Research Laboratory for the New Media (NuMe Lab)
Department of Mathematics, Computer Science and Physics (DMIF)
University of Udine (UniUd)

International Workshop
"The Predictive Power of Social Sciences"

September 20th, 2017
Seminar Room, Second floor
Centro Polifunzionale di Pordenone
Via Prasecco 3/a, Pordenone

Conference Topics

One of the main innovations in the scientific revolution was the use of mathematics. According to Galileo Galilei, the world "is written in the mathematical language, and its characters are triangles, circles and other geometrical figures, without whose help it is impossible to comprehend a single word of it; without which one wanders in vain through a dark labyrinth" (Il Saggiatore, 1623). Galileo demonstrated that the language of mathematics can be used to describe the behaviour of objects in the world. The resulting mathematisation of science allowed natural sciences to make great advances in describing reality and anticipating future events.

Another key feature that was highlighted by Galileo is the need to submit one's theses to the test by interrogating the world, i.e. subjecting hypotheses and theories to experimental control. One of the most important philosophers of the 20th century, Karl Popper, argued that science must be falsifiable, meaning that it must put forward hypotheses that can be refuted with factual proof. A theory that is falsifiable (and thus scientific) is one that can be revealed to be false after being measured against facts. A third feature is the social and public function of science and scientists. The motto of Francis Bacon "tantum possumus quantum scimus" reminds us that "knowledge is power": modern science is a source of progress for society, in that scientific knowledge allows it to act, and change the course of events.

But, can we say that these features apply to all sciences? Natural sciences (physics, chemistry and biology) appear to be more advanced in this respect than social sciences (sociology, economics, anthropology). In other words, they appear to be more successful in predicting the future. Unlike natural sciences, that can rely on vertical and cumulative knowledge, social sciences need to make do with a more horizontal knowledge and have to contend with a higher level of complexity. It is much easier to predict the movement of a physical body rather than the behaviourt of a voter at the next elections; it is possible to predict with greater accuracy the conduct of a spaceship rather than the conduct of a client in a bank who is to be offered a portfolio of financial investments.

In order to come to an appropriate decision, politicians and public decision-makers need instruments to understand the world they live in and anticipate social change, as well as short, medium and long-term trends and future scenarios. However, it is not clear to what extent they can count on the social sciences. In this conference the following issues will be examined: What methods or combination of methods must social sciences develop to recover their powers of interpretation and prediction? If it is not always possible to create formal models, is it possible to use other "light" and non-deterministic forecasting methods that can at least make decision-makers more aware and open-minded? What can the social sciences learn from the natural sciences? Or is it just interdisciplinarity that can bring any improvement?

<u>Programme</u>

14:15 **Opening Remarks**
Gianluca Foresti (Director of DMIF - UniUd)
Cristian Micheloni (Director of STM and CMTI - Uniud)

Chair: Leopoldina Fortunati (Director of NuMe Lab - UniUd)

14:30 – 15:00 **How to Predict? From Natural Sciences to Social Sciences**
Giovanni Boniolo (University of Ferrara, Italy)

15:00 – 15:30 **Prediction: The Fall and Rise of the Social Sciences**
Nikhil Bhattacharya (Institute for Liberal Arts, Bethesda, Maryland, Usa)

15:30 – 16:00 **The Many Aspects of Anticipation**
Roberto Poli (University of Trento, Italy)

16:00 – 16:30 **Coffee Break**

16:30 – 17:00 **The Challenge of the Future in Management**
Maria Chiarvesio e Andrea Moretti (University of Udine, Italy)

17:00 – 17:30 **The Idiosyncrasies of Online Ethnography in the Analysis of the 'Digital otherness'**
Riitta Hänninen and Sakari Taipale (University of Jyväskylä, Finland)

17:30 – 18:00 **Discussion**

Scientific and Organizing Committee
Gabriele Giacomini
Leopoldina Fortunati
Federico Costantini
Manuela Farinosi
Giovanni Ferrin
Alan Mattiassi
Laura Pagani
Michael Tooke