

# AMSE NEWSLETTER 21

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*"AMSE Newsletter" is a newsletter of the Association of Medical Schools in Europe. The purpose of AMSE is to share experience between European Medical Faculties in the fields of education, research and management.*

At the AMSE congress 1995, in Vienna, a session was held on "Scientific integrity in medical research". The reports were published in AMSE Newsletter n. 1 (October 1995). During this session it was also decided to establish a working group in order to make recommendations on this subject. The working group, co-ordinated by professor Frank Harris (Leicester) produced the following document.

### **SCIENTIFIC INTEGRITY AND RESEARCH MISCONDUCT**

*Frank Harris - Leicester (UK)*

This title is chosen purposefully to define the two different but complementary processes that Universities and Medical Schools should have in place.

Scientific integrity may be defined as the premise on which all research and scholarship is based. This premise, stated briefly, is that research and scholarship shall at all times be the genuine work of the author honestly derived and produced with due diligence to accuracy and appropriateness of data handling and interpretation.

Research misconduct is the antithesis of scientific integrity whether born from intention to deceive or arising from lack of diligence in the prosecution of the research or scholarship.

Other more complete definitions are referred to later in this paper. (Annex I)

Universities with Medical Schools have a particular responsibility because of the overriding duty of care to patients which has a primacy for medically qualified and registered doctors who are members of the University Medical School. Such members of staff are thus not only trouped by the University's code of conduct for academic staff but are also subject to the professional and statutory bodies required to maintain standards and the probity of registered medical practitioners whether specialists or family doctors.

In considering the responsibilities of Universities and Medical Schools in this area there are possibilities for real tensions to arise between the academic freedom of staff to pursue research and scholarship which is legal, decent, ethical and honest. On the other hand the institution must exercise some degree of proactive quality assurance programmes that may, on the face of it, seem to clash with the concept of academic freedom as defined above.

In 1962 C. Henry Kempe and his colleagues in Cincinnati published in the JAMA a seminal account of the "Battered Child Syndrome". Physicians, because of their own feelings, were reluctant to believe that parents could be guilty of such abuse. Society at large had similar problems in coming to terms with the real situation and the response was generally one of denial. that such things could happen. Following the subsequent acceptance that child abuse was a significant problem we went through a difficult period of attempting to define methods of diagnosis and management and identifying young persons at risk. There are still difficulties in this sensitive area of medical practice and they range from at one extreme the over diagnosis and precipitate medical-legal action with catastrophic results for innocent families to a continuing reluctance to accept that it is prevalent and includes sexual abuse of children.

At the present time we are in a similar time frame for accepting that research misconduct is a problem of whatever size and that the issue of maintaining scientific integrity must be addressed. We are at a stage when the first efforts are being made to address the issue of accepting that it does occur everywhere. Scientific integrity needs proactive management to ensure that it is maintained and misconduct requires detection and management within Institutions. This is the theme of the present paper.

History. Recently Stephen Lock, a past editor of the BMJ gave an entertaining lecture at the Royal College of Physicians of London entitled Fraud in Medical Research to an audience of young doctors. He pointed out that questions could be asked about Sir Isaac Newton and inventing astronomical data; Pasteur about plagiarising and suppressing rival data about vaccines; Mendel about manipulating genetic data or at least his helper doing some and Cyril Burt for possibly invented data on twins.

Perhaps the 1974 Summerlin case of fraudulent immunology involving felt tip pens on mice is the turning point in the history of scientific misconduct because it really hit the headlines. Over the next 7 or 8 years a number of scientists from amongst the most reputable institutions in the US including Yale, Cornell and Harvard received widespread publicity. However the problem is

by no means confined to the US . The UK has had a number of such cases but most of those that have received not only publicity but been exposed to the General Medical Council have been from general practice where participation in drug company sponsored post marketing research has been the subject of fraud. There are well documented cases from Canada and Australia with reports of cases in Germany and Switzerland.

The prevalence of scientific misconduct is very difficult to estimate but there are 600 cases known world-wide. The US Office of Research Integrity (ORI) (1992) recorded 6 instances of plagiarism, 33 forgery, 8 misrepresentation and manipulation of data. In the 6 months from December 1995 to March 1996 there were 7 cases reported in the ORI newsletter.

Lock reports that in 1988 more than half of 80 academics in the UK questioned knew of 73 cases and only one was in the public domain.

There are a number of points from the historical overview worth making at this stage. The prevalence of scientific misconduct is not restricted to senior staff or prestigious Institutions. It takes different forms ranging from fabrication of data to plagiarism. The method of detection is varied and the subsequent management by the Institutions concerned differs widely from immediate dismissal through retirement on health grounds to the equivalent of turning a blind eye. This pattern represents a combination of the denial stage and trying to get to grips with a difficult and complex area of human behaviour. Unless we understand the reasons why or study the circumstances of the cases, it will remain difficult to respond rationally and consistently to such cases.

Before we go further into this aspect, it is important to understand the very serious nature of scientist misconduct and why scientific integrity must be protected.

The National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine published a report entitled "On being a scientist: responsible conduct in research" (1955). This document may be reproduced for educational purposes. In this paper it is stated that acts of scientific misconduct strike at the very heart of the values on which science is based. Such misdemeanours erode the fundamental standards of research and scholarship and destroy the trust and confidence that the public must have in scientists and scholars if there is to be future for research. The public whether private or corporate are the providers of funds for research and if the scientific community demonstrably are revealed to be cheats and dishonest then the consequences for the future funding of research could be very serious indeed. In medical research, especially the fabrication (making up of data or results) and falsification (changing or mis-reporting data or results) can have very serious consequences for the public. Once a paper on medical research is published there usually is an immediate rush to employ the new methods of diagnosis or treatment. If this data is false, patients will come to harm.

For the scientist, the consequences of such misconduct are and should be very serious. If they are medical doctors then their future is at risk because the Competent professional body may expel them from practice and they may lose their university posts with an end to their career.

The attendant publicity can seriously traumatise innocent colleagues in the same department and their hospital or institution.

Before we approach this whole issue as vigilantes, we should remember there is a fundamental right that must be respected, namely a person's right to the presumption of innocence until proven guilty and correspondingly that natural justice must be exercised. We need to recognise

that there is a difference between being vigilant and being a vigilante. And as there are scientists who are guilty of scientific misconduct through fraud or plagiarism so there will be other academics who may behave maliciously toward an innocent colleague perceived as a rival.

Apart from the moral consideration, any reckless statements and precipitate action can expose an institution to heavy damages for slander to which I shall return later.

The causes of scientific misconduct are not that difficult to understand:

pressure to publish

vanity /ambition/greed

'messianic' complex

mental illness

villainy

irresponsibility or crass stupidity

The population at risk are all grades of medical and/or non-medical scientists. Their habitat is universities, research institutions, hospitals and clinics.

The reactions in Institutions to the discovery of scientific misconduct is born of the presence of traditional values that surround academic and research endeavour which is generally one of trust and acceptance. When such an incident does become known and because of the lack of experience there often is a naive reaction including disbelief and defensiveness. From these very commonplace reactions is the need for any Institution to have a formal mechanism for handling such occurrences. In this way a corpus of experience is built up in both the investigation and prosecution of such incidents of scientific misconduct.

However before discussing the mechanisms that should be in place I would like to go back to the concept of maintaining scientific integrity, i.e. prevention of misconduct

Taking into account the reasons why misconduct occurs there are a number of steps that can be taken to maintain scientific integrity.

Younger scientists who are vulnerable to the pressure to present their thesis, publish and raise grants require two preconditions: 1. role models and examples of good laboratory and research practice, and 2. supervision.

Good research practice includes the retention of all raw data and work books with regular meetings of senior with junior workers to review the work in progress.

Supervision includes advice and discussion about the correct methods of data analysis and particularly the correct use of statistical analyses and interpretation. The whole area of use and abuse of statistical analysis is a subject on its own about which endless books have been written. It is now increasingly likely that reviewers of papers have access to statistical techniques that in many cases can identify manipulation of numerical indices. Consequently less sophisticated attempts at fabrication of data and manipulation of data are more than likely to be detected

A further element in good research practice is the consideration of authorship and again here much can be gained by good examples set by Heads of Departments and senior investigators.

I suspect that one of the most common types of fraud is the use of gift or unearned authorship. These are instances where senior and often very senior scientists insist on a form of "droit du seigneur" where by every paper from their department or laboratory has their name attached regardless of the real nature of their contribution. One only has to scan departmental reports to identify colleagues with 30 or more publications a year of a kind that makes it less than probable that they deserved their name on the papers. These same people are more often in the departure lounge of an airport than in their laboratory and in addition peer knowledge would confirm the absence of their serious input into the work.

A further form of misconduct is the theft of intellectual property obtained by a journal reviewer/referee who misappropriates the ideas or results from a paper sent for review by a journal. This is a particularly serious form of scientific misconduct because it challenges the total basis of peer review and the integrity of the process for submission of papers to scientific journals. There actually are a few recorded cases but anecdotal evidence suggests that it is more common but difficult to prove by the very definition of an expert referee.

#### *The Informant or Whistle blower.*

The detection of scientific misconduct relies very much on peers and colleagues coming forward in good faith with information which gives rise to a prima facie cause for concern. A key issue is the protection of the informant who may be extremely vulnerable if the scientist in question is a senior person. There have been well publicised examples in the US and Australia of the risk to the "whistleblower" not only from the senior perpetrator of the alleged offence but also from the parent Institution who will rally around the putative offender in defence of the Institution's reputation or because of naivete or incompetence. If a person acting in good faith cannot be offered the prospect of anonymity and protection if determined to be acting in good faith, then any system will be doing too little to late in dealing with scientific misconduct. Thus this is yet another area where a balance must be struck between opposing rights.

#### How to manage the problem:

As described earlier, the Universities and Medical Schools have a duty of responsibility to protect the integrity of research and scholarship in order to safeguard the public interest whether personal as in medical research or generally to avoid misuse of public funds and to maintain the confidence of the public in their scientific community.

The primary method of meeting the above duty of care is probably through maintaining high standards of scientific integrity. In addition there will have to be well-defined and transparent processes for the detection and management of suspected and proven cases of misconduct in research and scholarship.

Maintaining scientific integrity is achieved at least in part in by ensuring that, for junior researchers, there are adequate levels of supervision in place and that responsibility for such is diligently exercised. Manuals of good research practice should be available and be part of the induction course for all young scientists and indeed others. There should be a specific responsibility placed on Heads of Departments and Directors of large Research Groups to ensure that such processes are in place. Part of such process should include regular meetings of staff where research findings of work in progress are presented. It is possible to have this in place without compromising the ever increasing competitiveness in the research environment.

At Faculty level there should be a clear understanding about the basis on which authorship may be claimed and the headship of a department or large research group should not be an automatic entitlement to authorship of a paper in which the contribution has been nominal or administrative. There are other ways in bringing to the attention of editors of Journals and Funding bodies the provenance of the research and its resourcing.

#### Management of alleged scientific misconduct.

There are at least two national bodies specifically established to deal with cases of scientific misconduct. In the US there is the Office of Research Integrity (ORI) and the Danish Committee on Scientific Dishonesty and Good Scientific Practice. It is more appropriate to look at the latter and I have drawn heavily on the account of Povl Riis, Professor of Medicine in the University of Copenhagen and Chairman of the Central Ethical and Scientific Committee of Denmark as written in his chapter for Lock and Wells (1996).

The major purpose of the Danish Committee also recognises the dual approach of disclosure "and especially to prevent fraudulent behaviour by the inclusion of lessons in research ethics and scientific honesty in all obligatory courses for young scientists". The former is part of the programme of publishing annual reports. The Danish have preferred the terms scientific dishonesty and informant in place of the Anglo-American scientific misconduct and whistle blower. The use of the term misconduct is maybe better, because it embraces a wider spectrum of offences that are not only criminal or near criminal but also ethical practice that is necessary for the good of scientific research. Informant is a better term than whistleblower.

The categorisation of scientific dishonesty is listed in appendix I.

A national body in order to be effective requires statutory power through legislation unless there is a very powerful academic, professional and institutional consensus. However for those countries with a professional Competent body such as the General Medical Council (GMC) in the UK, which has statutory power under the Medical Act (1983), it is possible to deal with allegations of scientific misconduct if the alleged offender is a registered medical practitioner and a complaint is made to the GMC.

Every Medical School and/or University and Research Institution should have formal and transparent procedures in place for both promoting scientific integrity and handling allegations of scientific misconduct. Initially a Faculty panel should consider the initial allegations or information that has come to hand. This panel should be chaired by the Dean with at least two other members of the Faculty at senior level neither of whom should be research collaborators or in the same department. The Faculty panel may require the expert advice of a colleague from outside the Institution. If the outcome is no case to answer, then a formal report to that effect should go to the Rector/Principal/Vice-chancellor. If it is found that there is a substantiated prima facie case to be heard, the matter should be passed to the parent institution which in most cases is the parent University. This does not preclude at a later stage the involvement of the police if a criminal offence is suspected and or the GMC if the offender is a registered medical practitioner.

At the level of the University the investigation should be taken over by a new panel. The chairman of the panel could usefully be a senior Law Professor or a pro-Vice-chancellor (if a lawyer), a senior Professor from the Medical Faculty who is respected researcher and neither in the same department nor a collaborator. An expert external to the University in the subject area always should be included in the panel. The report should then be made to the head of the Institution who would report to the governing body which in the UK is the University Council.

It would be for this body as the employer to decide on the penalties to be imposed if the case is found against the member of staff.

It will become apparent that at all stages in this there are legal pitfalls and due regard must be given to the rights of both the alleged offender and the informant.

## APPENDIX I

### Research Misconduct (Smith 1966)

Research misconduct is significant misbehaviour that improperly appropriates the intellectual property or contributions of others, that intentionally impedes the progress of research or that risks corrupting the scientific record or compromising the integrity of scientific practice. Such behaviours are unethical and unacceptable in proposing, conducting, or reporting research or in reviewing the proposals or research reports of others. Examples include Misappropriation (including plagiarism) Interference and Misrepresentation

### Danish Spectrum of Scientific Dishonesty (Riis 1996)

Fabrication of data.

Selective and undisclosed rejection of undesired results.

Substitution with fictitious data.

Erroneous use of statistical methods to draw conclusions diverging from those warranted by the study data.

Distorted interpretation of results or conclusions.

Plagiarism.

Distorted representation of other researchers results.

Wrongful or inappropriate attribution of authorship.

Misleading scientific grant or other applications.

Supplementary list:

Duplicate publications.

Presentation of high profile results through the media prior to peer review.

Omission of earlier original observations by others.

Exclusion of others from legitimate authorship.

Salami publishing.

Data massage.

### References:

- Lock S. Wells F (1996) Fraud and Misconduct in Medical Research. 2<sup>nd</sup> Edition. BMJ Publishing Group London

- Macrina FL (1995) Scientific Integrity. ASM Press Washington

- On Being a Scientist: Responsible Conduct in Research (1995) National Academy Press Washington DC

### Proposal

The AMSE recommends that all Medical Faculties

- 1) declare their commitment to maintaining scientific integrity through proactive and positive measures
- 2) have in place a transparent process for reporting and the investigation of allegations of scientific misconduct.

## **WHAT IS THE ROLE AND THE RESPONSIBILITY OF A DEAN OF MEDICINE ?**

*Reports presented at the annual AMSE congress 1997 (Uppsala, September 4-6, 1997)*

### **1. FIVE PLAYERS IN SEARCH OF A DIRECTOR: CURRENT ROLES OF A MEDICAL SCHOOL DEAN**

*Antonio Campos - Dean, School of Medicine - Granada (Spain)*

Explaining the role of the Dean of a Medical School in Europe is a difficult task. This is because Europe is a large and varied continent with different academic and cultural traditions. However, as the Portuguese physician and writer Miguel Torga observed, "universal things are local things without walls". That is why I am going to speak about how I see the role of the medical school deans in Spain.

I believe that many of you will identify with the situation I am going to describe. To begin, let me use a cinematography metaphor. The Japanese film Rashomon is a movie version of a very old Japanese story. The interesting thing about this story is that the same event is told by five different participants. The version of each participant is different because it is influenced by their own experience, emotions and interests.

If we want to know what it is like to be the Dean of a Medical School, we must take the approach used by the director of Rashomon: How do students see the Dean? How do the directors of the University see the Dean? What do the University departments think of the Dean? How does the chief economic administrator of the University hospital see the Dean? And finally, How do we see ourselves?

None of these five different views is complete or entirely accurate, but they all contribute to a vision of the true role of the Dean.

From the medical student's point of view the Dean is responsible for everything in the medical school, from shortages of chalk for the blackboards to poor-quality practice. In addition, the Dean is the student's advocate in problems with departments, professors and courses. Finally, the Dean is a sort of student's ombudsman in their relations with the university and society.

To the directors of the University the Medical School Dean is a supplicant of specific solutions and special favors for a presumably higher caste within the university, whose problems always require special attention. The Dean is therefore considered a selfish, inflexible person who is incapable of understanding the University's problems as a whole.

Finally, the Dean is that irritating person who represents the interests of a particularly bothersome professional collective: the well-paid academic practising physician.

How do the departments see the Office of the Dean? As an official busybody and organ that supposedly limits the effects of measures and decisions that are sometimes not entirely appropriate. For many departments the Dean's office is also a permanent shock absorber they can use as an excuse for not facing their own problems and responsibilities, and for not admitting their own limitations. What about the executive director of financial management at the university hospital? For this person, the Dean does not figure in their concept of health care. For the executive director of financial management the best dean is the one who keeps his or her mouth shut the longest. However, the Dean can sometimes be a threat to their goals and to their absolute, incontestable authority especially over the budget.

And finally, how do we see ourselves? I believe our self-image is one of infinite goodness and altruism. We see our role as a kind, and beneficial one.

This somewhat ironic Rashomon of the Office of the Dean illustrates our work from five different points of view. Although I may have exaggerated a few things, I have emphasised some features to paint a more vivid picture - a caricature, perhaps - of the players in this film. Like in the anonymous Japanese tale, the true role of the Dean is an amalgam of all these visions.

I do not know exactly what kind of vision each of you will have. But the one I get is of an agent of power, exercised through mediation within an extensive hierarchy of human and professional relations. Medical school Deans have, in fact, much more power than we are usually aware of, and I mean power in a positive sense. Along with this, power of course, comes responsibility: the responsibility to ensure that the different elements that make up our schools of medicine work together productively and harmoniously.

This means that we must work to develop three specific skills: to represent and transmit a sense of identity of what Medicine should be within the University; the ability to inspire confidence; and finally the capacity to build a nexus between the highest levels of University and hospital administration and the individual departments. The office of the Dean should be a place where the Departments local problems are understood, but also where these problems are seen from a distance, so that they can be considered within the context of the whole university or health care system.

How to achieve all this? How can we develop these capacities? How to be a Dean in this complicated and demanding environment? Let us go back to our five players in our academic Rashomon. For the medical student, the Dean should be a model, a stimulus and a symbol of the noble office of the medical practitioner as a professional who embodies Medicine as an integrating activity and an intellectual passion.

For the directors of the University, the Dean should be an effective negotiator. For the Departments, a wise and experience co-ordinator; for the financial managers, the Dean should be able to guarantee that quality in education, training and research is not sacrificed to anti-academic economical imperatives.

I would suggest to you two more considerations to keep in mind that may help you to keep your balance in your efforts to play these five roles. Reach for utopia and keep your feet firmly on the ground. To paraphrase the writer and philosopher Miguel de Unamuno: without utopia and without pragmatism it will be difficult for the modern Dean of a modern Medical School to be successful in his or her true role as Rashomon.

## 2. THE DEAN OF THE FACULTY OF MEDICINE: TEACHER, SCIENTIST, ORGANISER.

*Petr Hach - Dean, First Faculty of Medicine, Charles University - Prague (Czech Republic)*

I will try to generalise the experience of my colleagues from our country and of myself with some reflections on the normal situation abroad.

The dean of the Faculty of Medicine should be a many-sided personality due to the very wide spectrum of his duties. The extent of the dean's activities is nearly a full time engagement. Therefore it is very difficult, if not impossible, to combine the official duties of the dean with those of the head of a department and with clinical practice. This detail could easily explain an old habit at our university. Until the second World War, on nearly every occasion the clinical professor was elected dean, but he regularly resigned in benefit of a second candidate from the theoretical department. I would like to try to characterise the most important qualifications for a contemporary dean of the Czech faculty of Medicine:

1. The dean should be a highly educated, skilled and respected teacher - the degree of professor is required. The dean needs to lead the staff of the faculty as a respected authority. The dean is responsible for the quality of education of the faculty and for the possible improvement of it. The dean should direct the pedagogic policy of the faculty, having the final decision in all students' affairs beginning from the admission to studies and ending with the closure of individual studies as well. It is taken that the dean should be an initiator of all discussions directed to the modernisation and reformation of education. The dean should be responsible for the preparation and realisation of new curriculum as well.
2. The dean should be a highly educated, skilled and respected researcher - a scientific degree is *conditio sine qua non* for the deanship. The dean is obliged to direct the research activities at the faculty and to give the instructions for them. For this purpose the dean presides over the Scientific board of the faculty which is responsible for co-ordination and evaluation of research activities, as well as for staff innovation and for the conferring of academic degrees. The dean is responsible for the research work at the faculty, he is expected to find out ways and means of improving upon it, how to recruit fresh and prospective ideas, new research fellows and how to protect and enhance the high standard of research activities at the faculty.
3. The dean should be a good manager and organiser, being responsible for the economy of the faculty, for the co-ordination of all activities necessary for a good functioning of the faculty and for good relations with other faculties, research institutions and the Faculty hospital as well. The dean should provide the direction for the economy of the faculty, and find new sources for financing and support. In addition, the dean is responsible for the economic status of the faculty as well.

The priorities of all three basic qualifications for the deanship are unstable due to the dependence upon the development of the state financial or educational policy and all other conditions influencing the academic and economic status.

I am sure that this last qualification is the most important one, because, if the economy of the faculty is stable, all other activities could be protected much more easily than under the imperative pressure of financial difficulties.

There are two possible mechanisms for the creation of the post of dean:

- a) appointment,
- b) election.

Both of these have been used in our country during this century. They differ in their benefits and risks. However, both of them need suitable candidates willing to accept the office and to offer their time and qualities to the faculty.

From my experience, it is very difficult to find at any of the faculties of Czech Universities specific 3 year deanship candidates with an optimal combination of qualifications mentioned above. It is in the interest of the faculty to retain a good and strong dean for a period longer than two-three year periods in accordance with our regulations. The appointment of a standing dean could, in fact, bring more stability. However, it is in the interests of the faculty to change a dean who proves to be weak or unqualified - a shorter term could be more effective as well. Furthermore, an election would be more effective than an appointment. Nevertheless, the option between appointment and election is a challenge of political decision making reflecting both the traditions of the university and of the contemporary political status of the society.

Therefore, in my opinion, the stability of the administration of the faculty is more important than the modus of the dean's creation. The professional qualities of the secretary general of the faculty and other employees are crucial for the common status of the faculty and can bring stability and resistance to the other influences. The faculty should have a stable apparatus and then the dean could be changed. Unfortunately, this important condition is not ensured in our country where the deans prove to be more stable than the staff of the faculty administration.

In addition I would like to reflect upon one of the important qualifications of a good dean, which is seldom expressed in a straight forward manner: The dean is expected to represent the faculty in all respects. Therefore the dean should be a person with vision and a good orator due to his necessary presentations during different academic ceremonies, debates, negotiations, etc., where it is necessary to give an impression both personally and orally.

### **3. THE DEAN OF MEDICINE'S JOB**

*Peretz Lavie - Dean, B. Rappaport Faculty of Medicine - Haifa (Israel)*

The job of a Dean is, to a great extent, shaped by the structure and atmosphere of the academic institute to which his faculty belongs. Indeed, the Bruce Rappaport Faculty of Medicine, one of the 4 faculties of medicine in Israel, is an outstanding faculty world-wide because it is one out of 23 Faculties of the Israeli Institute of Technology, a research-oriented Technological Institute that is world famous for its engineering and scientific faculties. It is by far the largest faculty in the Technion, having some 250 faculty members, which is more than three times the number of faculty members of the second largest faculty on campus. Each class of medical students has 72-75 students who follow a 6 year study program. In addition, there are some 200 graduate students working toward their M.Sc. and D.Sc. degrees. Being part of a technological and research institute, it is not surprising that the medical curriculum emphasises an expanded background in sciences, and that medical students are encouraged to conduct research at all levels of their medical education. About 10% of the students in each

class are studying toward a "double degree" of both MD and D.Sc. degrees. The Dean, who is at the head of the academic pyramid at each of the Technion faculties, is elected by the faculty council by secret ballot. To be elected, he must win at least 2/3 of the votes. According to the bylaws of the Technion, the Dean is elected for 2 years and can be re-elected for a maximum of three terms, namely 6 years. Currently, I am starting my sixth and last year in office.

### Time budget analysis of the Dean's job

How then can one begin to describe the job of a Dean in such a unique institute? In order to avoid portraying an idealistic and unrealistic picture of a Dean's job, I have decided to take a different, more direct approach. Using the Dean's office diaries, I conducted a time budget analysis of the Dean's activities during 1994-5, which are my third and fourth years as Dean. In this analysis, each diary entry was categorised and then weighted by a time factor which provides the amounts of time invested in each activity. This procedure provides an accurate mapping of all of the Dean's activities during this two-year period, which is in fact a realistic description of a Dean's job. An analysis of the Dean's activities revealed that three activities accounted for more than 60% of the time: day-to-day administrative work at the faculty, academic activities associated with academic promotion of faculty members, and activities associated with the faculty performed outside Haifa. While the first two activities could be expected, the amount of time associated with travelling outside Haifa to represent the faculty on various national committees and international activities was by far much more than anticipated. In summing up the activities of this two-year period, it also became clear that the Dean has a large number of social obligations. During the two-year period, I spent 8% of my time on social events which included official dinners or lunches, 3% of the time was spent on entertaining faculty guests, and on the average twice a month, I delivered a welcome address to officially open a symposium or scientific meeting organised by faculty members or one of the affiliated hospitals. There are two aspects of these activities that gave me food for thought: first, how can one participate in all official dinners without gaining extra weight, and second, how can one open so many meetings and still say something original. At the same time, it was comforting to find out that, in spite of the heavy administrative load and the numerous obligations, I was still able to allocate 15% of my time to my own research, to my own students and to attend scientific seminars of my choice - not as a dignitary obliged to attend the meeting, but as a participant.

From the analysis of the above there is no doubt, however, that the two most demanding activities that consumed most of the Dean's time were direct involvement in the day-to-day activities of the faculty, and being responsible for all the academic promotions of faculty members. In order to further demonstrate the nature of the administrative activities that come with the job, I would like to describe a typical faculty project in which the Dean was personally involved in almost every step of the way.

### Changing the Medical Curriculum

One of the major faculty projects that started shortly after my election as Dean was changing the curriculum. Being a part of a Technological institute, medical students at our faculty were given an overwhelmingly large background in basic sciences which inevitably came at the expense of clinical studies. Thus, students spent 4 years in preclinical studies and only two years in clinical studies. This program was unique and different from any of the other Israeli faculties of medicine. Although the imbalance in the program was bitterly criticised by students and faculty alike for many years, it was not before we found out from the national comparative examinations in medicine, paediatrics, and surgery that our graduates were inferior in their clinical knowledge, that a firm decision to revise the curriculum was made. Anybody who ever

been involved in changing a curriculum of a medical school knows that this is an "impossible" mission that may take years to accomplish. Moreover, since the Technion is a very centralist institute, and any change in the curriculum must be approved by a number of committees as well as the Technion Senate (an assembly of full professors), the project became much more complicated. To initiate the process, we organised (November 1993) a one-day retreat of almost all of the clinical faculty, representative of the preclinical faculty and the students. The task presented to the faculty was to reach a consensus concerning the essential core knowledge for a preclinical program which should be a prerequisite for the clinical studies. They were instructed to take into consideration the unique characteristics of the Faculty as part of a technological institute, the explosion in medical knowledge toward the end of the 20<sup>th</sup> century and the need to incorporate elements of behavioural sciences and ethics into the program that were completely missing from the existing program. The faculty was divided into small groups, and after a day-long intensive discussions and negotiations, representatives of each of the groups presented their group consensus to the faculty. Within 2 weeks, a committee formed from these representatives formalised the faculty recommendations that were handed to the Dean. The next step was a similar one-day retreat including all the preclinical faculty responsible for teaching preclinical studies to discuss the clinical faculty recommendations, and to propose an outline for a tentative core program. Here too, they were accompanied by students who were actively involved in each step of the way. This was done again by forming small group discussions, each dealing with a different segment of the existing curriculum. Each one of the existing courses was put under a magnifying glass and analysed and dissected in great detail. By the end of that day, an agreement was reached concerning the possible changes in the program and a joint preclinical/clinical committee was formed to formulate and present a comprehensive program to the Dean. Within one month of intensive work, such a program was ready. On 26 of January 1994, I presented the program to the Faculty council (this assembly includes all faculty members from the rank of senior lecturer and above). The discussion that followed the presentation raised several issues that were addressed by the curriculum committee in a second series of meetings and on February 2<sup>nd</sup>, the council approved the program and instructed the Dean to make all efforts to change it during the following academic year. The decision was a daring one; instead of changing the curriculum gradually starting from the first year, it was recommended to change it for all three of the preclinical years at the same time. The meaning of that decision was a double load of teaching for some of the teachers and a double load of studies for some of the classes. There is no doubt that the support and encouragement of the student representatives at this stage were essential. Further to the Council's approval, we started negotiations in the Technion committees. First, the program was presented to the vice presidents for academic affairs and the vice president for undergraduate studies, and then to the Technion curriculum committee. After getting their blessing, we started the preparation for the finale, the presentation at the Technion senate. To prepare the ground for this critical presentation, together with the Vice Dean for teaching I had a large number of meetings with key members of the senate and Deans of other faculties who were judged to be influential in the senate, in order to convince them of the importance of the proposed changes. On May 2<sup>nd</sup> 1994, the program was introduced to the Technion senate and after a short discussion, was adopted as the new curriculum of the medical school by an overwhelming majority.

As planned, in November 1994 the program began simultaneously for all three of the first three years of preclinical studies. Many people should be credited for the success of this project, the vice dean for teaching, the head of the medical education unit, and the heads of the various teaching committees. If I try to analyse the Dean's job in this process, I believe his contribution was mostly to set the time tables and to make sure that they are adhered to without

compromise, to delegate his authority to each one of the other important players mentioned above, to cast his vote whenever there was a deadlock in the discussions and negotiations (particularly concerning how many hours should be cut and from whom), to use his influence to win the support of the council, the other deans and the Technion senate. I remember that during one of the never ending committee meetings that continued late in the night I found myself thinking that in fact my job during the entire process was more of a salesman than an educator.

Was it all worth it?

I have no doubt about it. Based on enthusiastic responses from students and faculty alike, the new program (see box for details) has proved to be a great success. Naturally, there's room for improvements and accommodations but in comparison with the old program, the faculty made an immense step forward. Soon the fruits became evident by objective criteria as well: within three years, our graduates achieved excellent results in the comparative national exams.

### New elements in the curriculum

#### *Years 1-3: preclinical studies*

In addition to the traditional preclinical studies (i.e., mathematics, physics, chemistry, anatomy, histology etc) new courses in behavioral sciences have been introduced (psychology, introduction to clinical psychology, medical anthropology and the life cycle). In addition, a new course, "exposure to medicine", has been added during the second semester of each of the first three years. The purpose of this course is to expose students to hospital life, to medical services in the community (jails, industrial medicine, shelters for battered wives, homes for the aged etc.), and finally in the third year, to expose them to ethical dilemmas in medicine. Throughout the three years, students' work in this course is organised in small groups accompanied by a tutor.

#### *Year 4 - a bridging year*

The highlight of the fourth year is a 23-week system oriented integrative course taught by both clinicians and preclinical faculty. A one-week problem-based learning unit is introduced during the middle of the course, which should be expanded to 3 units in a year or two. A unique form of examination to evaluate students' integrative ability was developed by the head of the medical education unit, Prof. Rosalie Ber, especially for this course. After the completion of this course students start the first clinical clerkship in internal medicine.

#### *Years 5-6 clinical years*

The change that was introduced during the clinical years allows students to select groups of clerkships rather than be obliged to pass every single clerkship.

#### *Final examinations*

In addition to the traditional paper and pencil multiple choice questions type of exams, students are also required to pass a comprehensive OSCE (simulated patients) test.

### **ECOLOGY IN MEDICAL EDUCATION**

*Radzislaw Sikorski, Malgorzata Sikorska - Lublin (Poland)*

For nearly 300 years a man follows the way of recognition and managing nature. In social practice priority is given to material development over a non-material one and to economy over ecology. Is that for or against a man and the earth? After the atomic power station explosion 28% of Byelorussia territory is not fit to be inhabited. Ecological disasters appear suddenly but they may disturb life chronically.

Ecology is a relatively young branch of biology. In 1870 Ernst Haeckel, while studying interactions between life forms and their organic and inorganic environment, first used a term "ecology" which he derived from the Greek word *oikos* (habitation). Ecology was primarily an observational science and since the very beginning had a revolutionary element. At present it is a complex science with its own study models and terminology interconnected with numerous other research disciplines.

It is not clear whether human ecology simply constitutes a part of general ecology. Human ecology is based on regarding a man as a unique species: the only form of life on earth able to create a civilisation. This is why human ecology as a science contains not only biologic aspects but also sociological psychological and cultural ones.

The term "ecology" became well known not earlier than 25 years ago when it started to gain popularity parallel to environment protection movements. These movements often used at their early days a saying: "the earth did not come down to us from our fathers, we borrowed it from our children and grand-children". Technical activity of a human being alters the territories inhabited by him/her. Technology poses a threat for the environment as the industrial world in its run for maximum income accelerates further technical development. The transformation of *homo sapiens* into *homo economicus* is associated with an ecological and ethical crisis which causes secondary negative phenomena of social sanitary and cultural type.

The urban/industrial civilisation cult which has existed until several years ago underlined unlimited perspectives of the human mind and the perfection of its fruits. Only in modern times it has been realised that civilisation deeply penetrated and transformed nature on a global scale, a process of dangerous consequences for life on earth. In the forties TBS. Elite asked: Where is life which we lost living? Where is wisdom which we lost in knowledge? Where is knowledge which we lost in the information?

Gafo in his book "*El hombre ante la alternativa de la manipulacion de su propia biologia*" presents his opinion that already on the threshold of XXI century, a man would be able to control his psychobiological development.

Majdanski writes that a man with amazingly developed technology destroys his natural environment and consequently himself. Creation of this progress meant as a process of self-creation causes orientation towards so called anti-life mentality.

Expansive human activity which deeply alters the environment induces certain harmfulness of biological chemical physical social and psychobiological character.

Outstanding achievements of modern medicine raise common interest and hope but at the same time many of them make common opinion uneasy. Bioethical problems are of major importance.

For many years improvements in health care systems have focused on effectiveness of health care providers which finally resulted in increasing number of physicians nurses hospital beds and pieces of modern equipment. The importance of sanitary prophylactics by means of improving life standard working hygiene nutritional status etc. has for a long time been

neglected. It has become clear that medical care is only one of the factors influencing human health. When the incidence of chronic so called "civilisational" diseases began to rapidly increase the old attitude proved its ineffectiveness: widespread investments in highly specialised medical services failed to stop the outbreak of these diseases. Consequently, despite raising health care resources, the sanitary status of European societies remains far below the expectations - in fact in many countries an increase in mortality rates is being observed.

This is why a global review of sanitary status has been undertaken and the effectiveness of former organisational strategies has been evaluated. A profound reorientation of health care activities appeared to be necessary. Twenty years ago the World Health Assembly voted a "Health for all 2000" resolution known as "Health for all before the year 2000". Its aim was to "achieve before the year 2000 the health status of a global population which would allow to live a socially and economically effective life". Suggestions appeared at the end of the eighties to extend the WHO definition of health (*health is a status of physical, psychic and social well-being, and not only the lack of disease or defect*) by adding "as well as ecological well-being". In 1977 the WHO assembly held in Alma-Ata resolved that health should not be a privilege it should be a right for every individual.

"Health for all 2000" regards health as a positive value of economical importance and therefore as being one of the national economy resources. In this attitude health has two dimensions - medical and social. The medical one contains "negative" indicators concerning certain diseases and "positive" indicators concerning the functioning of an individual and his/her well-being.

Of fundamental importance in European health policy is a statement that human health is determined by multiple factors such as genetics environment health-destructive lifestyle factors (nicotinism, alcoholism, narcotics, drug abuse) suboptimal social status etc.

It is easily understandable that among these general guidelines of special importance is perinatal medicine, and generally speaking human procreation. Interestingly, several countries which drastically decreased neonatal mortality in the years 1960-1985, underwent at the same time a rapid industrial development. This happened in Hong Kong, Singapore and South Korea.

Of great political significance is that poor countries can achieve a health care standard comparable with that of developed countries resulting in the average life-time elongation. This challenges the opinion that poor countries cannot stand the additional investments into the health care and education at least not before their macroeconomic improvement.

Major changes take place in social life mainly caused by progress in science. This process is associated by alterations in human mentality hierarchy of values and life style.

There emerges a new direction in medicine namely observing and treating a patients in his/her biosocial surrounding. According to the famous polish professor Ruzyllo this change in attitude direction is equivalent to the XVIII century milestone contribution of H. Boerhaave, a Dutch physician regarded as a father of clinical medicine.

The human being is doomed to good and love, not only with respect to him/her but to nature as well. Another famous polish professor J. Aleksandrowicz says: "what is beneficial for man must not be harmful for nature". This is why a holistic attitude to the world and natural environment protection are necessary. And this is also why a medical education in ecology becomes necessary, considered not as a narrow subdiscipline of biology, but as a new vision of the world and man. Neil Everndorn called ecology a subversive science which forces a man to

change his/her point of view from observation of the reality to its integral perception. A physician of today, as well as the one of tomorrow, must look at a man in all the complexity of a consumptive society and the dangers brought to him by so-called economic metabolism.

Due to all these aspects, ecological problems must be present in the medical education on both general and specialist levels of teaching, especially if according to WHO's suggestion our goal is to train "five stars doctors".

**A very good opportunity to spend a week discussing and learning on medical schools and on medical education:**

**COME TO THE TWO SUBSEQUENT CONGRESSES IN PRAGUE:**

**30 August - 2 September: Association for Medical Education in Europe (AMEE)**

**3 - 5 September: Association of Medical Schools in Europe (AMSE)**

**AMEE congress:**

*Information:* ask details and registration forms to: AMEE Office - University of Dundee

Tay Park House - 484 Perth Road - Dundee DD2 1LR - UK

Tel: +44-1382.631967 Fax: +44-1382.645748 E-mail:p.m.lilley@dundee.ac.uk

*Topics:* Current issues in medical education: new technologies - curriculum development - academic audit and quality assurance - multiprofessional education - postgraduate education - continuing medical education - international medical education - staff development - etc.

*Conference format:* plenaries, short communications, posters, exhibitions, workshops, special interest groups.

## **AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998**

### **PROGRAMME**

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#### **THURSDAY, SEPTEMBER 3, 1998**

**11.00 - 15.30 Meeting of the AMSE Executive Committee.**

1(st) Faculty of Medicine, Charles University  
Katerinská 32, Prague 2

**12.00 - 19.00 Registration of participants.**

Hotel KRISTAL (The Centre of Postgraduate and Management Studies of the Charles University, Czech Technical University and School of Economy) - José Martího 2/407, Praha 6

**18.00 - 19.00 Lecture on the The History of Charles University and its Faculty of Medicine**

Lecture Hall of the "Purkyne Institute"  
1(st) Faculty of Medicine, Charles University  
Albertov 4, Praha 2

**19.00 - 22.00 Welcome reception (for all participants)**

"Purkyne Institute"  
Albertov 4, Praha 2

Transfer to hotels by bus

**FRIDAY, SEPTEMBER 4, 1998**

**9.00 - 10.30 Opening ceremony**

Welcoming addresses by authorities  
AMSE Annual Conference is organised as a part of the Celebration of 650th anniversary of the Charles University foundation.  
Deans (or representatives of faculties) are invited to wear the robes of their home University (gown, hat, chain).  
Aula Magna, Carolinum  
Ovocný trh 3, Prague 1

**Sightseeing of Carolinum**

**11.00 - 12.30 Session I. Relationship between University and the University Hospital**

The Blue lecture hall of Carolinum  
Discussion

Transfer to Hotel Krystal by bus

**14.00 - 15.00 Lunch - hotel Krystal**

**15.00 - 18.00 Session II: How to encourage staff members towards excellence in teaching and how to assess educational qualification of teaching**

Hotel Krystal

**16.30 - 17.00 Coffe break**

Discussion

**19.00 - 23.00 AMSE Dinner**

Restaurant Vikárka, Prague Castle, very famous place mentioned in Czech historical literature

**SATURDAY, SEPTEMBER 5, 1998**

9.00 - 12.30 **Session III:When researchers in a Faculty of Medicine are not medically trained - is this a problem ?**

10.30 - 11.00 Coffee break

Discussion

12.30 - 14.00 Lunch

14.00 - 15.00 **Presentation of Faculties of Medicine**

15.00 - 15.30 Coffee break

15.30 - 16.30 **General Assembly AMSE**

Closing ceremony

**SUNDAY, SEPTEMBER 6, 1998**

9.30 - 12.00 **Meeting of the Executive Committee of AMSE**

Hotel Krystal  
José Martího 2/407, Prague 6

**AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998**

**REGISTRATION FORM**

Please complete and return to Conference Secretariat:

Czech Medical Association J.E.Purkyne

Mrs.Jana Dohnalová - Sokolská 31, 120 26 Prague 2 - Phone: +420-2-297271, Fax: +420-2-294610

Family name: \_\_\_\_\_ First name: \_\_\_\_\_

University of: \_\_\_\_\_

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Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-

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Accompanying person(s) \_\_\_\_\_

**Registration fees before May 31, 1997 after May 31, 1997**

USD 350 AMSE Members USD 300

USD 400 Non Members USD 350

USD 100 Accompanying person USD 100

AMSE membership fee (one per Medical School) UK£ 100

We will attend the **Welcome reception** in "Purkyne Institute"

Thursday, September 3, 1998 .....person(s)

We will attend the **Dinner** in the restaurant "Vikárka"

Friday, September 4, 1998 .....person(s)

I will attend the **Opening ceremony** wearing the robe of my University (gown, hat, chain)

**Payment:**

Payment of the registration fees should be made in one of these ways:

- preferably by the bank transfer to the account of the Czech Medical Association J.E.Purkyne **No. 01-61761000/0300**, Congress **No. 980 409** with the Československá obchodní banka, Na Příkope 14, 115 20 Prague 1 (one copy should be enclosed to the registration form)
- by cheque payable to the Czech Medical Association J.E.Purkyne (mailed together with the registration form)
- by credit card

I authorise you to debit my credit card for the total amount of USD .....

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**AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998**

**ABSTRACT SUBMISSION FORM**

To be mailed **before April 30, 1998** to AMSE 1998 to: Secretariat, Czech Medical Association  
J.E.Purkyne - P.O.Box 88, Sokolská 31, CS-120 26 Prague 2 - CZECH REPUBLIC

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**AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998**

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This Accommodation Form is to be completed and returned **BEFORE JULY 31, 1998** to the following address:

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**hotel HOLIDAY- INN \*\*\*\***

single room 120 USD No of rooms ..... double room 130 USD No of rooms .....

**pension SUNSHINE**

single room 18 USD No of rooms ..... double room 28 USD No of rooms .....

AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998

HOTEL INFORMATION

Krystal \*\*\* (conference venue)

- the Centre of Postgraduate and Management Studies is designed to serve to Charles University as an accommodation, conference and teaching facility. The rooms with WC and shower are furnished with a radio set, refrigerator and telephone. A stylish restaurant and Lobby Bar provide pleasant surroundings for meals and social contacts. Meals are also served in a spacious dining room. The reception desk provides the exchange services, hiring of taxicabs, confirmation of the air-tickets etc. There is a glassware shop in the central lobby.

**Diplomat \*\*\*\***

- the luxury hotel situated within 10 min. by bus or by tram from the conference venue. All rooms with bathroom and WC, TV with satellite, minibar, phone and aircondition. Relax centre and disco free for hotel guests.

**Holiday-Inn \*\*\*\***

- former hotel International completely reconstructed and preserving the typical architectural style of the fifties (socialist realism) in this area. Re-opening at the beginning of 1997. All rooms newly equipped with bathroom and WC, TV with satellite, minibar and telephone. Distance from the conference venue - about 15 min. by tram.

**pension Sunshine (Student hostel) \*\***

- rooms with shower and WC on the floor., Hostel is easily reached by public transport - by tram approx. 10 minutes.

## **AMSE ANNUAL CONGRESS 1998 - Prague - September 3-5, 1998**

### **ACCOMPANYING PROGRAMME**

**September 4, 1998** City Tour of Prague USD 14,- No of tickets.....

**September 5, 1998** Trip to Konopište + Niebor incl. Lunch USD 46,- No of tickets.....

**for registered accompanying persons - free** No of tickets.....

Please note that we cannot guarantee any accommodation and tourist program without the full pre-payment.

After receiving your request we will send you the confirmation with the address of the respective hotel and your seat reservation together with all payment and cancellation conditions.

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**September 4, 1998 CITY TOUR OF PRAGUE - 2 hours (14.00 - 16.00)**

-This short tour introduces you the most important sights of the "Golden City". Starting from the hotel „Krystal" we will show you the Hradcany District with Prague Castle, Old Royal Palace and magnificent St. Vitus Cathedral. After the visit to the Castle Area (with no entrance due to short time limit) we will continue through medieval streets with numerous churches and palaces to Wenceslas Square and than back to the „Krystal" hotel. *Price per person: 14 USD*

**September 5, 1998 TRIP TO CHATEAU KONOPIŠTE and NIEBOR MANUFACTORY**

**incl. Lunch (9.00 - 16.00)**

- A trip to the imposing chateau originated in 13<sup>th</sup>-14<sup>th</sup> century. The sumptuous interior of the chateau, including the works of art in the museum devoted to St. George, dates from the time of Archduke Francis Ferdinand. The large collection of arms and armour is one of the finest in Europe with almost 5000 exhibits. Lunch will be served in a nearby restaurant. Then the excursion follows to Niebor Glass Manufactory where famous "Bohemian Crystal" is made. There is a possibility of shopping. *Price: 46 USD incl lunch* (for registered accompanying persons free)

*All tours will be operated by minimum participation of 15 persons.*

*Prices are per person in USD and include bus transportation (if not otherwise indicated), English speaking guide, visits incl. entrance fees and refreshments/lunches as per the respective programme.*

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