

The EU Foreign Policy Governance As A Complex Adaptive System

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Introduction

Systems Theory has already made inroads into International Relations (IR) literature through some seminal works (Bull 1977; Deutsch 1957; Haas 1990; Kaplan 1957; Waltz 1979; Wight 1977). These works explored complex dynamics of international and regional state systems. Of course, their empirical and theoretical achievements were at various degrees. What they did really accomplish is, in fact, to have gained a firm foothold for systems thinking in IR. Unfortunately, the hegemony of (neo-)positivistic conception of social science acting as a ‘scientific gatekeeper’ in IR since late 1950s (Easton 1997; Knorr and Rosenau 1969) has seriously limited not only the very conceptual expediency and innovation in systems thinking in IR but also the latter’s achievements. For example, the epistemologically empiricist and ontologically nominalist commitments in behaviorist IR impelled Kaplan to conceptualize international system as just an analytical tool without any ontological reality. Although very critical of inductivist and reductionist dogma in behaviorist IR, Waltz was nevertheless forced to come up with a static, ahistorical and vulgar materialist conception of international system. What is more -and worst of all- was the way behaviorist IR has rapidly otherized, furiously marginalized, and largely ignored the historical and normative approach to international systems in the English school.

This (neo-)positivistic hegemony also blocks the introduction of Complexity Theory (CT) to IR and the former’s full-fledged employment. For the mainstream ‘American’ IR theory still sticks to the now outdated Newtonian paradigm (Brady and Collier 2004; King, Keohane, and Verba 1994). As known, the principles of the Newtonian paradigm involve 1) a firm belief in order, certainty and progress, 2) reductionism, 3) causality as linear relationships between particles unbounded by time and space and 4) symmetry between explanation and prediction (Tezcan 2006a: 4; see for more Capra 1975: ch.4; Delanty 1997: ch.1) All these principles run counter to those of CT. Only recently Rosenau’s *Turbulence in World Politics* (1990), Thompson’s *Evolutionary Interpretations of World Politics* (2001a), Axelrod’s *The Complexity of Cooperation* (1997) and Cederman’s *Emergent Actors in World Politics* (1997) made ‘early attempts’ to claim the complex adaptive systems thinking for the study of macro-social phenomena in international relations. These authors ardently call for ‘another IR’ that will finally recognize international relations as being an emergent realm of non-linear patterns of social interactions. It is no surprise, then, that these works include (at least) a methodology chapter that elucidates the conceptual deficits in behaviorist IR (Axelrod 1997: intro ch.; Cederman 1997: ch.2; Rosenau 1990: ch.2; Thompson 2001b).

This paper aims both to oppose the positivistic straitjacket in IR and to move those earlier attempts further. The main research question of the paper is: to what extent is the conceptual toolkit of Complexity Theory in general and of evolutionary biology in particular useful for the study of macro-social phenomena in international relations? The method in this paper to be employed for this double move will not be a confrontational methodology polemic with the (neo-)positivistic hegemony in IR. This would be, indeed, a yet-another-critic case which many (including myself (Tezcan 2006b)) in the field produced up to now. Rather, this paper will offer an empirical approach. In order to answer the main research question above, the paper, therefore, prefers to take on a case study: the emergence and evolution of collective foreign policy making system in Europe since 1970. The latter has been generally called European foreign policy (EFP) framework. The main reason for the selection of this topic as the paper's case study is the fact that EFP stands as a disturbingly complex phenomenon. Foreign Policy Analysis (FPA) has already acknowledged this. FPA is a group of scholars who share a common ground by doing research on EFP (Carlsnaes 2002, 2004; Carlsnaes and Smith 1994; Carlsnaes, White, and Sjursten 2004; Tonra 2000; Tonra and Christiansen 2004b; White 1999, 2001).¹ Although having strived for some time to find possible ways of coping with this complexity, the scholars of FPA are yet to develop a complex systems approach to the study of EFP.

This paper is composed of two parts. The first part, first, explains what EFP is; second, moves to evaluate the complexity problematique in the study of EFP; finally conceptualizes EFP as a complex adaptive system (CAS). The second part discusses the evolution of this CAS by employing the conceptual toolkit of Complexity Theory in general and of evolutionary biology in particular.

1. European Foreign Policy and the complexity problematique

1.1 What is European Foreign Policy?

EFP is an emergent system of foreign policy. Then, EFP is, first of all, is something to do with foreign policy. Here we limit ourselves in terms of scope of research by focusing on a specific policy area. Foreign Policy is about 'the fundamental issue of how organized groups, at least in part strangers to each other, interrelate' (Hill 2003:xvii). Foreign policy has its origins in the presupposition that there exists a boundary between (at least) two units. That is, these units are distinct. However, this does not mean that they are completely isolated from each other. (Otherwise, there would be no need for foreign policy.) One's action influences and is influenced by the other's. That is, these units are interdependent. These properties give us the second feature of EFP: it is a system, a set of distinct yet interrelated units. As Hill and Wallace put it, EFP is 'an intensive system of external relations, in which the cooperating actors which constitute the system intertwine' (1996:12). The third feature of EFP comes from interaction of units: it is emergent. As Soetendorp puts it, 'the EU's foreign policy is more than the sum of the foreign policy of

¹ Here it is necessary to underscore that FPA in this paper refers solely to those Europe-based scholars whose conceptual and methodological approach is much distinct from those of the other FPA school and neo-classical realism in the US. These last two employ a methodologically individualist approach in the strict sense to the study of foreign policy (see for example Hudson 2005; Rose 1998). Needless to say, any sort of methodological individualism is incompatible with the principles of CT.

its member-states. The interaction among member-states has created a structure at the European level, which does not shape the behavior of the individual states but has clearly imposed some constraints on the substance and the process of foreign policy making in the individual member-states' (1999: 155). In other words, EFP has come into existence out of patterns of interaction between lower-level foreign policy making sub-systems in Europe in a given time span.²

What must be underlined at this point is the micro-macro link. We make a distinction between the system and its interacting units. At the micro level, units act according to their own *goals rationally developed within given circumstances*.³ Therefore, as Yunus contends, foreign policy is for finding ways and means to preserve and promote vital interests of those organized groups (2003:70; cf. Hill 2003:3; White 2004b: 11). At the macro level, there come non-linear patterns of interactions out of goal-oriented foreign policies at the micro-level, from the so-called 'international relations within Europe'. Yet, one must not push this analytical separation too much: The functioning of the system, i.e., its macro-behavior, depends upon the very individual actions of units. Here, one must avoid two fallacies: 1) downward conflation (because the system is not just the sum of units) 2) upward conflation (because the system neither is completely separate from its units nor leads its own 'life' once created). In this way, White asserts that EFP 'clearly operates at different levels of analysis, most obviously at both the European and state levels. We need, therefore, an analytical perspective that enables us to explore the linkages between them' (2004b: 20). In the same vein, Carlsnaes calls for 'synthetic approaches to FPA' (1992: 256, 2002:341) because of 'the need for a dynamic synthesis of structural and agential factors in the explanation of change' (1992: 247).

1.2 The complexity problematique in the study of European Foreign Policy

The complexity problematique, i.e., the very reality of 'New Europe' as a complex phenomenon (White 2004b: 11) creates two main challenges for the scholars of FPA: 1) an ontological, and consequently conceptual challenge 2) a methodological challenge. Hence, White warns that 'the attempt to understand this complex phenomenon, EFP, should encourage foreign policy analysts to think carefully about what they study and how they study it' (White 2001: 171). The first challenge is the question of understanding the true nature of the complex phenomenon in hand through usage of a suitable conceptual toolkit. The second challenge asks for studying this complex phenomenon with a suitable method. Unfortunately, FPA largely fails to cope with the second challenge while it is replete with conceptual ambiguities in responding the first.

1.2.1 Problems concerning ontology and conceptualization

The ontological problems originate essentially from the unclear content of 'European' in the concept of EFP among the scholars of FPA. What does this 'European' cover? What constitute parts of this 'Europe'? According to what criteria? What is the relationship of

² What is generally understood from lower-level foreign policy making sub-systems in Europe is sovereign states in Europe. Since states themselves are composed of sub-systems, however, one must be cautious not to reify states as monolithic entities with human powers. Another important point here is that any study of EFP aims to understand actions of sovereign states in Europe in the post Second World War era, not before.

³ The rationality I am referring to here is substantive rationality, not instrumental/formal rationality which rational-choice theorists abusively employ. See Wallerstein 2000: 32 for more.

'Europe' with its components? Instead of a clear-cut position, the scholars of FPA oscillate between various definitions 'Europe'. Some argue that EFP is totality of foreign policies in the whole Europe: 'The European order of the 1990s is complex, fluid and multi-layered' (Smith 1994a:42). Some make a clear distinction between *European* foreign policy and *EU* foreign policy (EU-FP)⁴ and argue that the latter is located within the former: 'The complexity of EFP continues to puzzle observers, perhaps more than so ever. (...) The development of a EU foreign policy only adds to this complexity, as does the increasing number and diversity of issues dealt with under the heading 'foreign policy'' (Jorgensen 2004: 32). Some solely concentrate on EU-FP although they sometimes do not hesitate to call what they study Europe's foreign policy (Hill and Wallace 1996; Manners and Whitman 2000; Smith 1995; Smith 2004a). Some use EFP and EU-FP interchangeably although well aware of their distinction: 'The analysis builds upon the idea of Europe as a unique but also non-unitary international actor' (White 2001: 24) and 'the EU is more appropriately analysed as a non-unitary or disaggregated entity in world politics' (White 2004a: 46). It seems that almost all of the FPA scholars have his/her own way to conceive of 'Europe' and its components. Such ontological cacophony leads to archipelagos of various EFP studies that fall far from each other. Because of these much annoying definitional ambiguities, even some scholars of FPA complain loudly (see especially Carlsnaes 2004).

There are two points, however, on which the views in FPA converge: 1) that EFP is complex 2) that very complexity of EFP necessitates a more comprehensive conception of EFP. In this way, FPA attempts to transcend the simplicities of now established dichotomy between structuralist and voluntarist presumptions in the field. Indeed, I think also that, conceptual adjustment in FPA thinking is a hard task. Given the decisiveness of such conceptual adjustment about complete obsolescence of FPA, one can easily understand why FPA scholars are so alarmed in order to do something about it. For example, White starts his important article *The European Challenge to Foreign Policy Analysis* by putting the conceptual challenge his field of research faces as follows: 'These are testing times for foreign policy analysts. At issue is whether their area of study remains a major sub-field of International Relations (IR) or whether it has become anachronistic, either subsumed or replaced by other approaches to understanding and explaining state behaviour. While Foreign Policy Analysis (FPA) has always been controversial, recent commentaries suggest that something of a crisis point has been reached. The growth of ostensibly foreign policy behaviour in the context of the 'new Europe' of the 1990s appears to add further problems to the extent that the familiar categories of FPA are so transformed as to make this approach irrelevant if not positively misleading' (1999: 37-38). The problem, unfortunately, is that FPA has not yet delivered. Its scholars either ignored the complexity which they acknowledged and went on 'business as usual'. For example, Smith holds that 'the European Union does indeed have a foreign policy and that it can be analysed in pretty much the same way as we can analyse that of any nation-state' (Smith 2002: 1). Ironically, she does not mind those six features the EU lacks in comparison to any nation-state and her own acceptance that the EU is not and cannot be a nation-state at all. Or, as a second way, the FPA scholars offered some minor reconceptualizations. For example, White counters the view that FPA

⁴ Note that EU-FP will be used in two different meaning here and there throughout this paper. In the first usage it is a system while in the second it is the output of process in this system.

is built on 1) state-centricity, i.e., assuming that states are the most important, if not the only, actors in world politics 2) state-as-actor, i.e., assuming that states act in international arena as unitary, rational actors 3) priority of security issues, i.e., assuming that the essence of state behavior is in military terms (1999:41ff.,2001:32-36). In this way, he replaces by fiat these misleading assumptions with those of ‘a mixed actor system’ and ‘disintegration of state into its constitutive units’ (2004b: 24-29). Although this attempt opens new spaces for FPA, it is not sufficient. For by still failing to regard EFP as a complex system, FPA studies EFP as if it is not complex at all. Neither of these two solutions, all in all then, will do as to reduce, let alone eliminate, the existent tension between ontological complexity and conceptual simplicity.

The solution I propose to overcome these ontological and conceptual problems is in two steps as follows: The first step is that one must understand *only* EU-FP from the conception of EFP. This does not mean, however, to propose to neglect the importance of ‘Europe’ in the study of EU-FP. In fact, ‘Europe’ constitutes just the broader environment within which EU-FP is located (among other much broader environments within which ‘Europe’ is located, too). What my proposal means is, however, to deny ‘Europe’ any characterization as a complex system for two main reasons. Firstly, EU-FP has some sort of boundaries so that one can answer the questions such as who is in the system and who is not. ‘Europe’, on the other hand, can offer but an ensemble of foreign policies. Given the central place of boundary questions in CT, EU-FP, not EFP, seems to be the right option to focus on. Secondly, EU-FP has some emergent properties such as internal organization and actorness in world politics. This does not mean, of course, that EU-FP has worked and works smoothly in terms of actorness. There are, indeed, occasions (many of them) when EU-FP failed to produce collective action. Yet, there are also occasions when it succeeded (Bretherton and Vogler 1999; Ginsberg 2001). ‘Europe’, on the other hand, lacks this kind of property. One cannot attribute, for example, any actorness to ‘Europe’. Given the central place of emergence in CT, EU-FP, not EFP, again seems to be the right option to focus on.⁵

EU-FP is made within an institutional framework. The so-called ‘second pillar’ of European integration process, i.e., European Political Cooperation (EPC) between 1970-1993 and its successor, Common Foreign and Security Policy (CFSP) since 1993 has been a loose and informal framework. The aim has been to make and implement, if possible, common foreign policy positions and actions out of interrelated yet distinct foreign policy approaches of member states. EU-FP has functioned through extensive use of the regular exchange of information and meetings of foreign ministers and senior officials. The ‘second pillar’ framework was based on an intendedly intergovernmental mode of collective decision-making and this mode of collective decision-making has always been preserved. Nevertheless, EU-FP has not only generated a large and constantly growing body of norms, rules, and institutions but also included spillover from a merely consultation and coordination mode at its early stage to a large body with

⁵ Note that these two points were also the ones that failed Kaplan in his systems approach. Kaplan defines a system or system of action as ‘a set of variables so related, in contradistinction to its environment, that describable behavioral regularities characterize the internal relationships of the variables to each other and the external relationship of the set of individual variables to combinations of external variables’ (1957: 4). Yet, due to the absence of boundary conditions and emergent properties in his systems thinking, he claims that virtually anything constitutes a system, e.g., a dinosaur and the Columbia river. See also Waltz’s critique to Kaplan in the similar lines (1979: 50-59).

collective security and defense dimensions in the post-Cold War years. That is to say, this institutional framework, since its emergence in 1970, has evolved into an unpredicted complexity, which is today conceptualized as ‘more than intergovernmentalism, less than supranationalism’ or ‘intensive transgovernmentalism’.

Second step is to start thinking and studying EU-FP as a CAS. The reason why the former is a CAS is neither wishful thinking nor conceptual imposition. EU-FP is a CAS because it, meeting certain criteria, qualifies as one. CT holds that a system is a CAS if it has 1) self-organization and self-sustenance 2) irreversible history, 3) no single equilibrium point or far-from-equilibrium process 4) open-endedness and contingency in evolution, 5) emergent properties that are irreducible to the components, and sprung from patterns of fairly rich, dynamic, usually short-ranged, feedbacked, local interactions between large number of components (adapted from Cilliers 1998: 3-5; Emmeche 2004: 31-33). Indeed, the ‘second pillar’ framework has self-organized in 1970 and been self-sustaining since then. It has consequently carried an ‘arrow of time’ since 1970. It has always evolved through phase transitions. Think of its different phases the system has moved into in different periods of its evolution: disequilibrium before 1970, an attractor point between 1970-1986, two important phase transition taken place in 1986 and 1993, another attractor point between 1993 and 2001, and so on. Hence we are here speaking of a process with multiple equilibria, if not a far-from-equilibrium process.

What is the complex nature of EU-FP? Firstly, EU-FP is supposed to make the EU member states ‘speak with one voice to the world’ when the EU is called for to ‘take action for its global interests and responsibilities’ in world politics. In this way, it is argued, the weight of the EU in international relations can increase.⁶ Here the important assumption is that the ‘whole’ becomes qualitatively different than ‘sum of its components’. This, once again, highlights the emergent nature of EU-FP.

Secondly, EU-FP is not a thing, but an open-ended ongoing process. As Jorgensen asserts, ‘no single variable can explain the emergence of CFSP. It is more fruitful to regard CFSP as the outcome of a historical process in which actors, institutions, and developments in the international and European system have mingled in often unpredictable ways’ (2002:212). This feature obviously affects smooth functioning of EU-FP. For processes always include clash of conflictual interests. As Wallace reckons, ‘CFSP has developed through a cycle of crises, followed by limited moves forward: moderate successes building on major failures. At the conclusion of each circle, patterns of European cooperation have been reestablished on a rather firmer basis, institutional mechanisms reinforced; but underlying contradictions remained’ (2005:430). Constant process of reconciliation between clashing interests brings the mechanism of adaptation with itself while ever-existence of adaptation then leads to further non-linear process within the system. Smith puts this as follows: ‘This theme –progressive adaptation in the midst of continuity- is a defining feature of EPC/CFSP. (...) Unlike many economic goals, such as a single market or single currency, there is no clear “end product” to be achieved with a “common” foreign and security policy. Such a common policy, like political “integration” and political “union,” implies a final stage when the mechanism, in actual practice, can mean only a continuing process of action that evolves over time’ (2004b:4,6). All of these point out the relational nature of EU-FP.

⁶ See for example the Davignon Report and the 1971 Final Communiqué of Heads of State and Government summit.

Thirdly, EU-FP is, much in the same way as any other foreign policy, for finding ways and means to preserve and promote vital interests of the EU in its interrelations with others in world politics. This leads us to the question of actorness. Generally speaking, actorness implies ability to make *and* implement a decision. In this way, the EU's actorness in world politics means the EU's ability to make *and* implement a decision concerning world politics, i.e., the EU's ability to make *and* implement a foreign policy decision. But, what determines the EU's ability to make *and* implement a foreign policy decision? Mainly two things: external conditions, and more importantly, the degree of internal organization. Let us leave the first one (more on this in the second part) and reflect upon the second. Since EU-FP is output of a group, i.e., collectivity of international actors the former necessarily depends on the degree of internal organization of the group. This degree of internal organization refers to the way the actors of collectivity are positioned towards each other that makes the collectivity (not) function(s) better. Hill and Smith make the same point: 'the EU as a sub-system of international relations, by which we mean both the way in which it dealt with its internal 'foreign' relations, and its capacity to generate external collective action' (2005:7). We can recapitulate the central question about the degree of internal organization as follows in order to move to further research: whether and how the EU, as an organized group, finds ways and means through the 'second pillar' framework to preserve and promote its vital interests in world politics. Another set of questions can also follow the starting one: 1) whether and with what frequency the EU makes and implements collective foreign policy decisions in world politics 2) whether and how possibly this frequency can increase. But, first of all, as underlined, one must understand the very logic of evolution of this CAS in order to capture the degree of internal organization and its future trajectory.

1.2.2 Problems concerning methodology

FPA starts with a discourse against methodological monism, that is, a sum of standard, explicit and unchanging criteria for how to do (social) science à la Vienna Circle. White asserts that 'FPA does not need to be located within a traditional methodology' (2001:172). Needless to say, traditional methodology here means the positivistic thesis on the scientific method. Because methodological monism is unthinkable without an epistemological component, the latter is cursed, too. White contends consequently that 'there is no necessary connection between FPA and classical realism, or for that matter, between FPA and structuralist approaches based upon a rationalist epistemology' (2004b:25).

The reason for FPA's distaste for positivism is threefold. First, this is the only way that 'European scholars, raised in rather different epistemological traditions, can take US theory without having to take US epistemology' for FPA perceives as threatening and intriguing the fact that 'the bulk of the work emanating from the US FPA community is positivistic in a stark form' (Smith 1994b:12-13). Second, positivist methodology is inescapably reductionist in the sense that it in any case dictates/would dictate to reduce the social ontology which the FPA employs to its actual and empirical lower levels. Third, positivism instinctively seeks to uncover those deterministic laws of 'social physics' as Newton did in physics. In other words, it is an attempt to construct a grand theory that unites all these laws. FPA, however, still has a vivid memory of the

catastrophic results of this Comtean dream: ‘The history of FPA as an academic subfield of international relations is one of rise and fall of general theory’ (Smith 1994b:14).

It appears that FPA breaks with positivist straitjacket. Now, a large free space opens up for *all* types of first-order studies, *provided* that they are not premised in positivism. Smith thus asks ‘Can we in Europe (...) develop an FPA which does not require us to buy into positivism of US FPA?’ (Smith 1994b:13). It seems that the ‘transformed’ FPA commits to a post-positivist epistemology. But the trouble is that there is not a single and coherent post-positivism. The only common point for all forms of post-positivism, which is their opposition to/rejection of positivism, makes it but a strange animal. The starting point of post-positivist critique to positivism is the latter’s naïve belief in Humean terms that experience warrants epistemological certainty about social world. Instead, the post-positivists claim that all sense data are value- and theory-laden. Hence, epistemic relativism is inevitable. As Jorgensen puts it, ‘the conceptual lenses which observers apply have an impact on what can be observed and how it is observed. (...) When dealing with such as EFP, we are dealing with a set of social realities, meaning that observers may have an impact on that which is observed. (...) Concepts being used sometimes become conceptual blinders –perhaps because these concepts very accurately describe situations, developments or features of past practices rather than present. Hence, analysts employing them are hindered in reaching accurate images of the present’ (2004:35-36). Consequently, qualitative methods and discourse analysis within post-positivism stress the central place of language in construction of social world in general and of EFP in particular. Given the fact that intersubjectivity involves high levels of ongoing discourse(s). I am with post-positivists up to this point. However, problems occur when post-positivists deduce from epistemic relativism (0) two other assumptions: 1) judgmental relativism 2) ontological relativism. The move from 0 to 1 comes when ‘post-positivists reject the view [that there are objective truths about the social world that can be revealed by reference to the facts]’ (White 2001:173). The move from 0 to 2 occurs when Larsen asserts that discourse analysis aims ‘to focus on the language used in social life as a central and independent object of study. The background for that is the view that there is no meaning residing outside language or that, even if there is meaning outside language, there is no way of studying the meaning ‘behind’ language. No investigation can therefore take place directly at the level of ideas. We are always, strictly speaking, studying the dynamics of language’ (2004:64).

The dilemma for post-positivist FPA is that it also desires to have judgmental rationalism. As White writes, ‘from this [post-positivist] perspective, hypotheses might be developed that *test* the importance of language and discourse in the European foreign policy process, specifically with respect to the forms in which ideas are communicated’ (2001:178). In the same vein, Tonra and Christiansen put forward ‘our contention that the European Union’s foreign policy is an ideal empirical testing ground for what might be called a hard-core cognitivist or constructivist approach’ (2004a:8). Unfortunately, post-positivist FPA does not give us any clue about whether and how it will overcome the tensions between its relativist inclinations and scientific objectives.

This methodological mess produces openness to virtually ‘anything’ in disguise of tolerance to any kind of research. White writes that ‘[i]n the absence of a consensus on theory, we might add, the attraction of a foreign policy system approach is twofold: it neither privileges a particular theoretical position, nor does it rule out alternative

theoretical perspectives' (2004b:25). This highlights the strong eclecticism in FPA. White thus asserts that 'FPA is a "broad church" and can contain positivist *and* "post-positivists" approaches'(2001:176). But the problem is now that, as Hill asserts, 'there are limits to eclecticism' (2003:9-10). Not only because positivist and post-positivist approaches cannot exist side by side. Because a commitment to methodological and epistemological eclecticism does not resolve methodological and epistemological questions, either. It is but a hapless try to skip them. However, how to study a complex phenomenon like EU-FP is still there to stay and cannot be wished away.

2. Logic of evolution and EU-FP

In this last part of the paper, I will do two things: First, I will make a theoretical discussion about logic of evolution. Referring to the enormous and substantial literature by CT, I will outline the theoretical answers to why and how a CAS evolves. Second, I will carry on this theoretical discussion about logic of evolution in the empirical field about EU-FP. Here, the aim will be to explain why and how EU-FP as a CAS has historically evolved in the way it did.

2.1 Logic of evolution in CT

CT is, as known, an interdisciplinary research paradigm. CT has emerged out of and evolved through empirical research findings in diverse fields from meteorology to thermodynamics, from evolutionary biology to cybernetics (Mainzer 2004). Applications of CT in social sciences, although recent, are growing very fast (Byrne 1998). CT applications in both natural and social sciences focus on complex systems. In other words, CT is the scientific study of complex systems. Complex systems, as known, consist of distinct yet connected parts. 'The aspects of distinction and connection determine two dimensions characterizing complexity. Distinction corresponds to variety, to heterogeneity, to fact that different parts of the complex behave differently. Connection corresponds to constraint, to redundancy, to the fact that different parts are not independent, but that the knowledge of one part allows the determination of features of the other parts. Distinction leads in the limit to disorder, chaos or entropy; (...) [c]onnection leads to order or negentropy (...). Complexity can only exist if both aspects are present' (Heylighen 1999:20; see also Bar-Yam 1997:1).

Those distinct yet connected parts of a complex system might be all sorts of things, e.g., neural nodes, micro organisms, atoms, gases, computer agents or humans (see for example Bar-Yam 1997:2-4). All these different kinds of components more or less have the ability to adapt to changing circumstances around themselves. In this way, we come to CASs. A CAS is a complex system that as a whole and/or whose parts possess high or low level of adaptation capability. As Stewart asserts, 'Living things can evolve without having any knowledge of the direction of evolution. The diversity and complexity of life on earth is testimony to that. Organisms can try to deal with the future by blindly making changes to themselves or their offspring and seeing how the changes work out in practice. But this takes a lot of costly trial-and-error, particularly when the future is complex or changes rapidly. (...) The alternative is for organisms to guide their evolution by forming a picture of how evolution is likely to unfold in the future. They can try to find trends and patterns in this evolution that might impact on their future chances of survival. They can then use these patterns to see how they must change themselves and the way they are

organised in order to continue to be successful. (...) On this planet, the organism that appears likely to take this significant evolutionary step is us. Our growing understanding of evolution is providing us with the knowledge that will enable us to see that there are large-scale patterns in the evolution of life' (2000:5; Thompson 2001b:5). In this way, an important distinction at this point is in order. We can divide all those different types of parts into two main categories: parts that have actorness and parts that do not. The best example for parts that have actorness is, of course, humans. Actorness of humans equips the latter with significant skills such as learning, reflective adaptation and collective action. 'Learning occurs to the extent that actors adjust their strategies based on perceptions about success or failure of earlier prevailing strategies' (Thompson 2001b:6). Learning enhances adaptation capability.

CT argues that the common point for all CASs is that similar characteristics, i.e., evolutionary mechanisms *and* environmental characteristics have been found that determine emergence and evolution of organization in different CASs. Evolutionary mechanisms give us logic of evolution. This is how a CAS evolves. The latter evolves through constant interplay essentially between two mechanisms: mechanism of variation and mechanism of selection (Bar-Yam 1997:1; Heylighen 1999:23; Thompson 2001b:1). 'Variation is that aspect of a process that creates configurations different from the previous ones, in other words, that produces diversity or variety. Without variation there can be no change (...). Variation can be internal, as when the components of a system or their interrelation are changed, or external when a system is brought into contact or combined with different other systems. (...) Variation on its own, without further constraints, produces entropy or disorder, by diffusion of existing constraints or dependencies' (Heylighen 1999:23; cf. Thompson 2001b:5). As can be seen from this definition, mechanism of variation is for reorganization of complex systems. Reorganization mainly comes in two steps: loosening of existent structural links and making of new ones. The first step involves mechanism of variation.⁷ In this first step, we observe internal mechanisms within the system for adaptation purposes such as mutations, innovations. The latter have great importance in CASs of actors. Innovations 'are like mutations in biology except that they do not necessarily occur randomly or blindly. They represent new ways of doing things' (Thompson 2001b:5). In this way, those internal mechanisms function as the motor of change. The move from the first to the second for any CAS is, however, never for granted. Without being able to take the second step, a system might stay stagnant and deteriorate because of 'Red Queen Principle' (Heylighen 1999:33). As Prigogine has already shown us through his work on dissipative systems, complex systems cannot stand still (Prigogine and Nicolis 1977). There are even occasions when a system deteriorates eventually into demise.

A successful move from the first to the second, on the other hand, highlights mechanism of selection. 'Selection is the elimination or reduction of part of the variety of configurations produced by variation. Selection decreases disorder or entropy, by reducing the number of possibilities. A system that undergoes selection is constrained: it is restricted in the number of variations it can maintain. The existence of selection follows from the fact that in general not all variants are equivalently stable or capable of (re)production (...). Selection too can be internal, as when an unstable system (e.g., a

⁷ Due to this feature of loosening, some social scientists also call mechanism of variation mechanism of disintegration (De Vree and Jansen 1998). I will use these two interchangeably.

radioactive atom) spontaneously annihilates, or external, as when a system is eliminated because it is not adapted to its environment' (Heylighen 1999:23-24; cf. Thompson 2001b:6). As can be seen from this definition, mechanism of selection⁸ contributes to improvement of a system's organization. This is, however, a costly business. Certain new connections within a system's organization can be made only at the expense of some others, old and new. On the other hand, improvement of a system's organization brings about enhancement of efficiency in a system's function. Of course, neither efficiency nor organization has an upper limit to betterment. What we can safely say is that the more increased efficiency a CAS has, the more effectively a CAS copes with continuous challenges. When a CAS, however efficient its responses are, can no more cope with challenges, mechanism of variation enters in the stage. Therefore, 'the basic process at work is the occasional tendency for inertia to be overcome by innovation within a context of internal and external environmental change' (Thompson 2001b:7). The evolutionary circle restarts at this point from already existent circumstances. Constant interplay of these two mechanisms constitutes, then, the modality of evolution in a CAS.

However, it is not possible to understand logic of evolution without considering the central role of an important factor: environment.⁹ Given the facts 1) that a CAS is always located in a broader environment and 2) that environment constantly pushes a CAS towards different directions, environmental characteristics, first of all, ensure dynamism in a CAS. Therefore, Thompson writes, 'the classical source of change in evolutionary models is environmental' (2001b:4). It is certain that a CAS will be impelled to respond to impacts of environment upon its organization (Heylighen 1999; Thompson 2001b:4). This is why a CAS evolves. The latter strives to respond to internal and external perturbations and disturbances to its internal order, i.e., necessity of adaptation.

The questions whether and how a system copes with perturbations and disturbances to its internal order leads us to the concept of fitness. 'Fitness is an assumed property of a system that determines the probability that that system will be selected, i.e., that it will survive, reproduce or be produced. Technically, the fitness of a system can be defined as the average number of instances of that system that can be expected at the next step of "generation", divided by the present number of instances. Fitness larger than one means that the number of systems of that type can be expected to increase. Fitness smaller than one means that that type of system can be eventually expected to disappear, in other words that type of system will be eliminated by selection. (...) The fitter a configuration, the more likely it is to be encountered on future occasions. (...) [Absolute fitness] points to the capability to survive internal selection, i.e., intrinsic stability and capacity for (re)production. [Relative fitness] refers to the capability to survive external selection, i.e., to cope with specific environmental perturbations or make use of external resources. (...) In summary, a system will be selected if: 1) its parts "fit together", i.e., form an intrinsically stable whole, 2) the whole "fits" its environment, it can resist external perturbations and profit from external resources to (re)produce' (Heylighen 1999:24-25; cf. Thompson 2001b:6). In other words, evolutionary mechanisms of a CAS in response to environmental stimuli strive to keep high fitness function of that CAS.

⁸ Due to this feature of connecting, some social scientists also call mechanism of selection mechanism of integration (De Vree and Jansen 1998). I will use these two interchangeably.

⁹ Social scientists use the concept of context in exchange for environment. Therefore, I will also use these two interchangeably.

Each evolutionary circle creates, however, complexification processes. What is complexification? Heylighen starts by saying that ‘a system would be more complex if more parts could be distinguished, and if more connections between them existed’ (1999:19). He, then, moves to list its various types: ‘complexity increases when the variety (distinction), and dependency (connection) of parts or aspects increase, and this in several dimensions. These include at least the ordinary 3 dimensions of spatial, geometrical structure, the dimension of spatial scale, the dimension of time or dynamics, and the dimension of temporal and dynamical scale. In order to show that complexity has increased overall, it suffices to show, that –all things being equal- variety and/or connection have increased in at least one dimension. (...) The complexity produced by differentiation and integration in the spatial dimension may be called “structural”, in the temporal dimension “functional”, in the spatial scale dimension “structural hierarchical”, and in the temporal scale dimension “functional hierarchical”’ (1999:22). Each evolutionary circle increases fitness function in a CAS. Yet, increasing fitness function does not come without a cost. Each evolutionary circle also results in complexification processes within the given CAS. As Heylighen puts it, ‘The fundamental mechanisms of evolution are variation, which produces spatial differentiation of systems, and selection on the basis of (relative) fitness, which produces structural integration by creating more and stronger linkages between different systems. Together they produce the growth of structural complexity, characterized by the development of nested hierarchies of subsystems and supersystems. (...) Complexification in the temporal dimension corresponds to an increase in the variety and linkage of a system’s activities or functions. (...) The need to minimize the difficulty of decision-making and co-ordination between increasing number of activities leads to the integration of groups of related activities into higher-order functions. The resulting functional complexification produces control hierarchies consisting of object systems and metasystems’ (1999:40). Moreover, ‘complexification process tends to be self-reinforcing, because the filling of a niche by an additional system (i.e., the creation of a link) creates further niches (i.e., opportunities for additional linkages)’ and because ‘a structurally more complex environment requires a more complex set of functions to cope with it. Similarly, functional complexification seems to require a richer set of structural components and connections to implement it’ (Heylighen 1999:40; Thompson 2001b:2).

2.2 Logic of evolution of EU-FP

Interestingly, EU-FP has become, in course of time, more complex in an unpredicted and unintended manner. We can easily spot structural complexification in the ongoing process in which increasing number of member states has participated in EU-FP. EU-FP began with six members, then increased to nine, to ten, to twelve, to fifteen. At the moment, 25 states are involved. Plus, Brussels-based central organs with changing levels of involvement started to take part in making of EU-FP. No doubt, structural complexification, as expected, has gone hand in hand with functional complexification. We observe ever-growing of a body of norms, rules and institutions in EU-FP. It is interesting to know that EU-FP has functioned through Gentlemen’s Club agreements behind closed doors for 16 years. At the moment, however, a detailed *acquis politique* which all newcomer states have to accept beforehand provides the groundwork for the functioning of the system. The codification of the rules of the system in Single European

Act (SEA) in 1986 brought also a Brussels-based general secretariat that started immediately to take active role in making of political agenda. Moreover, the role of European Commission was recognized with Maastricht Treaty in 1991 and an office for the High Representative for CFSP was created with Amsterdam Treaty in 1997. All these instances must be taken as individual but related phases in the long functional hierarchical complexification process within EU-FP.

These two kinds of processes (i.e., structural and functional complexifications in EU-FP) motivate one to suspect that they have been a product of two evolutionary mechanisms at work. The mechanism of disintegration in EU-FP has essentially its origins in the distinctive nature of each component of the system –namely member states and other Brussels-based organs. The mechanism of disintegration in EU-FP leads to entropy and corresponds to heterogeneity. Since different parts of the system tend to behave differently and strategically. Indeed, EU-FP has fallen victim to its heterogeneous nature in many occasions from Middle East Oil Crisis in 1973 to Bosnian Civil War in early 1990s, from Iranian Revolution in 1979 to Second Iraq War in 2003. Therefore, many commentators contend that EU's 'uncommon foreign policy' is not a foreign policy at the EU level (Gordon 1998; see also Zielonka 1998). But I have in mind with the mechanism of disintegration in EU-FP is, in fact, more than heterogeneity at the micro level. Variation can be also found at the macro level. One can take note of changing alignments between member states and different logics of coalition-building for important decisions on the future of EU-FP. The decision taken by French president and British prime minister in St. Malo in December 1998 concerning European Security and Defense Identity (ESDI) on the way to a European army shows us a bright example of how innovation comes at times of necessity. It seems that others have inspired from and gathered around this move, as the decisions of 1999 Helsinki European Council Summit and following arrangements demonstrate. Yet, selection (out) of a given innovation is a completely different topic. All we, as researchers, can do about selection is wait and see.

The mechanism of integration leads to internal order and corresponds to the constraint upon 'independence' of different parts. Although the member states jealously preserve their sovereign rights to make individual foreign policies, they are, nevertheless, locked in a multi-layered and multi-dimensional framework of EU-FP. That is to say, their sovereignties have been pooled. In this sense, they are no more fully 'independent'. The mechanism of integration shows itself within modalities of this complex framework. As Smith argued, the longer the period during which the member states have cooperated, the more institutionalized their collective decision-making framework has become (Smith 2004b). Another interesting characteristic of mechanism of integration in EU-FP is the ongoing Europeanization process. There is now a growing body of academic literature about Europeanization (Olsen 2003). Although not uncontested, Europeanization is here understood as impact of European integration process upon the domestic institutions and national policies of the member states of the EU. The studies of Europeanization mainly focus on EU-inspired transformations taking place in political and socio-economic areas in the *member* states (Bulmer and Lequesne 2005; Featherstone and Radaelli 2003). The research also includes Europeanization of *foreign and security policies* of the *member* states (Hill 1996; Manners and Whitman 2000; Tonra 2001; Wong 2005). The mechanism of integration also shows itself through the output of EU-FP. As documented, EU-FP has already produced successful collective action in world politics concerning the

issues of international trade, development aid, Eastern enlargement (Smith 1995; Smith 2004a).

Needless to say, EU-FP as a CAS has striven to respond to the challenge of internal and external perturbations and disturbances through simultaneous operation of these two mechanisms. Good examples of such internal and external perturbations in its history are German Ostpolitik or Thatcherite approach to Europe and the Oil Crisis or the start of 'second Cold War' with Reagan respectively. Each of these topics would indeed be a good case study of EU-FP. Nevertheless, I believe, an evolutionary approach to the study of EU-FP necessitates understanding of much longer-term trends, not a piecemeal approach that concentrates on atomized single events, as it is a common case in Conflict Prevention/Resolution literature.

The fitness of EU-FP as a CAS (i.e., its robustness and effectiveness) depends on its capability to preserve its internal order through adaptation whenever the system is threatened with exogenous and endogenous factors. Increase in fitness function might then come in various ways, e.g., moving to and stationing in of the system another punctuated equilibrium point, passing through phase transitions, creating meta-level control systems etc. In this case, one can call EU-FP 'fit' if the variety of available counteractions it takes is (at least) as large as the set of disturbances that occur and can be corrected. There are two possible ways again. As a piecemeal approach, one can either concentrate on atomized single events. Then the research question is whether and to what extent EU-FP was successful to cope with the challenge. Already, many case-studies were produced in this way. Nevertheless, I believe, an evolutionary approach to the study of EU-FP necessitates understanding of fitness of EU-FP within much longer time spans.

Therefore, I argue that one needs no less than to build an iconic and dynamic model in order to have a comprehensive understanding of EU-FP. Such kind of models in evolutionary biology describes the workings of evolutionary mechanisms within an ever-changing environment. Obviously, this means going well beyond appearances. The iconic and dynamic model we are here talking about, in the same way, must focus on underlying mechanism(s) (i.e., two interwoven logics of integration and disintegration) *and* contextual factors (i.e., socio-economic and cultural-ideological conditions changing since late 1960s in European and global levels) responsible for the emergence and evolution of EU-FP. But how possibly can one build such a model? The starting point is contextual factors. The context in our study, which is qualitatively different than those physical environments in biology, is a socio-economic one. It is the capitalist world-system. Fortunately, we have now enormous literature on the very evolution of this context, especially after the end of Second World War (Arrighi 1994; Arrighi and Silver 1999; Bello 2005; Brenner 2005; Dowd 2000; Ferguson 2001; Hopkins and Wallerstein 1996; Pollard 1997; Siebert 1999). EU-FP has come into existence in a specific phase of capitalism. That is to say, EU-FP is an offspring of Kondratieff B-phase business cycle. This crisis situation –yet another one in the history of capitalism- has inevitably affected EU-FP in terms of policy direction and instruments. The most important feature of this 'late capitalism' (Mandel 1978) is substantial transnationalization of all three forms of capital. As known, capital must continuously transform itself into its money capital, productive capital and commodity capital (Harvey 1999; Marx 1906). The consequences of substantial transnationalization of all three forms of capital in the global scale come as

an emerging financial market, an emerging global division of labor, and emerging trade blocs.

Since member states of EU-FP, like all the other members of international society are located within this evolving socio-economic context, their political responses are vital for their own well-being and its preservation and if possible, improvement. Here, we are putting EU-FP within a two-way relationship with economic forces and their emergent economic system, as International Political Economy (IPE) scholars has preached (Gilpin 1987; Lawton, Rosenau, and Verdun 2001; Stubbs and Underhill 2006). Yet, the two-way relationship between the political and the economic is not an external one, as IPE scholars generally assumed. Rather, it is an internal one. For the political and the economic are two forms of the same value production process within capitalist world economy. As Marxist literature argued, the state is a capitalist state (Jessop 1990) and the inter-state system is the political framework for the functioning of capitalist world economy (Chase-Dunn 1998).

Conclusion

In this paper, I attempted to show that concepts commonly used CT in general, of evolutionary biology in particular promise new horizons when employed in IR. The subject of IR as a complex phenomenon at macro-social level, therefore, deserves at least a rethinking in evolutionary terms. What is more, many concepts taken from CT in general, of evolutionary biology in particular work smoothly. As shown above, evolutionary mechanisms, contextual factors, arrow of time, emergent properties, processes of complexification, relational understanding correspond to characteristics of international relations. In this way, the paper is very much in line with and closely follows the findings of CT in general, of evolutionary biology in particular.

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