

THE CODE OF ETHICS AND EDITORIAL CODE OF PRACTICE OF THE ROYAL ASTRONOMICAL SOCIETY

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Abstract. Whilst the Royal Astronomical Society has got by for more than 100 years without a written code of ethics, modern standards of governance suggested that such a code could be useful in the resolution of disputes. In 2005, the RAS adopted the Universal Code of Ethics for Science that had been formulated by the Royal Society of London. At the same time and for similar reasons the RAS adopted an Editorial Code of Practice.

1. Historical governance of the Royal Astronomical Society

In the nineteenth century in Britain the astronomical community consisted of a very few professional astronomers, including academics and some government employees at publicly supported observatories. There was a larger number of wealthy amateurs, such as landed gentry, industrialists or retired servicemen, and professional people such as stock-brokers, doctors, clergymen and school-teachers with some leisure, a comfortable life and the inherited wealth to indulge their interest. Not having modern communications, or a local academic network, some of the amateurs group met socially from time to time to discuss the latest news of their science. In an attempt to widen participation in astronomy beyond these small, informal groups and concerned at the malaise into which British astronomy had fallen at the time, a group of 14 of them who sat down to dinner in 1820 at the Freemason's Tavern, in Lincoln's Inn Fields, London, conceived the foundation of the "Astronomical Society of London", of which they themselves would be the founder members.

According to regulations drawn up briefly at the original meeting, which became part of a larger body of regulations that has developed over the years and is known now as the Byelaws, further members could be admitted if recommended by an existing member, and now in addition if the recommendation is accepted by the governing Council of the Society (on the advice of a Membership Committee). Only ten years after its foundation, the Society was able to obtain a Royal Charter from the king, William IV and was thereafter able to take up the name Royal Astronomical Society (RAS). In Britain, a Royal Charter is a constitutional document by which the State, in the person of the monarch, directly establishes an organisation as a legal entity, and by which its governance is defined.

Nowhere in any of these governance documents (the Charter and the Byelaws) is there defined any particular qualification for a person to be a member of the RAS, only that they should be acceptable as members to the existing members. The culture of the first members has thus propagated through the Byelaws down the years and the Society has continued to offer membership to the same wide range of people as the founders belonged to – all that is required is an interest in astronomy (in the widest sense of the word, and including geophysics) and agreement with the objectives and regulations of the Society, as well as acceptability to the existing members.

That the range of this culture defining suitability for membership of the RAS had limitations was demonstrated by the fact that there were no women among the 14 founders. In spite of several attempts being made to admit specific women to membership over the years, no women were elected until 1916, after a Supplemental Royal Charter had been sought and granted from the then king, George V, in order to make it clear to some more legalistic, pedantic and/or reactionary of the members of the time that the use of masculine pronouns in the original Charter was a grammatical convention and did not exclude women. (In well-intentioned but inadequate workaround solutions to this issue of gender politics, Caroline Herschel and Mary Somerville were among the distinguished women scientists who were, however, earlier admitted as honorary fellows, and a patronising procedure was introduced by which anyone, including women, could be admitted to a meeting by direct invitation from the President.)

As a matter of practice, and given the range of activities of two other, large, national astronomical societies that cater for present-day amateurs in Britain, the RAS has become a society of, primarily, professional scientists. The range of professional activities and interests of the Society provide the attraction for people to apply for membership, so these activities are unattractive to any but committed amateurs or to people who wish to support the Society (by paying a membership fee) but not to participate in it.

Although the Byelaws are silent on the qualifications for membership, they do, however, provide a mechanism for the expulsion of a member from the Society through a vote of other members at a meeting called for the purpose, 'whenever there may appear cause'. It appears therefore that there has for a long time existed a body of standards to which members should adhere. In effect it has been operationally defined in the past by an unwritten code of ethics kept in the hearts of members, which they can express at a meeting, case by case. At the time of the foundation of the Society, this code of ethics was, presumably, considering the social status of the founders, the unwritten code of honour of an English gentleman. It has evolved in modern times to be the professional standards of the, primarily but not exclusively, university academics who now dominate the membership, but remained unwritten until 2005.

2. Some modern ethical issues

In the ten years that I was the Treasurer of the RAS from 2001 to 2011, I participated in discussions, usually with the Executive Secretary as the full-time Chief Executive Officer of the Society, about a number of cases of greater or lesser weight and controversy, where someone's membership, actual or prospective, was in question. The less serious cases were about someone who was said to be an astrologer, or to have astrological sympathies. A more serious case was a complaint by one member, a self-employed lecturer, about another lecturer, who was therefore a competitor, who was said in advertisements to have exaggerated his qualifications for the job, and therefore was believed to be competing unfairly. A third case was about a historian of astronomy who had publicly denied the usually accepted scale of the Holocaust of the Second World War, and was as a consequence being criticised for holding an opinion that was held by some to be so abhorrent that he should be ostracised, even from membership of an organisation unconnected with the matter complained of. In the same period, the editors of the Society's publications were involved, as they are on a routine basis, in various disputes, again of greater or lesser weight, over papers for publication (or, more often, papers that had been rejected for publication). These disputes usually stayed within the editorial process, but in one or two cases threatened to break out into a wider arena.

The issues in all these cases were resolved well enough, to the tolerable satisfaction of those concerned. This was a tribute to the skill, professionalism, tact and diplomacy of those who took on the task of resolution (including particularly the patience shown by the boards of editors). But the process left some of us concerned whether the procedures that the Society had used would have withstood the test of a public scrutiny.

We were also concerned at the position that members had been put in. Where do members stand if they belong to a Society which evidently has a code of ethics, one that they had to sign up to blindly and could not consult? In modern times and with the more democratic principles of the 21st century, is it acceptable for a Society to assume that in the event of a dispute everyone will agree to a commonly held unwritten code? (Indeed, was this ever really the case, even in a well-defined English social class of the nineteenth century? Some histories and novels suggest that that was not always the case.) In an extreme but conceivable practical possibility, where would the Society find firm ground if it was subjected to a law suit brought by someone who did not agree with what had been done by the Society during a dispute? If the dispute strayed out from the confines of the Society and its members, what would the press and the public think of how we were conducting our business?

These concerns were brought together for the RAS in the context of a wider discussion in the global scientific community at that time in the first decade of the 21st century about various, very serious ethical issues of specific concern to scientists, such as the falsification of scientific data, plagiarism, and the like, and issues about the practice of science of considerable concern to the public at large, such as the conduct of scientific research on human beings and animals, the development of technologies that could be used for warfare or in issues of human fertility, the making of claims for work that went beyond the evidence, either for publicity or to attract reward, and so on. Readers can no doubt call to mind some recent, famous, extreme cases which damaged public confidence in science: the case of Jan Henrick Schön of Bell Laboratories, who might have become the youngest ever co-director of a Max Planck Institute if the appointment had been made before he was found to have falsified data and before he was fired by his employer in 2002; or the case of Hwang Woo-suk, a professor at Seoul National University, who coerced his female researchers to donate eggs for research and who counterfeited results and data on cloned human embryos. There was widespread discussion whether a code of ethics for scientists was desirable, which could not only serve to regulate scientists' behaviour but would also serve to protect junior staff who were wondering whether to blow the whistle on unethical behaviour by senior colleagues or an employer.

3. Adoption of a Code of Ethics

In the light of cases like those of Schön and Woo-suk, the issue of a code of ethics that could apply to all scientists was discussed in 2005 at a meeting of science ministers and advisers from G8 countries. As a result of this, in Britain, the Royal Society provided the forum for the Government's Chief

Scientific Adviser, Sir David King, to lead an international working party to draw up a Universal Code of Ethics for Scientists. In 2005, King circulated a draft version of his code to learned societies in Britain, including the RAS, saying that its purpose was to raise awareness among scientists and the public of the ethical and professional responsibilities of scientists; it was hoped that individual scientists and scientific institutions would adopt it voluntarily. When the final version became available in the summer, the Council of the RAS agreed that the principles enshrined in the Code deserved support and agreed to adopt it as the Code to which all its members should adhere. It would be made public on the RAS web site and included in material sent to newly elected members, and members who renewed their membership each year.

David King's Universal Ethical Code for Scientists is very short. Earlier codes of ethics for scientists had been rather too long for an individual scientist to keep in the back of his or her mind, the record being a code produced for the Royal Society of New Zealand which stood at 250 pages. King noted with some self-congratulation that his code of ethics has three fewer points than the Ten Commandments. It reads as follows:

Rigour, respect and responsibility: a universal ethical code for scientists

Rigour, honesty and integrity

* Act with skill and care in all scientific work. Maintain up to date skills and assist their development in others.

* Take steps to prevent corrupt practices and professional misconduct. Declare conflicts of interest.

* Be alert to the ways in which research derives from and affects the work of other people, and respect the rights and reputations of others.

Respect for life, the law and the public good

* Ensure that your work is lawful and justified.

* Minimise and justify any adverse effect your work may have on people, animals and the natural environment.

Responsible communication: listening and informing

* Seek to discuss the issues that science raises for society. Listen to the aspirations and concerns of others.

* Do not knowingly mislead, or allow others to be misled, about scientific matters. Present and review scientific evidence, theory or interpretation honestly and accurately.

The Royal Society of London has also been active in addressing issues that arise from on the dual use of science, for good or for bad. The issues are discussed in a document, *Royal Society activities on reducing the risk of the misuse of scientific research* (RS policy document 17/08¹); the majority of issues addressed are biological, without much applicability to astronomy.

4. Adoption of an Editorial Code of Practice

At the same time as adopting this general Code of Ethics, the RAS adopted an Editorial Code of Practice. Although the Society's publications, principally in astronomy the *Monthly Notices of the Royal Astronomical Society*, are the main activity of the Society, as judged by any quantitative measure, the Society's Byelaws are almost silent on their conduct, doing little more than to designate the Council as the body that appoints editors; nor do the Byelaws deal with the matter of any disputes arising from the editorial process.

Some of the disputes about the Society's publications that have happened have been about issues of what ought to be done, rather than whether what was done was done well. The specific spur for compiling the Code was a dispute with an author about (damaging, verging on defamatory) comments on a paper submitted to *MNRAS*, which the author had pre-posted on Astro-ph. The comments were sent unsolicited to an *MNRAS* editor by a third party, based on his reading of the preprint. How should the editor deal with this view, which was outside the formal peer review process? In this case the editor chose to pass the comments to the author – one imagines that the editor was taking an open, 'scientific' point of view, that this was a comment that had been made by a member of the community and the author should know it and take it into consideration to the appropriate extent. But the third party critic had made a condition on his communication that his identity should be kept confidential. The author took offence at some of the comments (for which, having read the comments, I cannot criticise him), and accused the Editorial Board of acting unfairly by exposing him to a critic whose motives might be unworthy and of protecting him by the cloak of anonymity, even though the communication was outside the formal relationship between the Society and its Editorial Board and a referee, in which anonymity was an accepted contractual agreement, and within normal, professional, academic practice.

This issue was brought out from the confines of the editorial process into the administration of the Society. Not only did the Society find that its editorial procedures were silent on this specific issue, it also realised in tracking down its paperwork that its procedures were defined in an incoherent set

¹<http://royalsociety.org/WorkArea/DownloadAsset.aspx?id=5487>

of statements and documents originating from various sources, which had not been drawn together, and which had not been formally admitted to the documents that govern the Society, *i.e.* they had not been formally agreed by the Council. The procedures primarily lived operationally in an instinctive unwritten code that was being followed by the editorial boards and maintained by the continuity of the Editors in Chief. This code was, it was true, well-founded in editorial standards that were commonly upheld by the academic community. But, in principle, it was as unsatisfactory for the Society to be relying on an unwritten code about its editorial practices held by modern academics as it was to rely on an unwritten code of ethics for members originating from nineteenth century gentlemen, even if most of us probably felt more alignment with the former than the latter.

Since the editorial boards are being constantly refreshed, with members leaving and new members joining, the Editorial Code of Practice that was drawn up in the wake of this incident had the benefit that it instructed newly-appointed editors on procedures as well as defined them for authors. The Editorial Code of Practice could not be kept as short as the Code of Ethics; nor did it prove possible simply to adopt an existing document. The Society drew up the Editorial Code of Practice by synthesising and adapting material from the following sources: Committee on Publications Ethics, *Guidelines on Good Publication Practice*; British Psychological Society, *Principles of Publishing*; American Geophysical Union, *Guidelines to Publication of Geophysical Research*; and American Chemical Society, *Ethical Guidelines to Publication of Chemical Research*. The Editorial Code of Practice addressed the specific issue that had caused the problem (see Sections A4-5, C6, below) and defined a procedure for the adjudication of disputes (Section B10), which was what had happened in that case. The Editorial Code of Practice is reproduced at the end of this paper.

5. The future

I have not been able to identify any other European astronomical organisation that has a written Code of Ethics as has been adopted by the RAS, although the other European journal of *Astronomy & Astrophysics* has published a stand on ethical issues; see Claude Bertout's article in this volume. Astronomy is not a science in which ethical issues loom large – at least compared to biomedicine, with a subject matter that touches difficult areas of human life and morality, the sciences with applicability to warfare, and/or some other sciences where the financial stakes are high and temptation correspondingly strong. Nor is a Code of Ethics an issue in which an astronomical society would seek to take a proactive interest. It would be generally the academy of sciences or the national scientific society in whose

area of competence such an issue would lie. Indeed, that was the source of the Code of Ethics adopted by the RAS. But, as I have set out, there are disputes possible in any organisation of members, and a code of ethics forms a benchmark by reference to which it is more possible to resolve them.

However, in the few years in which the RAS has had these ethical codes, they have not been much tested in the heat of battle. Critics in the wider community of the Universal Code of Ethics have suggested that it might fail under the strain of an acute test, since it is not specific enough. The Editorial Code of Practice has certainly been used as a training tool for newly-appointed editors. The RAS will have to see whether either Code proves its worth in future.

Appendix: RAS Editorial Code of Practice

The Royal Astronomical Society serves the astronomical and geophysical communities in several ways, among them through publishing journals which present the results of scientific research. The editor of a RAS journal has the responsibility to maintain the Society's guidelines for reviewing and accepting papers submitted to that journal. Issues of duplicate publication (1) and plagiarism (2) in scientific journal papers can cause considerable conflict among members of research teams and embarrassment for both authors and editors. Accordingly, the RAS has produced the following set of guidelines for authors, referees and editors. (In what follows the terms 'referee' and 'reviewer' are inter-changeable).

GUIDELINES

A. Obligations of Editors of Scientific Journals

1. While ensuring that manuscripts are processed promptly, the aim of an editor is to ensure that the published work will be as accurate, comprehensive, and scientifically valuable as possible. The editors of the RAS journals will give unbiased consideration to all manuscripts offered for publication, judging each on its merits.
2. The Editor has complete responsibility and authority to accept a submitted paper for publication or to reject it. The Editor may confer with other editors and may consult with referees for an evaluation to use in making this decision.
3. The Editor and other editorial staff will not disclose any information about a manuscript under consideration to anyone other than reviewers and potential reviewers.
4. Where an author has chosen to post a paper submitted to a RAS journal to a publicly accessible web site or to present material from the paper in a

public forum (*e.g.* at a conference) s/he may receive comments from third parties which they wish to reflect in the submitted manuscript. The Editor will decide whether to allow such changes to be made or require the paper to be withdrawn and re-submitted.

5. Where in the circumstances outlined in paragraph 4 comments are directed to the Managing Editor or Editor they will decide either to act on them and if appropriate share them with the relevant referee(s), or request the third party to contact the author(s) directly. Circumstances where the former course of action is more appropriate include comments from bona fide scholars which make serious charges of professional misdemeanour by the author(s). In investigating these charges the Managing Editor or Editor will decide whether to involve the author(s). Except where anonymity is essential to protect a complainant from unfair repercussions their identity and the nature of their charge will be divulged to the parties involved in the investigation.

6. Editorial responsibility and authority for any manuscript authored by an Editor and submitted to the Editors journal will be delegated to some other qualified Editor.

7. Editors should avoid situations of real or perceived conflicts of interest. Such conflicts may include, but are not limited to, handling papers from present and former students, from colleagues with whom the editor has recently collaborated, and from those in the same research group.

8. Where, subsequent to publication, errors are identified in a paper, the Editor will facilitate publication of an erratum.

B. Obligations of Authors

1. An author's central obligation is to present a concise, accurate account of the research performed as well as an objective discussion of its significance.

2. A paper should contain sufficient detailed information and references to public sources of information to a) permit the author's peers to evaluate it comprehensively and b) enable the reader to reconstruct how the results were obtained

3. An author, where appropriate following a literature search, should cite those publications that have been influential in determining the nature of the reported work and that will guide the reader quickly to the earlier work that is essential for understanding the present investigation.

4. Information obtained in the course of confidential services, such as refereeing manuscripts or grant applications, cannot be used without permission of the author of the work being used.

5. Fragmentation of research papers should be avoided. Authors who fragment their work into a series of papers must be able to justify doing so on the grounds that it enhances scientific communication.

6. It is unethical for an author to publish manuscripts describing essentially the same research in more than one journal of primary publication. Submitting the same manuscript to more than one journal concurrently is unethical and unacceptable.

7. An author may make changes to a paper after receiving referee's comments but should make no changes to a paper after it has been accepted. If there is a compelling reason to make changes, the author is obligated to inform the editor directly of the nature of the desired change. Only the editor has the final authority to approve any such requested changes.

8. A criticism of a published paper may be justified; however, in no case is personal criticism considered acceptable.

9. Only persons who have significantly contributed to the research should be listed as authors.

10. Any author who believes that this Code of Practice has been breached may register a complaint, in writing, through the Managing Editor of the RAS journal concerned. If the complaint is not resolved satisfactorily it will be passed to the Executive Secretary of the Society together with all relevant correspondence. Complaints about the substance (rather than the process) of editorial decisions, or criticisms about editorial content will not be entertained. The Executive Secretary will investigate the complaint and either will dismiss it or conclude that a breach of this Code has taken place. In the latter case appropriate redress, for example, an apology to the author or a change to editorial reviewing procedures, will be recommended to the Managing Editor.

C. Obligations of Referees of Manuscripts

1. Any referee who feels inadequately qualified or lacks the time to judge the research reported in a manuscript should inform the editorial staff.

2. A referee should judge objectively the quality of the manuscript and respect the intellectual independence of the authors. In no case is personal criticism appropriate.

3. A referee should be sensitive even to the appearance of a conflict of interest when the manuscript under review is closely related to the reviewer's work in progress or published. If in doubt, s/he should return the manuscript promptly without review, advising the editor of the conflict of interest or bias.

4. A reviewer should not evaluate a manuscript authored or co-authored by a person with whom the reviewer has a personal or professional connection if the relationship would bias judgment of the manuscript.

5. A referee should treat a manuscript sent for review as a confidential document. It should neither be shown to nor discussed with others except, in special cases, to persons from whom specific advice may be sought; in that

event, the identities of those consulted should be disclosed to the editor, and the identities of the authors should not be disclosed to those consulted.

6. If the author(s) post a pre-publication version of the submitted paper to a publicly accessible web site or present material from the paper in a public forum (such as a seminar or conference) and comments arise they may be taken into account by the reviewer as described in paragraphs A4 and A5 above.

7. Referees should explain and support their judgments adequately so that editors and authors may understand the basis of their comments. Any statement that an observation, derivation, or argument has been previously reported should be accompanied by the relevant citation.

8. A referee should be alert to failure of authors to cite relevant work by other scientists. A referee should call to the editor's attention any substantial similarity between the manuscript under consideration and any published paper or any manuscript submitted concurrently to another journal.

9. Referees should not use or disclose unpublished information, arguments, or interpretations contained in a manuscript under consideration, except with the consent of the author.

10. The identity of the referee will not be disclosed to the author(s) unless s/he chooses so to do.

Notes

(1) Duplicate publication occurs when authors pass off, as original, research that has been published either substantially or in its entirety elsewhere. Duplicate papers have shared hypotheses, data, discussion points, or conclusions, but do not cross-reference the prior publication. Not only does duplicate publication constitute a possible copyright violation, it also deceives the scientific community as the extent of knowledge in a given field. While ultimately the decision to publish lies with the journal editor, the burden of responsibility for preventing duplication falls to the author(s). Authors should not submit identical or substantially similar work if it has already been published in another outlet. Examples of alternative outlets include book chapters and published conference proceedings of whole papers (as opposed to abstracts. The prior publication of any similar work (*e.g.* other papers based on the same data and methods, or using the same sample) should be clearly referenced in the manuscript. Authors should also inform the editor of any such work already existing, or about to be published. The editor must then decide whether the manuscript includes enough new information to warrant publication.

Authors should avoid 'cutting and pasting' (*i.e.* copying verbatim) substantial chunks of text from their own previously published work. Moderate du-

plication, involving no more than a few paragraphs throughout the paper, is acceptable provided that reference is made to the publication in which the material first appeared.

(2) Plagiarism is defined as taking another person's ideas or writings and using them as if they were one's own. Plagiarism applies to both published and unpublished ideas, and electronic (*e.g.* internet publications, e-mail) as well as print versions of material. When another's written words are lifted directly from a text, whether published or unpublished, quotation marks should be used and the source of the quotation cited. If paraphrasing is used (summarizing or slightly altering the original exposition of a written idea), the source of the paraphrase must be credited. All sources of ideas that were not conceived by the author(s) should be acknowledged in the paper. This includes ideas received in the form of personal communications and comments from reviewers, colleagues, or peers.