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POLITICAL RIVALRY IN THE LIGHT OF LEIGH VAN HELEN'S RED QUEEN HYPOTHESIS

ABSTRACT

The Red Queen hypothesis is a popular model for analysing the phenomenon of competition in nature. It establishes mutual dependencies between competing species that stimulate their changes and adaptation processes to new conditions. The result of such competition is a self-propelling race, which allows for the evaluation of its effects, including the benefits for the participants. This dependency structure is often used to analyse interactions in social behaviour, especially the optimisation of economic competition strategies in a free market. The Red Queen model appears to be a useful tool for interpreting political competition phenomena and analysing interactions between political entities. However, there are relatively few references to its analytical applications in political science literature. The article discusses three fundamental issues related to the possibilities of political exploration of the Red Queen hypothesis. Firstly, it presents arguments justifying the use of an evolutionary interpretation for political research. Secondly, it identifies key implications arising from the perception of political competition through the prism of the discussed Leigh Van Halen model. The concepts of competition and cooperation were taken into account, with cooperation being considered a form of cooptation in the political sphere of social life. The final section identifies the key dimensions of analysis for competition among politicians, political parties, and states on the international stage.

Keywords: sociobiology, political rivalry, political competition

Recently, there has been a significant increase in referencing and applying biological knowledge to the social sciences. Inspired by the study of the natural sciences, one of the popular paradigms implemented in social research is the assumptions of neo-evolutionism. Thus, the methodology of the natural science, broadly understood, becomes a natural source of inspiration for the implementation of research in the humanities and social sciences. As a result, the natural sciences are now quite firmly embedded in social research, and in some disciplines they are even effectively integrated, as is the case with psychology, anthropology, or ecology. The latter is also an established aspect of political science research related to sustainable development and environmental policy.

The biological determinants of the collective organisation of social life are also explored from this perspective. Attempts to explain social behaviour by applying laws or principles discovered in nature to the interactions between individuals, populations, or species and their environment have a long tradition. The development of the socio-biological movement and a research paradigm based on Edward Osborn Wilson's thesis of biological-cultural coevolution was perhaps its most spectacular manifestation. This idea encouraged the search for universal evolutionary principles. Its manifestations could convincingly explain the regularities of social behaviour.¹

Attempts to use evolutionary methods to explain social behaviour have been subject to much criticism. It showed significant dilemmas in the use of evolutionary analogies and research limitations in their social implementations. However, there are important reasons to interpret and explain political behaviour using the methodology of evolutionism. According to Edmund Chattoe, evolutionary analogies are used in social research in two ways. Firstly, as analytical approaches that strictly analogise to the natural world for explanatory purposes. Secondly, as loose metaphors that reflect the fundamental relationships and mechanisms that determine natural phenomena. They enable the capture and description of similarities in the processes of change, adaptation, and development. These processes are often fleeting and difficult to conceptualise and measure using the methodological instruments of social sciences.²

An inspiring model used to explain and analyse social behaviour is the Red Queen hypothesis formulated by the American biologist Leigh van Halen. This hypothesis assumes the principle of permanent competition as a mechanism that regulates the forms of optimal adaptation to environmental conditions, and is used in the search for laws of species extinction. It defines a model system of interdependencies among competing species. In this context, researchers can use the words hypotheses, models and the Red Queen relationship system interchangeably. The Red Queen principle states that the environment in which living things live and evolve is never static. They are under constant pressure to adapt to dynamic change. Plants and animals experience constant change due to various

¹ More see: C.J. Lumsden, E.O. Wilson, *Genes, Mind, and Culture: The Coevolutionary Process: 25th Anniversary Edition*, Cambridge 2005.

² E. Chattoe, "Using Evolutionary Analogies in Social Science: Two Case Studies," in A. Wimmer, R. Kössler (eds), *Understanding Change*, London 2006, pp. 89-95.

environmental conditions. These include climate change and the emergence of more efficient predators and competitors. It requires constant adaptation and participation in competition with each other, stimulating population changes and the creation of new species. It is also the primary factor causing biological differentiation and variability in different spatial and temporal dimensions.

The most significant consequences of this explanatory perspective have been studied in the relationships between predators and prey and between parasites and hosts.³ However, the significance of discovering this regularity, particularly its usefulness in explaining changes occurring in various manifestations of competition, has been the subject of discussions among evolutionary biologists for many years. The Red Queen hypothesis is a popular and frequently explored research tool not only among biologists but also among representatives of other disciplines due to its merits. Based on the relationships determined by the Red Queen model, we developed empirical simulations of development under conditions of economic competition, constraints on development, and determinants of innovative actions. Additionally, there are conducted interesting analyses of relationships in the academic environment under external pressure and competition among researchers.⁴

The main purpose of this study is to characterise the phenomenon of political rivalry through the prism of the dependence determined by the Red Queen model. However, this characterisation does not include an analysis of the advantages and disadvantages of using the Red Queen model in political science research. Critical views on the analogy of organic evolution with social change have received quite a rich literature. Considering the criticism of the methodology of evolutionism, it would have to address a much broader issue that goes beyond the scope of a scientific article.⁵ This text focuses primarily on attempting to determine the analytical consequences of perceiving political rivalry based on Leigh Van Halen's concept. The research hypothesis assumes that the Red Queen model describes rivalry in a different but complementary way to conventional political science approaches. In this context, it may help clarify the meaning of the concepts of rivalry, competition, and coopetition in the political sphere of social life. It is also inspiring for new interpretations of the phenomenon of political rivalry and for analysing far-reaching consequences that are not perceived in other approaches.

³ J. Jokela, M.F. Dybdahl, C.M. Lively, S.P. Otto, "The Maintenance of Sex, Clonal Dynamics, and Host-Parasite Coevolution in a Mixed Population of Sexual and Asexual Snails," *The American Naturalist*, vol. 174 (2009), pp. 43-53.

⁴ A.J. Robson, "Complex Evolutionary Systems and the Red Queen," *The Economic Journal*, vol. 115, no. 504 (2005), pp. 211-224; one of the most interesting studies is an attempt to apply the Red Queen hypothesis to the analysis of relationships in the academic environment in conditions of external pressure and competition between researchers, see: S.G. Negatu, M.C. Arreguin, K.A. Jurado, C. Vazquez, "Being the Alice of Academia: Lessons from the Red Queen Hypothesis," *Pathogens and Disease*, vol. 80, no. 1 (2022), pp. 1-6.

⁵ S.K. Sanderson, *Evolutionism and Its Critics: Deconstructing and Reconstructing an Evolutionary Interpretation of Human Society*, London 2007.

PREMISES FOR A POLITICAL-BIOLOGICAL ANALOGY

In the methodological dimension of scientific validation of the Red Queen hypothesis as an explanatory model of political behaviour, it is worth asking: on what basis can we assume that regularities observed in the animal world are adequate for explaining social interactions, including political ones? Attempts to answer this question inevitably lead to a rich tradition of exploring research methods from the natural sciences in the fields of humanities and social sciences. To a large extent, the arguments justifying the need to consider biological factors in explaining political behaviour have been developed through the sociobiological movement. The sociobiological assumption that predispositions for social behaviour are derived from an evolutionary mechanism of adaptation to environmental conditions implies the use of an interpretive perspective developed within the natural sciences.

Despite the above arguments, it is possible to formulate those that establish premises that lead to the recognition of evolutionary adaptation mechanisms as a useful explanatory perspective in political behaviour research. This refers to functional explanation, which is integrally woven into both the evolutionary interpretation of the natural world and the social world. This perspective allows for capturing and formulating convincing answers to questions about universal laws shaping both animal behaviour and social behaviours, including those related to institutions of power and the political sphere of life.⁶

From a functional perspective, the theory of evolution of organisms through natural selection and selection emphasises primarily those properties of morphological, behavioural, or physiological traits that enable the survival of an individual in the environment and the production of offspring. In this perspective, most characteristics of living organisms can be considered in terms of their adaptive function. In other words, the physical structure and the character of established patterns of behaviour are functionally shaped to fulfil basic and universal biological laws, such as survival and reproduction. Therefore, both classical and contemporary interpretations of the process of evolution mostly refer to the mechanisms of adaptation as the factor that determines changes that define the direction of species development. Adaptation to changing environmental conditions, including the model of interaction between species and populations, is a necessary mechanism that enables the survival and reproduction of organisms.⁷

For social researchers, including political scientists, it is important to note that this functional dependence also concerns the forms of social organisation and patterns of

⁶ I.S. Lustick, "Taking Evolution Seriously: Historical Institutionalism and Evolutionary Theory," *Polity*, vol. 43, no. 2 (2011), pp. 186-191.

⁷ On the functional explanation in evolutionary theory see: A.G. Wouters, *Biology's Functional Perspective Roles, Advantages and Organization*, in K. Kampourakis (ed.), *The Philosophy of Biology: A Companion for Educators*, New York 2013, pp. 455-486.

behaviour in the political sphere. In approximate terms, this dependence can be expressed by the statement that the structure of political organisation favors forms of government and principles of social order that support the integration and cooperation of community members and provide opportunities for long-term development.⁸ This dependence is a consequence of a race in which each species tries to improve its efficiency and chances of survival. As a result, the characteristics of partners in the ecological network also change, causing further reactions in representatives of the first species. However, in doing so, it modifies the evolutionary responses of representatives of other species with which it interacts. From an evolutionary perspective, these relationships constitute a constant race that determines the development of new forms of behaviour and also conditions changes in the physiological structure of organisms belonging to different species that share the same ecosystem. In practice, this means that species coexistence is the determinant of permanent change, and in the long term, maintaining a state of equilibrium in the relationships between species is never possible.⁹

Maintaining this functional perspective, it would be appropriate to assume that political behaviour as a social characteristic is an inevitable consequence of adaptive mechanisms, that is, adaptive behaviours at a certain stage of development. Politics itself understood as a sphere of specific social behaviours, is an inevitable consequence of the formation of practices that enable the optimisation of adaptive processes. Political behaviours are inevitable in the sense that they are not dependent on various environmental factors. In other words, regardless of natural environmental conditions, interactions with the environment, or cultural factors, political behaviours allowed for the optimisation of adaptive values.¹⁰

In this perspective, the processes of shaping political behaviours and the rules of political games can be perceived in the light of natural selection, environmental adaptation, and optimisation of life functions. These relationships can be considered at both the individual and population levels, as determined by the principle of cumulative adjustment. For example, this means treating the state as a form of political organisation of society shaped by the evolution and adaptation of people to the dynamically changing conditions of their existence. This assumption was represented, among others, by one of the pioneers of political exploration of neo-evolutionism, Roger Masters. They are a form of cultural evolution implied by the processes of human language development as a system of encoding and transmitting information similar to the genetic system but not reducible to genetic determinism. He assumed that the state is a result of evolution and emerged as one of the possible forms of society's adaptation to specific

⁸ R. Skarżyński, *Mobilizacja polityczna. Współpraca i rywalizacja człowieka współczesnego w wielkiej przestrzeni i długim czasie*, Warszawa 2011.

⁹ R. Solé, "Revisiting Leigh Van Valen's 'A New Evolutionary Law' (1973)," *Biological Theory*, vol. 17 (2022), pp. 120-125.

¹⁰ J. Nocoń, "Interpretacja funkcji w socjobiologicznych koncepcjach polityki," *Teoria Polityki*, no. 4 (2020), pp. 183-195.

environmental factors in certain historical conditions. The use of an evolutionary perspective to explain political behaviour has a relatively long tradition and broad representation. It also encompasses the phenomenon of competition.¹¹

The interaction model presented in the Red Queen hypothesis is essentially a functional mechanism based on the principle of feedback in the system of relationships between species. This means that the development of a specific behavioural or physiological trait that gives an advantage over a competitor is also a key stimulus for changes in the competitors. In turn, these changes elicit a response in the form of corresponding adaptive changes among the representatives of the population that originally initiated this process of adaptation. This mechanism, in addition to maintaining permanent dynamics and the need to adapt to new conditions of competition, also maintains a certain balance of interaction system over a longer time.¹²

POWER RESOURCES AS A SOURCE OF COMPETITION

The above-mentioned premises provide a basis for attempting to relate the Red Queen hypothesis and comparisons of the relationships occurring in the political sphere, including the phenomenon of rivalry and its systemic consequences. Firstly, it should be noted that the Red Queen hypothesis assumes that the phenomenon of rivalry is a key factor determining the nature of relations between competing species. In this perspective, it should be assumed that competition is also a factor determining the nature of interactions between political entities.

Competition is ubiquitous in nature and is most commonly understood as a fundamental mechanism of evolutionary adaptation. In an approximate interpretation, competition is the basic mechanism determining the processes of adaptation, as a result of which the best, i.e. the best adapted, survive. The essence of these processes is competition for limited resources necessary for survival and reproduction, both at the species and individual levels. Similarly, in social interactions, the essence of competition is a limited form of resources that are the target of social action. This is emphasised by the etymology of the word 'rywalizować' (compete), which refers to 'one who uses the same stream as another.' These characteristics also emphasise the contemporary connotations of competition, which according to the Cambridge Dictionary, refer to *a person or thing competing with another for the same goal or an advantage in the same field of activity or a person or thing that is equal to another in quality*.¹³

A rival usually possesses qualities or skills that are similar to or equal to those of their competitors. Similar to the dependencies in the Red Queen model, the noun 'rival'

¹¹ See: R.D. Masters, "Biology and Politics: Linking Nature and Nurture," *Annual Review of Political Science*, vol. 4, no. 1 (2001), pp. 345-369.

¹² P.J. Derfus, P.G. Maggitti, C.M. Grimm, K.G. Smith, "The Red Queen Effect: Competitive Actions and Firm Performance," *The Academy of Management Journal*, vol. 51, no. 1 (2008), pp. 62-63.

¹³ The Cambridge English Dictionary Concept of rival, [online] <https://dictionary.cambridge.org/dictionary/english/rival>, 12 I 2024.

usually refers to a person aspiring to achieve the same goals that prevent their achievement by other competitors. In the institutional dimension, the term 'rival' can be applied to political entities such as a party or a state. Competitors who hold a position in the political or international arena that gives them the potential to influence the sphere of interests, needs, and goals in which they are involved.¹⁴

A crucial aspect of this approach to competition is relating actions to the same sphere or goal. Not all participants in the public sphere engage in competitive relationships. The point of reference that gives social interactions a competitive context is extremely important. In this context, a key aspect of analysing competitive phenomena is the resource deficit which is the goal of the competing entities' efforts. This brings the concept of competition closer to conflict-based political concepts and theories of thinkers such as Karl Marx, Max Weber, Ralf Dahrendorf, and Carl Schmitt.¹⁵ In all of these concepts, conflict and competition are key phenomena that generate the sphere of political behaviour and determine the attitudes, behaviours, and interests of political actors.

In the political sphere of social life, the resource that is the goal of competing entities' actions and the source of political rivalry is influence, which provides opportunities for shaping behaviours, subordinating other entities, or achieving intended goals. The primary resource in politics is the possession of power, which provides institutional means of exerting influence. Regardless of this, prestige, social privileges, or lucrative positions within state structures can also be sources of competition. In the context of international competition, territory and valuable economic potentials present on it can be material resources. In terms of personal competition, resources such as prestige, a recognisable public image, acquisition of leadership, professional or communication skills, and other factors that position an individual in the social hierarchy can be just as important as the pursuit of success. As a result, political competition can aim to gain voter support.

Consequently, the most important aspect of real agency and structuring of influence, the institutionalisation of power, is achieved. To obtain formal authorisation to access government institutions or other resources that enable real influence on social life, political competition is a fundamental social phenomenon that shapes political subjectivity.

COMPETITION AS A DETERMINANT OF POLITICAL ADAPTATION

Another observation resulting from referring to the dependency model determined by the Red Queen hypothesis in the sphere of politics is the claim that the phenomenon of rivalry determines the specificity of relations between competing political entities. In natural conditions, there is a functional feedback dependency between the host and

¹⁴ W.R. Thompson, "Identifying Rivals and Rivalries in World Politics," *International Studies Quarterly*, vol. 45, no. 4 (2001), pp. 557-586.

¹⁵ See: J. Nocoń, A. Laska, *Teoria polityki. Wprowadzenie*, Warszawa 2010, pp. 62-68.

the parasite or between the predator and the prey, as previously mentioned. In other words, the development of specific traits in a host or predator population stimulates a specific response in the form of skill development in the parasite population or prey group. The relationship between the stimulating factor and the response is functional, as it contributes to the more efficient achievement of goals. In the case of the predator, this is the efficiency of successful hunts, and in the case of the prey, it is the effectiveness of avoiding being hunted. Mutual interactions and the race to gain an advantage over the competition are key factors that drive the development of participants in this rivalry. The overall perspective reveals a close interdependence between both sides, whose development is a consequence of mutual interactions.¹⁶

The mechanism of interdependence can also be easily observed in the economic interactions between competing corporations. Research in the field of competition dynamics confirms that economic competition is a dynamic market process, rather than a static result of planned company actions. In the economic space, the results and economic status of competing entities are not simply a function of strategy and development programmes. They are the result of the actions that the company takes in relation to the strategies and actions of its competitors, determined in the process of competition. One of the more popular and frequently cited examples of this type of relationship is the rivalry between Coca-Cola and the current competition between Samsung and Apple. In the political sphere, such a system of dependencies is often analysed in the power struggle between the Soviet Union and the USA, and at the level of political parties in the relations between the Democratic Party and the Republican Party.¹⁷

Stereotypical perceptions of relationships between political entities usually focus on competitive or cooperative relationships. Applying this perspective to the perception of interactions in politics allows us to capture the complexity of the network of dependencies in the political environment. It is often assumed that competition excludes cooperation between entities and vice versa and that cooperation limits competitive actions. Meanwhile, the analysis of the dependencies resulting from the Red Queen model shows that two species can simultaneously compete with each other and benefit from this competition. In conditions of political rivalry, where competing entities are aware of these benefits, a relationship can be assumed in which political entities maintain competition as a form of cooperation that reinforces their position in the political arena.¹⁸

This is a consciously maintained state of competition or even political struggle, which in its essence is a consequence of cooperation that brings common benefits to competitors. The apparent contradiction of the relationship and the complexity of the

¹⁶ G. Joop, A. Vilcinskis, "Coevolution of Parasitic Fungi and Insect Hosts," *Zoology*, vol. 119, no. 4 (2016), pp. 350-358.

¹⁷ M. Grossmann, D.A. Hopkins, *Asymmetric Politics: Ideological Republicans and Group Interest Democrats*, New York 2016.

¹⁸ M. Karnowski, E. Mistewicz, *Anatomia władzy*, Warszawa 2010, pp. 44-45.

interaction result from the intersection of different dimensions of the analysis of the relationship on which competition and cooperation are built. However, a systemic approach to this type of relationship reveals functional dependencies known in the literature as cooptation or cooperative competition.¹⁹ However, under certain conditions, cooperation can promote competition by optimising the competitive position. Cooptation is therefore a hybrid action that combines two seemingly conflicting types of relationships. It is worth emphasising that paradoxically, cooperative interdependence excludes rivalry and competition. This situation occurs in the case of proportional electoral systems. It often requires parties and coalitions to exceed electoral thresholds. Candidates running on these lists have a common interest in exceeding the electoral threshold set for their party or coalition. In terms of collective interest, which originally determines their individual status as political representatives, candidates from one list compete for mandates with candidates from competing parties. However, the number of candidates on the list usually exceeds the number of seats available. In this dimension, candidates on a joint list compete with each other for a seat in the representative body they are seeking membership. Thus, their interaction has both cooperative and competitive contexts.

In this context, interactions at the individual, population, and organisational levels should be perceived as a dynamic and multi-level process, where competition at one level can smoothly transition to cooperation at other levels. Indeed, such a multidimensional approach to competition and cooperation is similar to the Hamiltonian concept of coevolution or, as Peter A. Corning describes it, holistic Darwinism.²⁰

In the realm of political competition, the actions of competitors set goals and give meaning to the actions of participating entities. They inspire and motivate strategic planning and focus on seeking solutions generated by the attitudes of rivals. Facing the challenges formulated in this race is the main source of new ideas and innovative solutions, both programmatically and organisationally. In this aspect, their development depends on the characteristics of their competitors. This dependence seems to gain particular dynamics during election campaigns when the political staff of individual candidates quickly react to the actions of their competitors. The election period highlights the need for permanent monitoring of the actions of rivals and work on an adequate response necessary to maintain and strengthen their electoral position. The electoral race is determined by the specific factors that provide an advantage, behaviour patterns, preferred strategies, and even organisational structure. It is worth noting that sometimes the interests of the ruling party and the party that is its biggest competitor are closely related. On one hand, it integrates, dynamises, and directs the development,

¹⁹ M. Bengtsson, S. Kock, "Coopetition' in Business Networks – to Cooperate and Compete Simultaneously," *Industrial Marketing Management*, vol. 29, no. 5 (2000), pp. 411-426; A.A. Lado, N.G. Boyd, S.C. Hanlon, "Competition, Cooperation, and the Search for Economic Rents: A Syncretic Model," *Academy of Management Review*, vol. 22, no. 1 (1997), pp. 110-141; Y. Luo, "A Coopetition Perspective of Global Competition," *Journal of World Business*, vol. 42, no. 2 (2007), pp. 129-144.

²⁰ See: P.A. Corning, *Holistic Darwinism: Synergy, Cybernetics, and the Bioeconomics of Evolution*, Chicago 2005, pp. 17-45.

while on the other hand, appropriately managed conflict between these political entities generates support and political capital for both rivals. Avoiding biased language, the struggle against the actions and political program of the opponent is a source of legitimisation for one's actions.²¹

In the process of competing for power resources, parties create an environment that stimulates permanent changes. These changes occur through the improvement of competitive strategies and the implementation of new means, instruments, or resources useful in political actions. As a result, they constitute the main source of environmental changes and, at the same time, the subject that must adapt to new competition conditions. In this context, political entities experience a permanent change in the conditions of competition, where competition forces continuous adaptive processes. It is important which of the entities gains an advantage and imposes its strategy on its competitors. However, in the longer term, the competition for the advantage in dictating the narrative follows the Red Queen principle. The most convincing parties in their narrative, which can more effectively shape public opinion and direct public discourse, gain an advantage in the process of seeking power resources. A subject that does not keep up loses significance and must adapt to the rules imposed by the opponent, improving and perfecting its competition strategy. Often, when these actions are not effective or efficient, political entities become marginalised, their relevance is limited, and they ultimately disappear from the political scene.²²

However, the status of the dominant party in the competition is closely related to the potential and strength of its rivals. According to the Red Queen principle, the winner of the race only outpaces rivals by a proverbial step. This means that the dominant party in the competition does not distance itself from other parties in a way that prevents or excludes competition. Competition requires continuous interaction between populations, which is a condition for mutual stimulation in the adaptive process. In the broader context of evolutionary theory, this condition is consistent with the principle of parsimony, which posits natural forms of development without waste or energy extravagance.²³ From a political science perspective, this principle can be applied to the rules of political games, the consequences of which are strictly defined by the forms of interaction between competing political entities. This means that the dominant subject in the competition has an advantage, which can be characterised in relation to the actions of its competitors. Furthermore, this advantage results from the actions of other entities and does not guarantee a constant privilege for the dominant subject. Similar to natural conditions, none of the participants in the competition can dominate others to the extent of preventing other participants from competing. This

²¹ G.W. Cox, *Making Votes Count: Strategic Coordination in the World's Electoral Systems*, Cambridge 1997, pp. 13-34; A. Żukowski, "Kierunki ewolucji polskiego systemu wyborczego a interesy partii politycznych," in K. Kowalczyk, Ł. Tomczak (eds), *Partie i system partyjny RP. Stan i perspektywy*, Toruń 2007, p. 23.

²² M. Karnowski, E. Mistewicz, *Anatomia władzy...*, pp. 44-57.

²³ J.V. Crisci, "Parsimony in Evolutionary Theory: Law or Methodological Prescription?," *Journal of Theoretical Biology*, vol. 97, no. 1 (1982), pp. 35-41.

regularity is largely confirmed by the mutual references of competitors and the adaptive nature of natural competition.²⁴

From a political science perspective, this relationship can also justify the phenomenon of the 'wearing out' of power. This term describes the increasing decline in social support over time for a party in power, in the absence of real political competition. In situations where there is no real competitor or opposition, the ruling elites lose motivation and inspiration for active adaptive actions. The main effort is focused on maintaining the *status quo*, or the privileged position in relation to competitors. The absence of competition creates a sense of fulfilment and satisfaction among those in power, contributing to the conditions of the so-called "comfort zone." The principle here is: "if things are going so well, why change anything?"²⁵ The satisfaction and contentment of achieving success, the feeling of superiority and control over the situation, create the premise of the lack of direct stimuli that motivate effort and discipline. The absence of competition rationalises the attitude of waiting and consuming one's success. The ruling elite loses credibility and social trust, and as a consequence, political support and the ability to dispose of institutional resources of power. In this way, the lack of stimuli that stimulate competition limits the adaptive function and promotes the alternation of power.²⁶ Leaders aware of this do not wait for an inevitable crisis, but sometimes provoke or even cause it themselves to restore relaxed discipline and motivation.

Analyses relating the Red Queen model to political competition should take into account at least three factors that must occur for co-opetition to exist. As necessary conditions for establishing such a relationship, we can assume the decision-making centre's ability to realise the impact of competitive actions, motivation to react, and possession of resources to prepare an effective response. If political entities have such potential, there are real grounds for the permanent functioning of a functional relationship of progressive rivalry. In such research, it is also essential to consider the key determinants of political rivalry. These factors are related to the specificity of the political culture, conflicts that define the main lines of social divisions, and the institutional structure of state institutions. These factors determine the ways of seeking consensual or confrontational solutions, as well as the scope of social involvement in the process of competition.²⁷

²⁴ T. Carmichael, M. Hadzikadic, "Predator-Prey Dynamics and the Red Queen Hypothesis: Putting Limits on the Evolutionary Arms Race," *Journal on Policy and Complex Systems*, vol. 2, no. 1 (2015), pp. 1-8.

²⁵ Similar trends have been revealed in the sphere of economic competition, where these relationships are successfully studied. A good competitive position, confirmed by market shares and financial results, builds a sense of self-satisfaction among owners and managers. In economics, it is seen as the main enemy of development and limiting changes in the company. See: P.J. Derfus, P.G. Maggitti, C.M. Grimm, K.G. Smith, "The Red Queen Effect...", pp. 61-80.

²⁶ G. Lagadec, "The Road to Re-Election: Incumbency, Wear and Tear of Power and New Tactics," *Theoretical Economics Letters*, vol. 12, no. 5 (2022), pp. 1452-1471.

²⁷ S. Bartolini, "Electoral and Party Competition: Analytical Dimensions and Empirical Problems," in R. Gunther, J.R. Montero, J.J. Linz (eds), *Political Parties: Old Concepts and New Challenges*,

DIMENSIONS OF THE ANALYSIS OF POLITICAL COMPETITION

The evolutionary perspective explains natural competition through natural and sexual selection. This refers to the relationships that occur in the sphere of intrasexual and intersexual selection, which determine two distinct and partially conflicting dimensions of competition. Intersexual selection refers to the relationship between two sexes. In other words, intersexual selection occurs when individuals of one sex choose members of the opposite sex. Sexual selection is therefore a product of interactions between males and females, or respectively, men and women. From an evolutionary perspective, individuals of each sex develop traits that are perceived as attractive from the opposite sex's perspective. This type of relationship is often associated with female sexual preferences in the literature. Males who are more preferred by females as reproductive partners indirectly win the competition with other males. According to some hypotheses, the process of evaluating potential partners by females is associated with those male attributes that enable the female to achieve the greatest reproductive success.

Such competition is a strong developmental stimulus for certain traits that give an advantage over other males. Intrasexual selection refers to competition among individuals of the same sex for mates. This competition usually involves males of the same species competing for access to females, which enables reproductive success. These traits may include physical strength, specific behavioural patterns, or physiological structure. Referring to these regularities in natural and sexual selection, similarities can be identified in the sphere of political competition.

These similarities concern the internal and external dimensions of this competition. The external dimension concerns the competition between political entities and their social environment. Sexual selection mechanisms ensure the effective transmission of good genetic material to offspring, making it a mechanism of natural selection from a population perspective. In turn, the internal dimension of analysing competition includes endogenous factors shaping the hierarchy of influence within political entities. These also include relationships based on internal competition between members of given political organisations.

The external dimension of competition in politics concerns the relations between different types of political entities and their social environment. In political realities, the social environment plays the role of a natural environment equivalent. It serves as a reference point for the relationship between entities competing for legitimacy and support from this environment for their actions. Politicians, political parties, and states on the international stage all develop programmatic offers, plans, and a political action strategy aimed at meeting the needs and interests of social groups while seeking social

Comparative Politics, Oxford 2002, pp. 84-110; P.M. Vaaler, G. McNamara, "Electoral and Market Rivalry in Developing Country Sovereign Risk Assessment," *Academy of Management Proceedings*, vol. 1 (2008), pp. 1-39.

recognition. The efforts of politicians to gain social accreditation and a political mandate are akin to natural selection.²⁸

Political parties compete to gain a majority in collective decision-making institutions, which enables access to power resources. In a democratic game, winning this competition depends on the relationship with the social environment, the attractiveness of the programme offer, and the conviction of the effectiveness of political representation. Competition in this dimension is a kind of game between voters and the elected, between the political elite and the social environment, between political actors and public opinion. Competitors are evaluated based on the attractiveness of declared actions, effectiveness in achieving goals, and exhibited qualities of a leader or political figure.²⁹

The reference point and variable to which the party's actions in this area are adapted is the socio-cultural and economic foundation of the political system. This includes the structural orientation of society and the key socio-divisions that influence the generated planes of political competition. Important elements of analysing competition at this level also include the state of the economy, the character of the political culture, the level of organisation of civil society organisations, and the political awareness of citizens. These are factors that determine the natural environment surrounding the political scene. It is worth emphasising that these relationships are reciprocal. This means that political competition also affects the socio-cultural area, as well as the dominant social divisions in the structure. Its expression is also reflected in changes in adopted constitutional or institutional solutions.³⁰

The internal dimension of competition in politics concerns the relationship between entities competing for access to power resources, as well as between politicians competing within their structures. As a result, characteristics are developed that, in a comparative approach, highlight the advantage over rivals in the race for power resources. The rules of competition are determined by the rules of political play, both those that result from formal regulations defining the political system and informal rules that make up the patterns of political culture. For example, in the confrontational model of competition, emphasis is placed on characteristics and elements of action that, on the one hand, highlight the advantage over rivals and, on the other hand, deter competitors from direct confrontation.³¹ In terms of political competition, it concerns presenting oneself as an effective leader, a competent and efficient organiser, or a credible representative of the voters. At the party level, it involves building the image of

²⁸ See: M. Madej, D. Drahus, M. Wichlacz, "Social Movements and Political Parties: Cooperation and Conflict," *Athenaeum: Polish Political Science Studies*, vol. 80, no. 4 (2023), pp. 95-116.

²⁹ J. Albright, "The Multidimensional Nature of Party Competition," *Party Politics*, vol. 16, no. 6 (2010), pp. 699-719.

³⁰ R. Muirhead, N.L. Rosenblum, "The Political Theory of Parties and Partisanship: Catching Up," *Annual Review of Political Science*, vol. 23 (2020), pp. 95-110.

³¹ E.H. Allern, V.W. Hansen, D. Marshall, A. Rasmussen, P.D. Webb, "Competition and Interaction: Party Ties to Interest Groups in a Multidimensional Policy Space," *European Journal of Political Research*, vol. 60, no. 2, pp. 275-294.

a strong and relevant political representation, an organisation that effectively achieves social goals and is close to the citizens. At the international level, the competition leads to emphasising the importance of the state's powerful position.³²

In this dimension of analysis, the interdependencies related to the feedback effect of competition on the strategies and organisational structure of competing entities are also significant. The adaptive function of the political competition processes mentioned earlier is evident here. It can be considered in the relationships between the nature of competition and the organisational structure of parties. Interactions within individual political entities are also a result of competition processes. In other words, the competitive nature determines certain characteristics that provide an advantage in this race. The more confrontational the nature of the competition, the more ruthless and determined the image is created. Action strategies emphasise uncompromising behaviour, strong leadership, party integrity, and loyalty of its members. These are the characteristics that give an advantage over competitors in a confrontational model of competition. Competition naturally stimulates the strengthening and greater integration of structures within competing political entities. It also significantly enhances the maintenance of internal discipline and the effectiveness of communication processes. As a result, competition under confrontational conditions, based on a high intensity of social conflicts, favours leader parties with a strong and centralised leadership centre. This is the result of adaptive optimisation of decision-making processes and executive procedures.

CONCLUSION

The outlined problem of analysing political competition allows for justifying the complementarity of evolutionary interpretations with the most popular research approaches in political science. Its originality stems primarily from the application of a functional explanatory perspective. It highlights competition as a universal mechanism for adapting political structures to their social and economic environment. From this perspective, political rivals influence the processes of changing political entities, just like other adaptive factors. This dependence also suggests practical conclusions that a well-functioning democracy is closely related to the conditions of real competition between political entities.

The Red Queen model also allows us to see the complexity of the phenomenon and the diverse dimensions of competition. Conventional political research is dominated by studies devoted to competition between political entities. Competition exists between political parties within political systems, between individual political actors, and between states in international relations. Internal competition, concerning politicians within the same party or coalition, is relatively rarely studied. However, it is an important component of the development of democratic systems. In this context, it is

³² S. Bartolini, "Collusion, Competition and Democracy," *Journal of Theoretical Politics*, vol. 12, no. 1 (2000), pp. 33-65.

worth investigating how competition affects the position of political actors and their competition with others. The functional dependencies of political representation processes are of interest here. The influence of leadership competition within parties and the conditions under which competition between leaders can be destructive for the political organisation they both represent are also noteworthy.

The dependencies of the Red Queen model also allow highlighting the importance of mutual dependencies between rivals. This is a crucial factor in determining the directions of political changes and strategies of individual parties. Competition is not solely a consequence of social divisions and conflicting group interests. In light of the dependencies of the Red Queen model, it is the rivals who determine the identity as well as the programmatic offer of the entities. In situations of deep division and high-intensity social conflicts, criticism of opponents' actions may become the main focus of political entities' programs. Political parties may also generate conflicts arising from the need for competition, which does not have any reference to objective social interests. In terms of political parties, competition requires loyalty and disciplined action. Concern for political identity hinders the building of political alliances and is a significant source of conflict within coalitions.

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