

Peer Review Through Ages!

A BRIEF HISTORY OF PEER REVIEW

Peer Review ensures that the papers published in scientific journals address meaningful research questions and draw conclusions based on ethically executed experiments.

Inception in ancient Greek culture

The peer review process, although not known as peer review, was used as a method of evaluating written work back in the times of ancient Greece.

854-941 CE

First described by a physician

A Syrian physician named Ishaq bin Ali al-Rahwi, first described the peer review process in his book *Ethics of the Physician*.

IN 1453

Invention of printing press

Written documents were now available to general public. Reviewing and regulating the quality of content became more of a concern.

IN 1620

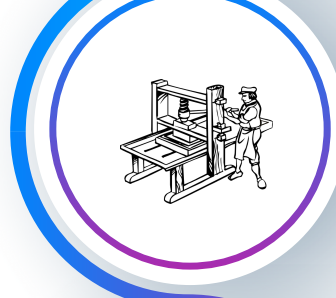
First universal method for assessing science

In Francis Bacon's work, *Novum Organum*, he described the first universal method for generating and assessing new science.

IN 1665

Systematic research publishing

Philosophical Transactions of the Royal Society is the first journal to formalize the peer review process in 1665.



The Royal Society of Edinburgh published in their *Medical Essays and Observations* in 1731: "Memoirs sent by correspondence are distributed according to the subject matter to those members who are most versed in these matters. The report of their identity is not known to the author."

1665-1731

Evolution of the peer review process

Manuscripts were distributed to reviewers with the intent of authenticating the integrity of the research study before publication.

1752

Review manuscripts before publishing

The Royal Society of London adopted the similar review procedure in 1752 by developing the "Committee on Papers" to review manuscripts. The function of the committee was to review abstracts and secretly vote on what to publish in the transactions.

1940

Peer review became a standard practice

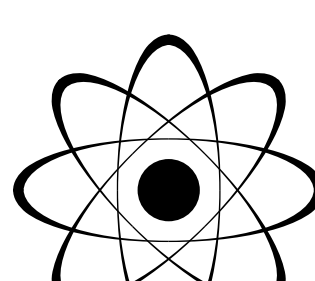
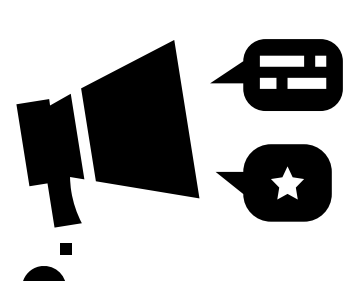
Peer review in the systematized and institutionalized form developed immensely in the field of research.



Today

New peer review models are introduced

The peer review process is making progress to maintain research integrity by introducing new models.



1. Pre-publication peer review model

The manuscripts are submitted to a group of peers, who correspond with the author/s and other reviewers to ensure that the submitted papers are true to science and its claimed results.

2. Open and/or post-publication peer review

The post-publication peer review provides an open platform and encourages public conversation about a research paper. In this model, an author's ideas are presented online and readers are invited to post their comments (publicly). Also, along with making the papers subject to public critique, a peer review report is published alongside the article



3. High volume peer review

This model focuses on research integrity by finding the fundamental validity of the research contribution, and not only for its novelty and impact. The "Mega-journals" model publishes numerous peer reviewed articles covering different subject areas. These journals accept articles that are technically sound rather than selecting them for perceived importance.



4. Independent peer review

A much advanced journey of peer review process is the liberty that the authors get by opting for independent peer review service which does not confine to a particular journal. These independent review systems are AI-based. They help in reporting unprejudiced reviews which are reliable and ensures research integrity.



Through the advancement of science, the need for peer reviewers has grown. Their service to research has helped science for better knowledge dissemination. And now, with a surge in AI-based tools and unbiased ethical review systems being encouraged, peer review process is heading towards becoming a completely automated system. Salvaging the quality and integrity of research.