

RULES FOR ENSURING GOOD SCIENTIFIC PRACTICE

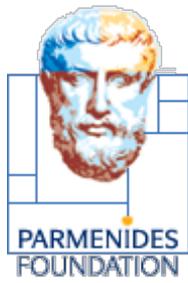
Preliminary note

*Scientific integrity and observation of the principles of good scientific practice are indispensable requirements of all scientific work that seeks to gain insight and is to be respected by the public. Violations of the principles of good scientific practice are possible in many different ways, from a lack of diligence in the application of scientific methods or the documentation of data to severe academic misconduct through deliberate forgery and fraud. In any case, such violations are incompatible with the nature of science itself as a methodical and systematic research process directed toward a verifiable gain of insight. Furthermore, they destroy public confidence in the reliability of scientific results as well as the confidence of scientists * among themselves, which represents an important prerequisite of scientific work in mutual cooperation that determines the science today.*

Even if dishonesty in science can not be completely prevented by regulations, appropriate provisions can ensure that all stakeholders involved in the research are regularly made aware of the norms of good scientific practice. Thereby, a major contribution is made to limit scientific misconduct.

The principles of good scientific practice listed here are based on the Max Planck Society implementation of the relevant recommendations by the German Research Foundation of January 1998, in its version of 24 November 2000, and adapt them to the research conditions of Parmenides Foundation. They are binding for all engaged in the research work of Parmenides Foundation. For further information on the problem, express reference is made by a working group of the scientific council of the Max Planck Society to the representation "Responsible Conduct in the Science", which was noted with approval by the senate of the Max Planck Society in the meeting on 24 November 2000. This text analyzes in detail the conditions and specific dangers to good and responsible practice of science. It also represents an invitation to participate in the further development of relevant recommendations. _____

** Designations such as researcher, writer, contact person and the like are to be understood as action designators in this text, which always include both sexes.*



1. General principles of scientific work

The following regulations must be observed as the general principles of scientific work in Parmenides Foundation:

a) rules for the scientific practice of everyday life

- exact observance of discipline-specific rules to obtain and select data,
- reliable protection and storage of primary data; clear and comprehensible documentation of all important results,
- The rule of systematic skepticism: openness towards doubt, even on own results or the results of one's own group,
- making aware of tacit axiomatic assumptions; control of selfish or morally motivated wishful thinking; systematic attention to possible misinterpretations due to the methodologically limited understandability of the research object (over-generalization).

b) rules of collegiality and cooperation

- no obstruction of the scientific work of competitors, for example by delaying reviews or by passing on scientific results that have been obtained in confidence,
- enhancement of scientific qualification of young researchers,
- openness to criticism and doubt by colleagues and staff,
- careful, unselfish and unbiased assessment of colleagues; refusal to review work in the case of a conflict of interests.

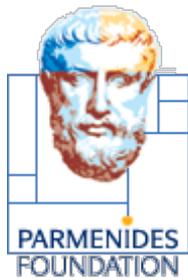
c) rules on the publication of results

- principal publication of the results achieved with public funds (principle of public access to the basic research),
- also publication of falsified hypotheses in an appropriate manner and admission of errors (principle of fallacy open scientific culture),
- strict honesty in the recognition and proper regard of the contributions of predecessors, competitors and associates (principle of recognition).

2. Cooperation and management responsibilities in work groups

The management of Parmenides Center for the Study of Thinking is responsible for an appropriate organization that ensures that the responsibilities of management, supervision, conflict management and quality assurance are clearly assigned, depending on the size of the individual scientific work units and that they actually can be exercised.

The cooperation in scientific work groups shall be such that the results obtained in a specialized division of labor can be mutually communicated, criticized and integrated into a common knowledge regardless of hierarchy-related considerations. This is also of particular importance for the training of young scientists to be independent in the group. In larger groups an organized form for this purpose is advisable, such as regularly held colloquia. The mutual review of work products is to be assured, even by making own results available. The primary test of a scientific result is its reproducibility. The more surprising, but also the more welcome a finding is held to be - so far as is reasonably practicable - the more important is independent replication within the group, prior to communicating it to others outside the group.



Management functions in work groups can only be responsibly assumed with knowledge of all relevant circumstances; managing a work group demands expertise, presence and overview. Where this is no longer adequately the case, because of the given size of the group or for other reasons, management functions must be delegated so that the respective scope of management remains manageable.

3. Supervision of young scientists

The training and enhancement of young scientists and their guidance to observe the principles of good scientific practice requires particular attention. In this context explicit reference is made here to the particular importance of good cooperation with the universities.

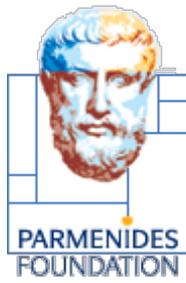
In the departments or work groups at the institutes and research facilities of Parmenides Foundation care has to be taken to ensure adequate supervision for young scientists, particularly for undergraduates and doctoral students as well as younger post-doctorands and junior academics to ensure that a primary contact person exists. For the supervision of doctoral students it is advisable to provide another experienced scientist in addition to the primary contact person. An appropriate participation of the university, where the doctorate is received, must be ensured (doctoral supervision group/thesis committee).

4. Protection and storing of primary data

Primary data as the basis for publications must be kept for at least ten years, if possible, on durable and secure data media in the institutes and research facilities, where they originated. Access to the data by authorized interested parties must be ensured.

Scientific investigations, experiments and numerical calculations can only be reproduced or reconstructed if all the important steps are reproducible. Therefore, a sufficiently complete recording and the storing of protocols for at least ten years are mandatory, to also have recourse to the records, if published results are doubted by others.

The details and responsibilities - especially the provisos for proper recording and the access rules for the use of data - must be established as rules in writing by the management of the institution.



5. Scientific Publications

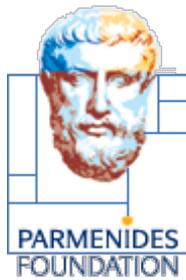
Publications are the most important medium for the communication of research results to the scientific and general public. Thereby authors publish results for the scientific reliability for which they assume responsibility. Publications, which are meant to report new scientific results, therefore must describe the results and the applied methods fully and comprehensibly and represent one's own and others' preliminary work completely and correctly; previously published results should only be repeated as appears necessary for the understanding of the relationship. Findings which support or question the presented results should be equally communicated.

If several authors are involved in a research work or the publication based on it, a co-author can only be named, if he himself contributed significantly to the conception of the study or experiment, development, analysis and interpretation of data and the drafting of the manuscript and has agreed to its publication. The authors are always jointly responsible for their content, a so-called "honorary authorship" is not allowed. Third party assistance is to be recognized under acknowledgments.

6. Appointment of an ombudsman

In every institution or research institution of Parmenides Foundation a neutral qualified ombudsman of personal integrity must be elected by scientific staff for consultation in cases of conflicting matters of good scientific practice. The ombudsman in particular has the task to be available as confidential advisor in case of suspected violations of the principles of good scientific practice.

Further details on the election and function of the ombudsman are regulated separately by guidelines in the Appendix. The rules governing the initiation of an investigation of suspected scientific misconduct remain unaffected.



Procedural rules upon suspicion of scientific misconduct

I. Scientific misconduct

Within a context of scientific importance, a deliberate or grossly negligent falsification or fabrication, infringement of intellectual property rights or impairment of another person's research work in any way constitute scientific misconduct.

Misconduct in particular includes:

< Inaccurate information >

1. the fabrication of data;
2. the falsification of data, e.g.
 - a) by selecting and rejecting undesirable results without revealing this,
 - b) by manipulation of a representation or picture;
3. inaccurate information in an application or a grant application (inaccurate information relating to forms of publication or to forthcoming publications);

< Infringement of intellectual property >

4. relating to any pieces of work protected by copyright, substantial scientific findings, hypotheses, teachings or approaches to research established or made by someone else
 - a) unauthorized use under presumption of authorship (plagiarism),
 - b) the exploitation of research methods and of ideas of other persons, especially as an assessor (theft of ideas),
 - c) the presumption or unfounded acceptance of scientific authorship or co-authorship,
 - d) the falsification of the contents or
 - e) the unauthorized publication or providing unauthorized information access to third persons before the work, the results, the hypothesis, the contents of the teaching or the scientific approach has been published;
5. the use of (co-)authorship of another person without his/her permission;

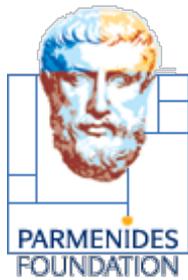
< Impairment of the research activities of others >

6. sabotage of research activity (including damage, destruction or manipulation of experimental arrangements, equipment, documents, hardware, software, chemicals, or other things that are required by others to conduct an experiment).

< Joint responsibility >

7. A joint responsibility may result from, among other things:
 - a) active participation in the misconduct of others;
 - b) knowledge of falsification by others;
 - c) co-authorship of falsified publications;
 - d) gross neglect of duty of supervision.

Final decision depends on the circumstances of each individual case.



II. Entities for the realization of the assessment of scientific misconduct and procedural rules.

The rules for safeguarding good scientific practice adopted by the board of trustees of Parmenides Foundation on 15.12.2006 provide for the nomination of an ombudsman.

In every institution or research institution of Parmenides Foundation the scientific staff must elect a neutral, qualified ombudsman of personal integrity for consultation in cases of conflicting matters of good scientific practice. The ombudsman, in particular, has the task to be available as confidential advisor in case of suspected violations of the principles of good scientific practice.

1. Functions and status of the ombudsman

Whoever is confronted with concrete circumstances that could constitute a violation of the rules of good scientific practice or that could substantiate a suspicion of scientific misconduct, shall receive an effective means to speak out about it without having to fear repercussion to one's own person. Therefore, the ombudsman as a trusted person is directly available for advice in all matters of good scientific practice and on suspicion of scientific misconduct. With the establishment of the ombudsman also the potential conflict situation of young scientists, which can arise from the contradiction between loyalty to a superior or a work group and the commitment to scientifically correct behavior, shall be solved.

Through the establishment of an ombudsman, an independent contact and advice center shall be created also for informants. The ombudsman is obliged to maintain confidentiality. The ombudsman is in the performance of his task independent of the Foundation Board and of possible superiors and colleagues. He can encourage a conversation with the Foundation Board, however, he is not obliged to disclose the received information to the management of the institute and has no power to confront the suspect with it.

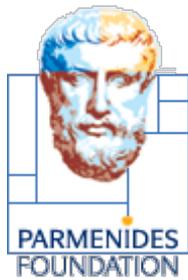
2. Electoral procedure and term of office of ombudsman

All members of the faculty of Parmenides Foundation are eligible. The board of trustees of Parmenides Foundation makes the election. As a general rule the Ombudsman is elected for a term of three years; re-election is possible. The election for a new term of office shall be conducted in sufficient time before the expiry of the current term. As long as no new election is made, the present ombudsman remains in office.

3. Procedure

3.1 Pre-examination

3.1.1) In case of serious and specific suspicion of scientific misconduct, the ombudsman, a member of the management of the Foundation or a member of the board of trustees is immediately informed. The information needs to be in written form; in case of oral information, a written notation on the suspicion and the respective pieces of evidence has to be made.



3.1.2) The accusations concerning scientific misconduct are referred to the executive director of the Foundation for further investigation of the case, and are treated with highest confidentiality to protect the informant and the persons affected.

3.1.3) The person affected by suspicion of scientific misconduct is immediately given the opportunity to make representations by the executive director of the Foundation by denomination of the incriminating evidence. As a general rule, the person affected is allowed to make representations within a period of two weeks. The name of the informant is not revealed within this period of time without the permission of the person affected.

3.1.4) Upon receipt of the statement made by the person affected or after the expiration of the deadline, the executive director of the Foundation will take the decision within two weeks if the pre-examination needs to be concluded – under communication of the causes to the affected person and the informant – because the suspicion is confirmed insufficiently or a perceived misconduct is completely clarified, or if a formal procedure of examination has to follow. In case the informant does not agree with the procedure of examination, he/she is entitled to make representations within two weeks in front of the executive director of the Foundation where the decisions are examined once again.

3.2 Formal examination

3.2.1) The executive director of the Foundation can ask for expert opinion concerning the scientific facts and circumstances to be judged at own discretion, as well as ask experts handling such facts for further advice. Among others, conciliation advisors can be consulted.

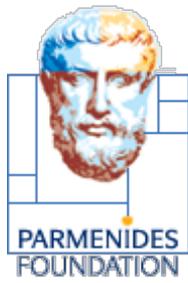
3.2.2) The executive director of the Foundation takes counsel in non-public and oral proceedings and takes impartial consideration of evidence if scientific misconduct exists. The scientist accused of scientific misconduct is given an appropriate opportunity to make representations. At own request the accused person is heard orally; for this a confidential person of the accused scientist may be brought in to give assistance. This holds true also for other persons to be heard.

3.2.3) Revealing the name of the informant can be required if the person affected is not able to defend him-/herself otherwise because -for instance- the reliability and moving causes of the informant concerning the accuse of possible misconduct must be verified.

3.2.4) The proceedings are stopped if the executive director of the Foundation considers a misconduct to be not verified. If the executive director of the Foundation considers a misconduct to be verified, the result of the examination is submitted to the board of trustees, as well as a proposal for further decision and action, also with regard to the full reserve of the rights of others. Otherwise the proceedings are stopped.

3.2.5) The essential causes that lead to a stop of the proceedings or to an onward transmission to the board of trustees must be immediately communicated in written form to the person accused and the informant.

3.2.6) An internal complaint procedure against the decision of the executive director of the Foundation does not take place.



3.2.7) At the end of a formal procedure of examination the ombudsman approaches all persons involved in the case. The ombudsman gives advice concerning the protection of the personal and scientific integrity to those people, most of all to employees, being innocently involved in the proceedings of scientific misconduct.

III. Possible sanctions or consequences of scientific misconduct

The following list of possible sanctions or consequences of scientific misconduct is - without any claim to completeness - to be understood as initial guidance. As each case may be somewhat different, and since the severity of the established scientific misconduct also plays a role, there is no uniform policy of adequate responses; these are leveled according to the different circumstances of each case.

1. Consequences under labor law

1.1 Employed staff members

If the person involved in a case of scientific misconduct is an employee of Parmenides Foundation, the consequences under labor law should always be examined as a priority.

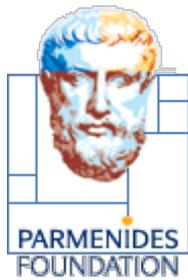
1.1.1 Warning

The warning - to be made in writing and to be recorded in the personal file - is a preliminary step to the termination, thus is only considered in cases of minor scientific misconduct that will not yet result in a termination.

1.1.2 Extraordinary termination

An extraordinary termination presupposes that, based on the circumstances of the individual case and upon weighing the interests of both contracting parties, the continuation of the employment relationship can no longer be reasonably expected. In the cases of serious scientific misconduct, as a rule this may well be the case in regards the employment relationship between a research institute and an employed research staff. The notice of termination must be given within a grace period of two weeks, whereby the period begins on the date on which the party entitled to terminate the contract obtained knowledge of facts that are relevant for the termination. In doing so, termination is not to occur on mere suspicion of scientific misconduct but at the moment when the scientific misconduct has been determined (Clause II.2 Letter c of the procedural rules) and brought to the attention of the Foundation's Board. An extraordinary termination for any other important reason remains unaffected. The preparation of an extraordinary termination requires generally a special labor law related one-to-one consultation. Especially in a case of urgent suspicion, making use of such a consultation is indicated to examine whether the so called dismissal on grounds of suspicion must be considered; this approach prevents the labor law related risk whereby a court will consider the moment of the urgent suspicion as the starting point of two weeks of grace period.

1.1.3 Ordinary termination



For the cases being discussed herein, it is expected that an ordinary termination bound by the usual labor law notice of termination will be considered less frequently since upon evidence of relevant scientific misconduct, routinely the extraordinary termination is to be resorted to, or a dissolution of contract may be preferred.

1.1.4 Dissolution of contract

In addition to termination of employment relationship by ordinary or extraordinary termination, the possibility should be considered - considering the two-week grace period for the extraordinary termination - to terminate the employment relationship by a mutual dissolution of the contract.

1.2 Associate staff members

Within the meaning of this instruction, those forces of scientists are to be understood as associate staff members who are associated with Parmenides Foundation by way of cooperation or membership.

1.2.1 Warning

In a less serious case of scientific misconduct, a written statement of Parmenides Foundation is made, which admonishes the observance of good scientific practice in the sense of this instruction.

1.2.2 Termination of cooperation/exclusion from the Parmenides Faculty

In the case of scientific misconduct, exclusion of the respective member from the Parmenides Faculty ensues or termination of individually made agreements of cooperation.

IV. Academic consequences

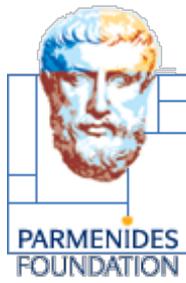
Academic consequences in the form of withdrawal of academic degrees cannot be done by Parmenides Foundation itself, but only by the bodies which have awarded these grades, usually by the universities. They must be informed about serious scientific misconduct when these have been in connection with the acquisition of an academic qualification. In particular, these include:

1. Withdrawal of a doctoral degree or
2. Withdrawal of the teaching certificate.

V. Consequences under civil law

Following civil consequences can be considered:

1. Imposing a house ban;
2. Surrender claims to the offender, as to surrender of stolen scientific material or the like;
3. Claims for injunctive relief and removal from copyright, right to privacy, patent law and competition law;
4. Claims for restitution, for example of scholarships, third-party funding or the like;
5. Claims for damages by Parmenides Foundation or by third parties for personal injury, property



damage, or the like.

VI. Consequences under criminal law

Consequences under criminal law are always considered on suspicion that the scientific misconduct at the same time constitutes a criminal offense under the Penal Code (StGB) or other criminal norms or regulatory offenses. Involving the investigating authorities basically must be agreed upon with the general administration.

Potential offenses include:

1. Violation of personal sphere of life/secretary
 - § 202a of the Penal Code (StGB): Data espionage
 - § 204 of the Penal Code (StGB): Exploitation of other person's secrets
2. Offenses against life and bodily injury
 - § 222 of the Penal Code (StGB): Negligent homicide
 - §§ 223, 230 of the Penal Code (StGB): Intentional or negligent bodily injury
3. Offenses against property
 - § 242 of the Penal Code (StGB): Theft
 - § 246 of the Penal Code (StGB): Embezzlement
 - § 263 of the Penal Code (StGB): Fraud
 - § 264 of the Penal Code (StGB): Subsidy fraud
 - § 266 of the Penal Code (StGB): Breach of trust
4. Falsification of documents
 - § 267 of the Penal Code (StGB): Falsification of documents
 - § 268 of the Penal Code (StGB): Falsification of technical records
5. Property damage
 - § 303 of the Penal Code (StGB): Property damage
 - § 303a of the Penal Code (StGB): Data manipulation
6. Copyright infringement
 - § 106 of the copyright law: Unauthorized exploitation of copyrighted works.

VI. Revocation of scientific publications/information to the general public/press

Scientific publications that are incorrect by virtue of proven scientific misconduct shall be withdrawn as far as they are unpublished and to be rectified as far as they are already published (revocation); collaboration partners are to be - as needed - informed in suitable form. Generally, the author(s) and involved publisher are bound by this; if they do not become active, Parmenides Foundation introduces its available appropriate actions.

In cases of serious scientific misconduct, Parmenides Foundation informs other concerned research institutions or science organizations. In justified cases, informing of professional associations may also be appropriate. Parmenides Foundation may be obliged to inform interested parties and the public in order to protect third parties, to maintain confidence in the scientific integrity, to restore its scientific reputation, to prevent subsequent damage as well as in the interest of the general public.