Ethics of Computing Committees: Suggestions for Functions, Form, and Structure

To Promote Discussion Inside the IFIP National Societies, and other Professional Computing Societies

Jacques Berleur, Oliver Burmeister, Penny Duquenoy, Don Gotterbarn, Philippe Goujon, Kari Kaipainen, Kai Kimppa, Benjamin Six, Debora Weber-Wulff, Diane Whitehouse, Eds.

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by clicking on SIG9.2.2 “Ethics_of_Computing_Committees”

Contents

1. **Foreword** (Jacques Berleur)

In the 21st century, with computers being used in more and more international and sensitive contexts, the ethics of computing is becoming an increasingly critical issue.

A third Monograph has been developed and written by the IFIP special interest group (SIG9.2.2), which concentrates, on the ethics of computing. It focuses on setting up and running national and/or professional ethics of computing committees. Very few International Federation for Information Processing (IFIP) national societies or similar professional associations have such a committee. Our SIG 9.2.2 would like to encourage their creation.

Here, we refer to ethics of computing committees as committees that are either sponsored by a national or governmental association or by a professional organisation within a country. We are interested in how these committees support and nurture a professional code, and develop an ethical culture in their association or organisation. We call such committees 'ethics of computing committees'.

With this Monograph, we therefore provide the societies with a number of recommendations that we suggest they consider and that we hope will help them in creating such committees. Obviously, this third Monograph which is entitled *Ethics of Computing Committees: Suggestions for Functions, Form and Structure* is closely linked and is complementary to our second Monograph, *Criteria and Procedures for Developing Codes of Ethics or of Conduct.*

SIG9.2.2 is convinced that the development of codes, their update, and their permanent evaluation can be greatly facilitated. It could best take place if there were, in the various associations, a specific committee with a clear mandate that defines its functions and roles. Of course, the ethical discourse that is facilitated must remain under the primary responsibility of the Board of the association.

Experience shows that such committees are becoming more and more essential due to the complexity of the ethics of computing issues, the worldwide growth of computers, and their local implementation in specific legal and regulatory settings. These ethics of computing committees could become the home of the 'Spaces for discussion' for which SIG9.2.2 has been calling for a decade now.

It is for this reason that, to conclude the Monograph, we also reflect on the various differences that can exist among such 'ethics of computing committees' and their particular relevance for information and communication technologies (ICT).

2. Historical background and Introduction (Jacques Berleur)

Before we begin our exploration of why it is important to have ethics committees, and how they might be started and run, we cover the historical background that underpins all current activities on the ethics of computing that takes place in the International Federation for Information Processing (IFIP).

2.1. Historical background

More than ten years ago, in 1996, the results of the analysis of the Codes of Conduct/Ethics of the IFIP national Societies were published with recommendations that could help computer Societies in updating their codes or writing a first code.

The mandate of the IFIP General Assembly that created that Task Group in 1992 was to explore the feasibility of an IFIP worldwide Code. The Task Group analysed the reasons why this would be an impossible task. This analysis included: the differences in the cultural, legal and social backgrounds between countries; differences in the status of ethics in the Societies; and a confusion that exists in the meanings between ethics and professional conduct (or deontology). The Task Group proposed enhancing the national Societies' capacities to create "Spaces for discussion" at the national or regional levels where it suggested that these diversities should be taken into account.

An *Ethics of Computing* book was the first attempt to confront, on a worldwide basis, the way computer associations face up to their own responsibilities in an age that is increasingly dominated by ICT.[1] This was the first book to deal with "supposed homogenous" codes, namely the codes of the IFIP national computer Societies. *Ethics of Computing* was not an end in itself, but was the starting initiative to stimulate an ethical discussion within the IFIP Societies and similar associations.

The IFIP 1994 General Assembly transformed the Task Group into a Special Interest Group, SIG9.2.2, called 'IFIP Framework for Ethics of Computing' or, more briefly, 'ethics of computing.' The mandate of the SIG9.2.2 was spelled out in the following terms:

> "IFIP Technical Assembly (TA) appreciates the efforts which its Task Group on Codes of Ethics has achieved.[2] In endorsing the Task Group's proposal and recommendations, TA explicitly agrees with the proposal that the implementation of an ongoing discussion process both in IFIP Member Societies and in the international discourse is essential to understand and further develop the 'IFIP Framework on Ethics' in more detail which is also a prerequisite to adapt it to new developments. Therefore, TA agrees that publication of the material, analysis and recommendations is essential to start these processes.
>
> TA welcomes and accepts TC9's suggestion to continue the Task Group under its umbrella. In dissolving the TA Task Group, TA asks the new TC9 Special Interest Group (SIG9.2.2 'IFIP Framework on Ethics') to develop a set of case studies that may enlighten essential problems and issues related to ethics. Moreover, SIG9.2.2 will inform TA (within TC9 reports) about essential achievements and progress in the international discussion, and to discuss and suggest solutions for emerging problems."

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[1] *Ethics of Computing. Codes, Spaces for Discussion and Law*, Jacques Berleur and Klaus Brunnstein, editors, Chapman and Hall, 1996. This book can be ordered at Springer Science and Business Media, but is currently out of stock: http://www.springer.com/east/home?SGWID=5-102-22-33219333-0&changeHeader=true

[2] General Assembly (Hamburg, September 6th, 1994) endorsed this Technical Assembly resolution.

Since the publication of the 1996 *Ethics of Computing* book, SIG9.2.2 has published two further Monographs, which extended and deepened some of the group's initial recommendations. In our view, these Monographs were intended to help the national and/or professional Societies to deepen their own reflections and to implement their results in action.

Monograph 1, *Ethics and the Governance of the Internet*, was an attempt to specify ethical questions related to the Internet.[3] It clarified issues related to the protection of the individual, as a citizen as well as a consumer, in organisations and in society. It suggested a number of topics "with a more ethical content".

Monograph 2, *Criteria and Procedures for Developing Codes of Ethics or of Conduct*, enlarged the issues that were first mentioned in 1996, and suggested a process to develop a code and procedures for evaluating it.[4]

In its different analyses, SIG9.2.2 uncovered experiences that showed the need to explore further how to set up ethics of computing committees which mediate ethical issues:

1. In the *Ethics of Computing* book (p. 34) of the IFIP Ethics Task Group, the 'Environments' Codes' were analysed, thereby clarifying questions of disciplinary procedures, sanction levels, updating of the codes, status of the Society, and membership structures.
2. Members suggested emphasising the responsibility of initiating and developing an interdisciplinary discourse, the functions of "intermediation" in a situation of conflict, and developing an open discourse by the national Societies towards the public.
3. Some of the Internet Service Providers Associations (ISPA) suggested an 'ISPA Council', an 'administrator', a 'Complaints panel' for a code, complaints procedures and sanctions. Others developed Frequently Asked Questions (FAQ) about SPAM, music online, consumption, and so on.
4. A new Code (Switzerland, §5.2) suggested that the responsibility of a national and/or professional Society is to be in charge of making the public aware of the Society's guidelines, that it should gather regularly the infringements, and publish them accurately so as sensitise appropriately public opinion.

2.2. Structure and Contents of this Monograph

This third Monograph is about ethics of computing committees. Very few IFIP national Societies or similar professional associations have such a committee. We would like to encourage their creation. Therefore, in this Monograph, we provide the Societies with some recommendations that we suggest they consider, and we hope will help them in starting up such ethics of computing committees. This Monograph, which we entitle *Ethics of Computing Committees: Suggestions for Functions, Form and Structure* is closely linked to Monograph 2, *Criteria and Procedures for Developing Codes of Ethics or of Conduct*.

In a third part of this Monograph we outline why an ethics committee is important. In a fourth, more concrete, part of the Monograph, we suggest some functions for the committee.

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[3] *Ethics and the Governance of the Internet.* To Promote Discussion Inside the IFIP National Societies, Jacques Berleur, Penny Duquenoy and Diane Whitehouse, Eds., IFIP Press, Laxenburg-Austria, 1999, 56 p., ISBN 3-901882-03-0. Available at: http://www.info.fundp.ac.be/~jbl/IFIP/Ethics_and_Internet_Governance.pdf

[4] *Criteria and Procedures for Developing Codes of Ethics or of Conduct.* To Promote Discussion Inside the IFIP National Societies, On behalf of IFIP-SIG9.2.2: Jacques Berleur, Penny Duquenoy, Jan Holvast, Matt Jones, Kai Kimppa, Richard Sizer, and Diane Whitehouse, IFIP Press, Laxenburg-Austria, 2004, 16 p., ISBN 3-901882-19-7, Available at: http://www.info.fundp.ac.be/~jbl/IFIP/Criteria_and_procedures.pdf Supporting documentation is available at http://www.info.fundp.ac.be/~jbl/IFIP/References_Criteria_and_procedures.pdf

These are based both on the experience of existing committees and on our own reading and convictions. Remarks on form and structure are also proposed, as well as a reflection on the mandatory (i.e., compulsory) roles of such committees. A presentation of a sample of experiences is collected in section 5 of this Monograph. It shows how the roles and functions of an ethics of computing committee are implemented in specific contexts, and outlines the typical features of ethics of computing committees that are highlighted throughout the Monograph. In section 6 of the Monograph, we discuss the work we have completed and come to a number of conclusions. Implicit in this analysis, we outline the basic differences we conceive between morality and ethics, and we justify our preference for a specific form of ethics of computing committee. Finally, a first preliminary glossary of some of the basic ethical principles may be of help to the reader is located in section 7, which is called Annex.

SIG9.2.2 is convinced of the growing need for ethics of computing committees, whose role is to scope and guide discussion on current and upcoming ethical issues that are posed as a result of the growing complexity of communities and societies in which ICT intervenes.

To research and produce this Monograph, SIG 9.2.2 has used a method of approach which is largely inductive. It has worked outwards from the core competences of its active members and solicited input from experts around the world who are interested in ethics of computing issues. It has developed the ideas inherent in this Monograph at a series of its meetings throughout the past four years.

3. Why have an Ethics of Computing Committee? (Penny Duquenoy)

In setting up a professional body (that is, an organisation consisting of members considered to be professionals in their own field), some notion of what is implied by 'professionalism' – and what it is that distinguishes a member of that profession from someone else – must be understood. One of the key distinctions of professionalism is the standard of service provided by a member of that profession, and the conduct of that member in the execution of their professional tasks. So, we can say that among the core features of a professional society are standards and professional conduct. Both of these have a direct relationship with 'ethics'. Therefore, determining what those standards are, what conduct is to be expected, and what (if anything) should happen if the standards and levels of conduct are not met, usually falls within the scope of an ethics committee.

Setting standards and deciding what conduct is to be expected is merely the start for a professional organisation. Naturally, those people who join the professional organisation (who are its members) should be made aware of the expectations of the particular profession, but so should any other affected parties (e.g. the general public, or other beneficiaries of the professional body). The overall purpose of a professional body is to instil confidence both within the profession and outside the profession. That is, to make it clear that: *this is what we stand for; this is what our membership promises to deliver ... and this organisation and its membership are trustworthy*.

What, then, is the role of an ethics of computing committee? How would this differ from the role of any other ethics committee? One difference is in the subject matter of the computing profession. The use and development of computer technology impacts all areas of modern life. How computer technology is designed, who it is designed for, and why it is designed, are all questions that contain an ethical dimension. For example, a badly designed system could result in a malfunction that has disastrous consequences; a system designed for younger people may not be usable by elderly people or people with disabilities (thus discriminating against large sections of the population); a system designed to enable the sharing of health information across health providers has the potential for positive benefits and, conversely, negative ones if patient data are not correct.

The technology developed by computer professionals has the potential for making life better, or worse. This is why an ethics of computing committee has a role in a profession that is concerned with computing.

The scope of an ethics of computing committee, how it should be organised, and the procedures needed to fulfil its aims are ultimately the decision of the professional body. Issues for potential consideration in forming and running an ethics of computing committee are outlined in Section 4 of this Monograph, and discussed in Section 6.3.

4. Issues for consideration in forming and running an Ethics of Computing Committee (Kai Kimppa and Diane Whitehouse)

Once a computing Society has decided that an ethics of computing committee is needed, decisions need to be made on the following practical subjects: What type of committee should it be? How should it be structured? What are its functions?

This section presents two sets of descriptions: the first relates to the potential form and structure of a Society's ethics of computing committee; the second portrays the possible functions or roles of the committee.[5]

4.1. Issues related to form and structure

When deciding on the composition of the ethics of computing committee, the following six issues should be considered:

First, who is to be represented on the ethics of computing committee? The 'average member' of the association might not necessarily be the most appropriate choice since, at least in the beginning, they might not be knowledgeable or interested enough to participate fully in the work of the committee. On the other hand, a committee which is formed entirely of experts might have a biased view with regard to the ethics concerned and not see the full picture of the field. Thus, it could be appropriate to incorporate a range of at least some lay members and/or specialists from each specific field of the association.

Second, should the membership of an ethics of computing committee be closed or open in composition? For example, should the members of the committee come from the association or should outside members be included? If so, what should their status be? Race, gender, multi-culturalism and disability issues should all be borne in mind when inviting members onto the committee so as to make it representative. When selecting the committee's composition, some consideration should also be given to how to get members onto the committee who represent everybody in the association and whether the interests of others, such as users and consumers of the systems, should also be represented.

Third, what level (if any) of activity is required of the members of the committee? This should be an issue which is given some thought.

Fourth, it should be determined to which body the ethics of computing committee is accountable and on what issues: for example, whether it is necessary that the committee should work under a mandate from the board of the national or professional Society.

Fifth, in the event that considering complaints is a task of the ethics of computing committee, the association will need to decide how the members report grievances.

Sixth, with regard to decision-making procedures, it should be determined whether it is the ethics of computing committee's task to address specific issues or just general policies. If the committee will tackle specific ethical issues, then a decision needs to be made about how it will make decisions on particular ethical questions. In this respect, the methods that the committee uses to make decisions (i.e., whether decisions are made through a vote, discussion, consensus, etc.) should be confirmed. So too should be the range of people (if any) whom the committee consults when making decisions. Typical examples of the types of institutions or persons whom the committee would approach would include, among others,

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[5] Given the importance of ethics of computing, and the need for a wider debate on issues related to it, we propose such a checklist of issues of importance in setting up and forming an ethics of computing committee. This is regardless of the fact that various approaches to the sociology of professions are often critical of a functionalist approach that consists purely of listing the components or characteristics of professions.

ministries, universities, members and member organisations of the computer society, and companies.

Seventh, and finally, how to ensure that feedback is available on the issues raised, and how to give feedback to the institutions affected by the issues, should also be considered.

These seven attributes of an ethics of computing committee are displayed in tabular form in Table 1.

Table 1: Issues to be considered when setting up an ethics of computing committee

Level of issue	Issues to be considered in relation to the operation of an ethics of computing committee
1.	Composition of the committee (degree of specialism).
2.	Composition of the committee (degree of representativeness).
3.	Level of activity required.
4.	Accountability of the committee.
5.	Method for reporting grievances.
6.	Persons or institutions to be involved in the ethical decision-making.
7.	Feedback to be offered.

According to the empirical evidence that the SIG9.2.2 members have uncovered, different computing associations have elected to follow various approaches to the ethics of computing committee's role. The ethics of computing committee can, for example, be seen as a regulatory body, a working group, or a consultative or advisory body.

The particular types of issues that an ethics of computing committee handles should be considered. The committee's position on its treatment of the following topics should at least be considered provisionally:

- Whether and, if so, how the work of the committee is made public,
- Whether specific advice on questions from the members and others is given,
- Whether it is the work of the committee to sensitise the public to questions in the field,
- Whether the committee should do research (through its own work committees, seminars, conferences etc.) and disseminate the results of that research on ethics and social responsibilities to the public at large (through instruments such as journals, professional magazines, newspapers, etc.),
- Whether the committee works as an intermediary, conciliation or conflict resolution body.

Two further issues should be considered:

First, how to ensure the effectiveness of the ethics of computing committee? Such a question includes concerns about how many members a committee may have, whether there is a need to consider the amount of years a member can serve, whether a particular member may have conflicts of interest and, if there are such conflicts, how they are to be handled.

Second, is it the aim of the committee to help members in solving specific ethical dilemmas arising from the field? If the committee offers help with such issues, it is necessary to explore what legal protection is offered to the members of the ethics of computing committee and/or the members who follow the advice that is given (if any).

4.2. Issues with regard to functions

In a professional computing association, when setting up an ethics committee[6], a number of

[6] From here onwards, the simpler term of 'ethics committee' is largely used so as to enable a certain degree of flexibility with regard to the composition and format of the group.

issues need to be resolved with regard to the functions or roles of the committee. These areas of decision-making are first described textually, and a table that outlines the same decisions is presented in Table 2.

The first question to approach is what are the roles and responsibilities of the ethics of computing committee. This decision is affected by the processes within the overall association for changing procedures, membership and so forth. However, the decisions made may well in turn affect the procedures and membership of the ethics of computing committee itself.

It is, second, necessary to consider whether the role of the ethics committee is to promote discussion of the issues of ICT and ethics in society at large, and whether to take a stance on specific topics that are well known in the field of public discussion or in the more general drive towards an ethics of computing field. Thus, the findings of the ethics committee may affect general policies of the computing association. It may also be necessary to consider whether the committee members will be expected to play a role in shaping any relevant legislation either in their own country or Member State or in their geographic region.

A third task of the committee could be whether to act as an advisory body, either with or without possibilities of enforcement. Typically, a committee with such powers would be composed of expert members or experienced members with 'fellow member' status in particular in terms of ethical issues. If this task is taken on, then the potential areas in which the committee could function would be in public opinion-building and in working as a consultative body on ethical matters.

Fourth, an ethics committee's role, in terms of 'education', could include the question of the meaning of norms. Should the committee aim to change the norms, or change the way of functioning in the association so as to meet the norms outlined? If so, how is this information to be made available e.g. through the national association's web site, newspapers, professional magazines, and journals, etc.?

Fifth, whether the committee should aim to gain a position as a body that accredits the curricula of ICT ethics teaching and, if so, at what level of education: academic, professional, or through the Society's own courses, etc. should all be considered.

Sixth, an important area of concern is the scope of the ethics committee or body regarding disciplinary procedures and sanctions. On what basis is the advice/consultancy/sanction (if any) by the committee given? Issues to be considered may involve the degree of enforcement of the decisions and codes of the committee; and whether the committee should have the power of sanction. What is the membership of the constituency and over whom does the committee have this power?

One set of questions may include whether the committee has the power to:

- proceed with a sanctioning procedure at all,
- start a sanctioning procedure,
- make a recommendation,
- have an effect in terms of the sanction (if any) given.

Having made these decisions, the ethics of computing committee needs to consider the following: Who pronounces the sanctions, for example, whether this is the committee itself or the board of the committee or another, perhaps independent, body, when or if necessary. If the latter option is selected, then how to ensure the fairness of the decision, through an appeal's process, for example, is a crucial dilemma. Whether the committee should only take a stance on issues where all sides in the discussion agree to abide by the committee's opinion or at least to listen to it is also important.

Seventh and finally, if one of the functions of the ethics of computing committee is to build a code of ethics, it should be assessed how is the code created, changed and/or updated. Furthermore, well ahead of that time-period, the committee should decide what would be the appropriate reasons to modify the ethics code, and whether the ethics code should be updated

on a regular basis or only when a need is foreseen. What is the procedure to open up new issues for inclusion in the code, or for discussion within the committee? Should these new topics be brought on board in a formal way; are the members expected to follow developments in the ICT and ethics field and to raise new issues themselves; are outside specialists invited to raise issues; or is any combination of the previous and other ways to be considered?

The various tasks or functions of an ethics of computing committee are categorised into particular classifications, and presented in Table 2.

Table 2: Issues to be considered when setting up an ethics of computing committee

Level of issue	Issues to be considered in relation to the tasks or functions of an ethics of computing committee
1.	Deciding on the committee's responsibilities.
2.	Discussing specific issues or general issues.
3.	Acting as an advisory body.
4.	Changing norms.
5.	Accrediting courses or curricula.
6.	Conducting disciplinary procedures or sanctions.
7.	Writing or revising a code of ethics.

This more prescriptive analysis of the opinions available to potential ethics of computing committees prefaces a set of descriptions of what is happening in a sample of ethics of computing committees formed under the *aegis* of existing computing associations or Societies. These examples are outlined in section 5 of the Monograph.

5. Experiences of Ethics of Computing Committees from a number of example associations

The particular experiences of committees as they are here collated is not an "unbiased" choice. For the purpose of this Monograph, SIG 9.2.2 members from around the globe offered cases and examples of what their Societies are currently doing in terms of ethics of computing committees. They represent America, Australia, Great Britain, Finland, and Germany. We should have liked to have experiences from other continents, and we hope this Monograph will receive complementary suggestions coming from other parts of the world.

5.1 Experience from the ACM Committee on Professional Ethics (COPE) (Don Gotterbarn)

5.1.1. The early years: Ethical standards in search of identity

On November 11, 1966 the Association of Computing Machinery (ACM) adopted an ethics standard. The ACM Council adopted a set of guidelines called "Professional Conduct in Information Processing"[7]. The pattern of concerns and development of this ethics standard is similar to the patterns of many such developments. The 1966 discussion revolved around questions of: whether Information Processing was really a discipline, whether it was a single discipline which could have a single standard; what types of effective enforcement it could have, was it meaningful to merely expel miscreants from membership in the ACM, who would determine when to enforce the standard, and a narrowly US-Centric concern that the enforcement of a professional standard by the ACM might alter the ACM's tax status as a scientific society. At least two trends from this early approach continue through the ACM's development of ethical standards: there is recognition that the rapid and unanticipated changes in the profession will require modification of the ethical standards at some level and there is a recognition that agreement on enforcement is difficult to manage.

The 1966 standard handled both the enforcement and the change issue in the same way. The recognition of change was addressed by calling the first ethics document a guideline. The label was also intended to address the enforcement issue – "the ACM Council has wisely adopted ethical rules as a guide to members rather than a code to be enforced". As a result there is no enforcement function directly related to the Code. Approaches to the issue of change have been constant while in the ACM there has been a significant change in the approaches to enforcement. The society's means of addressing these issues of enforcement and technological change dictate the role of the ACM's committees related to ethics.

5.1.2. 1970-1992 from Guidelines to Standards and the need for enforcement

Just 4 years later there was a change to article 3 section 4 of the ACM constitution that stated 'demonstrating a lack of integrity' was a reason for being 'admonished, suspended, or expelled' and gave the authority to ACM Council to impose these sanctions. The amendment also mandated the development of a Code of Professional Ethics. This led to the development of a code with detailed ethical statements which are more amenable to enforcement, and whose violation is easier to determine. This code was adopted in 1974; nevertheless an enforcement procedure was not approved until 1978 reflecting the continuing uneasiness

[7] Parker, Donn; "Professional Conduct in Information Processing," *Communications of the ACM*, (11) 3 March 1968

about enforcement.[8] During this time the ACM did have a committee on 'Professional Standards and Practices' whose role included services to individual ACM members who face ethical problems such as whistle-blowing, product reliability and safety issues, and employment problems.

The adoption of the 1974 Code and later adoption of a policy designating the enforcement method as the sole responsibility of ACM Council was a significant change from the ACM's original ethics guideline.

Addressing and enforcing ethical issues related to ACM members was now the sole responsibility of the governing organization of the ACM - the ACM Council. According to the ACM constitution article 6 section 8 "a member may be admonished, suspended or expelled for demonstrating lack of integrity" by a three fourths vote of Council after a hearing". This still left open the nature of the hearing.

5.1.3. 1990 - The Emphasis on Guidelines returns

In 1990, adopting the insights from 1966 that ethical guidelines for computing need to change to address unanticipated changes in the profession, Ron Anderson proposed that the current ACM Code which had a structure that listed possible ethical violations needs to be revised. He further argued that the "ACM needs a revised organizational structure for an ongoing review, reformulation, interpretation, and application of its Code of Ethics and Professional Conduct."[9] ACM Council supported this request and two years later, on 16 October 1992, a Code of Ethics and a suggestion for a revised review standard was presented.

This 1992 Code was developed over after a two-year period, which included multiple drafts and reviews by ACM members. The ACM approved a new Code of Ethics which de-emphasized enforcement and emphasized education of members, of prospective members and of the public. The Code's use as an aid to decision making was also emphasized. The Code, which is still in use today, has a two level structure. It consists of 24 ethical imperatives each of which has an associated guideline illustrating the imperatives application in computing. The imperatives are divided into four sections. The first section gives a set of general moral considerations, the second identifies additional ethical principles applies to computing professionals, the third section pertains to organizational leaders, and the final section deals with issues of general compliance with the code.

It was envisioned that the high level imperatives would be constant and that the lower level clauses would require updating when technology and practices changed. In addition to the approval of the Code, a Committee on Professional Ethics (COPE) was also established to meet the need for revision and nurturing of the Code. The charge for the COPE Committee was to 1) promote ethical conduct among computing professionals by publicizing the Code of Ethics and by offering suggested interpretations of the Code; 2) plan and review activities to educate the membership in ethical decision making on issues of professional conduct; and 3) review and recommend updates, as necessary, to the Code of Ethics and Professional Conduct and its Guidelines.

These changes should have addressed the concerns of 1966 about enforcement and Code revision. The nature of the Code, emphasizing voluntary compliance and consisting of aspirational and normative imperatives rather than disciplinary imperatives helped reduce the

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[8] Perspectives on the Professions, Centre for the Study of Ethics in the professions at Illinois Institute of Technology, http://ethics.iit.edu/perspective/pers1_1mar81_3.html

[9] Anderson, R. "A Rationale for the Proposed Revision of the Association for Computing Machinery's Code of Professional Conduct," http://www.southernct.edu/organizations/rccs/resources/research/comp_and_priv/anderson/background.html

concern about sanctions and enforcement. The structure of the Code with fairly constant imperatives and flexible guidelines helped address the state of flux of the computing profession.

COPE was a committee with a charge but without a structure. Many of the items described above were not addressed in the establishment of COPE. The president of the ACM appointed the chair of COPE. The Chair of COPE determines its structure and guides its activities. The outreach functions of COPE are fairly straightforward and modelled to some extent on the work when the Code was first passed. COPE members present papers and participate in computer ethics workshops. They write articles that offer interpretations of the Code.[10] Other professional societies, the ACS and German Gesellschaft für Informatik for example, have used the original case studies developed when the 1992 ACM Code was passed.[11] COPE is currently working on a specific set of examples related to Internet issues because the World Wide Web only achieved prominence after the general Code was approved in 1992.

The role of COPE extended in 1999 when the ACM and the Institute of Electrical and Electronics Engineers, Inc. (IEEE)-Computer Society jointly developed and adopted the Software Engineering Code of Ethics and Professional Practice as a standard for a sub-specialization of computing. COPE's domain now includes both of these Codes.

COPE has helped translations of the ACM's Codes by professional organizations that want to adopt these Codes. The Software Engineering Code so far has been translated into 9 languages.[12] For example, in September 2006, the Association of Software Testing resolved to adopt the ACM Code of Ethics as a series of principles to guide and govern practice among its membership.[13] The Australian Computer Society (ACS) adopted the Software Engineering Code of Ethics.[14]

In meeting its charge COPE also gets involved in design of posters of the Code of Ethics distributed to member organizations, design of web pages, and includes a commitment to the ACM as a separate item on membership renewal forms. COPE has primarily limited its education function to the membership of the ACM and has only reached out in terms of getting the Code included in appropriate textbooks.

The original charge to COPE is merely a starting point. The absence of a fixed structure, including a regular schedule of meetings, has led COPE to function in response to external requests. The committee is one of the ethical focal points within the ACM. COPE members are asked to review many of the ethics articles submitted to the Communications of the ACM. It also responds to ethics complaints forwarded to it by ACM headquarters. These complaints vary from the trivial to very significant such as the development of a plagiarism policy that is consistent with the ACM's Codes of Ethics. In many cases committee members are not knowledgeable in the domain of the ethics problem and need to bring in other committees who have a better understanding of the situation.

The absence of a charge which involves the ethics committee in all such issues means that

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[10] Miller, K. Gotterbarn, D., "Computer Ethics in the Undergraduate Curriculum: Case Studies and the Joint Software Engineer's Code." Co-author Keith Miller in the *Small College Computing Conference Journal* 2003
Gotterbarn, D. and Riser, R., "Ethics activities in Computer Science Courses: Goals and Issues," *Computers and Society*, March 1997

[11] Anderson, R; Johnson, D.; Gotterbarn, D.; Perrolle, J; "Using the New ACM Code of Ethics in Decision Making", *Communications of the ACM* 3, 2 February 1993

[12] http://seeri.etsu.edu/Codes/default.shtm

[13] Read *Resolution on adoption of the ACM Code of Ethics*
http://www.associationforsoftwaretesting.org/ethics.html

[14] See http://www.acs.org.au/news/060404.htm

on occasion some very significant ethical issues do not have their ethical component addressed adequately. For example there was a significant issue raised by one ACM member – regarding religious discrimination – that was never brought to the attention of COPE.[15] One of the reasons for the absence of such a charge is that COPE only serves in an advisory role.

Without a clearly defined structure it is sometimes difficult for COPE to achieve its goals. Another problem is the separation of primarily proactive and advisory functions given to COPE, and enforcement functions given to the ACM Council. Often this structure may contribute to a perception that the role of COPE is less important.

On one hand, the lack of a clearly defined structure makes it difficult at times to achieve its goals. On the other, the absence of a defined structure has the virtue that when an unanticipated issue arises, such as the relation of the Code to a Plagiarism Policy, COPE can be involved in those situations without having to wait for a formal meeting.

We have the following recommendations for Professional or National ethics committees to function more efficiently:

1. When an ethics committee is established both its charges and structure should be specified.
2. All ethics issues should be passed through the ethics committee.
3. The method of updating a Code of Ethics needs to be clearly defined by either the national/professional Society or by its ethics committee. This method should be as rigorous and cautiously entered into as the original creation of the Code.
4. The structure of the ethics committee should not limit the issues it can address.
5. Ethics committees should have a regular venue in the society's publications to help promote a proactive approach to ethics. This should be accompanied by an annual ethics award included in a National/Professional Societies repertoire of awards.

5.2. Experiences from the Australian Computer Society (ACS) (Oliver Burmeister, Chris Avram and Mike Bowern)

The Australian Computer Society (ACS) supports the IFIP SIG 9.2.2 recommendation that all computer societies have a committee dedicated to ethical issues within that professional society. An example of this is the ACS, which had *ad hoc* ethics working groups until November 2003, when the ACS Council created a national committee on computer ethics (CCE). A key driver for this within the ACS has been the push for recognition of ICT workers as 'professionals'. In Dec 1999 the Australian Council of Professions (ACP) recognised ACS members as professionals, alongside doctors, engineers and lawyers. It was the first time, anywhere in the world, that ICT workers were accorded such recognition; the exception being software engineers, who were earlier accorded such recognition by the IEEE in the United States (US), as a specialist branch of engineering. The ACP insists on a code of ethics, that is abided by, and to which members of the professional society are held accountable.

5.2.1. Background to the ACS

The ACS was formed in 1966 through the amalgamation of some state and territory based computer societies, which had been established throughout the previous five years. These individual societies became Branches of the ACS. There are now eight Branches, covering all

[15] My Complaint against the ACM - A leading technological society condones employment discrimination against some of its own members. Copyright © 2001-2003 by David E. Ross, http://www.rossde.com/acm.html

states and territories of Australia.

The ACS is controlled and managed by a Council which meets twice a year. Between Council meetings the Society is run by a Management Committee consisting of the National Office Bearers. These National Office Bearers, who are also members of Council, are the President, two Vice-Presidents, the President-Elect, the Immediate Past President and the National Treasurer. Other members of Council are Branch Councillors, appointed by each of the branches. Specific areas of technical and social interest to the ACS and its members are handled by twelve Boards, run by Directors, who are appointed by, and are also members of, the Council.

Matters related to ethics are addressed by the Community Affairs Board (CAB), which comprises a number of national committees, including the Committee on Computer Ethics (CCE) and the Economic, Legal and Social Implications Committee (ELSIC).

The first version of an ACS code of ethics was adopted in the mid 1970s and there was a major revision in 1985, partly to accommodate concerns over computer-based crime. It is currently undergoing a further review, with the ACS Council expected to vote on adopting the changes, at its November 2007 meeting.

5.2.2. Evolution of the Committee on Computer Ethics

The first version of the ACS code of ethics and subsequent amendments were made by individual members with the approval and support of the Council.

In January 1999 a Computer Ethics Task Force was set up within the ELSIC to provide a focus for ACS members with an interest in ethics, and to reflect the growing interest and academic research in computer ethics in the computer industry and the wider community. The role of the Computer Ethics Task Force included networking nationally and internationally with individuals and organizations with an interest in the field of Computer Ethics, including the Australian Institute of Computer Ethics (AiCE). AiCE was also established in the late 1990s, as a loosely formed coalition of interested individuals, based at a number of Australian universities and a few commercial ICT organizations. Not all of these people were members of the ACS. The role of the Computer Ethics Task Force was to be similar to that of AiCE, and complementary to that group. The first major task of this group was to conduct a survey of the attitude to ethics of 1000 ACS members. There were 333 responses, and the results of the survey were published in *Information Age,* the ACS bi-monthly magazine for members and other professionals in the industry. However, after the initial activity, the task force became largely inactive, whilst the activities of AiCE continued to increase.

In 2003 it was felt that to rationalise the situation that had grown in recent years, the task force should be replaced by an ACS Committee on Computer Ethics (CCE), which would incorporate the AiCE, and be a technical committee within the Community Affairs Board[16]. This was considered as being of major strategic benefit to ACS, by greatly enhancing the profile of ethics within the ACS, and considerably enlarging the pool of people who would have an avenue to contribute to computer ethics under the ACS umbrella. Raising the status of this task force to an ACS technical committee was indicative of the growing importance the ACS saw in computer ethics and the need for an up-to-date professional code. Thus, in November 2003 the ACS established the CCE, with the following Terms of Reference:

- to promote the development of Computer Ethics policies within the Australian academic community, ACS members and the Australian ICT profession;
- to promote the value and importance of Computer Ethics within the wider Australian, as

[16] The ACS Committee on Computer Ethics : http://www.acs.org.au/index.cfm?action=show&conID=acscce

well as regional and international, ICT community;

- to develop proposals relating to Computer Ethics for government policy where appropriate;
- to develop position papers describing ACS policy on Computer Ethics, especially its Code of Ethics;
- to nominate representatives to various working parties, national and international standards and technical committees;
- to cooperate with relevant ACS SIGs;
- to operate within a budget allocated by the Community Affairs Board Director, keep appropriate financial records, and not enter into any contracts or financial arrangements without the approval of the CAB Director;
- to develop and propose relevant codes of conduct, and to participate in debates on regulatory and disciplinary matters that relate to computer ethics;
- to advise the Society and the ICT community on 'best practice' in relation to Computer Ethics; and
- to advise the ACS and other relevant bodies on issues relating to accreditation of Computer Ethics in educational institutions at tertiary level, and to nominate appropriately qualified people to such bodies.

The first major project for the CCE was to update the ACS code of ethics, particularly to address a number of deficiencies which had been identified. The process to revise the code started with an internal review. The internal review consisted of CCE members liaising with ACM and BCS representatives to see what lessons could be learnt about world's best practice in regards to reviewing codes of ethics. Both the ACM and the BCS had recently been through a review process. The CCE also consulted IFIP documents (and among them the SIG9.2.2 work) about developing codes of ethics.

The next step was to conduct an external review, involving the members of the ACS. This was done through a series of focus groups at each of the ACS branches, and a workshop facilitated by a member of the BCS who had been involved in their code of ethics review process.

Codes of ethics also serve a useful function in educating professionals and guiding their decision-making, and this is another area of focus of the CCE. For example, some CCE members have produced a set of case studies related to each of the clauses in the ACS code, which have been publicised to members, and are available on the ACS web site[17]. Since late 2004 the CCE has arranged for a regular column in *Information Age*. The column seeks to promote the code, and discuss the ethical aspects of current ICT news items or scandals[18].

5.2.3. The Disciplinary Committee

Professionalism in the ICT industry in Australia is still not at the same level as in engineering, medicine and law. It is not compulsory to be a member of the ACS, in order to practice in ICT. However, sanctions can be imposed on ACS members when called to account for a disciplinary matter. Opting out is not an option. That is, under ACS regulations members cannot resign from the society in order to avoid disciplinary actions brought against them by the society.

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[17] The ACS Code of Ethics, as well as its Code of Conduct and Professional Practice may be found at http://www.acs.org.au/index.cfm?action=show&conID=acsrules

[18] See for instance Karen Mather and Leah Einfalt, Project management in the ethics era. Mapping ethical principles to project management methods could help prevent ICT disasters. In : *Information Age*, April/May 2008, pp. 70-73. http://www.infoage.idg.com.au/index.php/id;449093637;fp;16;fpid;0

Recent initiatives in the ACS to expand its professional development programme to include the qualification of Certified Computer Professional (CCP), should help to draw more ICT practitioners into membership of the ACS, thus strengthening the ability of the ACS to influence professional behaviour in ICT in Australia. As part of the establishment of this new grade, during 2006 there was a separate review of the role and activities of the Disciplinary Committee of the ACS.

IFIP-SIG9.2.2, in Monograph 2, *Criteria and Procedures for Developing Codes of Ethics or of Conduct,* argues that "no code has any value in terms of public duty unless it is associated with a power of sanction such as disciplinary procedures"[19]. In the ACS, the relationship between the power of sanction through the Disciplinary Committee, and the Committee of Computer Ethics (CCE) was poorly defined. The two committees are separate, though the Chair of the Disciplinary Committee is also a member of the CCE, so that the two committees are kept aware of each other's activities. The Disciplinary Committee deals with all discipline issues, not just breaches of the code of ethics.

It is expected that the whole issue of discipline and code of conduct will soon be constrained by the ACS planned registration under the Professional Standards Act. In expectation of this, the ACS in 2006 updated the discipline procedures in line with the act's requirements. In line with practices of administrative law, normal in Australia, the ACS discipline procedures allow for appeals to be handled by the society in cases of errors, such as due process errors, and in cases of denial of natural justice. Appeal panels are larger, are not the same as the hearing panel and have two lay members.

Recently within the ACS there has been a concern to better advertise the fact that members can be and are held accountable within the society. To this end the CCE will publish an article in the bi-monthly magazine of the ACS, describing in general terms (i.e. to protect the privacy of those involved) the breaches that have occurred and the actions that have been taken by the ACS in respect of those breaches.

The ACS discipline procedures involve a series of steps, aimed at processing complaints against a member alleging failure to comply with the rules and regulations of the society, codes of ethics and codes of conduct or damaging the society. The alleged failure must be in the course of professional practice and may be an act or a failure to act. All complaints, appeals and decisions must be in writing. There is a filtering stage, a mediation stage, a hearing stage, an appeal filtering stage and an appeal hearing stage. These procedures are designed to meet Australian administrative law requirements including requirements of natural justice. There is provision for legal support and claims for legal costs to be met. Once discipline procedures have begun, an accused member cannot resign until the procedure has ceased. The sanctions include caution, reprimand, mandated retraining, suspension, expulsion or any combination of these. All discipline decisions and appeal decisions must be published, with complainants and (normally) accused kept anonymous. The discipline hearing and appeal hearing panels must include people who are not members of the society, but must be chaired by regular members of a pool of members called a discipline committee.

[19] *Criteria and Procedures for Developing Codes of Ethics or of Conduct*. IFIP Press, Laxenburg-Austria, 2004, 16 p., ISBN 3-901882-19-7, doc. cit. p. 9.

5.3. Experiences from the British Computer Society[20] (Penny Duquenoy)

The ethics committee of the British Computer Society (BCS) originated from initial concerns arising from the apparent use of the Internet for the distribution of pornography and its proliferation on information technology (IT) systems (*circa* 1995). A Working Party was set up by the Council of the BCS to study the problem and to report within 12 months. The Working Party reported to the Professional and Public Affairs Board in the first instance. Meetings were held monthly; external experts and players were invited to address the Working Party on any aspect of ethical uses and misuses.

The Working Party duly reported its findings, which were approved by the Board and adopted by Council. Its two main recommendations were (i) the issue of pornography could not be taken in isolation as it was only a part of what was clearly a widespread and increasing ethical misuse of IT, and (ii) a standing body should be formed with terms of reference to deal with all aspects of ethical use and misuse and IT.

Of particular relevance, the Working Party found that (i) in ethical deliberations, due note had to be taken of the differing views on what may or may not be ethical in a multi-racial, multi-cultural society; and (ii) due note had to be taken of what uses and mis-uses of IT were either legal and illegal in given environments. In short, for (i), no meaningful list of unethical use could be compiled because it would not be universally applicable and, for (ii), where the 'law' applied in given circumstances, effort spent on debating ethical aspects may well be fruitless unless the intention was to attempt to change the law.

With the above in mind, the following extracts from the Terms of Reference may be of interest. The committee had to:

- consider the ethical issues of concern to the BCS,
- identify those issues of an ethical nature which may be of, or are likely to cause, concern,
- recommend what action needs to taken by the BCS,
- encourage discussion within the broader community on the ethical issues of IT and, where appropriate, issue position statements and guidelines,
- inform BCS members and the public on relevant ethical issues,
- liaise with professional bodies in the United Kingdom, European Union and elsewhere as appropriate,
- maintain close links with IFIP's SIG 9.2.2,
- maintain close links with those bodies of the BCS responsible for educational, membership and accreditation matters.

The committee was also made responsible for the continuous review of the codes of conduct and practice and associated disciplinary procedures[21].

During its deliberations, the Working Party studied a large number of codes (conduct, practice and ethical) from around the world, and concluded that their wording did not make it easy (or possible in some cases) to relate to a power of sanction (disciplinary procedure). Without this power of sanction a code of conduct loses authority, particularly as perceived in the public domain – a factor now of increasing importance in the global environment.

It was decided by the Working Party that the BCS should not have a code of ethics *per se* but should comprehensively re-draft its code of conduct in ethical terms and in a style of

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[20] This report is based on a text originally provided by Dick Sizer (Chair of the BCS Ethics Committee and Expert Panel until June 2006) and developed by Penny Duquenoy, Manager of the BCS Ethics Forum. See http://www.bcs.org

[21] Virtually since its formation (*circa* 1965) the BCS has drawn a distinction between 'conduct' and 'practice'. A code devoted to the former covers a member's personal approach to, and belief in, his or her work connected with IT. A code devoted to the latter covers how a member goes about a given job in technical terms. The disciplinary procedures apply only to the code of conduct.

English enabling clauses to be explicit, unambiguous and clearly applicable to the individual - for example, the personal pronoun is used – 'You shall, at all times…' (rather than 'The member shall, at all times…'). Some clauses are advisory and carry explanatory notes[22].

Since the establishment of the BCS ethics committee (later to become the Expert Ethics Panel), members of the committee have been working on the revision of the Code of Conduct and the Code of Practice (considered to be an ongoing, dynamic and adaptive task).

In consideration of the importance placed on "professionalism" by the BCS (including the inclusion of this notion in undergraduate degrees) and informed by the needs of lecturers in Computing Science teaching this subject, the committee instigated a series of workshops that addressed various aspects of teaching ethics in Universities. Typically the workshops began with presentations from experts, followed by an exchange of views and opinions among practitioners and experts, and concluded with recommendations. The workshops were jointly financed by the BCS and the Higher Education Authority in the United Kingdom.

The BCS, along with other similar organisations, recognises the need to adapt to the rapidly expanding range of application of IT and consequent user base, and meet the needs of its members. With this in mind, it has established a set of "Forums" – spaces for discussion and development of practice. It also recognises the growing importance of ethics in relation to IT and in 2006 launched an Ethics Forum[23]. The scope of the Forum is given in its terms of reference, and the activities of the Forum are formulated by its Strategic Panel (a group of experts individually recognised as thought leaders and influential opinion formers). All Forums have a Manager (an expert in the field acting as a consultant to the BCS) whose role is to operationalise the decisions of the Strategic Panel. The home page of the BCS Ethics Forum states:

> This Forum has been established in recognition of the role of ethics within the professional domain, and operates in line with BCS fundamental principles of professional practice.
>
> The role of the Ethics Forum is to provide a strategic link between practitioners and external parties concerned with the ethical dimension of computer technologies.
>
> In pursuing its aim of maintaining high standards of ethical practice within the BCS and in the field of IT generally, this Forum will endeavour to raise professional and public awareness of the importance of ethics in the research, development, deployment and implementation of today's systems, by engaging and educating relevant stakeholders.

5.4. Experiences from the Finnish Information Processing Association (FIPA) (Kari Kaipainen; translation from Finnish by Kai Kimppa)

In late 1993 the Finnish information processing association (FIPA) ethics group was established. Its main purpose was to create a code of ethics for the association. The medical profession had had a code for millennia (e.g. Hippocrates, *circa* 460-377 BC), but whether IT professionals would need their own code was an open question. IT professionals exert power in various fields in society. Whether that power is used for beneficial or detrimental purposes was seen a topic worth the effort of study by the association. Thus, the ethics group's first task was to create the code, originally called 'the golden rule', for the association. This was accomplished in 1995.

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[22] The British Computer Society documentation on its Code of Conduct and Disciplinary Procedures can be found from a keyword search at http://www.bcs.org

[23] This replaces the Ethics committee and subsequent Ethics Expert Panel. See: http://www.bcs.org/forums/ethics

After getting the first code of ethics ready, the members of the ethics group devoted their attention to teaching about IT and ethics in various educational institutes ranging from FIPA member groups to universities. This is one of the main reasons universities in Finland teach IT and ethics as part of their curriculum in departments of information technology. Members also wrote articles to professional magazines. The general adaptability of the code was emphasised both in education and in the articles. The original code was so generic that it was not considered to respond to the needs of the profession specifically. Thus, a new code was seen to be necessary.

The ethics group was renamed as the ethics work group. The code also went under a revision and the new code was ready 2002. This code was closer to the field and not as generic as the original code[24]. There is no sanction procedure to enforce the current code, nor was there one for the previous code. This can be seen as problematic[25]

The central objective of the ethics work group is to enhance knowledge of ethics in the professional body. Any code published on the Web is insufficient for this purpose. Even training of IT professionals, as valuable as that is, cannot be considered to be enough as such training only reaches some of the practitioners. Professional magazines have been a major outlet to reach a wider audience. At the time of the writing, the ethics work group is preparing a book which covers the current and upcoming threats and possibilities of IT. The group hopes that this book will spread knowledge and understanding of the questions that the use of IT raises.

The composition of the group has evolved through its existence. New members have joined, while old ones have left the group mainly due to being too busy at their work to participate. The ethics work group hopes to get new members to get new views into the work of the group. One of the main targets of the group over the years has been to give talks on IT and ethics in companies. This, to a large extent, however, has yet to come to fruition. New approaches on how to make this happen are being planned.

5.5. Ethics activities of the German working group Computing and Ethics - "Informatik und Ethik" (Debora Weber-Wulff)

The ethics and computing working group of the Gesellschaft für Informatik (GI) in Germany worked on developing ethical guidelines for members of the GI. They were accepted by the governing board of the GI in 1994 and were revised in 2004. The goal of these ethical guidelines is to promote reflections on the meaning and scope of professional ethics among the members of the GI. The society promises to help members who encounter problems when acting in accordance with the ethical guidelines. Most of all, the ethical guidelines are meant to start a public discourse on the topic of ethics and computing.

This is especially important in Germany right now, as after a number of high-profile incidents, not only in computing, society in general is starting to look more closely at ethical questions. Some states in Germany have even started an obligatory subject in secondary schools on the topic of ethics, just recently, for example the city-state of Berlin. Many institutes of higher learning are also addressing ethical issues in obligatory, introductory courses.

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[24] This code can be found In Finnish at http://www.ttlry.fi, FIPA's home page. For translation, please contact Kai Kimppa, kai.kimppa@utu.fi,

[25] See e.g. IFIP-WG9.2 On Behalf of IFIP-TC9: *Ethics of Computing: Information Technology and Responsibility*. Madrid, 1992, p. 16.

5.5.1. The Ethical Guidelines of the GI

The ethical guidelines consist of fifteen articles that are organised into four parts. The first part concerns the individual member. It is expected of every member of the GI that they keep up with the state of the art. Although this in itself is not a specifically moral imperative, it is considered necessary – especially in our field – so that we can function professionally.

The other articles that affect the individual member have to do with the members working or being able to communicate with others and willing to understand the rights and interests of parties who are affected by information systems. A GI member must be willing to take part in and actively encourage interdisciplinary discussions. The members need to keep up to date with the legal aspects of the field, working toward changing laws as necessary. Members must also be willing to see their activities in a larger context, that of society at large, and be willing to accept general moral demands on the systems they produce.

In the second part, the ethical guidelines address GI members who are in leadership positions. They are expected to provide proper working conditions and personal development possibilities for the people they employ. They are expected to support organisational structures and communication methods that encourage team responsibility for their actions. When leadership members are responsible for introducing information systems into an organisation, they are expected to involve the persons affected by the system during the entire process. In particular, they are not to participate in implementing instruments of control without the participation of those who are to be controlled.

In the third part, members of the GI who are active in teaching and research are addressed. Teachers are expected to be role models, especially concerning individual and collective responsibility, and it is expected that they teach ethics to their students. Researchers are expected to follow the rules for good scientific practice, in particular openness and transparency, the capability to give and accept criticism, and the willingness to look at the ramifications of their own research on the world around them.

The last part concerns the GI as a body. The GI encourages its members to act with moral courage when faced with conflicts at their place of work or with their customers. The GI offers mediation in those cases, where participants request it. The GI makes an interdisciplinary discourse about the ethical and social problems of computing possible and publishes the results. The GI promises to create a collection of case studies of ethical conflicts including commentary, as well as to regularly update the guidelines and use them as a basis for the decisions and tasks that the governing body of the GI encounters.

The published version of the guidelines also includes definitions of many of the terms used, such as affected parties, discourse, case studies, good scientific practice, computer systems, control systems, mediation, legal aspects, state of the art, and the difference between individual and collective responsibility[26].

5.5.2. Application of the Guidelines

Since the guidelines have been published, there has been some discussions going on concerning their use in everyday life for members of the society. The guidelines were first published in the society magazine, *Informatik Spektrum*, but were not generally noticed or used by many of the members.

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[26] Gesellschaft für Informatik e.V. (GI), Ethische Leitlinien (Ethical Guidelines), http://www.gi-ev.de/wir-ueber-uns/unsere-grundsaetze/ethische-leitlinien/. English translation may be found in *Ethics of Computing. Codes, Spaces for Discussion and Law*, Jacques Berleur and Klaus Brunnstein, Editors, Chapman and Hall, 1996, op. cit. pp. 87-90.

Some members felt that the guidelines were too weak, as they have no means of punishing members who do not follow the guidelines, other than to suggest that they quit the society. Germany regulates by law many aspects of life, and one cannot be thrown out of such a society without a due process of law being announced and followed. The GI has no "group of elders" or such which is able to hear grievances and produce sanction. That is why these ethical articles remain guidelines and do not compromise a code of ethics.

When members wish to have mediation, they are referred to our Computing and Ethics working group of the Computing and Society Department of the GI. Unfortunately, the cases, which have been referred to the group until now have gone far beyond any possibility of successful mediation. The parties in dispute have been in the process of taking legal action against one another, and called on the GI in their frustrations over the exceedingly long-time frame needed to have the cases decided in the German courts. The group is, however, more than willing to either act as mediators themselves or to find colleagues willing and capable to act as mediators in future cases. Since the act of mediation is not often used in Germany, we have to work towards making this possibility for resolving conflicts known to the members of the GI.

In accordance with one of the articles of the guidelines, the working group Ethics and Computing and in particular Karl-Heinz Rödiger (University of Bremen) and Karsten Weber (Viadrina University Frankfurt/Oder, now Opole University, Poland) planned a special edition of the GI magazine *Informatik Spektrum* on the topic of ethics. They intended this to be an interdisciplinary issue, that is, involving not only computer scientists but also philosophers and other fields in presenting ethical questions and reflections to the members of the GI. Although the preparations for this special issue were quite advanced, there was actually only one of the papers published as part of a regular issue of the magazine. The ensuing dispute threatened to disband the working group entirely, with many of the active members resigning. A small group has decided to continue working on ethics questions and to expand our activities, as described in the next section.

5.5.3. Current activities of the Working Group

Currently, the group is working on developing case studies for exploring the use of the guidelines, as promised as one of the articles of the guidelines. Inspired by the scenarios developed for the ACM self-assessment procedure[27] for the ACM Code of Ethics[28], – the experience from the ACM Committee on Professional Ethics (COPE) is outlined above, in section 5.1 – we developed an experience in German-language, updated case studies which present ethical dilemmas involving computing and good scientific practice in general. These are to be discussed in light of the ethical guidelines of the GI among groups of colleagues, or can be used by teachers in order to discuss ethical questions with students.

One of the active members of our group, Christina Class from the FH Zentralschweiz in Luzern in Switzerland, has tested four of the scenarios already developed with students in her ethics class with very encouraging results. The working group organised a workshop in October 2006 at the GI yearly conference in Dresden and another in April 2007 at the GI Computers and Society conference in Berlin. At the Dresden conference we tested scenarios pertaining to teaching, writing and research, at the Berlin conference we concentrated on general computing issues.

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[27] Parker, D. B. 1982. Self-Assessment Procedure IX: A Self-Assessment Procedure Dealing with Ethics in Computing. *Commun. ACM* 25, 3 (Mar. 1982), 181-195.

[28] The *ACM Code of Ethics and Professional Conduct*, adopted by the ACM Executive Council on 16. October 1992 (http://www.acm.org/about/code-of-ethics)

We passed out copies of the scenarios to the participants and guided the discussions using questions that we have developed and recorded the discussions for making the scenarios more realistic. We will be publishing four in the conference proceedings of the Berlin conference and 18 others in a book we are currently writing. We will also publish some of the scenarios on our web site[29].

The author of this section has been extremely active in bringing a discussion about the problems of plagiarism to the attention of the general public. She encourages teachers at all levels to be aware of the problem, which is exacerbated by the ease of stealing words found on the Internet, and to take steps to prevent and combat plagiarism. She organises workshops, publishes articles on the topic[30] and has prepared a web site[31] and a German-language e-Learning unit *Fremde Federn finden* ("discovering false feathers") for spreading the word about how to detect plagiarism[32]. She also assists persons seeking help when they discover their own words being plagiarised by others. One of the most publicised cases was the revocation of a doctorate by the University of Tübingen on the basis of the thesis submitted being blatant plagiarism. A number of similar cases are pending.

Working group member Christina Class has also participated in publishing an online guide about the ethics of ICT and general ethics for schools. This group, under the leadership of Dominik Petko from the teacher's college in central Switzerland, Hochschule Schwyz, has put together a website with materials for teachers, administrative personnel, parents and other interested parties[33].

Two members of the working group, Eva Hornecker and Peter Bittner have developed a micro-ethical approach for helping discuss ethical questions closer to the reality of the workplace[34].

6. **Discussion and Conclusions** (Jacques Berleur, Diane Whitehouse, Penny Duquenoy, Benjamin Six, and Philippe Goujon)

In this last section of the Monograph, we perform five tasks. We examine what appear to be common characteristics of the five example case studies of ethics of computing committees that we have uncovered. We then reflect on some of the core, substantive, questions for ethics of computing committees. We examine what might be considered to be the main differences between committees that concentrate on codes of conduct (so-called deontological committees) and ethics of computing committees. We consider the current imperatives for

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[29] Web-Site der Fachgruppe Informatik und Ethik der GI: http://www.gi-ev.de/fachbereiche/IUG/IE/

[30] For instance : Weber-Wulff, D. und Wohnsdorf, G. "Strategien der Plagiatsbekämpfung". In: *Information: Wissenschaft & Praxis* 57 (2006) 2, pp. 90-98.

[31] http://plagiat.fhtw-berlin.de

[32] *Fremde Federn Finden*. E-Learning unit for teachers. 2004. http://plagiat.fhtw-berlin.de/ff/, currently under review and update (2007)

[33] http://ethik.educaguides.ch/

[34] P. Bittner, E. Hornecker: Responsibility and the Work of IT-Professionals. From Academia to Practice. In: K. Brunnstein, J. Berleur, (eds.): *Human Choice and Computers. Issues of Choice and Quality of Life in the Information Society*. Boston: Kluwer Academic Publishers, 2002, S. 171-181. Preprint: http://www.ehornecker.de/Papers/hcc6-ehpb_publ.pdf
P. Bittner, E. Hornecker: A micro-ethical view on computing practice. In: O. W. Bertelsen, N. O. Bouvin, P. G. Krogh, M. Kyng (eds.): *Proceedings of the 4th Decennial Conference on Critical Computing* (Aarhus, 20.-24.08.2005), New York: ACM Press, 2005, S. 69-78; http://doi.acm.org/10.1145/1094562.1094571

setting up such committees. Lastly, we summarise our position on the role of this Monograph, and what we hope that it will bring to IFIP national Societies and other professional Societies.

6.1 Common aspects of the ethics of computing committees studied

The particular examples of committees used are those based in: America, Australia, Finland, Germany, and Great Britain. The work undertaken to collate these examples was purely voluntary. For the purpose of this Monograph, SIG 9.2.2 members from around the globe offered cases and examples of what their Societies are currently doing in terms of ethics of computing committees. The group is largely active in the European Union, but also has a number of members who originate from Australia, Canada, and the United States of America.

The five ethics committees studied in this Monograph are influenced broadly by the Anglo-Saxon context with regard to professionalism, and by the consequentialist ethics theory and approach.

In terms of whether they discuss general issues or specific issues, several of the committees act as a kind of watchdog with regard to new ethical concerns about ICT. Others work more empirically, and describe and analyse case studies and examples, which may be real and factual cases or may be fictionalised or idealised accounts of circumstances (which is often a useful approach to take in case study teaching as it can, on the one hand, highlight even more acutely precise phenomena and difficulties and, on the other, protect individuals' or groups' anonymity). In any case, all insist on multidisciplinary approach.

Several of the committees take as their role to educate the association's or Society's members, its student members or students who follow computing courses, and the public at large. They choose different methods of doing this, such as writing papers for their Society's Journal or other professional Magazines, or in developing position papers. In the future, it is possible that such committees could play an increased role in the accreditation of curricula of Ethics of Computing, which could be taught, for example, in schools, in colleges including teacher training colleges, and at institutions of higher learning and research such as universities.

Many of the committees emphasise the question of distinctiveness between having an advisory role or serving an enforcement function, considering the last one as at least uneasy. We conclude that ethics of computing committees have primarily an "aspirational" mission: that is, which is geared to educating various constituencies or stakeholders in the norms, values, and behaviours related to the introduction of ICT into a growingly complex world – education, business, and public service – situation.

Most importantly and consistently, all five of the cases descriptions mention that their Society has a Code, and they refer to their consequent role in the processes of revising, updating and interpreting it. An associated role for several appears to be to publicise the Code.

We conclude that the aspects which appear to be common to all five of these ethics of computing committees lie in those areas which were identified in the two tables outlined in Section 4.

First, in relation to Table 1 which concentrated on issues to be considered when setting up an ethics of computing committee, we can say that all take care of the composition of the Committee, that generally the level of activity required is somewhat similar, and that their accountability towards their Society and a sort of feedback is made explicit.

Level of issue	Issues to be considered in relation to the operation of an ethics of computing committee
1.	Composition of the committee (degree of specialism).
3.	Level of activity required.
4.	Accountability of the committee.
7.	Feedback to be offered.

Rather more, however, a great many of the issues raised in the descriptions of the different ethics of computing committees can be associated with the seven issues raised in Table 2. Table 2 focused on the issues to be considered when setting up an ethics of computing committee.

Level of issue	Issues to be considered in relation to the tasks or functions of an ethics of computing committee
1.	Deciding on the committee's responsibilities.
2.	Discussing specific issues or general issues.
3.	Acting as an advisory body.
4.	Changing norms.
5.	Accrediting courses or curricula.
6.	Conducting disciplinary procedures or sanctions.
7.	Writing or revising a code of ethics.

We believe that the collection and collation of good practice examples is a sound way of operating. It is one that is common to the method of open co-ordination which is frequently used at least in the European setting.[35]

However, we would be inclined to expand our work, and to ensure a rigorous analysis of the characteristics of the committees which we find. To take this work of empirical evidence-gathering further, would mean exploring more pro-actively examples and illustrations obtained from other parts of the globe, e.g., Africa, Asia, or Latin America. We believe firmly that expanding the collection of such example activities would offer all the IFIP member Societies' members some interesting and appropriate insights. SIG 9.2.2 would certainly like to see the cultural representativeness of ethics of computing committees expanded. Efforts will be made in the future to extend the examples of the range of Societies' committees represented in such documentation.

6.2 Core questions for ethics of computing committees

SIG9.2.2 is convinced that the development of codes, their update, and their permanent evaluation will be greatly facilitated if, in each of the various computing associations, there is a specific ethics of computing committee with a clear mandate that defines its functions and roles. Of course, the ethical discourse must remain under the primary responsibility of the Board of the association. However, experience shows that such committees are becoming more and more essential due to the complexity of the ethical issues related to computing, their worldwide expansion, and their local implementation in specific legal or regulatory settings. Moreover, these ethics committees could become the home of the 'Spaces for discussion' for which SIG9.2.2 has been arguing for a substantial period of time now.

[35] Renaud Dehousse, Prof. Jean Monnet, The Open Method of Coordination, Cahiers Européens de Sciences Po., Paris, N° 3, 2003, http://www.portedeurope.org/IMG/pdf/cahier3_2003.pdf

We recognise that there are different models of ethics of computing committee. This challenge is covered in this section 6.3 where we develop the main models that derive from two main theories or approaches on ethics: the deontological and the consequentialist. In this section, the Monograph shows that an ethics of computing committee is, in our view, not the same as the disciplinary committee of an association (which can be called a 'codes committee' or a 'deontological committee'). Rather, an ethics committee is the 'housekeeper', the 'watchdog', or the 'early warning system' with regard to ethical issues for the particular Society or association. It may play also a role in relation to the disciplinary committee in terms of deepening the ethical principles, or clarifying similar cases on the international scene or in the literature. The ethics of computing committee should not provide a solution to such questions, but – better – should help with the way the questions are raised and in finding the tools to solve them. It is also a committee whose role is to raise the ethical awareness of the members of the association as well as of the general public. It could also promote ethical debates in open *fora* (which we refer to as 'Spaces for discussion').

Many questions are in our minds when we think about such committees. These include: Do we need these committees? Are the usual structures of the national and/or professional associations unable to deal with such matters themselves? Are we not increasing the bureaucracy of the associations? How can we ensure the autonomy of the ethics of computing committees? If these committees are set up, should we include members from outside of the associations themselves? Should we set up such a committee even if our association has no Code? Should we have a distinctive ethics committee, or are the different disciplinary procedures sufficient to develop a real ethical spirit within our associations or organisations?

Let us finally repeat, as we said in our Monograph 2, *Criteria and Procedures for Developing Codes of Ethics or of Conduct*, that these SIG9.2.2 proposals are not normative even if ethics are in their own right normative. In that second Monograph, through the provision of checklists, we proposed a number of ethical topics that can be considered by computer Societies. These are a set of issues, among others, that we believe that ethics committees should consider. Here, we are thinking about such issues as the Millennium Development Goals, digital divide, Internet Governance, Information for All (UNESCO), universal access, cultural diversity, freedom of expression, cybersecurity, self-regulation phenomena, and intellectual property issues. Discussion of these issues should permit the Societies to as to enjoy as much as possible a peaceful climate around questions which are very often controversial because they are linked to 'very special' or vested interests!

6.3 Types of Ethics Committees

Before analysing the differences between an ethics of computing committee and a deontological committee, it seems appropriate to start a short reflection. We begin with a short reminder of the different statuses of morality, ethics, and the two major ethical paradigms known as deontology and consequentialism. We outline those moral theories and their characteristics, and we describe their possible introduction inside small deliberative assemblies (i.e. committees). We then explain their impacts on the aims and functioning of these committees. Much of this thinking has its origin in either Immanuel Kant or Anglo-Saxon thinkers and schools of philosophy (Jeremy Bentham, James Mill, John Stuart Mill… and other utilitarianists): there is some possible relationship between these origins and the Societies, identified in Section 5, which have started up ethics of computing committees. Due to the membership of the special interest group itself, they emerge from either European Union or various Anglophone (e.g., north America and Australia) contexts.

Hence, in this part of the Monograph, we present a few essential considerations about the rationale and features of an ethics committee[36]. More precisely, we indicate what, in our opinion, *should* be the specifics of a real ethics committee when compared to committees that simply have reference to various ethical rules and regulations (codes), and deal with their application.

One of the main difficulties to be faced, in determining the role and content of an ethics committee, resides in the fact that there are multiple typologies of ethics committees, and there are several understandings of some of the elements of these committees, especially among those committees which manage the ethical aspects related to industry. The variety of terminology that currently exists can include: an "ethics committee", a "deontological committee", a "code of conduct", a "code of ethics", "moral guidelines", and so on.

In other words, to define what an ethics committee *is* simply by using the distinction between "ethics" and "morality" seems useless. This is due to the fact that there are not only different theories of ethics and morality but also different cultural and linguistic understandings of each of them. The provisional glossary that we provide in section 7 may help further in this matter.

Before any other action is undertaken, therefore, we need to establish a basic grounding to our reflections about the distinction between ethics and morality and their implications for these various committees.

The fundamental distinction which enables us to think about the primary function of an ethics committee resides in the relationship between formal rules and their underlying principles, as well as their application in specific domains.

If ethical rules are organised into formal codes (i.e., as an ensemble of rules to follow), then the main objective of an ethics committee is more than simply watching over their respect by the actors.

In our opinion, the function of an ethics committee is more fundamental and resides "upstream" from simply the formal rules. Its role is for its members to think about and to interrogate the ethical principles that are at work within the specific code. Hence, the aim of an ethics committee is to discuss the foundations, the limits, and the legitimacy of the basic ethical rules at stake. Its work is normative and exploratory. It should take care of the actual principles that underlie the more applied committees in order to avoid any "instrumentalisation" of the ethics involved. In other words, there are two main features of such an ethics committee. The primary feature of an ethics committee consists of thinking about principles which may result in a Code, and the second makes explicit the impacts and the extension of ethical rules in their concrete application domains, so as to be able to review their relevance, and the ways they are applied, with serious reflection. The second essential feature of such a committee is to stay alert to eventual new problems that may arise. Indeed, because the contexts surrounding the social and organisational circumstances are constantly evolving, the confrontation posed by new risks is irreducible. It requires some form of watching brief.

The aim of an ethics committee seems to be more focused on the concrete dilemmas lived by individuals. When it confronts a concrete social or scientific problem or a difficulty experienced by a profession, an ethics committee has to penetrate the consequences deeper in order to analyse its particular impacts and not only its ideal perspective. An ethics committee is more reflective, in the sense that no code is 'given', but – rather – it has to be permanently recreated.

[36] Again, in this section of the Monograph, we speak simply ethics committees rather than 'ethics of computing' committees.

Monitoring and enforcement functions are the essential feature of what can be called a 'deontological committee' or a 'code committee'. That type of committee concentrates on and cares about the respect of a professional deontology (i.e., code of conduct). Its major aim is to enforce – and sometimes to interpret – the norms of the particular code of conduct. A deontological committee has either to elaborate norms or to take care of the application and respect of these norms, or both. Such a committee may deliberate about the various ways in which to apply and understand these norms, without any consideration of any specific cases or contexts. Instead, it uses an ideal understanding of the code and its function. In other words, a deontological committee operates more in terms of the justification and respect of the code in question. A deontological approach focuses on the prerogative of the experts in a specific field to design a code and to ensure its respect.

Lastly, while both committees are probably normative, they do not operate on the same level of norms. Whereas a deontological committee would have to cope with the ideal rightness of particular actions, an ethics committee would have to think about the principles which sustain the Code, as well as the application of the code in terms of seeking of a good life that lies far beyond the simple spectrum of the good and bad.

To summarise our argument, there is a difference between principles, norms, and their applications (see Diagram 1). Codes are norms, but principles are required before norms. These norms are often based on different cultures and different histories, and therefore codes can differ between societies. It is in these particular societies and histories that the values that underpin codes are grounded. Norms are often 'fuzzy' because they are often general sets of rules that need, however, to be applied in specific cases. Examples of these applications can include specific professional Societies; particular forms of software; or particular industrial or organisational domains e.g., health.

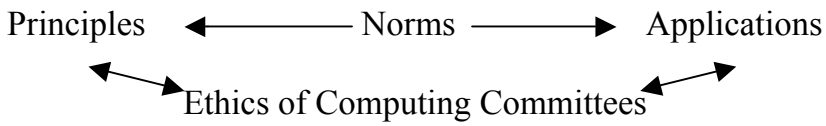

Diagram 1: The relationship between principles, norms, applications, and the ethics of computing committee

It is our understanding that it is particularly important to examine more profoundly the principles that underlie these norms; to see the bigger picture; and to understand specifically why such principles or ethics have a role to play in the design, implementation, and use of the ICT of both today and tomorrow.

6.4 Current uncertainties underlying information and communication technologies and the need for ethics committees

Setting up an ethics committee seems to be particularly appropriate in the field of the impact assessment of ICT. We can refer to such an ethics committee as an 'ethics of computing committee'.

The context that surrounds ICT and its different practical developments is characterised by uncertainty. This uncertainty has several aspects. Firstly, scientific knowledge about the surrounding context can only begin to elaborate the theoretical premises; secondly, the evaluation of the situation's social impacts does not represent an *a priori* problem for the economic development of the particular technology. Thirdly, as a result of this uncertainty, there currently exists less and less agreement about the most appropriate way to manage and regulate technology. Against this background, the aim of an ethics of computing committee

consists of analysing the external and contextual impacts of the particular new technology, and not simply to think about the way in which the technology should work and/or be regulated by its designers.

According to our understanding, an ethical approach has to cope with a much larger audience and forum of debate. It might, for example, include the designers and the users of a new technology, the patients and the practitioners in a new medical practice, or the clients involved in the implementation of a commercially-directed artefact.

Lastly, because the ICT context is characterised by uncertainty about its influences, but also about its future, its morality is absolutely unclear. It appears that in the sphere of ICT, morality is blurred – and hence jeopardised – by a series of commercial, economic and political intentions. It becomes the role of an ethics of computing committee to think about which moral considerations should be put in place, and how to make these considerations legitimate. Hence, the reflections of an ethics of computing committee should take place at the very level of the justification of the underpinning norms, and not only on their application level.

6.5 Some last reflections

What we would like to achieve in sharing this Monograph with the IFIP member Societies and wider are the following main initiatives:

- to offer a set of observations ('use cases') to member Societies of IFIP of other professional Societies that can be of practical use to them;
- to help member Societies of IFIP expand the availability of 'Spaces for Discussion' on the ethics of computing;
- to build up a larger body of evidence about what ethics of computing committees are doing
- to analyse this larger body of work carefully;
- to ensure the continuation of good practice in the domain of the ethics of computing;
- to build up a network of ethics of computing committees and individuals;
- to strengthen the analysis and understanding worldwide of the current and possible future ethical dilemmas inherent in a world joined-up and interconnected through ICT.

We very much welcome hearing from the IFIP member Societies and other professional Societies or interested individuals on their work and activities, and their responses to the content of this Monograph, and encourage them to visit us at our website (http://www.info.fundp.ac.be/jbl/IFIP/cadresIFIP.html) and to contact us (see: Section 8: Contacts).

7. Annex: A Short Provisional Glossary (Benjamin Six)

Morality: The etymology (i.e., roots) of morality refers to manners and habits. In this sense, morality is a collection of codes of conduct that are created by the conscience, society or religion. But morality has also a second meaning which emerges from philosophical tradition. According to this tradition, morality is not particular (i.e., specific) but instead is universal. Hence, it provides a sort of ideal code of conduct which has to cope with good and evil. According to this second meaning, which we will retain here, morality is transcendent, and it is inherent to all human beings despite the particular situation. The source of its norms is therefore human reason. It is human reason which is able to exceed

the particular, contextual circumstances in order to reveal the spectrum of right and wrong. To act morally is then to act in consideration of this universal spectrum.

Ethics is the branch of philosophy which studies morality. It is important to understand that the idea that the objects of the study of ethics are therefore the moral rules, the ways in which they are created and justified, and the ways in which they are applied or should be applied. The essential feature of ethics remains in the concept that, besides having to cope with the spectrum of what is right and wrong, it must also deal with the issue of the good life and the search for happiness. This last feature is fundamental because it places ethics inside those particular contexts and concrete dilemmas that are directly experienced by the moral actors who are involved. According to our conception, therefore, ethics is a matter of greater reflection than is morality, in the sense that it tries to analyse the general context of application of the moral code of conduct and to justify its legitimacy.

Deontology is a particular approach to ethics which focuses solely on the rightness or wrongness of actions according to a universal perspective. This is an ethics which functions essentially based on the concept of duty and the respect of higher laws. For Immanuel Kant, those laws were to be applied by everyone simply because they reside inside each and every one of us, and rationality is the only way to bring them into light. Kant's first formulation of the moral imperative is therefore: "Act only on that maxim through which you can at the same time will that it should become a universal law." According to this supreme law, a human being can never, in any situation, kill someone else or use someone else for his or her own ends. According to deontology, moral actors do not have to judge a particular situation with which they are confronted… they only have to act morally according to their duty.

Consequentialism is radically different from deontology. According to a consequentialist ethics, the morality of an action resides entirely in its consequences and not in some supreme law. To evaluate the rightness or wrongness of an act, a person has to judge its impacts in the particular context. Whereas deontology places morality according to the reasons that guide the actor in terms of respect of his/her obligations in function of the higher good, consequentialism obliges the actor to evaluate the rightness of the consequences of his/her action in function of the particular context in which it happens. Because the ends justify the means, it is possible in some situations to use someone else as a means if this use benefits a large number of people.

8. Contacts

"Jacques Berleur", jberleur@info.fundp.ac.be,
"Oliver Burmeister", oburmeister@csu.edu.au,
"Penny Duquenoy", p.duquenoy@mdx.ac.uk,
"Don Gotterbarn", gotterba@etsu.edu,
"Philippe Goujon", philippe.goujon@info.fundp.ac.be,
"Kari Kaipainen, Kai Kimppa", kai.kimppa@utu.fi,
"Benjamin Six", benjamin.six@fundp.ac.be,
"Debora Weber-Wulff", D.Weber-Wulff@fhtw-berlin.de,
"Diane Whitehouse", diane.whitehouse@thecastlegateconsultancy.com.