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Research project

In the last two decades, the ordinary life of democratic politics in Western countries has been shaken by the rise of crises that are believed to challenge the nature and dynamics of Western liberal democracies. These are unexpected circumstances that force a temporary redistribution of the traditional powers as the executive power, vis-à-vis the other branches of the government, is claimed to possess the information, decisiveness, and speed to make decisions. In the last couple of years, the two types of crises that have dominated the political scenario have brought up the issue of the relation between politics and science. For, the most striking feature of today's political emergencies is the need for courses of action that involve massive scientific expertise. In the management of the recent pandemics, and with respect to the current energy crisis, sciences have played an increasingly crucial role in the definition of the governmental response as well as in the analysis of the hazards that they involve when a decision is to be made under the urgency and pressure of an emergency. While this difficult interplay puts in jeopardy both the neutrality of scientific evidence and the legitimacy of democratic procedures, four main issues come to the foreground.

As in the last few years the emergence of the Covid-19 pandemic has clearly proved, the impact disorders (and especially infectious and chronic ones) can have on populations is huge, and therefore so is the large development of research on disorders. Many scholars in different fields (including philosophers) have contributed to different extents to the understanding of the pandemic, and have taken active part in the debate, addressing methodological, conceptual and ethical issues and taking decisions which have then significantly affected individual and collective behaviours, politics, economy. The enduring of the Covid-19 pandemic worldwide has urged further reflections and provides us with crucial elements to address mutual relations between scientific practices and policy-making during health emergencies. Investigations question what relations hold between the scientific aim at effectively modelling diseases, unravelling their underlying mechanisms, transmission rates, most relevant clinical aspects, and socio-cultural values and economic and political goals. The intertwining of scientific modelling and political decision-making is to be analyzed to make assumptions and mutual influences transparent.

The project aim to provide critical investigations of different modelling strategies in the biomedical sciences, with a specific focus on epidemiology and its relations with public health policies. Examination of how evidence is collected, how models are elaborated, evaluated, and adopted will shed light on the merits and risks of our uncertain reasoning in political and decision-making contexts, on scientific expertise and individual trust, and on trade-offs between health prevention and socio-economic decisions and facts and figures. Questions tackled will regard issues such as the following:

1. The different models of pandemics that have been competing to give the best representation of the disease and its spread, and how they have done so.

2. The biases that have impinged on modelling pandemic, and how they have affected the adoption and use of models in policy-making.
3. How models have been shared and received among scientists – in local contexts and all over the world – and between scientists and society. A special attention will be devoted to the relations between medicine, society, and policy in the design, implementation, and adoption of epidemiological models, displaying patterns of reasoning and underlying dynamics.

Activity plan

The research activity will focus on the import of biomedical, epidemiological, social, economic, and political factors in the elaboration, evaluation and adoption of different models of the Covid-19 pandemic, as well as the impact that distinct modeling strategies of the pandemic had on policy and decision making. A picture of the construction and use of medical knowledge during the Covid-19 pandemic that considers the complexity of the science-society-politics relations will be provided. The activity will concentrate on a few kinds of models that were used by researchers to track the progress of the pandemic, to understand its spread in the population and to forecast its future course. The assumptions and basic elements of these models will be analyzed in relation to both their epistemic and non-epistemic components (that is, the ethical, socio-economic and political factors). The research will estimate how such components triggered the elaboration, evaluation and adoption of different models. Furthermore, it will assess the impact that the adoption of specific models had on the acceptance of policy options and the guide of decision makers.

Project management tasks

Task 1.

The first task will be devoted to the selection of different models of the Covid-19 pandemic and the analysis of how the elaboration and adoption of these models has been influenced by: a) gathering of medical evidence; b) previous scientific understanding of how epidemics spread in a population; c) relevant social, political, and economic factors.

Task 2.

The second task will deal with the study of the different extents to which the models considered in Task 1 contributed to the understanding of the pandemic's dynamics (i.e., how the Covid-19 pandemic spreads in a population) and provided the best representation of the disease.

Task 3.

The third task will be concerned with the evaluation of the impact that the distinct epidemiological models had on policy making.

Furthermore, by addressing the import of epistemic and non-epistemic values in the modelling processes of the Covid-19 pandemic, this task will shed light on the connections between scientific models, values and decisions.

Outputs:

- 1) one article in a top-quality international peer-reviewed journal assessing the import of epistemic and non-epistemic components in the modeling of the Covid-19 pandemic.
- 2) one article in a top-quality international peer-reviewed journal exploring the influence that distinct epidemiological models had on policy making in two different countries (Italy and a non-EU country).