

Le Monde

A "climate sceptic" study raises suspicions of fraud

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An article by French researchers minimizing the human influence in global warming is marred by subtle errors.

Describing a correlation between variations in the Earth's magnetism and climate change: published in January by the journal *Earth and Planetary Science Letters* (EPSL), the study conducted by a team of French researchers led by Vincent Courtillot, director of the Institut de physique du globe de Paris (IPGP), was not in the news at the time. Today, it is the subject of a virulent battle. In an article posted on Tuesday 18 December on RealClimate, a blog run by American climatologists, Raymond Pierrehumbert, professor of geosciences at the University of Chicago, asks whether this work "crosses the line between simple error and active deception".

The case would hardly have had any significance if the authors of this work, in particular Vincent Courtillot and Jean-Louis Le Mouél, who are close to Claude Allègre, were not among the few scientists who continue to express doubts about human responsibility for climate change. To counter this, for example, with explanations based on the natural variability of solar activity or geomagnetism.

The main objections to the work of Mr Courtillot and his co-authors were addressed to the journal EPSL, in the form of a "Commentary" - an understatement which in the jargon of scholarly journals refers to a communication contesting work already published. Signed by Edouard Bard (Collège de France) and Gilles Delaygue (Cerege), this formal response was reviewed, accepted by the publisher of EPSL and published online on the journal's website, pending formal and final publication.

Among the errors identified, two are particularly serious. One of the graphs exhibited by Mr Courtillot and his co-authors shows the correspondence between variations in four data sets: the global mean temperature, the solar irradiance and the Earth's magnetic field at two points on the globe. The four curves appear perfectly correlated.

But what the authors present as the variation of the Earth's mean temperature is in fact the variation of the summer temperature of the continents, in the regions of the Northern Hemisphere with a latitude greater than 20°. As for the variation in the irradiance of the Sun, it is in fact a model of the variation of the ultraviolet fraction of the solar spectrum - moreover invalidated in 2002.

These two faults were noted in a "note added to the proofs" at the end of the commentary by Mr. Bard and Mr. Delaygue. This note, which was very embarrassing for Mr Courtillot, disappeared from the final version of the Commentary after remaining online for a month, accessible to the entire scientific community. "Strange changes have taken place under the direction of the responsible editor, Robert Van der Hilst. He erased the "note added to the proofs" from the final version of the Commentary by Bard and Delaygue," writes Mr. Pierrehumbert. Bard and Delaygue did not discover this until they received the proofs of their text. This type of cut, which is very unusual in scholarly journals, also raises suspicion, especially since, as M. Pierrehumbert points out, "it is a very unusual type of cut in a scholarly journal. Pierrehumbert, Van der Hilst, a professor at the Massachusetts Institute of Technology (MIT), is also an IPGP affiliate researcher. Confirming this information, Mr. Bard refuses to comment on it.

This is not the first time that the French "climato-sceptics" have made mistakes. During a debate organized by the French Academy of Sciences in March, Jean-Louis Le Mouél had already stated that the variation in the Sun's illumination was of the same order (in W/m²) as the effect of CO₂ in the energy balance of the Earth's atmosphere. This assertion was based on two errors. First, it was based

on the confusion between the surface of a disc and that of a sphere (Le Monde, March 15). Then on the omission of the fact that the Earth reflects part of the radiation it receives. The assertion of Mr. Le Mouël would have been admissible if the Earth was a flat, black disc, always presenting the same face to the Sun...

The virulence of the current controversy is commensurate with the scale of Mr Courtilot's work. A close and faithful friend of Claude Allègre, a world-renowned scientist in his discipline and an influential personality, he is not only director of the IGP, but also president of the Scientific Council of the City of Paris, a university professor and a member of the Academy of Sciences. In the past, he has also served as a special adviser to Mr Allègre when the latter was Minister of Education. He was then Director of Research, i.e. he was able to influence the budget allocations of public laboratories. "Suffering", Mr Courtilot was not in a position, on Tuesday 18 December, to react to this information.

Stéphane Foucart