

# Journal of Negative Results

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## Why a Journal of Negative Results?

Bruce G. Charlton

*Henry Wellcome Building, School of Biology, University of Newcastle upon Tyne, NE2 4HH, United Kingdom (e-mail: [bruce.charlton@ncl.ac.uk](mailto:bruce.charlton@ncl.ac.uk))*

Sixteen years ago, I wrote a ‘funny’ piece for *New Scientist* on the need for a journal of negative results (‘Think Negative’ 29.10.1987: 72). And now my dream has come true, and I am asked to be the real *JNR*’s (unofficial) patron! The editors have kindly invited me to share a few personal reflections.

The initiative to create a web journal of negative results is necessary, timely and presents some novel intellectual challenges.

It is more than ever vital that negative results be disseminated, since the traditional structures of science based on small ‘social’ groupings of researchers sharing information by personal communication and gossip is being replaced by much more explicit and public forms of communication. When negative results are unpublished but shared by word-of-mouth among leading researchers, this gives an unfair advantage to the dominant ‘in crowd’ and makes it difficult for outsiders to move into a field without the danger of wasting time and effort on exploring avenues of research that are already known to be barren.

The necessity for communicating negative results is precisely that otherwise time and energy is wasted on pointless repetition, and the progress of science is slowed. Someone embarking on a program of research needs to know where best to direct their effort. Without knowledge of well-established negatives, precious years and resources could be dissipated on trying to get useless methods to work, or to find differences or correlations where none exist.

This leads onto the consideration that while all negative results have potential interest, some negatives are more relevant than others. For

example, at one extreme lies the difficulty I found in getting radio-immuno-assays to work during the first few weeks of my doctorate. This ‘negative’ did not represent a challenge to the validity of RIA measurement techniques, but merely reflected my own lack of experience and expertise. At the other extreme, I know of someone who spent about 5 years of hard, conscientious work in one of the best universities, failing to replicate a standard behavioural methodology. This kind of rigorous failure to replicate is potentially of great importance, since it is at least plausible to assume that the standard method was fundamentally flawed.

Negative results are not merely the inverse of positive results, and a journal of negative results is not simply the mirror image of conventional journals. In other words, I suggest that *JNR-EEB* should have a somewhat different form and structure from a conventional journal. The difference is not just that *JNR* publishes papers in which the results happen to be negative rather than positive. The different *function* of a negative results journal needs to be reflected in its refereeing practices and in the structure of published papers.

The criteria for acceptance of papers should be related to the methodological rigour with which they are conducted. To be worth publishing as a negative result, the authors of that paper need to demonstrate that they have gone to strenuous lengths to give the method a chance to yield positive results. After all, one possible (and all-too-obvious) reason for negative results is incompetence: factors such as insufficient knowledge, inadequate control of interfering variables

and sloppy technique. This further implies that the Methods section of papers yielding a negative result need to be more detailed and explicit than for the usual run of papers. To convince expert readers to take a negative result seriously, the authors must demonstrate that they were sufficiently competent, careful and exhaustive such that if a positive result had been there to be found, then the authors would have found it!

This leads onto the next consideration, which is that journals using conventional paper-based scientific publication are — understandably — reluctant to allow authors the space to describe their methodologies in this necessarily explicit and exhaustive fashion. By contrast, a web-based journal is not limited for space. The foundation of *JNR-EEB* is timely because it requires internet technology optimally to perform its function as a database of rigorous-but-failed attempts to discover positive findings. The speed and convenience of web-searching also means that when negative results are published, they are internationally, instantly and cheaply available — and are not reliant on persuading libraries to subscribe.

Finally, it is worth pointing out that while even *purely* negative results are potentially important, not all negative results are entirely negative in their implications. Some authors may have positive hypotheses as to why their results were negative — for example they may have good arguments as to why previous researchers were misled into reporting positive findings due to methodological errors or inadequacies. *JNR-EEB* should ensure that authors are encouraged to present, argue and reference such hypotheses whenever possible.

In a nutshell, it would be desirable if a journal of negative results could function as a more rigorous and explicit version of the kind of over-the-coffee discussions in which authors evaluate each others work - including the work of the over-rated 'great and good' of science whose genius for self-publicity and power-politics considerably exceeds their empirical aptitudes. This would help make *JNR-EEB* an exciting and iconoclastic forum in which authors would publish — not merely out of desperation! — but with some pleasure at contributing to a virtual conversation which embodies the essential virtues of good science.