

A note on scientific controversies and a Literature review

Current scientific controversies toward COVID's origin

As in July 2021

An interesting paper in *The Conversation* (*Scientific controversies what for & why?*¹) rightly puts that usually scientific debates concern only a handful of researchers in the world. On coronaviruses in general and SARS-Cov-2 in particular, the scope of controversy changes when it affects not only a small group of specialists, but the scientific world more widely and when the media takes up the issue. It then no longer remains purely scientific, but quickly becomes adorned with societal arguments, often linked to major themes such as the environment or human health.

Studying historical and current controversies has a major interest in the understanding that scientific issues are complex and are not simply a series of linear results. Controversy can generate debates or polemics but cannot be simplified to one or the other. Science is a field of observation and research, and for the experimental sciences, it an experimental methodology that brings tangible elements to the hypotheses (that corroborate or invalidate them). Unfortunately, science itself is sometimes confused with the resulting technological applications, scientific results and new knowledge being used to create new applications. As a result, the public is confused about both science and technology.

1. Two types of possible theories for the emergence of the COVID-19:

We approached our series of interviews with two types of possible theories for the emergence of the covid epidemic, and then pandemic.

The first possible theory is based on “zoonotic spillover”². Since the beginning of the pandemic, the main thesis defended by the majority of the main scientific community and the media is that it was triggered by a coronavirus of animal origin, which then transmitted to the human. This is called a zoonotic infection. There is a consensus that a reservoir species has been eaten, bitten or has been bitten by/a an intermediate host and then passed through human. The animals accused are the bat (as a coronavirus

¹ <https://theconversation.com/de-la-controverse-scientifique-au-debat-de-societe-112039> ;
https://fr.wikipedia.org/wiki/Controverse_scientifique

² https://www.sciencesetavenir.fr/decouvrir/livres/livre-sars-cov-2-aux-origines-du-mal-brice-perrier_154729 ;
https://www.lemonde.fr/les-decodeurs/article/2021/05/20/origine-du-sars-cov-2-un-an-et-demi-apres-plus-de-questions-que-de-reponses_6080863_4355770.html

reservoir), the pangolin (as an intermediate host) and the mink (as an intermediate host and reservoir). On this basis, several hypotheses have been drawn:

- The first one is that three researchers from the Wuhan Institute of Virology (WIV) went to a bat cave in the Chinese province of Yunnan and they were infected. The White House medical adviser and immunologist Anthony Fauci declared on June 3rd that it was “entirely conceivable that the origin of COVID-19 was in that cave, and that it began to spread naturally or came through the laboratory”.
- The second one is that the Wuhan market might be the starting point of the pandemic.
- The third one is that the pandemic might be from a natural origin. People from Wuhan might have been in contact with infected animals.

The second theory concerns a lab-leak³. Debate over the idea that the COVID-19 emerged from a laboratory has escalated over the past few weeks (Spring and Summer 2021), coinciding with the annual World Health Assembly, at which the World Health Organization (WHO) and officials from nearly 200 countries discussed the COVID-19 pandemic. After last year’s assembly, the WHO agreed to sponsor the first phase of an investigation into the pandemic’s origins, which took place in China in early 2021.

This thesis had been put aside for a long time, because the escape from a laboratory seems unimaginable in the collective imagination. Since the beginning of the pandemic, China has consistently eliminated this thesis. Scientists or experts that defended the lab-leak thesis were considered as conspiracy theorists. Experts that disclaim the leak-lab have adopted defensive positions regarding their activity (many of them were scientists working with coronaviruses) in order not to lose credibility among politicians, in public opinion and in order to align with the positions of the scientific community, for fear of losing funding for their research etc.

The lab-leak thesis must be explored to confirm or deny its veracity. Indeed, laboratories manipulate viruses, create mutations etc. In this sense, several hypotheses have been identified:

- The creation of SARS-CoV-2 and its voluntary or involuntary leak.
- The contamination of scientists during tests in the laboratory.
- Problems of biological security and safety in the laboratory.

³ <https://www.nature.com/articles/d41586-021-01529-3> <https://theconversation.com/covid-19-why-lab-leak-theory-is-back-despite-little-new-evidence-162215->

2. The critique of science

"Official science has not made things better [know the origin of the pandemic], but it has made them more complicated" said Brice Perrier. Since the beginning of the pandemic, there was a censorship in the scientific reviews, where each expert defended his research subject, in particular that of the voluntary manipulations of the viruses of the coronavirus type in the laboratories. "An accident [lab-leak] has nothing to do with a conspiracy" said again Brice Perrier: a laboratory leak is not a conspiracy theory, it is a plausible fact. In order for coronavirus research to progress, experiments and manipulations are necessary - as long as they are safe and do not involve any danger for scientists and populations.

The study of the origin of COVID-19 was done in two stages. Between March 2020 and the end of 2020, the word was exclusively left/heard by the classical scientific community - specialists in epidemiology, infectiology, virology. Since March 2021, after the WHO investigation in Wuhan, China, new voices are being raised. At that moment, we understood that no hasty conclusion could be made. All tracks are to be studied. For instance, the Decentralized Radical Autonomous Search Team Investigating COVID-19 (DRASTIC) is "a loose collection of internet activists investigating the origins of COVID-19, in particular the lab leak idea. Most scientists maintain COVID-19 likely had a natural origin, but a lab leak is still a possibility worth investigating. DRASTIC is composed of about 30 core members, whose activity is primarily organized through the social media website Twitter. They formed in February 2020, at the start of the COVID-19 pandemic. DRASTIC members have called for a "full and unrestricted investigation" into the origins of COVID-19, conducted independently of the World Health Organization."⁴ **[Copy from Wikipedia]**

3. International cooperation

"Less politicization for an origin investigation [...] Over the last number of days, we have seen more and more and more discourse in the media, with terribly little actual news, or evidence, or new material" said the WHO director of health emergency, Mike Ryan.

Statements by the G7⁵ and a joint letter⁶ from 31 internationally recognized scientists to request a Phase 2 investigation of the origins of COVID-19 have only confirmed that no progress has been made in identifying the origins in one year.

⁴ <https://en.wikipedia.org/wiki/DRASTIC>

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/992268/G7-health_ministers-communique-oxford-4-june-2021_5.pdf

⁶ <https://www.lefigaro.fr/sciences/lettre-ouverte-de-31-scientifiques-internationaux-pour-une-enquete-complete-sur-l-origine-du-sars-cov-2-20210628>

“More is at stake than the discovery of COVID-19’s origins, however. Global health-policy analysts argue that it’s crucial for countries to work together to curb the pandemic and prepare the world for future outbreaks. Actions needed, they say, include expanding the distribution of vaccines and reforming biosecurity rules, such as standards for reporting virus-surveillance data.”⁷

This series interviews in in synch with Brice Perrier⁸’s approach that, conspiracy approach/fake news should be debunked, but every avenue about the COVID-19 origin needs exploring and should be freely explored, and scientific-ness of approaches is what matters.

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