

## EXTERNAL EVALUATION COMMITTEE

The Committee responsible for the External Evaluation of the Department of the Philosophy and History of Science of the University of Athens consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. Professor Richard McKirahan (President)  
Chair of the Department of Classics, member of the Department of Philosophy, and contributing faculty to the Program in Science, Technology and Society  
Pomona College, Claremont, California, USA
2. Professor Panagiotis Dimas  
University of Oslo, Norway  
Director, Norwegian School of Athens
3. Dr. Matthew Eddy  
Department of Philosophy, Durham University, UK
4. Professor Nikolaos Psarros  
Institute of Philosophy, University of Leipzig, Deutschland
5. Professor Theodore Skaltsas  
Chair of Ancient Philosophy, School of Philosophy, Psychology and Language Science  
University of Edinburgh, UK

## INTRODUCTION

### 1. The External Evaluation Procedure

The External Evaluation Committee visited the Department on 18-20 October 2010.

We met the following individuals and groups:

- the Chairman of the Department and the members of the OMEA
- the Vice Rector of the University of Athens
- the teaching staff of the Division (*tomeas*) of the History of Science and Technology  
all the staff attended
- the teaching staff of the Division of Sciences of Cognition and Thinking  
all the staff attended except for one who is on sabbatical
- the administrative staff of the Department
- post-graduate students and doctoral candidates of the Department  
6 students attended, including 5 doctoral candidates and 1 postgraduate student
- the teaching staff of the Tomeas of the Philosophy and Theory of Science and Technology  
all the staff attended except for one who is attending a conference in China
- undergraduates of the Department  
18 students attended

We examined the following documents that were provided by the Department:

- the 2008 Study Guide
- the Department's Internal Reports for the years 2006-2007, 2007-2008,  
2008-2009
- the Department's 2009 Internal Evaluation
- the 2010 Supplement to the Internal Evaluation
- the New Program of Studies for 2010-2011
- information about the first year undergraduate students admitted in 2010
- the forms distributed to students to evaluate their courses and teachers
- tabulated results of students evaluations for 2008-2009
- sample course syllabi
- the 2010 Internal Report for the Graduate Program "History and Philosophy  
of Science and Technology"
- the program for the 2010-2011 lecture series "History and Philosophy of  
Science: Challenges and Prospects"

We visited the Department's facilities including

- the main building, housing the administrative offices and faculty offices
- the teaching rooms
- the library
- the computer laboratory
- the Cognitive Science and Educational Technology laboratory
- the Electronic Processing of Historical Archives laboratory
- the Knowledge Management laboratory

We also visited the Archives of the University of Athens (Skoufa 54)

## 2. The Internal Evaluation Procedure

The sources and documentation were entirely appropriate. All supplementary information that we requested, including data on students and articles published by members of the Department, was promptly provided.

The materials were professionally prepared and of high quality. Those that were out of date (for example, the Internal Evaluation, which was prepared in 2009) were brought up to date by means of supplementary materials.

The Internal Evaluation of the Department gives a thorough and detailed picture of the history and the current state of the Department and it provided an excellent basis for the work of the External Evaluation Committee.

### **PART A: CURRICULUM**

The Department offers one undergraduate program and participates in five postgraduate study programs. In the postgraduate programs both Masters and PhD degrees can be obtained.

#### Undergraduate study program

The undergraduate study program has two main goals:

- 1) It aims at providing a general education in philosophy, philosophy of science and technology, and history of science and technology. This entails also providing basic knowledge in the individual natural, economic and human sciences that are the objects of the corresponding historical and philosophical treatment. One of the central objectives of the undergraduate program is to prepare students for entry into postgraduate programs that produce scholars able to pursue academic careers in the research fields of the Department and to conduct high profile research, both at national and international levels.
- 2) Since most Greek students after graduation seek employment either in the private or in the public sector – especially in secondary education –, the undergraduate program aims at giving the students a broad education that enables their flexible integration into professional life under the special constraints of the Greek labour market, which has traditionally been dominated by the public sector and is at the same instance characterized by a peculiarly low demand for specialized middle management personnel. For this reason the program incorporates the teaching of subjects that provide students with specialized skills and competences that are intrinsically related to the main research fields of the Department and that are appropriate background for students aiming at an employment in secondary education or other kinds of work. Notable examples of such courses are those in crisis management and in the principles of museology.

The structure of the curriculum reflects the topical aims of the undergraduate study program by starting with more general subjects in the first two years, e.g. with introductory courses in philosophy, history, and in the sciences and humanities, as well as with courses in Ancient Greek language, which are succeeded by more advanced courses in the following years. The fact that all of the courses taught in the first four semesters are compulsory underlines their pivotal role in providing a sound basis for the more advanced courses that are taught in the fifth through eighth semesters. The curriculum of the final semesters contains a progressively increasing amount of elective courses, subdivided into elective compulsory courses and elective courses, that provide a

deeper penetration into the principal subjects of the undergraduate program (i.e. history, philosophy and methodology of sciences) as well as specialization in various topics in the history and philosophy of science (e.g. History of Scientific Experimentation, or Philosophy of the Physical Sciences), insight into special philosophical issues (e.g. Existentialism), and introductions to the aforementioned special skills (e.g. Comparative Museology, Crises and Risk Management, Theory of Entrepreneurship, courses in pedagogy).

The undergraduate program copes generally well with the complexity and variety of the constraints and the demands set up by both by the Greek university legal framework and the expectations of the Greek social and economic environment, retaining at the same time its disciplinary orientation and its internal logical consistency. The average student load of 18 hours per semester week lies within international margins. However, the curriculum appears to be to a certain degree overlaid with subjects that may be considered appropriate for increasing the employability of the graduates, but are fulfilling this purpose at the expenses of a more concentrated education in the core topics of the study program.

Another point of concern is the fact that there are too many introductory courses in particular sciences and humanities. The rationale behind this decision is to provide the students with a broadly based knowledge about particular sciences prior to studying the philosophy and history of science and technology. However, the list of the introductory science courses is incomplete with core sciences like chemistry and biology either missing completely or being underrepresented. On the other hand, the curriculum contains several courses in physics, mathematics and economic theory, and teaches courses in these subjects almost every semester.

We would suggest focusing the curriculum on the “metascientific” (philosophical, methodological, historical and social) areas of the program and reducing the number of compulsory introductory courses in different areas of science. We believe that a deeper knowledge of one or two sciences is more fruitful background for understanding the nature of science and its methodology than a shallower acquaintance with many. This change would be made easier through cooperation with the science departments, and the result could free up resources within the Department to strengthen the offerings in the core areas (history and philosophy of science, and cognitive science) of the Department. undergraduate and in postgraduate teaching programs.

The structure of the undergraduate study program appears to be compatible with the requirements of the so-called “Bologna process” and the ECTS system. According to this system the undergraduate study program offered by the Department would be classified as a 240 ECTS point BA study program, with 30 ECTS points awarded for each 18 hours per week semester teaching load.

#### Postgraduate study programs

Currently the Department offers five postgraduate programs:

- 1) History and Philosophy of Science and Technology
- 2) Basic and Applied Cognitive Science
- 3) Didactics and Methodology of Mathematics, in cooperation with the Department of Mathematics of the National Technical University of Athens, the Department of Philosophy, Pedagogy and Psychology of the University of Athens, and the Department of Mathematics and Statistics of the University of Cyprus
- 4) Logic and Theory of Algorithms and Computation, in cooperation with the Departments of Mathematics and of IT of the University of Athens, the Schools of Applied Mathematics and of Electric Engineering and Computers of the National

- Technical University of Athens, and finally with the Department of Informatics and Computer Engineering of the University of Patras
- 5) Brain and Mind, in cooperation with the School of Medicine, the Department of Computer Science, the Department of Physics, the Department of Philosophy and Social Science of the University of Crete, and the Department of Nursing of the University of Athens

All programs offer the opportunity to obtain a Masters and/or a PhD degree. The admission requirements vary according to the degree aspired. The duration of the studies varies between four and six semesters for obtaining a Masters and six and twelve semesters for obtaining a PhD degree. General aim of all postgraduate programs offered by the Department is to provide students with expert knowledge and scientific qualifications in the subject of the corresponding program and to prepare them for an international academic career or for a career in higher positions in research, research administration or management in Greece or abroad.

Because of their research-oriented character and because many of the students attend the postgraduate programs in a part-time fashion, the programs do not have strict teaching curricula as it is the case with the curriculum of the undergraduate study program. Students are required instead to attend a total of 10 classes in the course of two years, six of them having lecture/course and four of them having seminar/exercise character. The topics can be chosen from a selection of themes with a minimum requirement defined by each separate postgraduate program. The study requirements and the flexible time schedule of the curriculum allow for enough time for the composition of a Masters or PhD thesis.

Despite the very good performance of the Department's postgraduate programs with respect to their ratio between class attendance and autonomous research work, the postgraduate MA programs in their present form cannot be made commensurable with MA programs that fulfill the Bologna process/ECTS requirements. Since there are no requirements formulated yet for PhD programs, the quality of the PhD degrees depends solely on the quality of the PhD theses. The Department's faculty is aware of this problem and intends to undertake the necessary steps in order to resolve it.

## RESULTS

Both the undergraduate and the postgraduate programs of the Department make a very good impression and are able to provide the students with the skills and the knowledge that they propose to offer. However, the undergraduate study program could gain a substantially if it were more focused on the Department's main research and teaching fields and if latent synergies with other departments of the University of Athens were fully exploited. It is further mandatory that the undergraduate study program has to be made fully and transparently compliant with the Bologna process/ECTS requirements. This can be done without altering its overall character and its four-year duration.

The postgraduate programs face a more substantial compliance problem with the Bologna process/ECTS requirements. This circumstance makes student mobility at the postgraduate level between the Department and foreign universities and related institutes difficult, since ECTS compliance has to be determined on an individual basis. Both Greek and foreign students would benefit immensely from the expertise provided by the programs if this disadvantage were obliterated.

## PART B: TEACHING

## APPROACH

At the undergraduate level this goal is twofold: (1) provide the students with a broad scope of competence in different disciplines so as to better prepare them for the needs of their program in the History and Philosophy of Science; (2) acquaint and familiarize them with methods and more broadly the scientific traditions and culture of the field of the History and Philosophy of Science. At the graduate level the goal is to provide the students with more specialized knowledge within their field of study as well as the research tools necessary for continuing with research. For the most part, teaching in the Department is successful in reaching its goal.

Most of the undergraduate instruction occurs through lecture courses; more advanced courses are conducted as seminars. The Division (*tomeas*) of cognitive science does some of its teaching in the Cognitive Science and Educational Technology laboratory. Part of the postgraduate teaching is done in lecture courses, though the main part is done through seminars and, where appropriate, through instruction in the laboratories.

A large number of courses make use of e-class techniques and many members of staff put supplementary course materials on their websites for students to access.

It is our understanding that the climate between teaching personnel and the students who maintain close ties to the Department is good and as such conducive to effective academic collaboration. Moreover, all teaching personnel are conscientious in holding office hours in order to make themselves available to students.

The teaching rooms are satisfactory in number and size, although the absence of wireless internet access in the teaching rooms and the lack of even one "smart" classroom are indicators that the classrooms are not up to current standards. Satisfactory also are the departmental routines for informing students about the courses offered as well as their subject matter and content through the internet. However, we do need to make mention of the fact that the computers available for student use are beginning to get old, and if we take into account that the Department lacks sufficient IT backing, the situation could be close to getting desperate.

The most commonly used method of evaluating undergraduates is examinations held at the end of each course. However grading is not anonymous since students are instructed to write their names on their examination papers. We strongly recommend that a procedure should be put in place that ensures the anonymous grading of examinations. Moreover we recommend that there should be more graded work in each class including different kinds of graded exercises, such as assignments to be done at home, papers written individually or in collaboration with other students, and projects for involving supervision from members of the academic staff. Finally we recommend that the compulsory course in Essay Writing be offered in the first semester instead of the eighth.

## IMPLEMENTATION

Though the level of professional competence of the teaching personnel is high, the students we talked to were agreed that the quality of lecturing in different courses differs greatly in its ability to engage and inspire them. They also said that attendance in the courses varies with the perceived quality of instruction. Thus, improvement in this area is likely to increase student attendance and consequently the level of student participation in the life of the Department. Teaching materials seem to be adequate and for the most part up to date. Other than issue of the aging computers

mentioned above, teaching facilities seem adequate. The Department has a reasonably well stocked library for the use of both students and teaching personnel, while the students benefit also from the fact that all faculty members are active researchers and contributors in their respective fields of interest. Many members of the faculty have been teaching in other universities in Europe, Asia and the US.

Although a system of student evaluation of courses and their instructors is in place, we recommend that the evaluation forms be filled out online and sent directly to the Department office or to an office higher up in the University hierarchy for processing, in a way that guarantees anonymity.

## RESULTS

A number of the students who have graduated from the undergraduate of MITHE and/or the Masters programs in which the Department is involved have gone on to attend, successfully, postgraduate programs abroad, which provides evidence of the overall quality of the teaching provided by the Department.

However, undergraduates have great difficulty in completing the study program in the 4 year period in which the course is supposed to be completed. Most of them take five and a half years or even longer. Though this does not seem to be a result of the quality of teaching, at least when this is compared to that of other higher education institutions, it points to a disparity between the ambition of the study program and the time allotted for it. The situation of the length of time taken to complete the graduate program is similar. Moreover, although many students who regularly attend courses and do the work complete the course in five and a half years, a significant number of students take a much longer time and some never complete it. This is a situation that should not be allowed to continue.

We recommend that the Department consider means to better align the requirements of the study programs, both undergraduate and postgraduate, with the time allotted for it and establish among the students a culture of academic participation that keeps as many of them as possible, and many more than is the case presently, active in the life of the Department. The Department appreciates that there is ample room for improvement in these areas. Addressing this issues and devising effective ways and methods to resolve them will require much thought and energy.

Last but not least and closely related to the above point, an area in which there is room for improvement is the Department's practices of supervising its students. There is no doubt that the members of staff make themselves amply available through office hours. Moreover, students can meet with the professors at other hours upon request. However, even though the teaching personnel make themselves so available, if there is to be contact teacher and student, the initiative must come from part of the students. What the Department lacks are procedures for picking up those students who, for whatever reason, are not able to or hesitate to seek supervision themselves, and may for this reason, as seems often to be the case, fall out of the loop.

## **PART C: RESEARCH**

### APPROACH

The Department's research focus is consistent with that which is conducted by cognate departments at leading institutions like Cambridge University, Harvard University, Stanford University, University

of Pittsburgh, CNRS (Paris) and the Max Planck Institute for the History of Science (Berlin). Its research policy is to conduct internationally recognized research on the history and philosophy of science (HPS) and the corresponding methodologies used to assess and create knowledge. It pursues research with two main objectives in mind: first, to increase its already impressive international research profile by publishing high quality work; second, to obtain research grants from national and international funding bodies. Thus, the internal criteria that the Department uses to assess its research are based directly on the international standards required by the journals and academic presses to which its members submit their work. These standards, moreover, are also employed when members of the Department apply for promotion and for sabbatical, and they are taught to graduate students while they are writing research papers and dissertations. The overall strategy of the Department's approach to research, therefore, conforms to the standards used by other internationally recognized HPS departments. The committee was impressed by the foresight and ambition of this approach and by the fact that the Department has been systematically developing this vision since its foundation in 1993.

#### IMPLEMENTATION

The Department has an extremely strong record in research. To accomplish its publication objective, it promotes and supports its research in many significant ways, two of which are particularly noteworthy.

(1) The Department provides favorable conditions for research by granting one-semester sabbaticals to all its full-time members every three years. It also monitors teaching loads so that there is enough time to conduct research during the academic year. For many departmental members, the sabbatical semester is often elongated by honorary fellowships given by institutions like MIT, Harvard University, the Max Planck Institute for the History of Science and the University of Oslo – to name only a few examples.

(2) The Department's publications objective is supported by the many seminars and workshops organized on a weekly basis by the following research groups: Varieties of Realism, Ancient Greek Science and Philosophy (linked with the National Technical University), Conceptual Change, Interactions between the History and Philosophy of Science, and Philosophy of the Social Sciences. These events provide a fertile forum in which members of the Department vigorously present and discuss their research. The standard for excellence in the groups is high, especially since the Department regularly invites speakers and commentators of international acclaim to either comment on the papers, or to present papers of their own.

(3) The Department actively encourages its members to attend international conferences hosted by leading academic societies like the Philosophy of Science Association and the History of Science Society. More specifically, the Department promotes active participation in such events by using its limited funds to pay for the travel expenses of members who are presenting papers or chairing sessions. This allows them to attend a wide variety of relevant events, with some members attending up to ten conferences or workshops in one year. Overall, it is generally expected that the departmental or conference papers will be submitted to leading journals or that they will become part of a book published by respected international publishers. Once an article or book is published, the Department follows the progressive practice of actively tracking the publication's citation figures.

To accomplish its research grants objective, the Department employs a number of cogent strategies, two of which are central to the Department's success.

(1) The topics of the proposals are decided in consultation with international collaborators. Since almost all the academics, as well as many of the graduates, are members of international research societies, they discuss the viability of their ideas when they attend conferences. Over the years, the Department also has set up a unique network of advisory experts. For example, it played a central role in setting up an organization called Science and Technology on the European Periphery (STEP), a



network that now has members in every EU country, as well as in Canada, Australia and the United States. This network has provided crucial feedback and allowed the Department to design successful grants that were used to pay for international conferences, digitization projects, postgraduate projects, research publications and the preservation of key early modern texts on Greek science, philosophy and technology.

(2) The content of research draft proposals is evaluated by an internal vetting process. For example, grant proformas and proposals are regularly circulated within the Department where they are critiqued and rigorously revised. Here the high standard of the Department's long-standing list of successful grants is used to evaluate the proposed research. Additionally, it has intelligently selected partner institutions from other countries who strengthen scope and appeal of its applications to funding bodies.

The committee considers the foregoing practices of research implementation to be well planned and coherently designed, making excellent use of the budgetary and infrastructural assets provided by the state and the University.

## RESULTS

### Publications

As the Department's list of publications so clearly reveals, the efficacy of its structured approach to research has allowed it to be remarkably successful at implementing its publication objectives. The Department has produced an extremely large number of publications since its foundation in 1993. For example, in the past five years it has produced:

- Around 110 peer reviewed articles with reputable international journals
- Around 80 peer reviewed book chapters with reputable international publishers
- Over 20 books authored or edited books with national presses and leading international publishers like University of Chicago Press, Edinburgh University Press and Routledge.
- Hundreds of book reviews, article reviews and other quality forms of publication.

The foregoing list of publications is an impressive achievement. Notably, a great proportion of the foregoing publications are written in English.

### Editorships

The research profile created by these publications has led to its members being asked to serve as referees or editorial as board members for most major journals in their respective fields, as well as for journals that address wider issues in philosophy, intellectual history, cultural history and cognitive science. Indeed, just this year the Department took over the editorship of the influential journal *Metascience: An International Review Journal for the History, Philosophy and Social Studies of Science*, and since 1996 it has been primarily responsible for *Neusis: A Journal for the History and Philosophy of Science and Technology*.

### Outreach Research

Individual members of the Department have also used their research profiles to promote the history and philosophy of science within the public sphere of Greece by:

- Founding the innovative journal *Cogito*
- Publishing important articles in national newspapers on popular topics

### Research Projects and Collaborations

The Department has a strong record of research projects and collaborations. There are, in particular, three important points to note on this issue.

(1) The Department has been strikingly skillful in designing successful research projects based on collaboration. For example, It has pursued many high quality research collaborations with various scholars based in universities and other institutions throughout the EU. There are particularly long-standing ties with Spanish, Norwegian, Portuguese, British, French and German collaborators. For instance, the Department has collaborated with the Max Planck Institute for the History of Science in Berlin for over a decade, and this year it has initiated a history of science research project with the Max Planck Institute for the History Science in Berlin. In addition, the Department participates in and is coordinating the creation of the European network "Europe, Technology, History," which is the first educational network in the European Union.

(2) The Department's projects have been funded by major national programs like Heraclitus 1 and 2, as well as grants given by various EU bodies and by institutes run by foreign universities like MIT. Not only have these grants strengthened the research profiles of departmental members, but they have also provided venues and funds that have been wisely used to train promising MA and PhD students – many of whom now hold permanent university positions not only in Greece, but also abroad.

(3) The projects and grants mentioned above have allowed the Department to create indispensable resources used by scholars in Greece and throughout the world. For example, for scholars interested in the wider intellectual and social history of the Greek speaking people, the Department's *Hellinonimon* project is a great asset. This was a venture which joined the Department's intellectual historians with the University of Athens Department of Informatics. The end result was a digital library of philosophical and scientific texts and manuscripts written in Greek from 1600 until 1821. In addition to being an excellent example of the growing field of digital humanities, it is now the most important online resource for early modern Greek culture that currently exists on the internet. This is indeed a major achievement, both for the Department, and for Greece.

#### Relevance of the Results

Based on the research results outlined above, it can easily be seen that the Department's research is highly visible and widely acknowledged on a national and international scale. The subjects of its research, principally the History of Science and Technology and the Philosophy of Science and Technology, moreover, are not being pursued in a significant manner by other departments in Greece and, thus, its unique and imminently necessary focus on the fundamental interaction between science and the humanities, is not being duplicated anywhere else in the country.

The committee feels that the Department's success with its publications, funding and collaborations is comparable to most internationally respected HPS programs that are of similar size throughout the world, therein confirming its role a center of excellence for the topics that it researches. Furthermore, the committee would like to point out that the Department has consistently and successfully implemented outstanding research results despite the funding limitations imposed upon it (please see the next section on 'Improvement' and part D of this report on 'All Other Services'). For this reason, the Department deserves to be commended for its excellent management of the limited research resources at its disposal.

#### IMPROVEMENT

##### Promotion

The promotion of full-time staff in the Department is based on a committee of three people, two from the Department and one from outside the Department. The committee recognizes this to be

consistent with the practices employed by other leading departments in Greece. While the quality of articles and books plays a significant role in decisions made by the promotion committee, there is at present no clear mechanism by which it can receive external reports commissioned explicitly to review the candidate's publications. To facilitate its continued success in research, the committee recommends that the Department uses external assessors, preferably from outside Greece, to judge the quality of the publications submitted by members of staff who apply for promotion to the ranks of assistant professor, associate professor and professor. These assessors should be experts in the field who have achieved a high level of quality publications during their careers. This refereeing process should be made part of the Department's procedure in promotion cases and the assessors should be different from the referees who have written general letters of recommendation for the candidate. The candidate for promotion should be allowed to provide the promotions committee with names of appropriate assessors, and at least one of the assessors should be drawn from the list submitted by the candidate.

### Appointments

The Department consists of four research divisions: (1) History of Science and Technology, (2) Philosophy of Science, (5) Cognitive Science, and (4) Science and Society, Art and Culture, of which the first three are active. The staff in all divisions conduct research in subjects directly relevant to the history and philosophy of science and its associated methodologies of knowledge, thereby creating unique focus for the rich variety of research being conducted in the Department. The third division became active only a few years ago and at present consists of only five full-time staff. The fourth division has only one staff member and is not yet active. These are to be compared to other divisions which have over ten staff members each. Thus, it is reasonable to say that the cognitive science division should be expanded over the next few years, especially since the subject matter attracts significant attention in leading research institutions outside of Greece.

The expected retirement of several senior members of the Department in the next several years will create further openings in the Divisions (*tomeis*) of the History of Science and Technology and the Philosophy of Science. This situation will provide an opportunity for the Department to think about its shape and the direction it will take for the next generation. The committee recommends that the Department formulate a strategy for future appointments so that it can systematically select talented researchers that, firstly, will extend, expand or modify its current base of expertise in appropriate ways, and, secondly, who are able to collaborate with other members of staff on research and publication projects.

### Publications

As noted above, the Department's publication numbers are high and have made its research visible outside of Greece. Since the Department's publications already appear in highly respected journals that focus on the history, philosophy and methodology of science, the committee feels that the members of the Department should build on this strength by publishing their work in journals and with presses that have a high reputation in the larger disciplines of the History and Philosophy of Science. In short, the committee recommends that the Department concentrate less on the quantity of their articles and that it focuses more on publishing in high caliber journals that are internationally recognized across the humanities, social sciences and, where appropriate, the sciences.

### Funding

There are a number of funding factors outside of the Department's control that inhibits its research performance. The research of students and Department members is often inhibited by old

computers, limited access to online journals and other online subscriptions, and limited funds for conference travel and research trips to foreign libraries and archives. One way to improve this situation is to give the Department as much control over its budget as possible, thereby eliminating much of the bureaucratic overhead and delays that now obtain.

#### Infrastructure

(1) The committee was surprised to learn that the University does not have a research office. The ability of Department members to prepare successful research grant applications is seriously inhibited by the lack of such a body. Most EU universities have some sort of an office that provides crucial advice on filling out forms, calculates the figures for full economic costing (required by all major EU grants) and for replacement teaching, and implements internal review processes that allow weaknesses in grant proposals to be eliminated. The Committee recommends that the University establish such a body, one that exists solely to offer advice and support, not to administer any of the grant money sent to the researchers.

(2) At present there is a serious delay in the dispersal of money from a granting body to the departments of researchers who made the application. This is because the Ministry of Education holds up disbursement of the money far too long, sometimes as long as six months or more. The Department gave many examples on this point. In particular, it cited a case in which the money for a postdoctoral appointment was held so long by the University central offices that the Department did not have the money to pay the person on the day that the post was supposed to start. Since the person could not be paid, he had to go back to his home country. The Department subsequently lost the money from the funding body. This is a clear example of financial mismanagement in the University's central office. Not only is it manifestly unacceptable, the delay of funds makes it difficult for the Department to compete for strong international candidates for their postdoctoral posts and for new faculty positions in general. The committee recommends, therefore, that all research grant funds awarded by grant agencies be transferred by the University's financial office to the Department's accounts well before the post or project is set to begin.

(3) *Electronic resources* – The Department's research is inhibited because it does not have access to online journals that are of central importance to the history and philosophy of science. The reasons for this are complicated and involve the way in which subscription packages are managed by the University administration and the Ministry of Education. The committee recommends, however, that the Department be granted access to the one hundred journals that it annually requests from the University.

(4) *Paper Copies of Journals* - Because the University's offices often pay the electronic journal subscription fees late, the Department is denied access to electronic journals for up to six months of the year. This problem is further complicated by the fact that in 2007 the University stopped giving it the funds needed to purchase hardcopies of journals. Thus, in the months when there is no electronic coverage, the Department has absolutely no access to current journals because it no longer receives hardcopies. This is unacceptable. Our Committee recommends that the University provide extra funds to the Department so that it can buy the hardcopy back-issues of the journals that were stopped in 2007, and that it provides funds that will allow the Department to pay for the hardcopies of the same journals in the future.

#### **PART D. ALL OTHER SERVICES**

##### APPROACH

The teaching staff consider that the services provided by the secretarial staff are adequate.

Electronic processing of information has recently been implemented in a number of important areas, such as reporting student grades and making them available on the Web. Our committee believes that more can be done in this direction. For example, student evaluation of courses and professors could be conducted by electronic means, leading to lower administrative costs, easier analysis and distribution of the data, and a higher degree of anonymity. In some areas greater efficiency and cost savings could be achieved by adopting electronic means. In particular, the requirement that some of the documents having to do with the election and appointment of teaching staff be in paper, in an astonishingly large number of individual copies each of which is required to be processed at the protocol office takes up much time and effort and is inconsistent with objectives of the Department and the University.

The Department has not developed a policy to simplify administrative procedures, perhaps because the administrative staff are able to cover their needs and perhaps because it appears that even if administrative procedures were simplified the work that needs to be done would still require at least the same number of administrative staff. On the other hand, if and when the Department joins a School, it will be an excellent moment to obtain expert advice as to the most efficient way to organize procedures in both the School and the Department. Even if the union of the Department with a School does not happen immediately, it might be worthwhile even now to invite an efficiency expert to review the functioning of the administrative office.

Student presence on campus.

a) Undergraduates

The Department recognizes that in some courses only a small number of the enrolled students attend lectures, that many students do not take or pass their examinations in a timely manner, that the average time to degree is about five and a half years for this four-year program, and that very few students attend the office hours of their professors (even their professors seem to be very responsible at keeping their office hours). The Department expressed dissatisfaction with this state of affairs, but did not offer specific solutions. Our committee agrees that these are serious problems and we recognize that they are found in many Greek departments and universities. Like the Department, we wish things were different. See below for our suggestions for improvements in these areas.

b) Postgraduate students and Doctoral candidates

Our impression, based on our interviews with both students and faculty, is that there are no problems in this area.

#### IMPLEMENTATION

The organization of the Department's administration seems appropriate. (See above under "Approach" for reflections on the advantages of engaging an efficiency expert.)

The infrastructure of the secretariat seems adequate, although more storage area for Department archives would be helpful.

The library is a pleasant place to work and has a reasonable collection of materials. It is not open enough hours to be maximally useful to the students. It should be equipped with wireless internet service. There should be more electronic resources available through the library (or through a consortium of universities), such as large databases of texts, music and images such as are available to members of other major universities.

The computers available to students are inadequate, for two reasons. First, they are old and are not maintained or repaired. Second, the computer laboratory is not open nearly enough hours. What is the purpose of having a computer laboratory if the intended

users are prevented from using it? We were told that there are reasons for both these problems, but whatever the reasons may be, we find the current situation unacceptable.

The number and size of the classrooms are adequate for the needs of the Department, but they lack air conditioning, which makes them unpleasant at the beginning and the end of the academic year. The classrooms are inadequately equipped by current standards. There is no wireless internet coverage in them and they are not “smart classrooms.”

There is no student advising before undergraduates declare which program of studies they will pursue. This occurs in the third year, with one faculty member assigned as undergraduate adviser in each tomas. (For comments and relevant suggestions, see below under “Improvements.”)

## RESULTS

Administrative services are adequate and functional. The responsibilities of administrative work are clearly defined and are distributed among the six employees of the secretarial staff. There is good morale and a willingness to work outside their defined area of responsibility in order to get the job done.

The computer facilities are inadequate (see above under “Implementation”).

There is an insufficient number of offices for the faculty. If each faculty member has an office, there is more incentive to spend time working at the Department instead of at home, and the result is that the faculty are more available to students, more aware of what goes on at the Department and more concerned about fixing problems.

## IMPROVEMENTS

Many of the problems we have identified cannot be solved at the level of the Department; they stem from the overcentralized structure of the University of Athens and from the overcentralized structure of the educational system in Greece, where too many things have to pass through the Ministry for approval. In this climate it is understandable that the faculty are reluctant to take initiatives.

Nevertheless, we believe that the Department cares for their students and their education, and we praise the faculty for making important innovations to make the student experience positive. As noted above, some problems remain, and our discussion them led us to consider the situation of the students, and in particular the undergraduates, more broadly.

We believe that for reasons of efficiency, not to mention the good of the students themselves, it would be better to make some attempts to change the culture that leads to the problems identified above in the section on “Approach.” Those of us with experience (either as students or as professors) at universities where most of the students live on campus and regard their university not simply as a place to go to take classes and then return home, but as the place where they live their whole lives for nine months of the year suggests that such students tend to identify more with their university both during their student years and afterwards. They complete their studies more quickly -- in some cases over 90% of the students admitted each year complete their programs of study in the prescribed time (three or four years). They benefit intellectually and socially from their continuous proximity to other students. They are less likely to engage in behavior that is detrimental to their universities and to their own education. This is true also in universities (including large public

universities comparable in size to the University of Athens) where relatively few students live on campus but where there is a culture of involvement in campus life. A reasonable conclusion to draw is that many problems associated with the Greek universities can be ameliorated if ways are found to change the prevailing student culture. This result may be relatively easy to achieve in the Department, where there is already a high degree of student satisfaction with the faculty and with undergraduate program and a corresponding amount of pride in the program and identification with it.

Here are some practical suggestions.

- change the library hours. Students pointed out that the library is open from 9 to 4, although it is not used so early in the morning and would be heavily used later in the afternoon. Having the library open from 11 to 6 would help, perhaps without much additional cost.
- create working spaces for students, a student lounge, and a *kilikeio*. This will make it possible for students to work, relax and have a place to spend time between classes, as well as before and after, to gather for informal and formal purposes. These uses of space prove to be of immense value in fostering the kinds of relations among students and between students and faculty that lead to better academic work at all levels.
- work harder to integrate the first year students into the program and into university life. The Department already holds an orientation meeting for first year students and other students at the beginning of the fall semester, which is an excellent beginning. In addition, each first year student should be assigned to a member of the teaching staff, to have a first place to go in case of questions or problems. We believe that many students are reluctant to approach the professors in their courses and that they do so only when a serious problem has arisen that has to do with the course taught by the professor in question. The possibility of individual counselling from the beginning might well lead to a better understanding of the way the Department works, its goals, the expectations it has from its students, etc.
- on the first day of each class every professor should clearly state that although attendance in the course is not mandatory, regular attendance is the best way to learn the material and (more importantly) to learn how to think and write in the ways needed to pass the course. Professors should explain why merely reading the assigned books immediately before the examination period is not enough; students need to engage with the material and the best way to do this is to attend class and discuss the material among themselves and with their professors.
- in every course in the history and philosophy of science and technology and in other appropriate courses, students should be required to do at least one written exercise (an essay or research paper) in addition to the final examination. Ideally, the papers should be returned promptly to the students with comments as well as grades, and students should be allowed to rewrite the papers in the light of the comments and for the rewritten papers to be graded as well.
- in every course every professor should encourage students ask questions in class, and to come to the professor out of class to explore their ideas. (And when they do so, the professor should treat their ideas with respect.)
- make course materials available on the internet at the beginning of the semester; not only required reading but also optional reading (which should not necessarily be limited to material in Greek, since most of the students are able to read at least one foreign language and should be encouraged to do so in order to understand that they are being introduced to an international enterprise of scholarship and research).

- make use of advanced undergraduates to mentor first year students. One way to do this would be to have the advanced students conduct discussion sections for the required courses. (This could be done without cost, and experience shows that it can bring important benefits for both the beginning students and the more advanced ones.)
- course evaluations should be submitted in electronic form (see above in the section on "Approach"). The Department office should be responsible for keeping the teaching evaluations.
- create the office of Ombudsman (sinigoros tou fititi?) or some other mechanism for handling student complaints regarding their professors and regarding other matters having to do with the Department. In case of complaints regarding a professor, the anonymity of the student should be strictly maintained.
- invite and encourage undergraduates to attend lectures and conferences in the Department and elsewhere in Athens.

### **COLLABORATION WITH SOCIAL, CULTURAL AND PRODUCTION ORGANIZATIONS**

As is the case with most humanities departments, the opportunities for this kind of social and economic presence is far more limited than for departments such as medicine, law, engineering, chemistry, and economics. We therefore strongly resist the idea of making this consideration, important as it may be in other areas, a major criterion for judging the effectiveness of programs such as the Department we are reviewing.

Nevertheless, because of the expertise of the Electronic Processing of Historical Archives laboratory, there has been notable collaboration of the Department with Archives of the University of Athens and the Patriarchate of Constantinople, resulting in the digital preservation of important archives. This is the kind of work that can be used to train students for future employment and may also (depending on the kind of projects they are allowed to undertake) be a source of revenue for the Department.

### **PART E. STRATEGIC PLANNING, PERSPECTIVES FOR IMPROVEMENT AND DEALING WITH POTENTIAL INHIBITING FACTORS**

Since the beginning of its operation in 1994, the Department has created its own identity and has evolved into a cohesive group of academics with a common purpose – the study of the History and the Philosophy of Science. This identity unites them into a single department with a rich enough diversity of research interests and directions to cross-fertilize each other's work, while offering their undergraduate and postgraduate students a wide enough spectrum of research topics to choose from and investigate.

The Department has made high calibre academic appointments. Some members of the Department have also made their mark in the international academic circle. It is now time for the Department to focus on attaining international standing as a Department. There are the following factors that are significant towards this end:

- (1) High standard international publications
- (2) Research grants from international funding bodies
- (3) A culture of Post-doctoral Fellowships and research visits in the Department



(1) is already being achieved by some members of the Department. As we suggest in the Research section of this report this ambition should be adopted as much as possible by all members of the Department. It is (2) that we would like to emphasize in this section, as (3) will flow from (2).

A general comment first: there should be great motivation on the part of the Ministry of Education and the University of Athens to urge staff to apply for international research projects since this would be a stream of funding of research at a time of financial crisis in the country. The Ministry and the University should lead the movement of changing the culture of application submission in the Humanities towards international funding bodies. To do so they need to encourage and motivate staff by providing incentives for research grant success.

Research Grants: Next to brilliance, the best way to establish a Department as an international centre of research excellence is to apply as Principal Investigators for competitive grants advertised by international funding bodies such as the European Union. Achieving success in prestigious international research competitions is the most effective way of establishing a Department as a leader in the field internationally. Towards that purpose, the following would be strongly recommended as necessary for generating a culture of research success:

1. A clear academic identity of the Department: its name should be changed to 'History and Philosophy of Science', to reflect the academic identity its members feel represents them.
2. Policies should be introduced to allow the Heads of Departments to relieve members of staff from Departmental duties for a period of time to allow them to devote time to the preparation of technically difficult and demanding applications.
3. A Research Office at University level should be created to provide assistance to academics with respect to finding research Calls for their speciality and in filling out the financial sections of the application forms for each call.
4. Teaching Replacement should be arranged for a member of staff who gets a grant and secures funding for replacement. (Projects will pay for teaching to be done by Temporary Lecturers.) The University should make this a policy and facilitate it.

The successful research projects will bring to the Department:

1. Academic prestige and international standing.
2. Postdoctoral Fellows paid by the Project who will carry out research for their Project and also offer some teaching for the Department.
3. PhD students who will work on the Project topic.
4. Time for the Principal Investigator to carry out research.
5. Visits to the Department by academic collaborators

Research Grant Applications should become a priority of the Ministry and the University as well as of the Department. Incentives should be provided to motivate staff to apply for funds, and to help Departments flourish academically.

Impact: Impact considers the significance that academic activities have for society outside academia; for example, the impact of the theory of consequentialism in politics. Abroad they use this dimension of research to justify academic expenditure to the state. No one indicated that either the Ministry or the University is at present concerned with impact, but this is a factor that has entered academic considerations in Europe and will unavoidably enter Greek academia as well.

In view of this probability of development we believe that the Department is in a strong position to demonstrate they have societal impact through such activities as

1. The publication of the journal *Cogito* for a wider audience
2. The articles in newspapers from members of staff

We commend the Department's international standing. We strongly recommend putting in place policies that will help the Department to excel in raising research funds through competitive research applications and placing their Department on the international map of academic excellence.

3. The involvement of members of the Department in organizing lecture series and museum exhibitions

#### **PART F: FINAL CONCLUSIONS AND RECOMMENDATIONS OF THE EEC**

The Department has established an outstanding record of success in research and has the potential to become an international center in the History and Philosophy of Science. The teaching staff are dedicated to teaching as well as research. Initial problems with the quality of undergraduates are disappearing, with a noticeably higher proportion of first year students in recent years naming the Department as one of their top choices. This trend can be strengthened further by increased efforts to make the Department and its curriculum known to students and to teachers at *phrontisteria*, and by changing the name of the Department from its apparently esoteric and forbidding title ("Department of the Methodology, History and Theory of Science") to more familiar and comprehensible "Department of History and Philosophy of Science." In addition, graduates of the program have a good rate of success either in finding employment in the public or private sectors or in being admitted to strong postgraduate programs worldwide.

The Department is aware of its strengths and of the weaknesses we have identified in this report. Many of the weaknesses are not the fault of the Department but of University and Ministry policies over which the Department has no control and from which it (and presumably other departments as well) suffer. As to the weaknesses that are within the power of the Department to address, the Committee believes that the Department wants to make improvements possible within the limits of available human and material resources.

The Department regularly reviews its condition, as is indicated by the annual reports it issues. It contains many ambitious faculty members in all ranks. There is a truly impressive amount of collaboration both within and outside of the Department, which can confidently be expected to continue.

The Committee's overall assessment of the Department is very positive. It is something of which the University of Athens and the Ministry of Education should be proud.

This report concludes with the recommendations indicated above. We stress that these are intended as ways to improve an already strong Department.

Recommendations relevant to Part A: Curriculum

- Create foci in the science teaching curriculum (p.4)
- Seek external cooperation for the teaching of sciences and also of auxiliary philosophical and philological topics (p.4)
- Concentrate and enhance the teaching of the core subjects (philosophy and history of science and technology, core philosophical issues) (p.4)
- Make undergraduate and graduate study programs fully compliant with the Bologna process / ECTS requirements (p.5)

- Continue to encourage students to spend some of their study time abroad using the opportunities offered by the ERASMUS program (p.5)

#### Recommendations relevant to Part B: Teaching

- Establish a procedure to ensure that examination papers are graded anonymously (p.6) Increase the prominence of home assignments, papers written individually or in collaboration with fellow students and other projects (p.6)
- Establish a mentoring system in which advanced students assist beginning students by discussing course materials, help them with their writing and give them guidance about their academic work
- Offer the course in writing in the first semester of the undergraduate program (p.6)
- Develop and implement procedures (preferably electronic) that guarantee the anonymity of the students' evaluations of courses and instructors. Specifically those evaluations should be processed by the Department, or even by an office higher up in the University, without the involvement of the course instructor. (p.6)
- Develop and implement procedures to determine the effectiveness of instruction in each course and to improve it where necessary (p.6)
- Revise the requirements of the undergraduate and postgraduate programs to enable most students to complete their studies on time (p.7)
- Establish advising and supervision practices that do not rely exclusively on student initiative in order for contact between student and teaching personnel to take place. (p.7)

#### Recommendations relevant to Part C: Research

- Expand the cognitive science division over the next few years (p.11)
- Commission external assessments of publications for staff applying for promotion to the ranks of assistant professor, associate professor and professor (p.10)
- Formulate a strategy for future full-time appointments (p.11)
- Concentrate less on the quantity of their articles and focus more on publishing the high caliber journals (p.11)
- The University should give the Department as much control as possible over its budget (pp.11-12)
- The University should establish a research office (p.11)
- The University's financial office transfer all research funds awarded by grant agencies to the Department's accounts well before the post or project is set to begin (p.12)
- The University grant access to one hundred journals that the Department annually requests (p.12)
- The University provide additional money for the hardcopies of journals (p.12)

#### Recommendations relevant to Part D: All Other Services

- Conduct student evaluation of courses and professors by electronic means (pp.12, 15)
- The University should develop and implement an electronic protocol system (p.12)
- Conduct a study of the Department's administrative procedures (perhaps in connection with the Department's joining a School) (pp.12-13)
- Increase funding for electronic library resources (preferably at the national level, making electronic resources available to all Greek universities) (p.13)
- Change or increase the hours the Department library is open (p.13)
- Increase the hours the computer laboratory is open (p.13)

- Budget funds for regularly scheduled replacement of computers and for maintenance, upgrading, installing software, and repair (p.13)
- Make wireless internet connectivity available throughout all Department buildings (p.13)
- Upgrade at least one teaching room to be a “smart” classroom (p.13)
- Increase the number of faculty offices so that each member of the Department has an office (p.14)
- Create working spaces for students, a student lounge, and a *kilikeio* (p.14)
- Assign a member of the teaching staff as an adviser for each first year student (pp.14-15)
- Explain in each course the importance of regular attendance and systematic study (p.15)
- Require at least one written exercise (preferably with opportunities to rewrite) in each course (p.15)
- Make course materials and optional readings for every course available on the internet at the beginning of each semester (p.15)
- Introduce a peer mentoring program (p.15)
- Change procedures of handling course evaluations to ensure anonymity (p.15)
- Create a mechanism to handle student complaints anonymously (p.15)
- Encourage undergraduates to attend lectures and conferences in the Department and elsewhere in Athens (p.15)

Recommendations relevant to Part E: Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors

- Change name of the Department to the Department of History and Philosophy of Science (p.17)
- Introduce policies in the University promoting and motivating international grant applications for Research Projects by members of staff (pp.16-17)
- Create a University research office to assist with project grant applications (p.16)
- Facilitate teaching replacement of successful members of staff in research applications (p.17)
- Retain already existing impact generating practices (p.17)