# The Transformation of Scientific Papers: From Knowledge Units to Accounting Units

Yves Gingras presents a compelling analysis of how scientific papers have been transformed from units of knowledge into accounting units used primarily for evaluation purposes. He argues that this transformation resulted from the convergence of three major developments since the 1990s: the internet revolution, changes in journal publishing economics, and the rise of quantitative research evaluation.

Traditionally, scientific papers functioned within what Gingras calls the "classic cycle of accumulation of symbolic capital" - researchers would publish findings to gain recognition from peers, which would then help secure resources for further research. However, this cycle has been fundamentally altered by the pressure to publish for evaluation purposes rather than knowledge dissemination. The author demonstrates how this shift has led to several concerning developments: the success of predatory journals, manipulation of peer review processes, and the emergence of questionable metrics like journal impact factors being used as proxies for research quality.

Gingras' analysis is particularly insightful in showing how the interaction between these factors created a "perfect storm" (Gingras, 2020, p. 44) that has fundamentally changed scientific practice. His argument that papers have become mere "accounting units" is supported by evidence, such as the rise of citation manipulation and the creation of citation-focused evaluation metrics. However, one might question whether this transformation is as complete or universal as he suggests, as many researchers and institutions still prioritise research quality over quantity. Additionally, his analysis potentially understates how new forms of scholarly communication, such as preprint servers and open science platforms, might be reshaping these dynamics.

The impact of this transformation on scientific writing has been profound. Papers are increasingly structured to maximise their "countability" rather than their contribution to knowledge. Authors may prioritise crafting attention-grabbing titles and abstracts to increase citation potential, rather than focusing on methodological rigour or theoretical depth. The pressure to produce countable units has also led to the practice of splitting research into "minimum publishable units" rather than comprehensive studies.

The emergence of what Gingras calls the "slow science" movement demonstrates that the scientific community recognises these problems. (Berg and Seeber, 2016) However, the persistence of metrics-based evaluation suggests that reversing this transformation will require fundamental changes in how research is evaluated and funded.

This analysis aligns with broader critiques of the "audit society" (Power, 2000) and raises important questions about the future of scientific communication. While Gingras effectively diagnoses the problem, his article could have explored potential solutions more thoroughly. Nevertheless, his framework provides valuable insights for understanding how institutional pressures shape scientific practice and writing.

## References

Berg, M., and B. Seeber. 2016. *The Slow Professor: Challenging the Culture of Speed in the Academy*. Toronto: University of Toronto Press.

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