A CHAOTIC THEORY OF INTERNATIONAL RELATIONS?

THE POSSIBILITY FOR THEORETICAL REVOLUTION IN INTERNATIONAL POLITICS

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Abstract

In describing the nature of the international system international relations contemporary theorists frequently divide themselves into two groups: neorealists and neoliberalists. The neorealists emphasise an anarchical structure, drawing implications from this anarchy to explain the order and disorder that greets the analyst of international affairs. Conversely, neoliberalists favour an explanation that focuses on the interdependence of international actors. Yet the international system of the twenty-first century is not one that can be so simply described as either 'anarchical' or 'interdependent'. Instead, the features of the system can best be described in terms reminiscent of other systems from the biological and meteorological sciences. This paper argues that the international system is something more complex than what the neorealists and neoliberalists suspect, sensitive to seemingly insignificant inputs and beyond discussions of order and disorder. The essence of the international system is chaos and, thus, a chaotic theory of international relations is now required.

Introduction

How theorists conceive of the international system influences greatly their interpretation of the system, the implications that they draw for the actors within it and the expectations they have for behaviour by states, institutions and individuals. Different founding assumptions about the international

system and the motivations for actor behaviour will have markedly different implications for the description, explanation and prediction of actor behaviour. In turn, these different interpretations of the system open up debates within and around the description, explanation and prediction of international interactions. However, there remain some impressive similarities in the assumptions made by the majority of international relations theorists, most easily expressed in two concepts: anarchy and interdependence.

The anarchic nature of the international system is an (almost) discipline-wide assumption in international relations. Realists and liberals, constructivists and radical theorists alike all maintain that the international system is characterised by anarchy. The diversity of theoretical debate is explained by the implications that different paradigms in international relations draw from this single foundational point: realists argue that anarchy implies competition; liberals that anarchy presents challenges, though surmountable ones, to cooperation; and constructivists argue that anarchy is existential and the implications are constructed by the actors within the system, anarchy having no component implications of its own. For much of the history of international relations scholarship, anarchy has remained at the centre of the theoretical interpretations of the international relations. A long list of the most distinguished scholars – from Thucydides (1972) to Hobbes (1975), Carr (1946) to Morgenthau (1967), and Waltz (1979) to Mearsheimer (2001) – have endorsed its centrality to explanations of international realities.

From the 1970s, however, a new wave of scholarship emerged which began to question, however tentatively, the anarchic understanding of the world system. Beginning with the work of Robert Keohane and Joseph Nye (1977) and culminating in Helen Milner's 1991 critique, 'The Assumption of Anarchy in International Relations Theory', this new wave of scholarship highlighted the reality of interdependence in international relations. While not urging an end to the anarchic analysis of international affairs, such work laid the foundation for the interdependence theorists, as they would come to be called, to imply that a focus on anarchy alone could not explain the richness and variety of international interactions, particularly in a globalised world. Milner, in particular, is clear in her conclusions that the disjoint between anarchic

competition and domestic cooperation implies that the domestic cannot impact upon the international – and yet it does. Thus, she argued, there is a need to recognise that, however important one might hold anarchy to be, such interdependence is at least as important and, perhaps, more so in explaining and predicting international interactions.

Thus, in anarchy and interdependence, international relations theorists see the two primary conceptions of the international relations system. The former is the standard, the latter a more recent critique, but both are mainstream and accepted theoretical stances for the international relations scholar to maintain. And they are also, in the opinion of this author and in the argument of this paper, both misinterpretations of a wholly more complex and decidedly different international system.

The purpose of this paper is to explore the non-anarchic and ultra-interdependent notion of chaos in international relations, arguing that this third alternative can explain much of the actor behaviour in the international system, the recurrence of certain behaviours and the emergence of new behaviours. It will further be argued that chaos better reflects the reality of an international system where individuals and non-state actors can have a significant effect at the international or system level. Though the paper is obviously inclined towards the application of a chaotic theory of international relations in theorising and analysing international affairs, two significant objections – as yet unanswered – are also outlined. The paper concludes with a call to further research and the suggestion that, with further refinement, a chaotic theory of international relations may prove useful in theorising the international political system in the 21st century.

Anarchy and Interdependence in International Relations Theory

Anarchy has been at the heart of theorising about international relations since the time of Thucydides. Indeed, the Greek historian recalls the lack of overarching authority in the Melian Dialogues of his History of the Peloponnesian Wars, writing of the Athenian position, "if any maintain their independence it is because they are strong, and that if we do not molest them it is because we are afraid" (1972, Chapter XVII). In this short sentence is the essential nature of politics under anarchy: there is no higher power to appeal

to, no guardian to protect the weak from the strong, and no recourse to law should one be slighted by another within the same system. Some two millennia later Thomas Hobbes echoed these same sentiments, setting a trend that persists until the present.

Hobbes' conception of a 'state of nature' in which, according to Hobbes (1975), life is a constant "war of every man against every man", reflected the same anarchic reality that Thucydides outlined in his account of the conversations between Athenians and Melians. He described a realm where life was necessarily "solitary, poor, nasty, brutish and short" – a direct result of the enduring conditions of anarchy in which humanity found itself. Hobbes imagined that humans, under such conditions, would band together under strong leaders and, in doing so, trade off individual freedoms for survival, eventually forming a Leviathan, or strong central state ruled by an all-powerful sovereign. This social contract, Hobbes argued, was the logical end of humanity's quest for security under anarchy.

The unpredictability of anarchy remains reflected in the work of more recent scholars. Both EH Carr and Hans Morgenthau were adamant in their respective magnum opi, The Twenty Years Crisis and Politics Among Nations (1946), that anarchy was the single fact of international politics that is forgotten in idealistic discussions of how international politic al life should be. Carr, in particular, was biting in his criticism of the theorists and scholars he labelled 'idealists' for their apparent disregard for the security implications of communing in an anarchic realm. Morgenthau (1967), for his part, criticised those who imagined a world that could and should be instead of the anarchic reality that was. Indeed, so convincing and influential was his vision that Morgenthau is today regarded as the 'father' or modern realist theory in international relations (Weldes 1999, 7).

Later still, Kenneth Waltz 'systematised' anarchy, arguing first in Man, The State, and War and later in Theory of International Politics (1979) that anarchy was and remains the single most important fact of international political life. It constrains and enables international politics at the unit level and is impervious to even great unit-level changes within the wider system, including the introduction of nuclear weapons during the 20th century (Waltz 2000, 5). Waltz's clarity of thought and departure from the human nature

arguments of previous realists led to the emergence of the structural realist, or neorealist, theoretical paradigm in international relations. While the focus on system-level events for explaining international realities separated Waltz from his realist predecessors, he nonetheless relied on the notion of anarchy to define the international arena. For Waltz, the realists had been correct in their historical assumption as to the nature of the system, only incorrect in their slightly confused interpretation of the role of this anarchy in shaping the interactions in the international system (1990, 31).

Following in Waltz's footsteps, John Mearsheimer takes the anarchic paradigm to the extreme with his offensive realist stance. In a series of articles in International Security, Foreign Policy and also his own canon, The Tragedy of Great Power Politics (2001), Mearsheimer has explained previous occurrences of conflict in the international system as the direct result of anarchy's influence and predicted (sometimes with varying reliability) the future occurrence of war. In a famous example, Mearsheimer argued that the collapse of the Soviet Union and the end of the Cold War would undoubtedly lead to conflict and continental aggression in Europe (1990, 5-56). Though yet to be proved correct – and perhaps not likely to be in the face of the expanded European integration programme – Mearsheimer's offensive realist stance is purely politics writ large on an anarchic canvas. Owing much to Waltz, but also to his predecessors in Morgenthau, Hobbes and Thucydides, Mearsheimer has made some of the most elegant and, in the words of contemporaries Robert Keohane and Lisa Martin, direct "[sharpening of] the theoretical issues dividing realist and Institutionalist theory" (1995, 39).

The history of anarchy in international relations theory is, in many ways, the history of the discipline itself. Field historian, Brian C. Schmidt, went so far as to title his 1997 book, The Political Discourse of Anarchy: A Disciplinary History of International Relations, thus equating the history of this particular conception of the international political environment with the history of the study of international affairs. But in more recent years, even anarchy has become a subject of debate as, in a period of advancing globalisation, it seems that it is not so much the lack of an overarching government driving actors into competition and conflict that defines the international system, but rather the interconnectedness and interdependence that is brought on by increasing

cross-border trade, investment, cultural exchanges and travel (see Keohane and Nye 2000). The world is no longer anarchic, at least in the sense of a Hobbesian 'state of nature' or even a conflict-ridden system in the style of Mearsheimer's post-Cold War Europe. It is, argue some, less anarchic than it is interdependent.

Of course, actors in the international sphere have always been, to some extent, interdependent. It would be a very unkind reading of Thucydides indeed that could not point to the interdependent relationship between Athens and the Island of Melos, if it the interdependence was weighted greatly against the smaller actor in this instance.[90] Indeed, in any international interaction there will always be interdependence – necessarily and owing to the nature of an interaction itself. What separates the interdependence theorists from Thucydides and his like-minded successors is not that they mention interdependence, but that they offer it as a greater influence in the interactions of actors and in defining the nature of the international system itself.

It is important to note, however, that interdependence and anarchy are not mutually exclusive conditions for a system. There is no reason to suggest that interdependency cannot occur in an anarchic system nor that interdependent systems must be other than anarchic. The emphasis on interdependence, however, does imply a different epistemological stance than the predominant emphasis on anarchy in one very significant way: the interdependent theorist implicitly assumes that cooperation in the international system is not only possible but likely and ongoing (Keohane and Martin 1995, 41-42). This is in direct conflict with the assumptions of anarchy-minded analysis where cooperation is generally held to be less common, short and goal-specific among international actors (Mearsheimer 1990, 15-16).

A Chaotic System?

Is there an explanation for the nature of the international system that can explain both the interdependence clearly evident in inter-actor relations and also the anarchy claimed to exist by most international relations theorists?

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[90] Interdependence, in this context, does not imply a relationship or interaction by choice. It might be said that interdependence, like anarchy, exists whether the actor accepts it or not.

And could this newly suggested nature of the system account for both the regularity and variety of international interactions within the international political system? This paper will argue that an alternate explanation does indeed exist in the nation of chaos and a chaotic international system. It will be further argued that the assumption of chaos can assist in explaining the variety of international behaviour exhibited by international actors, and also the recurring behaviours that have been previously explained away by references to anarchy and its implications for the wider system.

This section of the paper will be divided into three sub-sections: the first will introduce the notions of chaos and the nature of chaotic systems, in order to provide a brief outline of the context in which 'chaos' is to be used in the remainder of the paper; the second will outline three assumptions about a chaotic international system and draw out the implications of these assumptions for actions within the system; finally, the third section will highlight some of the shortcomings of a chaotic approach that will need to be overcome in order to construct a chaotic theory of international politics.

An Introduction to Chaos

If it can be said that 'chaos' was discovered, then the person who discovered chaos is generally held to be American meteorologist Edward Lorenz (1961). Lorenz had constructed a computer model simulating a weather system and he found, in the course of trying to repeat some modelling, that a seemingly insignificant change in one of his variables had a marked and devastating effect on the 'weather' produced. Though only a difference of less than 1/1000th, the change in the system was so immense as to be, after a short time, unrecognisable in comparison to earlier 'weather' systems using the model (Gleick 1987, 16). Lorenz hypothesised that his weather model – and also weather and the climate more generally – was super-sensitive to small changes in the system and, later, he would come to call this the 'butterfly effect' (Gleick 1987, 322).

The butterfly effect – in reality just the popular name for the more correct 'sensitive dependence on initial conditions' – suggests that it is possible that the flutter of a butterfly's wings in Beijing can be responsible for producing a hurricane in South America (Thiétart and Forgues 1995, 21). This sensitive

dependence on initial conditions is common to all chaotic systems, being found everywhere from meteorology to economics and political science to physics (Lorenz 1963; Brock et al 1991; Richards 1993; Reinhardt 1997). Chaotic systems derive their variety from this sensitive dependence and, as a result, are largely unpredictable long-term. A related element of chaotic systems is the importance of unit or individual unit events to have wide-ranging effects on the wider system. Interactions, even those limited to just two primary units, can and do affect all other units in the system. However, although we know it is possible for such unit level effects to have significant system level impacts, it is either impractical or impossible to collect and analyse such data. In effect, our models are never truly complete and, therefore, never truly correct (Justan 2001).

However, the importance of such unit level events on the wider system should not be overemphasised. As has been argued elsewhere:

...not every butterfly creates a distant storm every time it moves from flower to flower. Should this be the case then there would be no stability at all within the climatic system and even short-term predictions – for example, the likelihood of rain tomorrow – would become impossible. Thus, it should be noted, that just as these small events can impact on the wider system in significant ways, they could also not impact on the system in significant ways. There is no compulsion implied, only possibility which, in turn, ensures that the chaotic system is sometimes driven by these tiny events and, at other times, does not react at all, despite being faced with perhaps millions of such small interactions at a time (Kissane 2006, 95).

Chaotic systems may not seem chaotic. To the observer or analyst they may appear stochastic or even cyclical; indeed, some systems, which were previously thought to be linear or cyclical, have since proved chaotic upon closer study (Gleick 1987, 315-316). It is the argument of this paper that the widely assumed anarchy of the international system can also be considered another misinterpretation of a chaotic system. The fact that there is no overarching authority in the system may make the system anarchic by definition, but it does not exclude the possibility that it is actually chaotic. It might be said that whereas in an anarchic system nobody is in control, in a chaotic system everyone is in control and – in effect – nobody seems to be in

control. This is more than a semantic difference – indeed, as the structure of a chaotic international system is outlined in the following section it will become clear that this difference between anarchy and chaos is what provides the chaotic theory with its explanatory edge.

The Elements of a Chaotic International System

In any theory in any discipline there exist certain fundamental assumptions that underpin the theoretical analysis offered (Waltz 1997, 913). In the case of the chaos-based analysis of international relations suggested below, this paper suggests that three assumptions or elements are sufficient for the variety of international level behaviour to be described and, potentially, explained.

The first of these assumptions is the most divergent from traditional accounts of the international system. Put simply, in a chaotic theory of international politics it must be first assumed that the nature of the international system is chaotic. Of course, this explicitly rules out the anarchy of a style previously discussed in this paper but it also rules out simple or complex interdependence. While it is true that chaos is a style of interdependence, it is also true that a chaotic system is so different from any other 'regular' interdependent system that it cannot truly be considered in the same light as previous work in the field on interdependence (Gleick 1987, Chapters 1, 4 and 11; Jervis 1997, 4).

The second assumption is that actors within this chaotic system seek security. Such an assumption is not widely divergent from traditional international relations theory (Legro and Moravcsik 1999, 14; Taliaferro 2001). Realists, in particular, would find nothing very challenging in such an assumption, though it must be made clear that seeking security is different to seeking survival (Waltz 1997, 913; Legro and Moravcsik 1999, 13-16). A state actor, for example, seeking survival makes a bad decision if they take action to decrease the power of the state to regulate its own affairs (sovereignty) or to decrease its power vis-à-vis other states (the relative gains issue). A state seeking security may well trade off sovereignty to another state or institution if it believes it to be in the best interests of the state's security. Thus, while it is difficult to explain the sovereignty transfers associated with increased

regionalisation (for example, the European Union) with reference to survival seeking actors, it is less difficult under a paradigm that sees actors seeking security instead (Mearsheimer 1990, 8; 40-51). It is also important to note that security, in the context of this analysis, is an actor-constructed reality. Each actor may define security differently and move to secure different things. The third assumption is that, in seeking security, actors interact with other actors. While this seems straightforward and, in some ways, may seem to be tied to the second assumption, it is significant in the context of the wider chaotic approach. Security cannot be pursued independently in this analysis: security can only be sought and attained by interacting with other units in the system. These interactions drive the security balance and also the chaotic nature of the wider system.

Prediction in a Chaotic System

From these three assumptions – chaos, security seeking and interaction – can be extracted a series of predictions about the international system. Drawing on the first assumption, it becomes clear that long-term prediction of the system is impossible, but that short-term predictions and even medium-term predictions are likely to be accurate (Gleick 1987, 18). This is generally due to the fact that very small irregularities and unmeasured impacts within the system feedback into the system producing larger and larger change over time (Jervis 1997, Chapter Four). The 'butterfly effect', which is described as the possibility that the flutter of a butterfly's wings in Beijing can cause a hurricane in Florida, is an example of such feedback. Indeed, in the weather we have a chaotic system that is largely predictable short term (for example, the chance of rain in the morning), somewhat predictable in the medium term (for example, it is likely to be sunny next weekend) but almost entirely unpredictable long-term (for example, it will be 32°C on December 21st 2009). The cumulative effect of 'butterfly-level' events conspire to defeat even the most advanced weather model, leaving meteorologists without much of a long-term prediction other than summer will be warmer than winter (Young 2002).
Of course, the weather also provides us with an example of 'butterfly-level' events that do not feedback into the system. That is, while a butterfly may have an impact on the wider system, it can also not have an impact (Kissane

2006, 95). If every event in the system affected the entire system, prediction would likely be impossible. So while prediction long-term is impossible or, at the least, unlikely, there remains the possibility and reality that chaotic systems can be predicted in the short and medium term.

The meaning of 'security' is self-constructed but socially effected

Drawing on the latter two assumptions, as security is an actor-constructed notion, variation in definition is likely when comparing actors. However, as actors are 'social' – that is, they interact – there are also likely to be some regularity in definition between actors of a similar type. The ability of actors to construct their own notion of what security is allows for variation between actors in that definition. Thus, it is likely that some actors will define security in military terms, some in economic terms and some in terms of simple survival (Bellamy and McDonald 2004).

These differences in the definition of security may reflect differentials in power, status or culture; whatever the reason for the difference in definition, the most basic underlying explanation is that the actor has constructed its own definition of security. Thus, it would not be unusual for some state actors, for example, to seek security by banding together and pooling sovereignty (for example, in the EU) and others to attempt to become more fully independent (for example, Iran) (Smith 2000, 33). However, as it is also assumed that actors interact, it is assumed that there will be some processes of socialisation evident in the interactions. Thus, we would expect that there would be some similarities emergent among certain types of actors that are common to all (or almost all) other actors of that type. Thus, for nation-states we might find that almost all will attempt to increase security through the maintenance an armed defence force; for multinational corporations (MNCs) we might find that almost all attempt to increase security through increased economic profitability; for NGOs we might find that almost all are of a 'progressive' political nature (assumed to be better for survival in the system, as they understand it).

Some behaviour will be repeated

Building on this and on the third assumption, it should not be surprising for

some behaviour to recur within the system. Actors, in rationally seeking their own security, will attempt to increase their security stocks by repeating successful behaviour and avoiding behaviour that is considered by the actor to be unsuccessful. This might explain the recurrence of balancing actions between nation-states, but also the spectre of nation-states 'fighting the last war' when they go to battle in the 'next' war (Polk 1997, 65; Harley 1997). It would also explain why some behaviour is less likely to be repeated in the system after an actor finds that they do not increase security. For example, the surprise attack of the Japanese on Pearl Harbor which led, eventually, to the detonation of atomic weapons in Hiroshima and Nagasaki led other nation-states to believe that surprise attacks on a superpower are unlikely to be successful for them.

However, bearing in mind that security remains a self-constructed nation for each actor, it should not be surprising to find that some actors will attempt to repeat behaviour that has proved, for others, unsuccessful if they believe that there is some exceptional reason why it will work this time. Thus, while nation-states may not repeat the Japanese attack on American territory, a terrorist group might find it the best possible strategy for ensuring its own security and survival (see Litwak 2002, 77; Silberstein 2002, 1). In the same way, the exception that the Third Reich imagined the German state embodied saw it attempt to conquer Russia in a manner which had failed for every other foreign force in history.[91]

New behaviours can emerge in chaotic systems

In explaining the emergence of new behaviour in the system, the analysis draws on both the first and the third assumptions. There are two primary means by which new behaviours emerge in a chaotic system: new solutions to problems emerge in the interactions of actors because it is considered that the situation in hand is so new that it requires new, untested strategies; and new behaviours also arise out of ad-hoc interactions in feedback systems. In the

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[91] National exceptionalism is a recurring theme in many national and state myths. Consider the 'Manifest Destiny' of the United States, the so-called French exceptionalism, the Nazi myths surrounding the Aryan people and even Romanian exceptionalism. This particular meme is worthy of further investigation, perhaps from a foreign policy analysis perspective.

first case, actors consider a certain situation to be so different from all previously identified or experienced events that a new response – that is, a behaviour that has never before been attempted or a behaviour that is different from that others have tried in similar situations – is decided to be necessary by the actor in order to maintain or build security. In the second, an original action in response to a situation is considered standard or regular for the system, but that the feedback in the system and the wider response in the system to the original regular action lead the actor to make 'adjustments' to the behaviour. These adjustments feedback into the system again and further adjustments are made – thus leading to an overall new behaviour emerging.

Unipolarity is rare in chaotic systems

From the first two assumptions, it could be assumed that unipolarity in the system is a rare occurrence. If unipolarity is defined as the situation where, within a system, one actor is preponderant and controls more than half of the resources within that system, it should be rare under a chaotic system. This is for two reasons. Firstly, and largely from assumption one, it is understood that polarity will not be stable within a chaotic system. Assuming a system with a significant number and variety of actors (as the international system as described must be) then unipolarity can be expected to be mush less common than multipolarity even bipolarity. Imagine, for example, 10 units in a system. There are only 10 ways in which the system could be unipolar but 45 different bipolar pairings and 968 ways the system can be multipolar. With reference to simple probability alone, it seems unlikely that unipolarity would be a normal state of affairs for the international system. Secondly, as it is assumed that actors will seek security to ensure their survival in the system, a sole power that dominates the system – as in a unipolar system – is likely to be interpreted as a threat by at least some of the other actors in the system (Layne 1993; Christensen 2001). Thus, while unipolarity is possible, it is likely to be challenged by other actors and last only a short time.

No polar distribution is necessarily unstable

In considering polarity, it should also be noted that in a chaotic system no particular polar distribution of power is necessarily more stable or ordered than

any other. As Diana Richards has previously shown, under chaos unipolarity, bipolarity and multipolarity all have the potential to be stable. Unlike the anarchy of neorealist theory, chaos does not favour one distribution of power or security to another in terms of bringing stability to the system. As Richards has argued, a chaotic model includes "stable configurations ranging from unipolar, bipolar, tripolar, egalitarian multipolar [and] multipolar" (1993, 69).

Interactions impact on non-interacting parties

Finally, and with reference to all three assumptions, in a chaotic system an actor can be sure that their interactions will have effects other than those intended by the actor. With small events having the potential for great impact on the wider system, it is unlikely that interactions between actors can ever be truly 'controlled' or 'limited'. Furthermore, in a chaotic environment it is impossible for actors to predict all of the impacts of their interactions (Gleick 1987, 21). This is not to say that they can predict none – for why else would an interaction take place if some result were not thought in some way to be likely to result? – but they cannot predict all of the impacts and eventual results. Thus, actors are perpetually in a state of being able to draw reasonably accurate short-term predictions about the results of interactions but without being able to draw long-term conclusions.

Thus, for example, it might be possible to conclude that granting aid to Iraq in its war against a Soviet-sponsored Iran is a useful way for the US to stop the Soviet sphere of influence from expanding in the Middle East (Mearsheimer and Nye 2003, 53). However, the end results of this – including Iraq gaining American weapons, financial resources, hard currency and, thus, being in a position to invade and occupy Kuwait; giving terrorists a recruiting tool for actions against a Western superpower that supports a brutal dictator; and making reconstruction operations more difficult when a local population remembers US support for the previous regime – cannot have been predicted or, if they were, planned for. This is yet another way in which the variety of interactions and the associated variety of effects on the system can be explained.

Thus, extrapolating from three base assumptions about the international system allows the theorist to explain much of the behaviour commonly

witnessed in the international system, to explain some of the difficulties analysts have in predicting outcomes in the international system, and to explain why variances in polarity have not led to great evolution in the state of order or disorder within the system. It would seem, at first inspection anyway, to be a useful tool or, at least, a potentially fruitful research agenda to be pursued in the hope of better understanding the international political system in which the world finds itself. There remain, however, at least two particularly pointed criticisms of this approach, both of which are outlined in the section below.

Shortcomings of a Chaotic Systems Approach[92]

There are two major criticisms that can be made of a chaotic approach as outlined in this paper. Both are easily outlined but, at the same time, difficult to o-vercome for the theorist. However, it is the opinion of this author that neither proves completely and necessarily limiting to the development of a chaotic theory; they should instead act as issues to be addressed as the development of a chaotic theory of international relations proceeds. The two problems, which for the purposes of this paper are called the 'Problem of In-terdependence' and the 'Problem of Explanation', are outlined in turn below.

The Problem of Interdependence

The Problem of Interdependence arises from the nature of chaos itself. If, as has been explained above, an individual can have an effect on a region, which in turn has an effect on a state and then an institution and, finally the system as a whole, where does the theorist start their analysis? It is surely impossible to account for the actions of every human on the planet and the implications of all of their actions on the wider system, yet a chaotic system, by definition, is one in which such small permutations at the individual level can effect the entire system and all other actors within it. To employ a simile, a theory that attempts to account for all of the individuals on the planet is much like an atlas that attempts to display every pot hole and white line of a city street to scale: it may be correct but it certainly dos not simplify the system to the point

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[92] This final section has benefited from the comments of participants at the 2nd Central European University Graduate Conference in Social Sciences, Budapest, Hungary, 5th to 7th May 2006.

where it would be of any use to someone trying to plan a route through a busy city.

Thus, it would seem that the theorist has to make a choice as to which actors or level of interdependence they will restrict their analysis to. For example, and taking inspiration from the theoretical realists, the chaotic theorist might restrict their analysis to states alone. Similarly, and drawing on the work of institutionalists, the theorist might consider states and those large intergovernmental organisations (the UN and the EU, for example) which can be held to be significant actors at the international or system level. But again and by definition, in a chaotic system actors at the sub-state and sub-institution level are important factors in the events that occur within the system. Thus, while it is necessary for the sake of a comprehensible theory that the number and nature of the actors assessed is limited, it is also antithetical to the chaotic approach to exclude actors, which may have a significant effect on events in the system, so arbitrarily.

Consider, for example, an analysis of post-September 11th politics without reference to Osama bin Laden or al-Qaeda. While a chaotic explanation for global politics would highlight the role that such "super-empowered individuals", as Thomas Friedman would label them, have at the international level, a chaotic analysis limited only to states or international institutions would fail to engage with such groups. A less recent example of an individual agent having a significant impact on the international system can be found in Gavrilo Princip and the assassination of Archduke Franz Ferdinand in Sarajevo, an event eventually leading to World War One in Europe (Kissane 2006). If the analysis is restricted to the larger units in the international system, as it would seem necessary to do, then such individual actors and their system-rocking acts will be missed. Thus, in analysing the particular sensitive and complex interdependence of a chaotic system, the theorist constructing a chaotic theory of international politics must fin a way to overcome the necessary theoretical limiting of a system that is without limits.

The Problem of Explanation

The second major problem is what has been termed the Problem of Explanation. Essentially, this problem relates to the possibility that, in a

chaotic system, almost everything is expected to occur and, in hindsight, can be explained as a direct result of chaos. Consider, for example, the example of the butterfly effect: the wings of the butterfly could incite a hurricane in the Americas or it might not incite a hurricane. Both ends are expected – in the sense that they are both possibilities that are associated with a chaotic system – but a theory that does not favour one over the other is likely to prove poor in explaining international interactions. A theory must, in the words of Kenneth Waltz, be tested by its explanative power: "success in explaining, not in predicting, is the ultimate criterion of good theory" (1997, 916). A theory within which everything and nothing can occur as a result of a single interaction would seem to fail Waltz's test. A theoretical approach to international relations that expects that anything can occur within the system and which simultaneously cannot fully explain why such an event occurred – outside of some basic notions arising from the nature of the system – may not be much of a theory at all.

However, as outlined in the opening of this section, these valid criticisms and problems for a chaotic theory of international politics need not critically wound the program of research. Instead, these two problems should be considered as obstacles to be overcome in the construction of a more refined chaotic theory of international relations (see also Ma 2007, 71-73).

Conclusion

The possibility of moving beyond an anarchic or simple interdependent conception of the international system offers the international relations theorist the chance to move beyond the realist/liberalist dichotomy and reveal the reality of the system itself. Chaos offers the chance to explain the behaviour of international actors that recurs in the system and also to explain the emergence of new behaviours from time-to-time. It implies an analysis that is not limited to states or institutions alone but one that recognises the potential for much smaller units – individuals, terrorist groups, lobbyists – to impact the wider international system. This is something that anarchy based assessments of the international system (realism, neorealism, liberalism) cannot achieve and, perhaps, it is the greatest positive feature of a chaotic theory of international relations.

Of course, as has been outlined, there are significant obstacles to the construction of a workable chaotic theory or chaos-based analytical methodology. Both the problem of interdependence and the problem of explanation present significant challenges to the construction of a theory based upon a chaotic system. In particular, the strengths of a theory which includes individual actors and accounts for their impact on the system is tempered by the knowledge that it may be a step-too-far for analysis of the system as a whole: including everything might just lead to explaining nothing. However, as this research program is in its early stages it would be premature to suggest that such obstacles are insurmountable. Further research and extrapolation of the ideas put forward in this paper will, it is hoped, provide for a clear yes or no on the possibilities of a chaotic theory of international relations – with this author leaning strongly towards the former.

Bibliography:

Bellamy, Alex and Matt McDonald. 2004. 'Securing International Society: Towards an English School Discourse of Security.' Australian Journal of Political Science 39(2): 307-330.

Blümel, R and WP Reinhardt. 1997. Chaos in Atomic Physics. Cambridge: Cambridge University Press.

Brock, William, David Hsieh and Blake LeBaron. 1991. Nonlinear Dynamics, Chaos and Instability. Cambridge, MA: The MIT Press.

Carr, Edward Hallett. 1946. The Twenty-Years' Crisis, 1919-1939: An Introduction to the Study of International Relations. London: Macmillan.

Christensen, Thomas. 2001. 'Posing Problems Without Catching Up: China's Rise and Challenges for US Security Policy.' International Security 25(4): 5-40.

Gleick, James. 1987. Chaos: Making a New Science.

New York: Penguin.

Harley, Jeffrey. 1997. 'Information, Technology, and the Center of Gravity.' Naval War College Review 50(1).

Hobbes, Thomas. 1975. Leviathan. Harmondsworth, UK: Penguin.

Jervis, Robert. 1997. System Effects: Complexity in Social and Political Life. Princeton: Princeton University Press.

Justan, Marissa P. 2001. The Butterfly Effect = Chaos Theory., Speech delivered to the Philippine Society of Youth Science Clubs, Cebu City, The Philippines, 4th April 2001.

Keohane, Robert O. and Lisa Martin. 1995. 'The Promise of Institutionalist Theory.' International Security 20(1): 39-51.

Keohane, Robert O. and Joseph S. Nye. 1977. Power and Interdependence: World Politics in Transition. Boston: Little Brown.

Keohane, Robert O. and Joseph Nye. 2000. 'Globalization: What's New? What's Not? And So What?' Foreign Policy 118: 104-119.

Kissane, Dylan. 2006. 'The Balkan Bullet with Butterfly Wings.' CEU Political Science Journal 1(4): 85-106.

Layne, Christopher. 1993. 'The Unipolar Illusion: Why New Great Powers Will Rise.' International Security 17(4): 5-51.

Legro, Jeffrey and Andrew Moravcsik. 1999. 'Is Anybody Still a Realist?' International Security 24(2): 5-55.

Litwak, Robert. 2002. 'The Imperial Republic After 9/11.' The Wilson Quarterly (Summer 2002): 76-82.

Lorenz, Edward. 1963. 'Deterministic Nonperiodic Flow.' Journal of the Atmospheric Sciences 20: 130-141.

Ma, Shu-Yun. 2007. 'Political Science on the Edge of Chaos? The Paradigmatic Implications of Historical Institutionalism.' International Political Science Review 28(1): 57-78.

Mearsheimer, John J. 1990. 'Back to the Future: Instability in Europe after the Cold War.' International Security 15(1): 5-56.

Mearsheimer, John J. 2001. The Tragedy of Great Power Politics. New York: Norton.

Mearsheimer, John and Joseph Nye. 2003. 'An Unnecessary War.' Foreign Policy (January/February 2003): 51-60.

Milner, Helen. 1991. 'The Assumption of Anarchy in International Relations Theory: A Critique.' Review of International Studies 17(1): 67-85.

Morgenthau, Hans. 1967. Politics Among Nations: The Struggle for Power and Peace. New York: Knopf.

Polk, William. 1997. Neighbors and Strangers: The Fundamentals of Foreign Affairs. Chicago: University of Chicago Press.

Richards, Diana. 1993. 'A Chaotic Model of Power Concentration in the International System.' International Studies Quarterly 37(1): 55-72.

Schmidt, Brian. 1997. The Political Discourse of Anarchy: A Disciplinary History of International Relations. New York: State University of New York Press.

Silberstein, Sandra. 2002. War of Words: Language, Politics, and 9/11. London: Routledge.

Smith, Steve. 2000. 'International Theory and European Integration.' In International Relations Theory and European Integration: Power, Security and Community, edited by Morten Kelstrup and Michael Williams. London: Routledge, pp.33-56.

Taliaferro, Jeffrey. 2001. 'Security Seeking Under Anarchy.' International Security 25(3): 128-161.

Thiétart, RA and B Forgues. 1995. 'Chaos Theory and Organization.' Organization Science 6(1): 19-31.

Thucydides. 1972. History of the Peloponnesian War. Harmondsworth, UK: Penguin.

Waltz, Kenneth N. 1959. Man, the State, and War. New York: Columbia University Press.

Waltz, Kenneth N. 1979. Theory of International Politics. New York: McGraw Hill.

Waltz, Kenneth N. 1990. 'Realist Thought and Neorealist Theory.' Journal of International Affairs 44(1): 21-37.

Waltz, Kenneth N. 1997. 'Evaluating Theories.' The American Political Science Review 91(4): 913-917.

Waltz, Kenneth N. 2000. 'Structural Realism after the Cold War.' International Security 25(1): 5-41.

Weldes, Jutta. 1999. Constructing National Interests: The United States and the Cuban Missile Crisis. Minneapolis: University of Minnesota Press.

Young, Michelle. 2002. 'Chaos All Around: Butterflies, Demons and the Weather.' Harvard Science Review (Winter 2002): 29-32.