

Genesis of the COVID-19 pandemic. An attempt at analysis based on the New Green Political Theory

Janusz Ruszkowski, *University of Szczecin (Szczecin, Poland)*

E-mail: janusz.ruszkowski@usz.edu.pl

ORCID ID: 0000-0002-4786-7416

Marek Żurek, *University of Szczecin (Szczecin, Poland)*

E-mail: marek.zurek@usz.edu.pl

ORCID ID: 0000-0003-1849-3168

Abstract

The analysis includes an attempt to identify the ecopolitical genesis of the COVID-19 pandemic caused by the pathogenic virus SARS-CoV-2, based on the *New Green Political Theory* paradigm. NGPT is a modernised version of the classic *Green Political Theory*, extended to include opposite and dichotomous concepts (such as unsustainable development) and the consequences of post-democratic turn. It can be hypothesised, according to NGPT, that the appearance of the virus SARS-CoV-2 in November 2019 in Chinese Wuhan was only the result of previous eco-political actions or omissions. The main research question: is the *New Green Political Theory* (NGPT) as a revised paradigm useful for identifying political processes, actions or omissions that have contributed to COVID-19 disease appearing in political sphere and becoming a global pandemic? The methodological tool planned for research tasks will be the *equilibrium/nonequilibrium approach* (E/NA), because the *New Green Political Theory* tests the tensions between opposing and dichotomous concepts based on the antagonism of ecocentrism *versus* anthropocentrism.

Keywords: New Green Political Theory, European Union, COVID-19, ecocentrism, ecopolitics, sustainable development, pro-environmentalism,

Geneza pandemii COVID-19. Próba analizy w oparciu o *New Green Political Theory*

Streszczenie

Podjęta analiza obejmuje próbę identyfikacji ekopolitycznej genezy pandemii COVID-19 wywołanej patogenicznym wirusem SARS-CoV-2 w oparciu o paradygmat „nowej zielonej” teorii politycznej (ang. *New Green Political Theory*, NGPT). NGPT jest zmodernizowaną wersją klasycznej „zielonej”

teorii politycznej (ang. *Green Political Theory*), rozszerzoną o koncepcje przeciwstawne i dychotomie (jak np. niezrównoważony rozwój) oraz o następstwa postdemokratycznego zwrotu. Autorzy weryfikują w tym artykule hipotezę, zgodnie z założeniami NGPT, że pojawienie się wirusa SARS-CoV-2 w listopadzie 2019 r. w chińskim Wuhan było jedynie skutkiem wcześniejszych politycznych działań lub zaniechań.

Główne pytanie badawcze brzmi: czy nowa zielona teoria polityczna (NGPT) jako zrewidowany paradygmat jest przydatna do identyfikacji procesów ekopolitycznych, działań lub zaniechań, które przyczyniły się do tego, że choroba COVID-19 stała się nowym wyzwaniem dla polityków i nabrała charakteru globalnego w formie pandemii? Narzędziem metodologicznym do zaplanowanych zadań badawczych będzie podejście oparte na dychotomii równowaga/nierównowaga (*equilibrium/nonequilibrium approach* – E/NA), gdyż nowa zielona teoria polityczna testuje napięcia pomiędzy koncepcjami przeciwstawnymi i dychotomicznymi, których źródłem jest bazowy antagonizm: ekocentryzm *versus* antropocentryzm.

Słowa kluczowe: nowa zielona teoria polityczna, Unia Europejska, COVID-19, ekocentryzm, ekopolityka, rozwój zrównoważony, pro-ekologizm

The COVID-19 (Corona Virus Disease) pandemic is an ecological problem involving the relationship between human (society) and nature (natural environment), which shows an obvious imbalance bringing harmful effects to both sides of this biological system. On March 11, 2020, the World Health Organization (WHO) declared that the COVID-19 epidemic is a pandemic. *Pandemic* is a term that refers to the *concept of planetary health* known in ecology. Human health is only a part of the broadly understood planetary health (Frumkin 2010: p. 21; Myers, Frumkin 2020; WHO Headquarters 2021). Every epidemic relies on the transmission of organic matter (viruses, bacteria, archaea) between biological organisms; therefore, human health depends on cohabitation with these microorganisms. A noticeable difference between these microorganisms is that viruses do not metabolise, unlike bacteria and archaea, which do have metabolism but are genetically different. Living organisms depend to a different extent on ecological factors, such as climate, temperature, solar radiation, air pollution, weather conditions, etc. (Arber 2020: p. 4). However, the factor that should be added to the causative layer causing the above-mentioned imbalance is also politics, which, being a tool in human hands, began to directly affect human health and life in its relations with nature.

The aim of this article is to identify the ecopolitical genesis of the COVID-19 pandemic caused by the pathogenic virus SARS-CoV-2 based on the *New Green Political Theory* paradigm.

Adopted methodological assumptions and the hypothesis

A pandemic requires an ontological explanation, because it affects all people physically and has a real impact on all spheres of their activity. It also violates biosecurity, which is a response to threats and is based on the assessment and governance of potential threats of infectious diseases, pest, invasive alien species, living modified

organisms, biological weapons and finally bioterrorism. Biosecurity understood this way is an approach based on the multifaceted protection of biological organisms, agricultural systems and human health against invasive pests and diseases, regardless of their source or mediation in their transmission. Biosecurity and biodiversity are competing biopolitical paradigms, in which the traditional distinction between "natural" and "artificial" or "cultural" is blurred. Thus, we are dealing with a strategy of limiting the risk and threats arising from the biosphere. The biosphere includes the organic (living) layer of the natural environment, i.e. plants (phytosphere), animals (zoosphere) and humans (anthroposphere), and additionally coexists with non-organic layers of the natural environment (hydrosphere, atmosphere, lithosphere) and with the intermediate element, which is soil. The biosphere gives research an ontological perspective, in which human can be considered a node in the biosphere network, and not an actor separated from the biosphere (Naess 1973: p. 263; see also: Dobson et al. 2013).

The analysis undertakes an attempt to identify the ecopolitical genesis of the COVID-19 pandemic caused by the pathogenic virus SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2). It is a beta-coronavirus, for which mammals constitute a natural reservoir (as well as for alpha-coronaviruses). Delta-coronaviruses and gamma-coronaviruses, on the other hand, come from birds. The analysis is based on the paradigm of the *New Green Political Theory* (NGPT) (see: Akinsemolu 2020: p. 4), which is modernised and extended by contradictory and dichotomous concepts (such as unsustainable development) and the consequences of a post-democratic turn, a version of the classic *Green Political Theory* (GPT) (see: Goodin 1992; Carter 1999; Dobson 1990). As a result of the post-democratic turn, democracy becomes simulative democracy, i.e. based only on narratives and promises that democratic values are in fact important and implemented, and on maintaining the belief that freedom and equality exist, and the government is still inspired by them and responds to them. It is important to create the illusion that nothing bad is happening with democracy (Yoldas O.B., Yoldas Y. 2016; Ditcher 2015; Blühdorn 2013; Greven 2009). Apart from simulative democracy, another consequence of the post-democratic turn is the depreciation of ecologists, disregarding scientific evidence, hiding or concealing data, and the belief that the best protection of nature will be ensured by democracy, and that ecology and ecologists limit and interfere with democracy (ecopolitical limitation of democracy) (Plumwood 1995: p. 137). In fact, effective ecological policy needs more democracy (Czapliński et al. 2019: p. 17; Leggewie, Welzer 2012), but not simulative democracy, which only imitates democratic activities and, under the cover of the fight against climate change, can limit the rights and freedoms of citizens. Such authoritarian temptation not only deepens the crisis of democracy, but also leads to ecological crisis.

NGPT seems to balance much more the anthropocentric (Crutzen 2002: p. 23) and ecocentric (Tobias 1985) approaches, as opposed to the GPT, which was more ecocentric. Anthropocentrism is too instrumental in treating the needs of the natural environment in the entire human-oriented system of thought. The focus on people is a phenomenon that corresponds to the geological age in which we live, which in 2002

Paul Crutzen called *The Anthropocene*, dating its beginnings to 1784 with the invention of the steam engine (Crutzen 2002: p. 23). An essential component of the NGPT is therefore the discourse between ecology and democracy, which proves that post-ecologism appears in this theory, that is, the transgression of the rules of explaining ecology as an autonomous system, in a kind of research isolation. Ingolfur Blühdorn uses the related term *post-ecologist politics* (Blühdorn 2013: p. 16). Ecology is not subject to extraction from the surrounding spaces and stimuli because in practice it is not detached from politics, economy, culture, society, and thus from the issues of human health. Both the classical *Green Political Theory* (Barry 2014) and its new version also refer its reflection to *disease ecology* (Schmidt, Ostfeld 2001: p. 609).

The main research question is whether the *New Green Political Theory* (NGPT) as a revised paradigm is useful in identifying the political processes, actions or omissions that contributed to the fact that COVID-19 has entered the political circulation and become global as a pandemic? Indication of the political symptoms and causes of the pandemic seems necessary, as such a procedure may be of preventive significance.

The hypothesis can be made that the appearance of the SARS-CoV-2 virus in November 2019 in Chinese Wuhan (Hubei Province) was only the result of previous political actions or omissions. Wuhan is therefore not only the site of the biological genesis of the virus and the primary outbreak of the COVID-19 disease and then the pandemic (which is what virologists and epidemiologists are dealing with), but it is also the final stage of political processes, including the post-democratic turn towards simulative democracy, which contributed to the ontogenesis of the pandemic and which should be addressed by political scientists. The sequences of political decisions and symptoms of the pandemic that precede Wuhan constitute an experience from which conclusions should be drawn to avoid similar weaves of hasty and ill-considered actions and mistakes in the future, to identify political tipping points, and to introduce the necessary changes and adjustments that should take place in biosecurity management. Therefore, Wuhan is an effect, not a cause. The NGPT theory tested here allows us to look at it both from an ecological and a political point of view. Such a combination can significantly support not only the verification of the hypothesis, but also attempts at more universal and functional findings.

It seems that the optimal methodological tool for such planned research tasks will be an approach based on the *equilibrium/nonequilibrium approach* – E/NA, because the *New Green Political Theory* tests the tensions between opposing and dichotomous concepts, the source of which is the underlying antagonism of ecocentrism *versus* anthropocentrism.

***New Green Political Theory* between eco-political idealism and reactionism**

Searching for mechanisms explaining the relationship between the world of politics and the world of ecology should follow the concept of *eco-politics* understood as a set of mechanisms, techniques, methods of influencing and shaping the population – in

its global and individual dimension – and the surrounding biosphere (Filipowicz, Trejnis 2015: p. 72). In the framework of ecopolitics, the causative factor is *biopower*, which has the ability to influence the social environment (people and their lives), institutions (and their functioning), the natural environment (and its life), and to decide about these entities with the right to sanctions, pressure and persuasion, with the use of biological tools and regimes in economics or politics¹. Biopower and political power enters the biological sphere and wants to regulate biological processes that affect political, economic and social processes.

Victor M. Toledo believes that *ecopolitics* is a term synonymous with *biopolitics* (Toledo 2019). At the end of the 20th century, the intensification of research in the field of exact sciences resulted in human compulsive interference in the order of natural processes. The development of bioexperimental sciences has largely contributed to this. They made it possible to dominate the human being both individually and globally. Moreover, the control involved the biosphere. Designing a new *universum* with the help of scientific creations affected traditional systems of power. The governments needed a quick adaptation. In response to the changing reality, biopolitics appeared (Filipowicz, Trejnis 2015: p. 71).

The classic version of the *Green Political Theory* (GPT) is associated with ecopolitical idealism based on an exclusive discourse on nature protection, the normative foundations of which date back to the 1990s (the principle of ecocentrism), but on the other hand with ecopolitical realism, because there is nothing more real than nature, and therefore human development should take into account the laws of nature (height restriction laws). It was then that the first concepts of sustainable development appeared, i.e. such progress in human activity that does not infringe upon nature, and in fact complies with the biosphere as a detailing of the overly general and colloquial term *nature*. The term *sustainable development* was first used in 1972 at a conference in Stockholm entitled *Human Environment*. The term was more widely disseminated in 1987 in a document known as *Brundtland Report* (see: World Commission... 1987: p. 8).

The classical GPT assumed too idealistically not only a reluctance to modify industrialism, but also prompted anti-industrialism. In post-industrial consumer societies, processes have emerged resulting from political decisions that directly de-idealise green politics or locate themselves in a collision with it (e.g. degradationism). That is why it seemed that political actions to protect the natural environment had long been almost one-way and remained the result of political consensus, so nothing could change this direction or even disrupt it. Nothing could be more wrong. The proposed revised approach of the new green political theory induces us to think that industrialism must be controlled and adapted to the needs of the environment.

In the classical *Green Political Theory*, there are four key analytical concepts "that have emerged from the human-environmental interactions, social-ecological systems, and global environmental change literatures." They are: *sustainability*, *resilience*, *adapta-*

¹ For example, policy towards the elderly people, emission reduction systems, legal restrictiveness in species protection, etc.

tion, and *transformation*. Between these concepts there are some theoretical synergies and epistemological tensions, as well as practical compromises “when actions are taken to promote ostensibly desirable attributes of socio-ecological systems” (Johnson et al. 2018: p. 3).

At the beginning of the 21st century, along with accelerating consumption, symptoms of a progressive crisis of sustainable development can be noticed, to which the green political theory had to respond and attempt to explain political actions that collided with the existing idealistic and realistic assumptions of the existing GPT or downplaying its current postulates. In this new trend, there have also been attempts to explain the broad sphere of political omissions, which violate the fragile stability of many elements of the natural environment and intensify the risks and threats to biosecurity, which is an element of eco-politics. This makes the NGPT also distinguish itself in that it relies more and more on large datasets (climate, pandemic, etc.).

In the emerging *New Green Political Theory*, the fifth concept of *unsustainable development* appeared with its components: lowering the threshold of resilience and responsibility, degradationism, and migrationism. Thus, unsustainable development has initiated completely new directions of explanation and has become an eco-critical reaction to the standards of environmental protection promoted so far.

The *New Green Political Theory* recognises that unsustainable development coincides with the post-democratic turn, in particular with one of its many consequences, i.e. simulative democracy, takes on additional political dynamics. The characteristics of simulative democracy that can be noticed in relation to the natural environment, such as *neglectism*, *negationism* and *tabooisation*, contribute to this dynamics.

It seems that such strong ecopolitical components resulting from the explanatory response to the crisis of sustainable development reveal a shift in the *Green Political Theory* towards its new version. The *New Green Political Theory* (NGPT), or in practice the *theory of ecopolitics*, includes not only a broad, classical trend of explaining the processes of protecting elements of the natural environment and implementing *politics for life*, but also the ever stronger new theoretical trend of explaining intervention processes deviating from protective measures or even contesting the measures, which are focused on *politics for death*. Thus, on the one hand, there are political leaders and social movements (often entire societies) that implement *politics for life*, and on the other hand, political leaders, and state or private corporations, whose increased interventionist activity is a part of *politics for death*, including the threat to human health. There is a noticeable antagonism between both politics and the entities implementing them.

The symptoms of the epidemic caused by the COVID-19 disease preceding Wuhan are associated with the coexistence of unsustainable development along with its components (lowering the threshold of resilience and responsibility, degradationism and migrationism), which create the ‘politics for death’ trend and simulative democracy with its populist, unilateral and selfish political activities that significantly interfere with the natural environment and are characterised by an undesirable nature (neglectism, negationism and tabooisation). These are the collective symptoms of the pandemic that

appear even in the pre-COVID-19 phase. This coincidence of theoretical and practical political reactionism in the *New Green Political Theory* underlies the ecopolitical genesis of the COVID-19 pandemic.

Pre-COVID-19 unsustainable development

Unsustainable development (Walker 2005: p. 77) is the opposite of the mainstream in the GPT based on sustainable development, reconciling human progress and development with the laws of the natural environment. Unsustainable development is part of the NGPT's new nonequilibrium ecology. The dynamics of sustainable development is being lost on one hand due to the lack of solidarity and international interdependence, and on the other - due to strong unitary tendencies among world powers (USA, China, Russia).

Unsustainable development is a consequence of the post-democratic turn towards simulative democracy and towards populism, statism, unilateralism and the consumer industry. The NGPT explanation mechanisms must therefore take into account the relationship between democracy and ecology, and between economy and ecology. Thus, unsustainable development is based on the primacy of profit (economic and political) over nature, on the use of human labour, excessive and even predatory exploitation of fauna and flora.

There are three main components of unsustainable development, i.e. lowering the threshold of resilience and responsibility, degradationism and migrationism.

Lowering the threshold of resilience and responsibility

The natural environment has inherent resilience to other natural processes, but not to human activity. With the disappearance of old norms and behaviours, post-industrial consumer societies and their political leaders can exert both positive and negative effects on the balance of the planetary ecosystem. Unsustainable development has a negative impact because it disturbs the balance between human aspirations and the laws of nature. We can even speak about *politics of unsustainability*, which is no longer driven by ecological attempts to change individual lifestyles and social structures, but rather by the *logic of unsustainability*, which disintegrates ecological social development and threatens with *sustained unsustainability* (Blühdorn 2013: p. 19). The political and economic evidence of unsustainable development is found in social inequalities, resource turmoil, economic crises and post-democratic regimes downplaying ecology. In practice, we are dealing with two opposing logics that clash in political actions. These are the *logic of sustainability* (LoS) and the *logic of unsustainability* (LoU). Democracies are more sensitive to ecology and prefer ecological modernisation (technologies, innovations), therefore they try to base their decisions on LoS in their policies. In turn, LoU is characteristic of populist post-democratic regimes driven by selfishness and ecological negation, and for industrial corporations driven primarily by profit. Corporations and governments are reluctant to invest in "low-risk, high-consequence occurrences. In a world dominated by the quest for economic efficiency [...] there is little place for resilience-oriented policy" (Renda, Castro

2020: p. 3), therefore grassroots and spontaneous social resilience to unsustainable development has emerged, which is exposed by ecological social movements, stakeholders, etc. Any anthropocentric disturbances in the natural environment weaken its resilience and the ability to regain key functions. Thus, unsustainable development results from eco-politics focused on efficiency. And such politics usually dominates both inside states and in international relations.

Sustainable development undermines ecological standards and smears pollution reporting obligations, and is fuelled by dispersal political responsibility and blurring of the responsibility chain by concealing information about the natural environment or negating adverse changes taking place in it. Responsibility in the green political theory, however, is in itself not only evidence of changes in the natural environment and ignorance-free admission to them, but also of the idea of environmental justice.

An element of unsustainable development is therefore both dispersal responsibility, as well as the lack of it, for example for uncontrolled trade in wild species of fauna and flora, which reduces biosecurity, which can be a source of diseases, including COVID-19, because the ecological imbalance makes it easier for viruses to attack people (Tajudeen, Oladunjoye 2021: p. 239). To this the lack of a unified international response mechanism to cross-border health threats should be added, the genesis of which dates back to the first international sanitary conference in 1951, and which culminated in the WHO international health regulations introduced in 2005. Ecology is deborderised, that is, the ecosystems it deals with do not take into account the borders between states that have been established by man (e.g. climate change, air and water pollution, etc.). Consequently, international politics permeates with internal politics. At the same time, ecology is more ecocentric than anthropocentric.

Degradationism

Lowering the threshold of resilience and responsibility of the natural environment is also caused by human-nature interventionism, i.e. human activity that interferes with the natural (biological, chemical, geological) processes taking place on Earth. An extremely negative case of interventionism is *degradationism* (Lovelock 2009; Agnoletti 2006: p. 3), which includes various elements of the natural environment, including:

- 1) climate degradation caused by wide-ranging changes from species extinctions, air pollution, to infections that threaten human life (Frumkin 2010: p. 21) and changes in the geographical distribution of these infections;
- 2) degradation of forests, including deforestation of extremely important tropical forests, which on one hand disturbs the balance of the gas composition of the atmosphere (Degórski 2019: p. 64), and on the other hand causes shrinkage of natural habitats of wild animals starting to nest in reduced areas, and thus getting closer to people, and even contacting them directly and repeatedly. As a result, the zoonotic pathogens appear in regions where they have never appeared before. It is false to believe that wild animals are particularly infected with lethal pathogens, in fact most of these pathogens live in them without ever causing

any harm to them. The problem is elsewhere: with deforestation and unbridled urbanisation and industrialisation, we have offered them the means to overcome species barriers, that is, to reach and adapt to the human body. To reduce the risk of microbes showing up, wild habitats should be protected so that animals live with their microbes instead of passing them on to us, as in particular is the goal of the *One Health* movement (Shah 2020: p. 6);

- 3) soil degradation, including agriculture, through the extensive use of chemicals, but also through genetic modification. All this has an impact on food safety (which is also lowered by trade in food products) and, as a result, on human health (European Parliament 2021; Geiger et al. 2010);
- 4) water degradation, including water pollution and ocean acidification.

It is not difficult to see that degradationism exceeds the limits of nature's tolerance. Beyond these limits, there is already a space that is dangerous for humans, as it does not tolerate their presence. Degradationism especially easily coexists with simulative democracy that imposes a discourse on democracy-restricting demands by ecologists, and strengthens itself at the expense of accelerated exploitation of the natural environment.

The *New Green Political Theory* strongly emphasises the need to explain the phenomenon of degradationism, which is a concept in opposition to classical preservationism. Preservationism is a position of the classic GPT based on the idea of preserving species of wild fauna and flora and implying social criticism against the fundamental issues of modern ecologism, which is the result of urbanised and industrialised development of life on Earth. Preservationism is based on green morality, according to which the human material development should be limited in order to protect the elements of non-human nature. Jonathan Symons and Rasmus Karlsson also introduce the term technological preservationism based on low-emission energy technologies (Symons, Karlsson 2015: p. 173; Oravec 1984: p. 444). If preservationism refers to behaviour (also through action) and attempts to recreate the elements that make up the natural environment, being a kind of positive interventionism (Konczal 2019: p. 97), then degradationism is negative human interventionism leading through interactions between wildlife and man to accelerated exploitation of the natural environment. A less extreme example of negative interventionism is hedonistic interventionism (interfering with the natural environment for pleasure, e.g. exploration tourism, hunting, etc.). We do not know which species and how will react to such intervention, which is served by technological progress and the demonisation of the material interests of power. This leads not only to the violation of the biological balance, including the balance in human-nature relations, but also to degradation, often even devastation, of all spheres of the broadly understood natural environment, including the biosphere, causing unknown threats, including the release of foreign organisms such as viruses, bacteria and archaea. Degradationism as evidently negative interventionism not only reduces – obviously – resilience of the natural environment, but also negatively affects the human immune system, which becomes more susceptible to diseases. This is the double immunosuppression that facilitates the large-scale emergence of diseases (Tyagi et al. 2014: p. 1491).

We can list two types of negative interventionism:

- 1) direct intervention, e.g. deforestation of Amazon rainforests or the Białowieża Forest (Konczal 2019: p. 96–97);
- 2) indirect intervention, e.g. melting of glaciers in the poles as a result of climate change.

Both of these examples of negative interventionism violate the reservoirs of viruses and can release pathogens unknown to man, which humanity cannot cope with. One of the principles of classical green political theory proves that there are interactions of organisms with their abiotic (inanimate) and biotic (animated) environment, which, combined with the principle of heterogeneous distribution of organisms in time and space dependent on randomness, may explain the zoonotic origin of SARS-CoV-2, but does not explain the political symptoms of the pandemic caused by this virus. As a result of human intervention leading not only to changes in the landscape, but also to the degradation of wild regions and the reduction of their range, the animal world is coming closer to the human world and pathogens jump to humans, just as SARS-CoV-2 jumped to humans from bats (reservoir), although via other animals, including pangolins (transfer vector).

Viruses are inevitable, but epidemics are not. We can avoid them if we deal with the change of ecopolitics with the same determination with which we disturbed nature and animal life (Shah 2020: p. 8). The destruction of the natural environment by man is *de facto* self-destruction.

Migrationism

At the beginning of the twenty-first century, the explanatory paradigms in the *New Green Political Theory* became a challenge due to the increased effects of social inequalities, conflicts and interference with the environment on one hand, and well-being on the other. The NGPT tries to respond in an explanatory manner to these phenomena that may be dangerous to the natural environment and generate unsustainable development. There is no doubt that mass movements of the population are such a phenomenon. *Migrationism* is a category of the NGPT referring to all cases of mobility, i.e. the processes of human movement, and not only in terms of the theory of migration (Adams et al. 1978: p. 483).

The crisis of sustainable development was fuelled by unprecedented and powerful population movements that resulted from two sources:

- 1) The first source is social inequality, wars, natural disasters, terrorism and environmental degradationism. Paradoxically, climate change and natural disasters, which in themselves are the result of the crisis of sustainable development, have generated tendencies towards eco-migration, which further aggravates this crisis. In this case, we can see a fatalistic closed circuit, which can be described using the following formula: from crisis to crisis. According to Bruno Latour, refugees can no longer be divided into "social" and "environmental", because they have merged into one category of people looking for land suitable for settlement (Latour 2017: p. 99–100). This type of movements is called forced migration.
- 2) The second source of large-scale movement of people is post-industrial welfare, consumerism and human flourishing (O'Neill 1993), which generated tourist

movements, including ecotourism. In the 21st century, the scale of tourist movements was so large that there is even talk of a kind of permanent mobility. For example, Paris receives 388 million tourists every year, i.e. over 17 times more than the number of its inhabitants (Halimi 2020: p. 9). We call this kind of movements unforced migrationism.

Thus, migrationism is not only the result of social upheavals, increasing poverty and interference with the natural environment, but also the result of increasing prosperity (increased tourism, including ecotourism). Migrationism is an ecological problem even if its source does not result from ecological problems. Such strong forced and unforced migration movements had to shake the balance between social development and the natural environment, and thus became a transmission channel of the virus around the world. Migrationism, combined with the kinetics of SARS-CoV-2, which clearly differs from other coronaviruses, significantly influenced the rate of transmission of this virus and thus the dynamics of infection and the spread of the COVID-19 pandemic (Chakraborty, Maity 2020). All of this also had to significantly change the methods of detecting the virus and isolating patients.

Pre-COVID-19 simulative democracy

Unsustainable development with its components (lowering the threshold of resilience and responsibility, degradationism and migrationism) is gaining new dynamics in coincidence with simulative democracy and its selfish political activities affecting the natural environment and important for the ecopolitical ontogenesis of the COVID-19 pandemic. The new green political theory recognises the problem of political impact on the natural environment resulting from this coincidence, including downplaying ecology (neglectism), denying environmental degradation (negationism), or hiding ecological data or incidents, or even natural disasters (tabooisation). The classic version of the green political theory is not universal and extensive enough to effectively explain the consequences of unilateral actions of simulative democratic states abandoning obligations resulting from international agreements covering the protection of individual elements of the natural environment, or even withdrawing from these agreements, or explain populist neglectism or even negationism regarding the scientific findings and evidence regarding the state of this environment. Unilateralism in international actions supported by neglectism and negationism are often the domain of nationalism and – understandably – selfishness, which is the opposite of the altruistic basis of all activities for the benefit of the natural environment.

Neglectism

Neglectism is a concept of the *New Green Political Theory* explaining the political actions of downplaying and ignoring ecological problems.

Now we know that the COVID-19 pandemic was expected, and its outbreak can already be considered as a result of ignoring many warnings and symptoms. It was the

original neglectism concerning the whole phenomenon, which, however, also applied to many single, though coexisting, phenomena.

The neglected series of credible scientific warnings that appeared in the first decade of the 21st century, i.e. in the early phase of *pre*-COVID-19, proves extreme arrogance of national governments and the almost traditional disregard of scientists and the omission of scientific findings in the processes of creating social government strategies. Already in 2005, scientific reporter Laurie Garrett, testifying to the US Congress, warned that a "highly virulent, highly transmissible pandemic influenza that circulates the world repeatedly for more than a year" would kill "more people than all the known weapons of mass destruction" (Renda, Castro 2020: p. 2) that have been used so far. Even if Garrett exaggerated, she noted that scientists had long predicted the emergence of "an influenza virus capable of infecting 40% of the world's human population and killing unimaginable numbers" of people (Renda, Castro 2020: p. 2).

The flu virus known as H1N1 has officially killed 18,500 people, and unofficially even 15 times more. In 2016, a report by the High-Level Panel on the Global Response to Health Crises warned of a rapidly spreading respiratory pathogen that could have a wide geographical range. Its severity or scale of social impact can overwhelm national or international management capacity for health systems (Renda, Castro 2020: p. 2). In 2017, *Time* and *Harvard Business Review* warned of the lack of preparation for a sudden pandemic. If it is as deadly as Ebola and as contagious as the flu, then the world will fall to its knees (Renda, Castro 2020: p. 2–3). In 2016, as a result of a review of experience related to the Ebola epidemic, the UN High-Level Panel called on European Union to do everything to avoid the fatal "disease by disease" strategy (Renda, Castro 2020: p. 6). However, this fatalistic circle was difficult to break.

In September 2019, the independent Global Preparedness Monitoring Board responsible for preparations for a global health crisis clearly warned that the world was "not prepared for a fast-moving, virulent respiratory pathogen pandemic". A simulation performed in the US in October 2019 confirmed that there are serious global weaknesses and "international system challenges posed by pandemics that will require new robust forms of public-private cooperation". At the same time, "the Global Health Security Index report reiterated the warning" (Renda, Castro 2020: p. 3).

The Donald Trump's administration disbanded the Global Health Security Team and withdrew the U.S. from the international Office of Science and Technology Policy. When the COVID-19 epidemic spread to the U.S., the president Trump, proposing a new budget for 2021, continued a series of "cuts to the National Institute for Health (\$ 5 billion, a staggering 13% cut); the Office of Public Health Preparedness and Response (\$ 25 million) and the Hospitals Preparedness Program (\$ 18 million)." (Renda, Castro 2020: p. 3). Even before the emergence of mass infections in the U.S., Donald Trump firstly downplayed the COVID-19 epidemic, claiming that the U.S. can solve this problem, and then, along with the spread of infection and an increase in deaths, he started a "war" with WHO in February 2020, withholding the payment of contributions to this organisation and finally announcing the U.S. withdrawal from WHO on May 29, 2020.

According to the OECD, "in Italy between 2000 and 2017 the number of hospital beds per capita decreased by about 30%". Such trend was "present across all EU countries" (Renda, Castro 2020: p. 4). In the early phase of the coronavirus pandemic, also in Poland, the downplaying of the threat was based on the statement that SARS-Cov-2 is not more dangerous than the common flu virus.

The West in its entirety – both the U.S. and the European Union – has not learned from the SARS virus epidemic that spread in Asia in 2003 (Renda, Castro 2020: p. 4), or the MERS outbreak – Middle East Respiratory Syndrome Coronavirus, in 2012. So, up to a certain point, Europeans and Americans acted almost analogously, though not in solidarity, in downplaying the problem – unlike South Korea or Singapore, which did the lessons of 2003, and then, experienced with SARS well, strengthening the health care infrastructure, preparing it for an event of another epidemic (Kiwerska 2020: p. 2–3). As a result of this epidemic, the European Union established the European Centre for Disease Control (ECDC), which was responsible for strengthening the EU's response to diseases and providing technical support to both the Union and the Member States, and to contribute to building a resilience-oriented policy. The ECDC played the important role in reducing the Zika and Ebola epidemics. However, the ECDC also reported a lack of cooperation by EU Member States in the Epidemic Intelligence Information System (Renda, Castro 2020: p. 4). These cases constitute evidence that in the *pre*-COVID-19 phase there was a disregard for the threat and warnings from the world of science. One could even notice peculiar anti-science combined with the rejection of the scientific elite. The grassroots anti-science response involves anti-vaccination movements, which – as you can guess – are not eagerly waiting for a vaccine to prevent SARS-CoV-2 infection. This is evidence of political arrogance that clearly waned only during the pandemic phase, but by then it was too late. The COVID-19 crisis has highlighted the need for scientific advice (but not expertocracy) in the face of uncertainty and extreme risk. We now know that the pandemic may also contribute to the renewal of the discussion on public financing of science, to increasing research and health care expenditures (Nowak 2020: p. 24). One must not increase efforts only when there is a threat, and then, when the risk is gone, forget about it. Consequently, the repetition of the panic-neglect-panic cycle must be broken. We need more tests, more masks, more knowledge about the virus and the pandemic in order to be able to pursue evidence-based politics, and to be able to limit both the wilfulness of authorities and the lethal virus. Panic is a derivative of the lack of knowledge and the inability to act (Nowak 2020: p. 22).

Negationism

Negationism is the next, more extreme phase of neglectism, manifesting itself according to the logic of "from downplaying to denying". In the *New Green Political Theory*, negationism is a concept explaining the politics of denial and negation of environmental degradation, but also of rejecting or denying scientific evidence pointing to real threats resulting from changes taking place in this environment.

The politics of denial is particularly eagerly undertaken by simulative democracies, or even authoritarian states, which, by displaying patriotism, selfishness and very often

nationalism, depreciate ecology and try to tame the natural environment by force. They do so because ecology, being supranational, and thus global, slips out of their control, does not stop at the borders of national states and is characterised by strong permeability of borders (Young 2021: p. 61; Young 2006).

Negationism seems to be the last political barricade against admitting guilt and, consequently, bearing responsibility.

Tabooisation

Nationalism and selfishness, as a rule, generate a tendency to hide true data on the state of the natural environment. Political *tabooisation* of ecology is part of a conscious strategy of concealing interference with the natural world and completely disrupts the smooth flow of information, which is necessary for effective politics of environmental protection and monitoring of its condition. Likewise, for many industrial companies, including supranational corporations, environmental protection is not more important than planned profit, so concealing contamination can prevent the need to bear responsibility.

Keeping the facts silent or concealing them is evidence of counterproductive political interference, as effective protection of the natural environment requires a rapid exchange of accurate information between actors of ecopolitics, and not tabooisation. Tabooisation leads to ecological depreciation or even politics for death. It seems that such strong reactionary components in the processes of scientific explanation reveal a shift in the green political theory towards its new version, which is based not only on the broad, classical trend of explaining environmental protection and implementing politics for life, but also responds to new explanatory challenges such as tabooisation.

Treating ecology as a taboo is the domain of authoritarian and totalitarian regimes in particular. An example would be the erasing of industrial centres from the maps of the Soviet Union due to the fear that through the information on the amount of pollutant emissions, the "enemy" will find out what type of production is being undertaken in a given place.

A classic example of ecological tabooisation was the concealment of the Chernobyl nuclear reactor explosion or the Kursk nuclear-powered submarine disaster. In the latter case, when Western European countries offered to help sailors trapped in a boat sitting on the seabed, the Russian fear of revealing the technological details of the vessel's structure was more important than the lives of the sailors. Ecological tabooisation is stronger than human life, so it can kill and is part of politics for death. The issues of protection of industrial technologies (including military technologies), that is, the misunderstood "interests" of a given state, or rather its undemocratic authority, become a misconceived *raison d'État* for it.

For the delay with which Wuhan city authorities notified of the deadly threat carried by the SARS-CoV-2 virus, they were dismissed, but this was only a demonstration by the Chinese government, which wanted to indicate the guilty party but was not willing to publicise the case. This is evidenced by the mysterious death of Doctor Li Wenliang, who in mid-December 2019 raised the alarm over the new coronavirus (Shah 2020). The

coronavirus outbreak has become a test of the rule of law. The situation we are dealing with is no reason to disregard the rule of law. The discourse of uncertainty, ignorance and doubt allows for the legitimisation of states of emergency and their extension so that they include activities that have nothing to do with fighting the pandemic (Nowak 2020: p. 24).

Conclusions

The *New Green Political Theory* (NGPT), seeking a balance between man and the environment, introduces unsustainable development to ecological thought along with its lowering of the threshold of resilience and responsibility, environmental degradationism, as well as evident links of eco-politics with human health and the birth of diseases and democracy, including especially its simulative variant, which in this area uses neglectism, negationism and tabooisation (theoretical sequence democracy–ecology–health). This is an ecocritical reflection in the range between anthropocentrism that can be disastrous for nature and ecocentrism that can be disastrous for man. Dualism of anthropocentrism versus ecocentrism is also an ontological antagonism (*equilibrium/non-equilibrium*).

As a result of the analysis involving an attempt to identify the ecopolitical ontogenesis of the COVID-19 pandemic using the NGPT explanatory instruments, it turned out that unsustainable development and simulative democracy, especially when they occur in coincidence, contribute to the release of foreign organisms from the biosphere and their introduction into the human population. This all happened in the *pre*-COVID-19 phase and has cumulatively led to the pandemic. COVID-19 is a result of unsustainable development and ignorance of previous symptoms and reasons for the SARS-CoV-2 virus overcoming the species barrier. The post-democratic turn and drift towards simulative democracy were not neutral for the pandemic, either. Simulating democracy translated into simulating pro-ecological activities. As a result of these tensions, a second ontological antagonism emerges: the actively interventionist state versus the ascetic distribution state. From the above it can be concluded that there is a relationship between the state of democracy and the approach towards the natural environment.

In the *New Green Political Theory*, both ontological antagonisms emerging from research, i.e. anthropocentrism versus ecocentrism, and an actively interventionist state versus an ascetic distribution state, are built on differently understood values. On one hand, we find global ecological values (preservationism, responsibility, exchange of information with its fast circulation, constant monitoring of the natural environment), and on the other hand, the particular interests of the nation–state combined with the interventionist management of the natural environment and an overwhelming desire for profit based on degradationism, neglectism, negationism and tabooisation. The research findings revealed in the analysis in connection with the methodological approach *equilibrium/non-equilibrium* (E/NA) provide more such ontological antagonisms in the NGPT: preservationism *versus* degradationism, responsibility *versus* negationism, information exchange *versus* tabooisation, sustainable development *versus* unsustainable development, democracy *versus* authoritarianism, politics for life *versus* politics for death, health *versus* disease.

The pandemic was foretold but could not be prevented (Renda, Castro 2020: p. 5). The analysis demonstrates that the source of the COVID-19 pandemic was not wild animals that are carriers of pathogens, but men and their mindless interventionist actions, the intensity of which is particularly high in countries simulating democracy. The response to environmental intervention is ecological disobedience, which also finds its place in the exploration system outlined by the NGPT. But this is a task that should be carried out in a separate analysis.

The SARS-CoV-2 virus in its natural environment does not kill; men who have deliberately released it from this environment, kill, while weakening their own immune system and the resilience of the natural environment. This confirms the hypothesis that the appearance of the SARS-CoV-2 virus in November 2019 in Chinese Wuhan was the final stage, i.e. the result of earlier political actions and omissions reinforced by the post-democratic turn towards simulative democracy in some countries.

The findings of the analysis lead to the conclusion that the *New Green Political Theory* may be a paradigm offering mechanisms to explain and identify the political processes that contributed to the political circulation of COVID-19 and its becoming a global pandemic.

Janusz Ruszkowski – full professor, Jean Monnet Chair ad Personam, Chair of International Relations and European Studies (Chairholder), Institute of Political Science and Security Studies, University of Szczecin. Scientific interests: Europeanisation processes, multi-level governance in the European Union, theories and methods in European studies. The author of many books and scientific articles on these subjects.

Janusz Ruszkowski – prof. dr hab., Jean Monnet Chair ad Personam, kierownik Katedry Studiów Międzynarodowych i Europejskich (Instytut Nauk o Polityce i Bezpieczeństwie, Uniwersytet Szczeciński). Zainteresowania naukowe: procesy europeizacji, wielopoziomowe zarządzanie w Unii Europejskiej, teorie i metody w studiach europejskich. Autor wielu książek i artykułów naukowych z tej tematyki.

Marek Żurek – habilitated doctor, professor at the University of Szczecin (Chair of International Relations and European Studies, Institute of Political Science and Security Studies). His research interests include European integration, German issues, and cross-border cooperation. He is the author of the books: *Unia Europejska w polityce zagranicznej zjednoczonych Niemiec. Determinanty Europapolitik* (Szczecin, 2012); *Teoria współpracy transgranicznej na przykładzie Euroregionu Pomerania* (Szczecin, 2011); *Niemcy w instytucjach Unii Europejskiej* (Szczecin, 2017).

Marek Żurek – doktor habilitowany, profesor Uniwersytetu Szczecińskiego (Katedra Studiów Międzynarodowych i Europejskich, Instytut Nauk o Polityce i Bezpieczeństwie). Zajmuje się integracją europejską, problematyką niemiecką, współpracą transgraniczną. Autor książek: *Unia Europejska w polityce zagranicznej zjednoczonych Niemiec. Determinanty Europapolitik* (Szczecin, 2012); *Teoria współpracy transgranicznej na przykładzie Euroregionu Pomerania* (Szczecin, 2011); *Niemcy w instytucjach Unii Europejskiej* (Szczecin, 2017).

➔ References:

- ADAMS William Y., VAN GERVEN Dennis P., LEVY Richard S. (1978), *The Retreat from Migrationism*, "Annual Review of Anthropology", vol. 7(1). DOI: 10.1146/ANNUREV.AN.07.100178.002411
- AKINSEMOLU Adenike A. (2020), *The Principles of Green and Sustainability Science*, Springer.
- AGNOLETTI Mauro (2006), *The Development of a Historical and Cultural Evaluation Approach in Landscape Assessment: The Dynamic of Tuscan landscape between 1832-2004*, in: M. Agnoletti (ed.), *The Conservation of Cultural Landscape*, Wallingford.
- ARBER Werner (2020), *Complexity of Life and Its Dependence on the Environment*, in: Wael K. Al-De-laimy, Veerabhadran Ramanathan, Marcelo Sánchez Sorondo (eds), *Health of People, Health of Planet and Our Responsibility*, Springer, Cham. DOI: 10.1007/978-3-030-31125-4_1
- BARRY John (2014), *Green Political Theory*, in: V. Geoghegan, R. Wilford (eds), *Political Ideologies: An Introduction*, London.
- BLÜHDORN Ingolfur (2013), *The Governance of unsustainability: ecology and democracy after the post-democratic turn*, "Environmental Politics", vol. 22 (1). DOI: 10.1080/09644016.2013.755005
- CARTER Alan (1999), *A Radical Green Political Theory*, New York, London.
- CHAKRABORTY Indranil, MAITY Prasenjit (2020), *COVID-19 outbreak: Migration, effects on society, global environment and prevention*, "Science of The Total Environment", vol. 728. DOI: 10.1016/j.scitotenv.2020.138882
- CZAPLIŃSKI Przemysław, BEDNAREK Joanna B., GOSTYŃSKI Dawid (eds) (2019), *O jeden las za daleko*, Warszawa.
- CRUTZEN Paul J. (2002), *Geology of mankind*, „Nature”, vol. 415, DOI: 10.1038/415023a
- DEGÓRSKI Przemysław (2019), *Kornik w lesie antropocenu*, in: P. Czapliński, J.B. Bednarek, D. Gostyński (eds), *O jeden las za daleko*, Warszawa.
- DITCHEV Ivaylo (2015), *Simulated Democracy?*, "Aspen Review", issue 3.
- DOBSON Andrew, BARKER Kezia, TAYLOR Sarah L. (2013), *Biosecurity. The Socio-Politics of Invasive Species and Infectious Diseases*, London.
- DOBSON Andrew (1990), *Green Political Thought*, London.
- EUROPEAN PARLIAMENT (2021), *The use of pesticides in developing countries and their impact on health and the right to food*, <https://www.europarl.europa.eu/cmsdata/219887/Pesticides%20health%20and%20food.pdf> (08.01.2021)
- FILIPOWICZ Artur, TREJNIS Przemysław (2015), *Kapilarność biowładzy w biopolitycznym dyskursie Michela Foucault*, „Studia Bobolanum”, no. 2.
- FOUCAULT Michel (1998), *Trzeba bronić społeczeństwa*, Warszawa.
- FRUMKIN Howard (2010), *Sustaining Life: Human Health-Planetary Health Linkages*, in: Wael K. Al-De-laimy, Veerabhadran Ramanathan, Marcelo Sánchez Sorondo (eds), *Health of People, Health of Planet and Our Responsibility. Climate Change Air Pollution and Health*, Springer.
- FRUMKIN Howard (2020), *Climate change and human health*, in: *Planetary Health: Protecting Nature to Protect Ourselves*, (ed.) Myers Samuel, Frumkin Howard, Washington
- GEIGER Flavia et al. (2010), *Persistent negative effects of pesticides on biodiversity and biological control potential on European farmland*, "Basic and Applied Ecology", no 11. DOI: 10.1016/j.baae.2009.12.001
- GOODIN Robert (1992), *Green Political Theory*, Cambridge.

- GREVEN Michael Th. (2009), *The Erosion of Democracy – The Beginning of the End?*, "Rediscriptions. Yearbook of Political Thought, Conceptual History and Feminist Theory", no. 13(1), DOI: 10.7227/R.13.15
- JOHNSON Jennifer L., ZANOTTI Laura, MA Zhao, YU David J., JOHNSON David R., KIRKHAM Alison, CAROTHES Courtney (2018), *Interplays of Sustainability, Resilience, Adaptation and Transformation*, in: W. L. Filho, R. W. Marans, J. Callewaert (eds), *Handbook of Sustainability and Social Science Research*, Springer.
- HALIMI Serge (2020), *Od zaraz*, "Le Monde diplomatique – edycja polska", no. 2 (162).
- KIWERSKA Jadwiga (2020), *Wspólnota transatlantycka i walka z pandemią COVID-19*, "Biuletyn Instytutu Zachodniego", no. 16 (436).
- KONCZAL Agata A. (2019), *Lasy (o) niepewnej przyszłości. Esej o żywotności lasu i leśnych katastrofach*, in: P. Czapliński, J. B. Bednarek, D. Gostyński (eds), *O jeden las za daleko*, Warszawa
- LATOUR Bruno (2017), *Europe as refuge*, in: Heinrich Geiselberger (ed.), *The Great Regression*, Cambridge.
- LEGGEWIE Claus, WELZER Harald (2012), *Koniec świata, jaki znaliśmy. Klimat, przyszłość i szanse demokracji*, Warszawa.
- LOVELOCK James (2009), *The Vanishing Face of Gaia: A Final Warning*, New York.
- NAESS Arne (1973), *The Shallow and the Deep. Long-range Ecology Movement. A Summary*, "Inquiry", no. 16.
- NOWAK Andrzej W. (2020), *Antyszczepionkowy nekromanta. Agamben – filozoficzna ofiara pandemii*, "Le Monde diplomatique – edycja polska", no. 2 (162).
- O'NEILL John (1993), *Ecology, Policy and Politics: Human Well-Being and the Natural World*, London, DOI: 10.4324/9780203416570.
- ORAVEC Christine L. (1984), *Conservationism vs. preservationism: The „public interest” in the Hetch Hetchy controversy*, "Quarterly Journal of Speech", vol. 70, DOI: 10.1080/00335638409383709.
- PLUMWOOD Val (1995), *Has democracy failed ecology? An Ecofeminist perspective*, "Environmental Politics", vol. 4, issue 4, DOI: 10.1080/09644019508414231
- REDA Andrea, CASTRO Rosa J. (2020), *Chronicle of a Pandemic Foretold*, Centre for European Policy Studies, Brussels, <https://www.ceps.eu/ceps-publications/chronicle-of-a-pandemic-foretold/> (30.03.2020)
- SCHMIDT Kenneth A., OSTFELD Richard S. (2001), *Biodiversity and the Dilution Effect in Disease Ecology*, "Ecology", vol. 82(3), DOI: 10.1890/0012-9658(2001)082[0609:BATDEI]2.0.CO;2
- SHAH Sonia (2020), *Dlaczego pandemie są coraz częstsze?*, "Le Monde diplomatique – edycja polska", no. 2 (162).
- SYMONS Jonathan, KARLSSON Rasmus (2015), *Green political theory in a climate-changed world: between innovation and restraint*, "Environmental Politics", vol. 24(2), DOI: 10.1080/09644016.2015.1008252
- TAJUDEEN Yusuf Amuda, OLADUNJOYE Iyiola Olatunji (2021), *Wildlife trafficking and corruption at the maritime port: a global health threat*, "International Maritime Health", vol. 72 (3), DOI: 10.5603/IMH.2021.0044
- TOBIAS Michael (ed.) (1985), *Deep Ecology: An Anthology*, San Diego
- TOLEDO Victor M. (2019), *The 4T: Politics for Life or Death*, Chiapas Support Committee, <https://chiapas-support.org/2019/03/15/the-4t-politics-for-life-or-death/> (15.03.2019)
- TYAGI Swati, GARG Neelam, PAUDEL Rajan (2014), *Environmental Degradation: Causes and Consequences*, "European Researcher", vol. 81, no. 8-2, DOI: 10.13187/er.2014.81.1491

- WALKER Peter A. (2005), *Political ecology: where is the ecology?*, "Progress in Human Geography", vol. 29(1), DOI: 10.1191/0309132505ph530pr
- WHO HEADQUARTERS (2021), *WHO-convened global study of origins of SARS-CoV-2: China Part*, Joint WHO-China study: 14 January – 10 February 2021, <https://www.who.int/publications/i/item/who-convened-global-study-of-origins-of-sars-cov-2-china-part> (30.03.2021)
- WORLD COMMISSION on Environment and Development (1987), *Our common future*, Report.
- YOLDAS Özlem Becerik, YOLDAS Yunus (2016), *A New Political Perspective: Simulative Democracy*, in: *Proceedings of International Academic Conferences* 3605905, International Institute of Social and Economic Sciences.
- YOUNG Oran R. (2006), *Vertical interplay among scale-dependent environmental and resources regimes*, "Ecology and Society", vol. 11, issue 1
- YOUNG Oran R. (2021), *Can practitioners and analysts join forces to address largescale environmental challenges?*, "Global Public Policy and Governance", no. 1, DOI: 10.1007/s43508-020-00001-8