

The year 2021 is the second year of a change of epoch, and questions remain open. In the geographic realm, journals have opened up their pages to reflection and research on the fearsome COVID-19. Hundreds of articles with thousands of pages are presenting results, some ephemeral or about a particular point in time, others supplement data with illustrations — it is geography as a spatial metaphor. The pandemic, untamed and unprecedented, has plagued humanity since the end of 2019, marking not only a “mental fracture” in private life, but something deeper, a change of epoch whose scope and influence are difficult to envision. The SARS-CoV-2 coronavirus has affected the lives of mankind and makes the onset of the 21<sup>st</sup> century a time of uncertainty and unsuspected lessons. From this background, this issue begins with a set of works on this topic and is the main focus of this issue of *Investigaciones Geográficas*, the journal of Instituto de Geografía, UNAM.

In the words of Bruno Latour, the coronavirus has this unique “ability to interrelate all humans” (Latour, 2020, p. 2) through transmission and contagion; this is how this virus has become a health crisis (Latour, 2020, p. 1). This worldwide spread is not new. With the arrival of smallpox to America in the 16<sup>th</sup> century, another virus swept the territory from coast to coast and local populations — virgin, puzzled — faced a common enemy; as the American natives lacked immunity, demographic collapse and a change of epoch came up.

In geography, changes of epoch can take various forms: jumps, swings, vertigo, or crossroads in front of “new discoveries, formation of new States and collapse of Empires, great conquests and military confrontations, unfolding of cultures and civilization, or long-term developments such as those of the Earth itself” (Schlögel, 2007, p. 86).

Such “historical ruptures” demand a spatial orientation, since “every great rupture brings the collapse and emergence of social, political and cultural spaces” (Schlögel, 2007, p. 89).

The global pandemic has called into question ideas, models, systems, and lifestyles linked to space, giving rise to a countless variety of territorialities spread out by the globalization of the 20<sup>th</sup> century. Some voices have pointed out the need to change the “way of life” linked to the overall termination of the orthodox economic system that has prevailed over the past 50 years (Latour, 2020, p. 1). A voice like Latour’s opens up the discussion about our current relationship with the planet. Millions of people around the world had to adopt social distancing and hygiene measures; in the same way, a protective shield against the globalizers’ ideas can be adopted: “a return to the same” and put a brake on the sweet illusion of the “wagon of progress” (Latour, 2020, pp. 1 and 3).

This change of epoch undoubtedly raises new horizons and demands. Martínez de Pisón (2017, p. 9) asks: Where do we stand? What is geography and what is it for? This author states that a “geography of change” has arrived (2017, p. 11). It is the dawn of a “creative geography”, a geography where questions, methods, and perspectives converge providing scientific and cultural stimuli with ideas and work.

Along this path, geography has reached a turning point, a point of reflection, consultation, revision, approaches to ideas, methods, techniques and, above all, of invention of new forms of spatial representation based on the availability of databases, information matrices, and digital processing to attain a new language of visual communication that provides synthetic understanding, at various scales, of territoriality and the temporality that

is being lived and endured across the world. The current situation opens countless ways, routes, and perspectives for studying COVID-19 from the ideas, questions, methods, and techniques of geography. *Investigaciones Geográficas*, the journal of Instituto de Geografía, UNAM, presents research results related to this change of epoch in a series of articles that impinge, in different ways, on the broad reflection and located in the gap between social behavior, territorialities, and COVID-19. In the opening article, Manuel Suárez Lastra and a multidisciplinary team put forward an index of vulnerability to the pandemic that identifies four degrees of vulnerability in urban centers and municipalities; their maps depict the role played by health infrastructure, marginalization, the indigenous language-speaking population, access to the media, and precarious economy. The results are framed as a set of voices and recommendations to support public policies, at all levels, to “mitigate the likely impact of COVID-19 on Mexican society.”

Next, Irasema Alcántara-Ayala reflects on the “social construction of disaster risk and the disaster triggered by COVID-19”. She suggests addressing the problem from a “comprehensive transdisciplinary perspective” and, to this end, she locates the actuality of this “multiscale disaster of global impact”. She is interested in the emergence of a state of “extreme disruption of the functioning of society” and highlights the adverse social, economic, cultural, political, and institutional consequences. In this context, the population health issues, along with the “particular susceptibility of people to the virus”, such as exposure to individual and collective contagion, frame the “transformation efforts towards comprehensive management in the current risk society”.

The article by Edwin Badillo-Rivera and his research team seeks to link the COVID-19 phenomenon to other variables, such as environmental variables. The authors examine the spread of the disease in Peru using a number of methodological approaches. They entered a regional-scale analysis that integrates the “environmental and social variables” involved in the spread of the SARS-CoV-2 virus. Using a variety of methods, the authors

identify “the regions of Peru with the greatest susceptibility, vulnerability, and risk of spreading the virus.” The complex processing of official data and the approach adopted showed direct relationships and a regional differentiation of the Peruvian territory where there is a greater risk exposure for the spread of the virus. The authors conclude by emphasizing the need for public policies on air quality management, integrated solid waste management, and sanitation services to mitigate the social spread of the virus.

The following study focuses on Brazil and examines the correlation between climatic elements and COVID-19 indicators, which is of interest for epidemiological surveillance. In this study, Francisco Antonio Coelho Junior, Pedro Marques-Quinteiro, and Cristiane Faiad found that “environmental conditions influence the contagion and transmission rate of COVID-19” in two study states, Brasilia and Manaus. With this numerical base, digital processing, and directed analysis, the authors highlight the need for government agencies to promote planning and public policies that benefit population health and sustainability. For these authors, promoting socially accepted behaviors is an alternative to address COVID-19.

For his part, José María Casado addresses the impact of COVID-19 on the formal labor market based on data from the *Instituto Mexicano del Seguro Social* (IMSS). This is where the geographic perspective comes in, as the author looks for spatial patterns and their relationship with economic activities. Particularly interesting in this study is the diversity of scenarios or economic landscapes examined in the investigation, ranging from traditional sun-and-beach resorts in Cancun, Riviera Maya, and Riviera Nayarit; accommodation and restaurant services in Mexico City; the automotive manufacturing sector in El Bajío corridor; the construction sector in the Monterrey metropolitan zone and oil-exploitation areas such as Ciudad del Carmen and Tampico-Altamira-Ciudad Madero. He concludes by pointing out that the use of commercial agriculture has decreased due to its seasonal nature and not so much because of the impact of the virus.

Finally, tourism as practice could not be left aside of this overview of *Investigaciones Geográficas*. This time, the focus is on cooperatives in the Yucatan peninsula that are affected by various vulnerabilities. Given the current situation, the authors, led by Samuel Jouault, investigate strategies to survive through adversity periods. Pluriactivity, a historical cultural response of *campesino* households to eventualities in their productive practices, stands out among these strategies. Novel actions have also been implemented, including the return to food self-sufficiency, solidary exchange of products between social businesses, as well as savings and economic provisions or the shutting down of towns and intra- and inter-community conflicts stemming from the reopening of tourism. The study relied on the open interaction between the research group and 24 community-based tourism businesses. This leaves the door open to proposals for the development of community-based tourism. The article concludes with a theoretical reflection on the likely post-pandemic reshaping of this type of tourism.

The first six articles in this issue of *Investigaciones Geográficas* evidence the intention of the authors, collaborators, and research teams to take on the challenge of opening up new paths to investigate COVID-19 in multiple scenarios and consulting various information sources, ranging from databases and field work to the construction of maps and images, that turn geography not only into a metaphor, but into an eminently first-order visual discipline and, armed with this arsenal, to effectively reach out to society and to those responsible of public policies. These are avenues for exploration and exchange between academia and the government sector.

The tone of the voices in these articles contribute valuable ideas and their scale variations guide the performance and vision of geography in the change of epoch we are witnessing. It is worth adding, in this regard, the suitability of geography to identify issues, investigate territories, define work scales, attract collaborators and teams, integrate data matrices, design a visual communication language, and interact with communities and other social actors, as the first articles underline — the articulation of

social groups with their territory and the analysis of economic, environmental, and social variables.

It all points to the possible future approaches of geography, increasingly driven by new ideas and questions related to new geographies of the local, of isolated or remote places that broaden its reach, appeal, and roles in “direct contact with the global” (Claval, 2020:226). As for human relations, aspects worth highlighting are the roles of women, children, and teenagers, gardens, public parks, residential areas and their lifestyle, shopping or cultural centers, the operation or impact of industrial areas, the elderly, retirement or nursing homes (Claval, 2020:228). In this sense, Ricardo Méndez (2020:156) construes: “bet on small shops and neighborhood services, which have frequently proved to be essential to address the needs of citizens [and] maintain the pace in neighborhoods and make streets safer.” Regions no longer look the same: industries — less and less related to the national space — highlight the international role of their links and exchange networks. In addressing this aspect, Rogério Haesbaert (2021) focuses on the broad perspective: the decolonization of territories, under an approach of looking, reading, living, and practicing the world in a different way, and points toward a continuous process of resistance to capitalism. There is a keen interest in cooperation, solidarity, environmental recovery, and the preservation of the territory [...] as a heritage of humanity” (Saquet, 2015:110-114). The current era requires practicing “outdoor geography” (Capel, 2017:31), under the creative drive of geographers committed to new ways of thinking, working, traveling, and walking to relate people to cities, territories, places, and landscapes.

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