings is that the US currently enjoys a sizeable advantage over China in most categories. But this lead is not insurmountable and China is using its remarkable economic growth rate to put in place steps to catch up to the dominant power. The one exception appears to be military power. China has a powerful military but it is not aggressively trying to match the US military power projection dominance. It could thus be concluded that China will close the gap on the US hard power dominance but it will not fully challenge all aspects of this dominance.

Only considering these preliminary findings related to hard power, a significant conflict is probably not on the horizon. But the concept of power is shifting and the importance of soft power is increasing. Will this conclusion be duplicated when soft power is analyzed?

4.2.3 – Soft Power Evaluation

Compared to hard power, soft power is more about indirect influence and the attraction that a society has on another. Again, Nye's proposed elements will provide the framework for the appraisal of soft power. Soft power will be evaluated through an assessment of bilateral and multilateral relations as well as cultural, military and commercial exchanges.²³⁵

Bilateral and Multilateral Relations. Increasingly China and the US are the acknowledged polar powers around which other nations gravitate. Each has created complex webs of agreements, associations and coalitions that mutually tie them with other nations. Both wield much influence on the international scene including holding permanent seats on the UN Security Council. For the US, its presence and leadership is almost a prerequisite for any international gathering of significance. In this nearly pervasive involvement, one cannot help but perceive the tentacles of a hegemon ensuring that the international order continues to be tilted in its favor (or at least not against its interests) as envisaged by the PTT. Beside the UN and the North Atlantic Treaty Organization (NATO), many would argue that international organizations such as the World Bank, the International Monetary Fund and the World Trade Organization were established by the US to support US interests.²³⁶

Impaired by its past self-imposed isolationism, China, on the other hand, has not created as extensive a network of bilateral or multilateral relations. A powerful nation in its own right, it is only recently, over the last two decades, that China has sought to gather goodwill and friends around itself. Referred to as “the peaceful rise”, China has sought to improve relations with its direct neighbors through resolving most of its territorial disputes and mutually advantageous commercial exchanges. It can also be perceived that China’s focus on improving relation has more a regional flavor to it. This is exemplified by the creation of the SCO (2001), ASEAN +3 and the Asia-Pacific Economic

²³⁵ Canadian Security Intelligence Service. *China and Its New Place in the World*. 21.

²³⁶ Robert Keohane would even go further and propose that the US hegemony is supported by these international institutions that allow it to control the rest of the world. See Robert O. Keohane. *After*

Cooperation (APEC). With regard to the creation of bilateral and multilateral relations, China is still hindered by the remnants of its own foreign affairs policy of never taking the lead and by the perception that it remains a close society. Other countries continue to be unsure as to what it is that China expects or desires from international relationships. One opinion, expressed by John Bolton, former US ambassador to the UN, is that, maybe, China itself does not know what it really wants.²³⁷ Others, like John J. Mearsheimer, believes that China is still focused inward on its economic growth with the ultimate goal of regional hegemony and maybe more ...²³⁸

From the above discussion, it can be surmised that the US has clearly the upper hand with regard to bilateral and multilateral relations. It has stronger links to a bevy of other nations through its productive involvement in international organizations. For its part, this is an area where China has clearly improved its stock. Specifically, it has been the creative force behind the establishment of regional organizations that have been well received by its neighbors. Prediction: Despite a significant improvement in its image as a responsible regional stakeholder, China will not be able to overtake the US as the central figure on the international scene.

Cultural Exchanges. To assess this criterion, only the cultural exchanges between the two protagonists as well as the cultural impact of each nation will be considered.

Hegemony: Cooperation and discord in the World Political Economy. Princeton, N.J.: Princeton University Press, 1984

²³⁷ John Bolton. "This is No Time to Kowtow to China." *The Globe and Mail*, 10 November 2009.

²³⁸ "The ultimate goal of every great power is to maximize its share of world power and eventually dominate the system." Brzezinski and Mearsheimer. "Clash of the Titans." 47.

While it could be evaluated in many ways, the number of student studying in each other countries was selected as representative of the level of cultural exchange. China has sent 98,510 students to America in 2009²³⁹ while only 13,165 went from the US to China (in 2008).²⁴⁰ These numbers indicate that, either the education is better or that the US has a greater cultural attraction for foreign students, including Chinese.

It could be argued that the cultural attraction or the cultural impact of a society is one of the most critical elements of soft power. Soft power is about perception and that cultural impression is the key factor that shapes opinion. The evaluation of soft power for China could be a combination of how it views the world and how the world views it. Joshua Kurlantzick “China’s Charm: Implications of Chinese Soft Power” provides an interesting outlook of how China is pursuing its strategic interests through a holistic approach to diplomacy.²⁴¹ A 2009 Canadian Security Intelligence Service’s conference on “China and its New Place in the World” concluded that it is a country with weak soft power projection; more specifically, “China is not a magnet; others do not want to emulate it ...”²⁴² China has realized that its current ideology has no traction outside its border. Still, it has recently opened 270 Confucius Institutes around the world to project a more benign image.²⁴³

²³⁹ Tamar Lewin. “China is Sending More Students to U.S.” The New York Times. 16 November 2009.

²⁴⁰ It was also reported that these numbers represented roughly a 20% increase from the previous years. From: Study Abroad Statistics. http://www.vistawide.com/studyabroad/study_abroad_statistics.htm; Internet, accessed 27 April 2010.

²⁴¹ Joshua Kurlantzick. “China’s Charm: Implications of Chinese Soft Power.” Carnegie Endowment for International Peace. Vol. 47 (June 2006). <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=18401>; Internet; accessed 25 June 2010.

²⁴² Canadian Security Intelligence Service. *China and Its New Place in the World*. 22.

²⁴³ *Ibid.*, 23.

For its part, while it is often resented for its arrogant and overbearing international behavior, America is still perceived as a champion of freedom and human rights. Some US companies and institutions, such as Coke, IBM, Nike, Ford, Hollywood and Boeing, have almost universal recognition. Can anyone name a similar Chinese institution beside “Made in China”? This cultural acceptance of the US is confirmed through a BBC World Service poll of 30,000 individuals from 28 countries conducted between November 2009 and February 2010.²⁴⁴ This poll revealed that, from a low of 28% in 2007, 40% of the peoples questioned had a positive view of the US. For China, the trend is reversed: it went from a high of 49% in 2005 to a low of 34% in this poll. The depth of the US cultural acceptance is not one that can be easily supplemented. Prediction: the US will continue its cultural dominance for the foreseeable future.

Military exchanges. As previously discussed in this chapter, both China and America are military powerhouses with nuclear capabilities and large standing armies. Beside the acknowledged technological gap, one of the most striking differences between the two is the extensive network of military bases the US has created worldwide. It is reported that in 2007, the US had bases in 63 different countries and had over 250,000 military personnel distributed over 156 countries.²⁴⁵ Conversely, China is mulling over the idea of duplicating its rival by establishing its own foreign military base (one is being

²⁴⁴ For comparison purpose, the country viewed the most positively is Germany at 59%, Japan at 53%, the United Kingdom at 52% and Canada at 51%. See BBC News. “World Warming to US Under Obama, BBC Poll Suggests.” *BBC News*, http://news.bbc.co.uk/2/hi/in_depth/8626041.stm; Internet; accessed 20 May 2010.

²⁴⁵ Jules Dufour. “The Worldwide Network of US Military Bases.” Global Research, 01 July 2007. <http://www.globalresearch.ca/index.php?context=va&aid=5564>; Internet, accessed 27 April 2010

considered in Pakistan) but currently, it does not have any such installation.²⁴⁶ Clearly creating as an extensive foreign military network as the US will take decades. Prediction: China will slowly expend its influence, first regionally and then more globally, but the US has created such an impressive web of military exchanges that China will be hard pressed to match it.

Commercial Exchanges. This is the one area of soft power where China has been able to maximize its strengths and minimize its weaknesses. The study of its escalating GDP has clearly demonstrated that China is an economic power. What it has not shown is how this came to pass. For experts, such as Asia-Pacific advisor James Boutillier, the answer is relatively simple: in 1979, Deng Xiaoping declared that making money was good and then he opened the doors of the country to commercial ventures.²⁴⁷ Investors were initially leery of investing in a country that had frowned on capitalism, but the lure of China's untapped potential, both as a cheap source of labor and consumer market, proved irresistible. Further facilitating this transition was the reintegration in the late 1990s of both Hong Kong and Macao with the mainland which provided China with instant financial institutions and credibility.

Billions in investments have poured into China and in return, it has become the cheap manufacturing centre for the rest of the world. It can be argued that this manufacturing is at the low end of the value-added spectrum and that high technology

²⁴⁶ Hindustan Times. "China Mulls Military Bases in Pakistan." *Hindustan Times*, 28 Apr 2010. <http://www.hindustantimes.com/China-mulls-military-bases-in-Pakistan/H1-Article1-502952.aspx>; Internet, accessed 28 Apr 2010.

²⁴⁷ Boutillier. *Canada and the New Pacific Paradigm*.

parts are still fabricated elsewhere before final assembly in China. In spite of this, the numbers are enlightening: in 2009, China exported for \$ 296.4 billion worth of goods to the US while importing only \$ 69.6 billion in return; the trade surplus was thus \$ 226.8 billion in China's favor.²⁴⁸ In commercial exchanges with the world, the numbers repeat the same pattern: on balance, China exports more than it imports to the tune of \$ 200 billion.²⁴⁹ Worthy of note, in 2009, eight out China's top ten trade partners by volume were Southeast Asian countries (the exception being the US and Germany). Undoubtedly a conscious foreign policy decision, China is earning goodwill from its immediate regional neighbors by ensuring that they are also benefiting from its economic rise.

In 2009, China became one of the world top exporting nations, second only to the European Union.²⁵⁰ Relying on a web of wide-ranging commercial alliances, China exports more than it imports thus creating a sizeable trade surplus. As important, it is a country that asks fewer questions of its trading partners than the US. Prediction: China is a commercial trading power with an established commercial world wide web. It is at parity with the US in this domain.

²⁴⁸ Original source is from the US International Trade Commission. From: US-China Trade Statistics and China's World Trade Statistics. <http://www.uschina.org/statistics/tradetable.html>; Internet, accessed 28 April 2010.

²⁴⁹ In 2009, China imported for \$ 1,006 billion in good and services and it exported for \$ 1,202 billion. Source: *Ibid.*

²⁵⁰ The European Union exported for \$1,525 billion, China for \$1,202 billions, Germany for \$1,121 billion and the US for \$1,058. From: List of Countries by Exports. Original source from World Trade Organization (WTO) http://www.wto.org/english/res_e/statis_e/statis_e.htm; Internet; accessed 22 May 2010. Internet; accessed 22 May 2010

4.2.4 – Overall Power Evaluation

Focusing on the Sino-American dyad, four criteria related to hard power and four criteria related to soft power were analyzed. Considering hard power, this study suggest that, for most categories (basic resources, military, and science and technology), the US has a sizeable edge and one that it should retain despite the inroads that China is likely to achieve. The one exception is China's growing economic power: it is likely that China will reach economic parity with the US in the future.

Relatively similar conclusions were reached when soft power was analyzed. In three out of four categories, the US has built such a strong and extensive web of mutual support and exchanges (bilateral/multilateral, cultural and military) that China's pales in comparison. Where China's strength is undeniable is in its ability to trade with the world. With regard to commercial exchanges, China has reached parity with the US.²⁵¹

What is then the overall power assessment between these two leading nations? Analysis and internal factors are supporting the position that China will become an economic superpower but is unlikely to achieve superpower status in other categories to the level that the US is being perceived as a superpower. Considering the definition of power used by Organski,²⁵² China is thus likely to achieve power parity with America within the next couple decades. The greater question that now has to be asked, will

²⁵¹ China's economic strength has not come from its domestic market; it has come from its ability to trade with the rest of the world. It is thus not surprising that China is both an economic and trading superpower.

²⁵² For Organski, power is represented by only the GDP of a nation.

China be satisfied by being considered an economic superpower only? It is the question that will be studied in the next section.

4.3 – CHINA - STATUS QUO OR DISSATISFIED POWER?

It should be recalled that the PTT postulates that two specific conditions could lead to conflict between great powers: first, the necessary condition is that the dominant nation and rising challenger have reached relative power parity and, second, that the rising challenger is dissatisfied with the current status quo. It was determined in the previous section that China is likely to reach power parity in the near future. This makes the assessment of China's present and future satisfaction level with the current world order that much more significant.

The bulk of the work in this section will focus on evaluating China's satisfaction level. This assessment will be carried out through a qualitative evaluation of two representative criteria: China's level of globalization and how much influence and respect it is receiving from the international community. Satisfaction being about expectations met, China's avowed expectations will be considered before its status quo level is dissected.

4.3.1 – China’s Long Term Plan

China is an ancient land that has been shaped by a dynastic, cultural-center-of-the-world view going back 5,000 years. It is a patriarchal society that, despite the edicts of Mao Zedong’s communist revolution, has retained the Confucius principles of perception, patience, face and honor. Regardless of its early inclusion as a permanent member of the UN Security Council, China still resent what it perceives as more than a century of weakness and humiliation.²⁵³ Over the last two decades, China has gone through a nationalism resurgence aimed at returning the nation to its perceived rightful place of power and influence in the world.²⁵⁴ Understanding that altering the power equilibrium was bound to be seen as threatening, Hu Jintao, leader of the PRC, articulated the concept of “China’s peaceful rise.”²⁵⁵ In essence, this message was aimed at reassuring its neighbors that China will not pursue expansion or seek confrontation to secure its ascension.

In 2000, China’s decision makers, scholars and news media had decreed that, for the next two decades, the country will be within a “window of strategic opportunity,” a period of peace and stability in the world.²⁵⁶ This opportunity was made possible by the foresight of Deng Xiaoping who, in 1976, elected to set China on a path of “...

²⁵³ Zhu. *US-China Relations in the 21st Century – Power Transition and Peace*. 1.

²⁵⁴ Kevin Platt. “Ancient Roots of China Diaspora Tapped in Push for Unity.” *Christian Science Monitor*. Vol. 89, no. 31 (9 January 1997): 1.

²⁵⁵ Jianwei Wang. “Hu Jintao’s ‘New Thinking’ on Cross-Strait Relations.” *American Foreign Policy Interests*. Vol. 29 (2007): 24.

²⁵⁶ “It is a window of strategic opportunity for China, which must make the most of it, continuing its fast-paced economic developments and social transformation while limiting any external threats to peace and stability.” Susan L. Craig. *Chinese Perceptions of Traditional and Nontraditional Security Threats*. (March 2007): 7. <http://www.StrategicStudiesInstitute.army.mil/>; Internet; accessed 25 January 2008.

pragmatism and economic growth in which foreign policy became less confrontational.”²⁵⁷ But economic power is not China’s goal, it is only a component of the country’s ultimate aspiration: to have a place of power and influence commensurate with the status it believes it should enjoy in the world. This goal is more in accordance with Mearsheimer’s position than Bolton’s.²⁵⁸ To achieve this goal, the CCP had embraced the following three-stage plan:²⁵⁹

- a. Stage 1 - from 2000 to 2010, the total GDP is to be doubled;
- b. Stage 2 - From 2010 to 2020, the total GDP is to be doubled again, with the expectation of reaching a per capita GDP of \$3,000; and
- c. Stage 3 - From 2020 to 2050, China is to become a prosperous, democratic²⁶⁰ and civilized socialist country at a medium level of development. During this stage the four modernizations will be completed: agriculture, industry, national defense, and science and technology.²⁶¹

Considering that Stage 1 is coming to a close, one cannot help but be amazed how successful this plan has been. Using the data from Appendix 1 Table 1.2, from 2000 to 2009, China’s GDP has risen by 380 %. For comparison purpose, the US GDP has only risen by less than 150 % during the same period. Considering as well that the IMF

²⁵⁷ Wang. “The Good Neighbor – Why China Cooperates.” 38.

²⁵⁸ Refers to the discussion on “Bilateral and Multilateral Relations” in this chapter.

²⁵⁹ Bijian. “China’s ‘Peaceful Rise’ to Great-Power Status.” 23.

²⁶⁰ Democratization is also refers to as the fifth modernization as so identified by Wei Jingsheng on a wall poster on the Democracy Wall in Beijing, 5 December 1978. It is there in Stage 3. Is it really part of the CCP’s grand plan or is it just for external consumption? Only time will tell but I remain skeptical.

estimated that China's GDP per capita in 2009 was \$ 3,678 USD,²⁶² it could be concluded that Stage 2 of this plan has been achieved, ten years in advance of the original date.

Of note, the objectives of this 50-year plan were couched in terms of economic achievements. The overall plan summarized the direction China has chosen to follow: through modernization, industrialization and peaceful relations with trading partners, China's economy will be at the centre of its ascension in the world. At its foundation, it is a plan focused on peace, stability and prosperity.²⁶³ Another element that can be extrapolated from China's geopolitical strategy is that its military's aims and policies are completely subjugated to the grand political imperatives. Economic, political and diplomatic successes are more important than victory on the battlefields.²⁶⁴

Understanding that its goals and expectations are to be recognized internationally as an economic, political and diplomatic superpower, is China receiving enough "benefits" to remain satisfied with the current world order? To address this question, the aspects of globalization as well as influence and respect will be considered.

²⁶¹ Anatoliy F. Klimenko. "The Evolution of China's Military Policy and Military Doctrine." *Military Thought*. (April-June 2005) [journal on-line]; available from <http://www.encyclopedia.com/doc/1G1-135818480.html>; Internet; accessed 5 February 2008.

²⁶² Central Intelligence Agency. *The World Fact Book*.

²⁶³ LtCdr Fridtjof Karlstad. "China's Power Ambitions." (Toronto: Canadian Forces College Command and Staff Course National Security Studies Course Paper, 24 April 2006), 66.

4.3.2 – Globalization

Globalization refers to the ability to work within the worldwide environment. But globalization could also be measured in terms of acceptance and involvement within the global community. The purpose of this section is to appraise China's ability to navigate the various international systems to achieve its internal political, economic and social goals. More specifically, the question to be answer is: does China perceive to have the freedom to put in place the agreements and exchanges that will ensured its continued internal growth? The answer to this question will provide an indication whether China is a satisfied or revisionist upcoming power. Factors that will be considered in this survey are: China's ability to trade, to secure natural resources outside it own border and its international involvement.

China's ability to connect to worldwide markets was addressed when its economic power and commercial exchanges were analyzed in this chapter. China's current status is arguably a result of its ability to manufacture and sell it goods through out the world. Combining exports and imports, China's trade was worth \$ 2.2 trillion USD in 2009.²⁶⁵ Even countries that have traditionally been enemies (or at least less than friendly) to China such as the US, Japan and Taiwan were among its biggest trading partners.²⁶⁶ China has also become one of the choice destinations for financial investment. From one source, in 2008, China benefitted from \$ 95.3 billion USD in

²⁶⁴ Andrew Scobell. "Is there a Chinese Way of War?" *Parameters*. Vol. 35, issue 1 (Spring 2005): 118.

²⁶⁵ Original source is from the US International Trade Commission. From: US-China Trade Statistics and China's World Trade Statistics.

foreign direct investment.²⁶⁷ These numbers indicate that China has become a leading commercial player with the inherent freedom to trade.

While no nation is being forced to trade with China, increasingly questions are being asked about its trading practices. Probably chief among the causes for these concerns is the significant trading surpluses China enjoys.²⁶⁸ The knock against China is that its national institutions are not completely driven by profit or market competition but instead, are directed by national long term goals.²⁶⁹ Furthermore, the dream of riches from access to the gigantic Chinese domestic market remains a chimera for most companies. Beijing's markets are tightly controlled by state-owned champions owning their status to the country's elite. This has been referred to as "capitalism with Chinese characteristics" by foreign policy analyst John Lee.²⁷⁰

This ability to benefit from the openness of the world's trading system would not be possible if China was not also perceived as a reasonable international stakeholder. China has intelligently used its economic clout to become a key player in bilateral and multilateral agreements. By promoting organizations such as ASEAN and APEC, China has encouraged multilateral negotiations based on complementary economic/cultural conditions as well as creating forums to air concerns with regard to regional security and

²⁶⁶ The US was ranked number 1, Japan number 2 and Taiwan number 5. Source: *Ibid.*

²⁶⁷ US-China Business Council. "Foreign Direct Investment in China" http://www.uschina.org/statistics/fdi_cumulative.html; Internet, accessed 30 April 2010.

²⁶⁸ Down to \$ 196 billion USD in 2009 from a high of \$ 298 billion USD in 2008. *Ibid.*,

²⁶⁹ Friedemann Muller. "China's Energy Policies – Geopolitical Repercussions." Chapter from "China's Rise: The Return of Geopolitics?" Edited by Gudrun Wacker. *German Institute for International and Security Affairs*, February 2006, available from <http://www.comw.org/cmp/fulltext/uspolicy.html>; Internet; accessed 28 January 2010; 13.

stability.²⁷¹ Global business management scholar Oded Shenkar has remarked that, taking a page from the US play book, China is slowly building a web of nations with mutual interests.²⁷²

Globalization has been good to China. While there is some rumbling about trade deficits when dealing with China, there has been no active effort to curtain or restrict its ability to access the global market to either sale its wares or purchase needed raw material. In the end, there are probably enough individuals, companies and nations willing to trade with China, that it should remain a “satisfied trader” for the foreseeable future.

4.3.3 – Influence and Respect

As laid out in the previous section, China’s fundamental plan is to pursue economic prosperity until it has achieved great power status. But then what? Is prosperity an end in itself or a mean to an end? The following paragraphs will argue that what China truly desires is respect and influence, or in other words, a real position of

²⁷⁰ John Lee. “Commentary - Confronting Beijing’s New Bipolar Reality.” *The Washington Times*, 18 February 2010

²⁷¹ Wuu-long Lin and Pansy Lin. “Emergence of the Greater China Circle Economies: Cooperation Versus Competition.” *Journal of Contemporary China*. Vol. 10, no. 29 (2001): 697.

²⁷² “Its goal, for now, is to build a global position to rival that of the United States, even though the Chinese leadership is trying hard to sell the notion that this is not a zero-sum game ...” From Oded Shenkar. “China’s Economic Rise and the New Geopolitics.” *International Journal*. Vol. 61, no. 2 (Spring 2006): 318.

power.²⁷³ Thus, provided that the long term conditions are in place to achieve this goal, China will remain a satisfied power.

Once again, we are faced with the issue of how to assess unquantifiable qualities: respect and influence. From the previous discussion on the aspect of globalization, one could equate the acceptance of a country within international agencies as representative of the respect and influence accorded to this same country. If this proposition is accepted, China is then a respected and influential nation. Similarly, the criticality of China's position during the latest Climate Change Conference in Copenhagen (December 2009) could also be perceived to be representative of China's influence on the world stage.²⁷⁴ Are there other, more direct, indications that would suggest the level of respect and influence accorded to China?

One could advocate that the greatest indication of how much China's influence has risen in the international system is the suggestion that a G2 forum²⁷⁵ should be created to replace the G20.²⁷⁶ The simple fact that it has been suggested is a tacit acknowledgement of the global impact that the two most powerful economies (the US and China) have on the rest of the world. For China in particular, it is also recognition of its new level of power and influence in world affairs.

²⁷³ "Because of its history and the prestige of the Chinese Empire, China above all wants to stand among the great power of the day and be recognized as such." Valerie Niquet. "China's Future Role in World Affairs: An Enigma." *Politiques Étrangères*, No. 5 (2008): 62.

²⁷⁴ John M. Broder. "Climate Goal is Supported by China and India." *The New York Times*, 09 March 2010.

²⁷⁵ "Cultivating at the presidential-summit level a de facto geopolitical G-2 (not to be confused with proposals for an economic G-2), ... recognize that both countries have a major stake in an effectively functioning world system." See Zbigniew Brzezinski. "From Hope to Audacity: Appraising Obama's Foreign Policy." *Foreign Affairs*, Vol. 89, no. 1 (January/February 2010): 27.

Currently China's most influential tool is its economic power. This has been clearly demonstrated by its response to the recent sale of American weapon systems to Taiwan. Unhappy with this sale, China's response has been to suggest that it would boycott companies directly implicated with the manufacturing of the weapon systems involved in this trade and would consider removing its support to the US on key regional and international issues.²⁷⁷ Interestingly enough, and showing relative maturity and confidence, China's primary response was not a military one. This same careful and calculated response could also be perceived in China's recent troubles with Google over self-censorship.²⁷⁸ In the end, China is using its economic clout to put pressure on other parties to get its own way.

Reflecting this confidence, but also acknowledging its own weakness at projecting power beyond its own territory, is the acceptance of the US as a guardian of regional security. As expressed by Eugene B. Rumer of the Institute for National Strategic Studies, China is "reaping the benefits of US security assistance to Central Asia."²⁷⁹ Stability was also undeniably behind the creation of the SCO.²⁸⁰ Security is required for China's economic prosperity, which allows it, in turn, to use its economic muscles to gain friends and influence others. In the end, this is a stability that is provided at little cost to China with the advantage of preventing its neighbors from fearing an

²⁷⁶ Kampf. "Viewpoints: Moving the G-2 Forward."

²⁷⁷ BBC News. "China Hits Back at US over Taiwan Weapons Sale."

²⁷⁸ Steven Pearlstein. "China's Control Freaks." *The Washington Post*, 26 March 2010.

²⁷⁹ Eugene B. Rumer. "China, Russia and the Balance of Power in Central Asia." *Strategic Forum*, No. 223 (November 2006): 5.

²⁸⁰ The SCO was extensively study by Patrice Sabourin. He reached the conclusion that: "the SCO is improving stability of the region by resolving the security instabilities and preventing the escalations of violence." For more details see: Lieutenant-Colonel Patrice Sabourin. "Shanghai

overly strong Chinese military presence. More so, China is increasingly seen as the moderating power to the US sometimes unilateral actions.²⁸¹ China has rallied around its banner countries that are opposed to the US aggressive actions. It could be concluded that China's influence and respect will gradually increase if it accepts leadership when suggested by others instead of taking its position for granted.²⁸²

Is China a status quo or dissatisfied power? Indications from the previous discussion are that China is a satisfied power. More specifically, there is presently no obvious impediment to its ability to trade its goods or acquire needed raw materials on the global market. While some countries are increasingly weary of its trade surpluses, China has arguably achieved those by adhering to international rules. The economic wealth it has thus accumulated has allowed China to increase its influence in the world. This greater power and influence is exemplified by the suggestion of the creation of a G2. Furthermore, there is no coalition forming on the horizon to restrain either China's ability to trade or its growing influence. As long as those two elements remain relatively unfettered by external forces, China will remain a satisfied power.

Cooperation Organization – Threat for the West?" (Toronto: Canadian Forces College, Joint Command and Staff Course, Master of Defence Studies Paper, 2009), 74-75.

²⁸¹ Nowhere is this more evident than in Africa where China wants to have its influence prevail over the US. "China, ... thus aspires to be recognized as the representative, if not the leader, of developing and emerging countries." Valerie Niquet. "China's Future Role in World Affairs: An Enigma." 62.

²⁸² Hanns Gunther Hilpert. "China Becomes Asia's New Economic Center." Chapter from "China's Rise: The Return of Geopolitics?" Edited by Gudrun Wacker. *German Institute for International and Security Affairs*, February 2006, available from <http://www.comw.org/cmp/fulltext/uspolicy.html>; Internet; accessed 28 January 2010; 52.

4.4 – SUMMARY

The goal of this chapter was to investigate the future of the Sino-American dyad through Organski's PTT. A response to the following question was sought: are we heading for a major conflict between the US and China as they struggle with a possible power shift within the current world hierarchy? The two key elements that framed the answer were the issue of the measurement of a nation's strength and its level of satisfaction with the benefits it is receiving from the current system.

Strictly using Organski's suggested GDP as a measure of power, it was calculated that China's is sitting at 30.5 % of the US power level (using 2008 GDP values).²⁸³ As per the tenets of the PTT, China is still some ways away from the 80 % mark that denotes power parity. Nevertheless, the data is indicating that China's internal economic growth is outpacing the US' growth. Considering its domestic potential and the commitment of the governing body to protect its economic growth, all indications points to China likely achieving power parity in the future.

China's level of satisfaction with the current world order was also appraised. Analyzing its ability to sale it wares on the open world market and considering its facility to secure the raw materials indispensable to its continued growth, it was projected that China is a satisfied challenger. As long as there is no obvious movement to create a coalition to stymie China's growth, one could expect it to remain a satisfied power.

Organski's PTT submits that the two conditions for a major conflict between two great states are power parity and dissatisfaction on the part of the potential challenger. Then, it can only be concluded that the probability of a hegemonic conflict between China and America is low.

Finally, this chapter also raised questions as to the validity of a single parameter to assess national strength. It is suggested that the concept of power has evolved with time and the capabilities that speak of power today, are not the same as in the 19th or even 20th centuries. The reach and influence of a nation, as a combination of both "soft" and "hard" power, is a concept that deserves greater scrutiny than it can be afforded in this paper.

²⁸³ If data from the CIA World Fact Book (for 2009) is used, the US GD is at \$14,270 billion USD and China is sitting at \$4,758 billion USD. The power ratio is then 33.4 %. Source: List of Countries by GDP 2008-2009.

Our worst fear is not that we are inadequate; our deepest fear is that we are powerful beyond measure.

- Nelson Mandela

In the post-September 11 world, exceptionalism, combined with the immensity of American power, hinted at the danger of a nation so strong that others could not check it, and so self-righteous that it could not check itself.

- Walter Lafeber²⁸⁴

CHAPTER 5 – CONCLUSION

The inspiration for this paper spawned from Kenneth Organski’s prophetic statement that the question is not, if China will overtake the US, but when.²⁸⁵ Is this prediction still as valid today as the day it was made? If so, will such a momentous shift in the world leadership occur peacefully or will it result in a major conflict?

The intent of this paper was to answer these questions. It does so through the study of the present and future international relationship between America and China by means of a specific foreign affairs theory. Organski’s PTT was selected as our analytical framework as it specifically focuses on the dynamic between a hegemonic state and a rising contender.

Distilled to its key tenets, the PTT asserts that the international system is hierarchical in nature and dominated by a hegemon that, with the concurrence of satisfied great powers, has shaped the rules of the “great game” to maximize the benefits it can

²⁸⁴ Walter Lafeber. “The Bush Doctrine.” *Diplomatic History*, Vol. 26, no. 4 (Fall 2002): 558.

²⁸⁵ “The question is not whether China will become the most powerful nation on earth, but rather how long will it take her to achieve this status ... The United States will retain world leadership for at least

extract from the system. This international system is stable until the rise of a challenger who is disenchanted with its share of the benefits compared to its perceived status. The PTT hypothesizes that the probability of hegemonic conflict is highest when the rising challenger has reached power parity with the dominant state and is dissatisfied with the current status quo.

The first chapter introduced Organski's PTT but strictly from the point of view of its advocates. Highlighted as well were the modifications and amendments which improved its predictive applicability to international affairs such as Lemke's extension to include small wars. The review of past Sino-US dyad's analysis by PTT's proponents rightfully identified China as the fast rising challenger to *Pax Americana*. On the labeling of China as a satisfied (or dissatisfied power), opinions were divided.

In chapter two, the perceived and acknowledged weaknesses of this theory were considered. While some elements of this theory had to be carefully considered, such as the measurement of power and the evaluation of the satisfaction level of a nation, no fatal flaw could be identified that would prevent the utilization of the PTT for the study of international affairs. In addition, two alternate international affairs theories, the BPT and the PCT, were introduced for comparison purposes. These further highlighted the import of how "national power" is conceptualized and calculated.

the remainder of the twentieth century, perhaps even for a longer time, but the position will eventually pass to China." Quote by Organski in Tammen et al. *Power Transition: Strategies for the 21st Century*. 153.

In the last chapter, the author presented his own analysis and prediction of the future of American-China dyad, again, through the application of Organski's PTT. The two key factors that were analyzed were the evaluation of China's power and its level of satisfaction with the current world order. Using Organski's suggested GDP as a measure of power, it was concluded that the PRC has not reached parity with the US ... yet. Considering its internal domestic growth, its domestic potential and the CCP commitment to economic growth, China is likely to attain power parity with the US in the future. If parity is achieved, does this mean the return to the uneasy peace of a bi-polar world?

China's level of satisfaction with the world order was also appraised through an analysis of its ability to freely trade, and the respect and influence it is receiving on the world scene. Considering how well it is integrated into the global market (selling of its goods and services, and securing of required raw materials) and that there is no inkling of the creation of an external alliance to stymie its growth, China has to be classified as a satisfied status quo power. How long will China remain a satisfied great power? The simplest answer is that, considering the patience and pragmatism traditionally exhibited by China, as long as it can grow and prosper within the current system.

The PTT states that the probability of hegemonic conflict is highest when a challenger has achieved power parity and is dissatisfied with the current world structure. Since China is assessed as a satisfied great power, the probability of a major conflict is low.

Finally, this research highlighted two areas that are deserving of additional scrutiny. First, Lemke increased the generality of the PTT through its incorporation of the multiple hierarchy perspective (local and regional hegemony). Keeping in mind the increased impact of globalization, monopolization and informatization, could the PTT be applied to domain hegemony such as space, maritime, information or other domains? The second study area is related to the measurement of power. Organski drew upon the GDP as a representative measure of power. While simple and easily deduced, it was argued in this paper that GDP may no longer be a realistic representation of national strength. As demonstrated when its status was analyzed, China is an economic great power; but, since some of its elements that are integral to the evaluation of power are weak, it should not be considered a superpower in the same category as America. In the 21st century, the updated concept of power, as related to reach and influence (or hard and soft power) of a nation, deserves greater examination for incorporation within the PTT.

Appendix 1

TABLE 1.1 - CHINA AND UNITED STATES GROSS DOMESTIC PRODUCT (GDP) FROM 1820 TO 1995

Year	United States		China	
	GDP (billions USD)	GDP/Capita (USD)	GDP (billions USD)	GDP/Capita (USD)
1820 ^a	12.6	1,287	228.6	523
1850 ^a	42.5	1,819		
1870 ^a	94.4	2,457	187.2	523
1880 ^a	161.1	3,193		
1890 ^a	215	3,396	233.5	615
1900 ^a	312.9	4,096	260.6	652
1913 ^a	518	5,307	300.9	688
1920 ^a	594	5,559		
1930 ^a	769.2	6,220	384.3	786
1940 ^a	930.8	7,018	400	778
1950 ^a	1,457.6	9,573	335.5	614
1960 ^a	2,022.2	11,193	893.7	878
1970 ^a	3,045.8	14,854	1,434.2	1,092
1980 ^a	4,161	18,270	1434.2	1,462
1995 ^a	6,149.5	23,377	3,196.3	2,653

Note a – Source: David Rapkin and William R. Thompson. “Power Transition, Challenge and the (Re) Emergence of China.” *International Interactions*. Vol. 29 (March 2003): 325.

Appendix 1

TABLE 1.2 - CHINA AND UNITED STATES GROSS DOMESTIC PRODUCT (GDP) FROM 1998 TO 2009

Year	United States GDP (billions USD)	China GDP (billions USD)
1998 ^a	8,720	1,148
1999 ^a	9,213	1,158
2000 ^a	9,762	1,252
2001 ^a	10,020	1,345
2002 ^a	10,383	1,434
2003 ^a	10,882	1,575
2004		
2005 ^b	12,398	2,224
2006 ^b	13,164	2,658
2007 ^b	13,811	3,280
2008 ^c	14,204	4,326
2009 ^d	14,270	4,758

Note a – It is to be noted that the ultimate source for the data provided is the World Bank. Source: List of Countries by GDP 1998 to 2003.

[http://en.wikipedia.org/wiki/List_of_countries_by_past_GDP_\(nominal\)](http://en.wikipedia.org/wiki/List_of_countries_by_past_GDP_(nominal));

Internet, accessed 20 April 2010.

Note b - It is to be noted that the ultimate source for the data provided is the World Bank. Source: List of Countries by GDP 2005 to 2007.

http://www.geohive.com/earth/ec_gdp1.aspx; Internet; accessed 20 April 2020.

Note c - Source: List of Countries by GDP 2008-2009. The original source from World Trade Bank (WTO).

<http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?sy=2009&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1&pr.x=22&pr.y=15>; Internet; accessed 17 March 2010.

Note d - It is to be noted that the ultimate source for the data provided is the CIA World Fact Book. Source: List of Countries by GDP 2008-2009.

[http://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(nominal\)](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)); Internet; accessed 17 March 2010.

Appendix 1

TABLE 1.3 – ASEAN + 3 - GROSS DOMESTIC PRODUCT (GDP) 2008

Country	GDP 2008 (billions USD) ^{Note}
Brunei Darussalam	11
Burma (Myanmar)	13
Cambodia	10
Indonesia	514
Laos	5
Malaysia	195
Philippines	167
Singapore	182
Thailand	261
Vietnam	91
China	4,326
South Korea	929
Japan	4,909
Total	11,613

Note: Source: List of Countries by GDP 2008-2009. The original source from World Trade Bank (WTO).

<http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?sy=2009&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=001&s=NGDPD&grp=1&a=1&pr.x=22&pr.y=15>; Internet; accessed 17 March 2010.

Appendix 2

TABLE 2.1 - POWER CYCLE THEORY - RELATIVE POWER CALCULATIONS

Elements	United States	Russia	Japan	Germany	China	Total
Iron/Steel (million tons) ^{Note a} (As a %)	91.4 (11.1%)	68.5 (8.3%)	118.5 (14.4%)	45.8 (5.6%)	500.5 (60.7%)	824.9
Military (1000 members) ^{Note b} (As a %)	1,473.9 (27.9%)	1,037 (19.6%)	239.9 (4.5%)	284.5 (5.4%)	2,255 (42.6%)	5,290.3
Population (% of world) ^{Note c} (As a %) ^{Note d}	4.54% (15.5%)	2.08% (7.1%)	1.87% (6.4%)	1.20% (4.1%)	19.62% (66.9%)	29.3%
Oil Consumption (Barrels/day) ^{Note e} Coal Consumptions (million tons) ^{Note f} (As a %) ^{Note g}	19.5 1,122 (34.3%)	2.8 270 (6.4%)	4.8 204 (7.8%)	2.6 270 (6.2%)	8.0 2,830 (45.6%)	37.653 4,696
Urbanization ^{Note h} (As a %) ^{Note i}	81.7% (23.5%)	72.8% (9.6%)	66.5% (7.8%)	73.6% (5.6%)	43.1% (53.5%)	
Aggregate % ^{Note j}	22.5%	10.2%	8.2%	5.4%	53.8%	

- Note a – The annual production for 2008 was used. Source: Steel Production by Country. http://en.wikipedia.org/wiki/Steel_production_by_country; Internet; accessed 12 April 2010.
- Note b – Only Active personnel were considered. Data for the United States is from 2008. Data for Russia, Japan, Germany and China is from 2006. Number of Military Personnel per country. http://en.wikipedia.org/wiki/List_of_countries_by_number_of_troops; Internet; accessed 12 April 2010.
- Note c – The population is provided as a percentage of the total world population which was at 6,814,200,000 in early 2010. Source: List of Countries by Population. http://en.wikipedia.org/wiki/List_of_countries_by_population. Internet accessed 12 April 2010
- Note d – The population as a percentage was then recalculated to represent the portion of the population of each country for that particular group of 6.
- Note e – Data is for 2008 from the CIA World FactBook. Central Intelligence Agency. *The World Fact Book – Country Comparison – Oil-Consumption*. <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2174rank.html>; Internet, accessed 12 April 2010.
- Note f - Data from 2008. Source: International Energy Statistics – Coal – Consumption - 2008. From the Energy Information Administration (EIA). <http://tonto.eia.doe.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=1&pid=1&aid=2>; Internet, accessed 14 May 2010.
- Note g – This percentage was obtained by transforming the coal consumed annually into its equivalent value in barrels of oil per day. The equivalency used was 1 metric ton of coal = 4.88 barrels of oil.
- Note h – From the World Bank. The data used for this factor is the percentage of the total population of a particular country that resides in urban areas. Source: Urban Population. <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>; Internet, accessed 14 May 2010.
- Note i – This percentage represents the portion of the population of each specific country that resides in urban areas against the total population for this group of six countries that resides in cities.
- Note j - This number is achieved through the summation of the percentage for the five elements under consideration and then dividing by five.

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