

## PHARMACY EDUCATION IN MALTA

Keynote address by the President of the Chamber of Pharmacists,  
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### Historical Notes

It is needless to say that my Council is aware of the significance that a sound and up-to-date Pharmacy degree course has on the future of the profession of pharmacy and its members and the community they serve.

Throughout the years, the Councils of the Chamber of Pharmacists have always been concerned at the standard of Pharmacy Education at our University. Indeed, thirty years ago, the University appointed a committee to formulate proposals in regard to the reorganization of the course leading to the B.Pharm. degree. For the first time the Chamber was directly represented on such a committee and made suggestions designed to improve the course. In suggesting improvements the Chamber was then, as now, prompted by the need of producing better qualified pharmacists for the local exercise of the profession as well as the creation of the conditions that would enable the licensing authorities to enter into reciprocity negotiations with their counterparts in the U.K. and Commonwealth, thus producing a wider field of opportunity for pharmacists and for much needed postgraduate specialization abroad.

A deficiency which was pointed out at the time and which was felt to be stifling progress then, as now, was the absence of lecturers who were suitably trained, qualified, practising pharmacists.

A decade later, it was the Council of the Chamber of Pharmacists that had striven to par-

ry a grave blow at the profession after the 'Heatherington Commission' had recommended the relegation of the Course of Pharmacy to the polytechnic, to which it was completely alien.

The University had then proposed a three or four term course open to B.Sc. graduates. The Chamber had opposed both these suggestions and succeeded to avert disaster. It was then suggested to hold a two-year diploma course which whilst far from satisfactory this was considered at the time to be the least of three evils.

In 1970, the Councils of the Chamber and Union of Pharmacists, after long discussions with the University authorities succeeded in making arrangements for the diploma course students to read for a degree and to ascertain that the future Course of Pharmacy would be a high standard degree course.

Representations were also made requesting that Pharmacy students be provided with better equipment; well qualified teaching staff; proper laboratories; a well-stocked library and for more funds to be allocated to the Course of Pharmacy. In the meantime, a call for applications to fill the Chair of Pharmacy had been issued. Perhaps the School of Pharmacy seemed then a tangible reality.

Eventually and for the first time in the history of pharmacy education in Malta, B.Pharm. graduates obtaining first or second class honours in their final examination had the possibility of furthering their studies by reading for the Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.) degrees.

### Cul-de-Sac

With the reforms in tertiary education of 1978, the course of Pharmacy came to a cul-de-sac; the student-worker scheme was introduced and with it came several serious problems with which the students were faced.

### Restructuring of Pharmacy Course

Following a meeting held on the 23rd October 1980 between the then Ministers of Education and Health, and a delegation of the Chamber, it was decided to appoint a committee to make recommendations on how the B.Pharm. course could be restructured and organised to make it viable and in line with the country's needs, within the student-worker scheme in tertiary education. The Chamber was represented on this committee and took an active part in its work. A report was presented to the Minister of Education on the 25th October 1980 and a Discussion paper entitled 'The Restructuring of the Pharmacy Degree Course' was published in February 1981 under the auspices of the Ministry of Education and the Commission for the Development of Higher Education.

Because of the then existent 'to be or not to be' problem of the B.Pharm. course, it was proposed to restructure the B.Pharm. course into two sections; a Foundation course and an Orientation course which would be streamed into two overlapping categories — pharmacy and technology (B.Pharm.Tech.). The B.Pharm.Tech. course was accepted as a necessary evil in order to salvage the situation.

Indeed the Chamber has already made representations with the new administration on the phasing out of the B.Pharm.Tech. course which should be a B.Sc. and has been assured that this will in fact be the case.

### Student-Worker Scheme in Pharmacy

A detailed analysis of the student-worker scheme in pharmacy was presented in the Chamber's report of June 1986 and the shortcomings together with the Chamber's recommendations were outlined again in the Memorandum of April 1987 which was presented to the new administration last May, although various representations on the plight of pharmacy students and the course in general were also made throughout the last ten years.

Briefly the student-workers suffered

- i. a reduction in the number of contact hours;
- ii. a number of students found themselves do-

ing work which was unrelated to their studies;

- iii. the five-and-a-half month work-phase was too long a period to be out of touch with study;
- iv. there was a waste of the already very limited University resources because of repetition of academic lectures, tutorials, etc.
- v. there was a lack of supervision at work.

Since 1978, the pharmacy department has been without a Head and there has been a continuous stream of Acting Heads with a variety of qualifications, including some who had no previous connection with pharmacy.



**"For years now the Pharmacy Dept. has been without a Head..."**

### The Turning Point

The University is the breeding ground for new pharmacists. Only pharmacists can impart the right approach to the pharmacy profession.

The Chamber has been insisting all along that a Head be appointed and that this person should be a pharmacist with suitable academic qualifications. We are all aware of the alarming deficiencies still prevailing in the present course of pharmacy and we therefore feel that if the course were entrusted to pharmacists who are suitably qualified these would be in a naturally better position to keep up with the progress of the profession. We are not looking for half-measures which are unacceptable at this stage but we are striving for complete reorganisation of the Pharmacy Education system in Malta and this in the imminent future. The University is responsible for the academic training as well as the professional formation of the students. In view of this it is highly questionable whether pharmacy should still be but a department within the Faculty of Medicine and Surgery.

### The Case for the Establishment of the Faculty of Pharmacy

For years now, the education of our pharmacy students has been in the hands of persons who although may have made a significant contribution to pharmacy, the department was incapable of acting as a centre of pharmaceutical expertise and as a focus of professional activities. Furthermore it was not possible to impart the necessary sense of direction to the students.

In most parts of the civilized world the pharmacy profession has for a long time established its exclusive right to regulate the teaching and education of its members.

Following further intake last October, the students required to populate a Faculty are certainly not lacking with four academic courses running concurrently to a total of 140 students, an all time record; all this is grossly disproportionate to the present staff complement with no head or acting head, one full time senior lecturer and several part-timers and extraordinary lecturers, depending on availability.

One cannot but look on with envy at the Dental Association which last October commemorated the 50th Anniversary of the granting of the Diploma of Dental Surgery to the first course of Dental Surgery at the University of Malta. In 1933 the Diploma of Dental Surgery was granted recognition by the General Medical Council of the United Kingdom. The Faculty of Dental Surgery was established in 1954. Eleven years previously the Chair of Dental Surgery was established.

We are convinced that all present agree on the immediate establishment of the Faculty of Pharmacy. The Chamber has already made its representations with the competent authorities on this matter.

Let us now together work to therefore lay down the foundations for a Faculty of Pharmacy bringing to an end the situation whereby Pharmacy has been an appendage of the Faculty of Medicine and Surgery for so long. How will the new Faculty of Pharmacy be subdivided? Will it be based on the traditional Pharmaceutical Sciences viz: Pharmacognosy, Pharmaceutical Chemistry, Pharmacology and Pharmaceutics or will there be a breakaway from the constraints which this traditional organization imposes so that the course will be more relevant to the changing needs of tomorrow's pharmacists? Which would these sub-disciplines be?

How will the new Faculty of Pharmacy be

### Summary of the Policy of The Chamber of Pharmacists on Pharmacy Education

1. A Faculty of Pharmacy should be established in the immediate future.
2. The Head of the Pharmacy Faculty should be a pharmacist with suitable academic qualifications. Only Pharmacists can impart the right professional approach and identity.
3. The Course Curriculum must be relevant to today's needs of pharmacy.
4. A lifelong process of continuing education is a must. These continuing education programmes should be implemented jointly by the University and Chamber of Pharmacists.

staffed? We feel that foreign expertise is a must at this innovative stage. But we also advocate full use of local talent including the involvement of practising pharmacists who can act as role models. In this way the pharmacy students will be introduced to as many aspects of modern pharmacy as possible so that subsequent exposure of new graduates to the real world of pharmacy does not come to them as a shock.

Local talent should be utilized to the full in this venture and those suitably motivated should be given all chances to proceed to take up post-graduate studies abroad. Undoubtedly the local need for specialization is great, especially in such fields as Geriatric pharmacy, clinical pharmacy, Drug Information, Psychosocial Pharmacy, Drug Distribution; but one must not lose sight of the important role of the community pharmacist in healthcare today. By ensuring the immediate specialization of pharmacists the staffing of the new faculty by local teachers is assured in the near future. Of course, visiting foreign experts in as many of the fields of modern pharmacy as possible should be also encouraged and should be part of a well planned schedule.

In severing the link with the Faculty of Medicine and Surgery one must not think that pharmacists are turning their backs on their medical colleagues. This could not be further from the truth.

We are more than ever conscious of the fact that the pharmacist-doctor relationship is of utmost importance. Both are major deliverers of healthcare and the services that they provide overlap. Both depend greatly on the activities of the other and the effectiveness of each will increase through appropriate cooperation between them. In order that this cooperation be well rooted in both pharmacy and medical graduates it may be of mutual advantage to hold joint training sessions in aspects of healthcare, for e.g. as in a U.S. Pharmacy School, where students are introduced to clinical diagnosis and therapy through a basic pharmacology course which enables them to apply their knowledge of biochemistry, physiology and pharmacology toward rational approaches to disease therapy.

In this way the presence of the pharmacist say, on the hospital ward as a member of the healthcare group is later taken as a natural sequel and the pharmacist will not lack the confidence in asserting information and advice concerned with his primary professional role to members of the public and other professionals especially medical colleagues.

#### **Nuffield Report**

In line with the training of community pharmacists who are patient-oriented and whose prime role is counselling on healthcare matters including the proper use of drugs, the Nuffield report recommends that the pharmacists' scientific education should be supplemented by skills relevant to their wider role e.g. communication skills and behavioural sciences. We are in agreement and are already working on a project to include such an exercise in our continuing education programme in future. The teaching of these skills should not ideally be dependent on a specific instruction course but the whole education process at university level should be essentially one that involves intercommunication between teacher and student. This necessitates full timers. Teaching methods should be concentrated more on discussion and development of these communication skills. However, due to pharmacy's neglect of the social context, the behavioural sciences must form an integral part of the academic course. In passing I wish to mention that the Nuffield report originated at the British Pharmaceutical Conference in 1981 when the President of the Pharmaceutical Society of Great Britain publicly expressed to the then Minister of Health of that country the need to de-

fine the future role of the community pharmacist.

Its overall conclusion was "that the pharmacist has a distinctive role and an indispensable contribution to make to health care which is capable of further development. Whenever drugs form part of treatment it is likely that both patient and NHS would benefit from a more active involvement of the pharmacist." With the local introduction of a Health Scheme whereby patients will be able to go to the pharmacist of their choice for their needs the pharmacist must be able to give advice for minor ailments and recommend medicines and therefore must be equipped by proper training to give his specialized service.

#### **Curriculum**

The pharmacy course must therefore be relevant to these needs. Pharmacy education is or should be a process of instilling theory by demonstrating its practical relevance throughout the whole of the course. Relevance is an essential aid to motivation and also to comprehension. The principal purpose of the degree course is to provide the scientific knowledge and approach to problem-solving (including the development of basic skills) necessary to enable a pharmacist to cope with the changing demands that will arise in the course of a career spanning say forty years. The science must be applied in the sense that it will be relevant to pharmacy; and it must relate to all aspects of the work, behavioural as well as pharmaceutical. It must be constantly brought home to students that their future role will be that of a scientist and a professional, equally, the relevance of what is taught to that role must constantly be demonstrated.

The Pharmacy curriculum presently includes a high dose of inorganic chemistry. Whilst conscious of the importance of the basic sciences at undergraduate level, perhaps a potential exists for pruning in the area of chemistry. The time saved in this way should be devoted to those areas of science which would improve pharmacists' capacity to perform their advisory role in the community and their clinical role in hospitals e.g. therapeutics and pathology.

Problem-solving should assume a greater role in the undergraduate course. Basic statistical concepts would help students learn about such things as bias, biological variation, sampling.

It would be advantageous if the traditional groupings under which pharmacy is taught be

broken down to demonstrate how the different subjects are interrelated to each other and to the practice of pharmacy.

Recently the Chamber's recommendation of an eight month study period has been implemented, resulting in an increase of contact hours. As has already been said in the Chamber's memorandum, due recognition to the study phase and an increase in contact hours are of great importance for the foreign recognition of our degree.

We have however increased complaints of lack of planning and orientation in the course organization; lack of technical staff and of present facilities not being utilized to the full; our undergraduates seem to have very little exposure to pharmacists who are involved with the day to day practice of pharmacy and are therefore faced with an identity crisis. The first year students must be the ones to feel particularly disoriented at this stage.

The discussion paper on the restructuring of the pharmacy course had criticized the previous course (1974-1977) as having been based on a traditional 'British type' course which necessitated a strong basic sciences background and that a small percentage was taken up by the Practice of Pharmacy without any aspect of Pharmacy Administration being introduced in the curriculum.

Neither did it include sociomedical topics as sociology of Pharmacy as a profession, instruction in public health, and medical care organization and methods of financing and paying of drugs and services.

Moreover, pharmacy practice with a clinical and industrial context was thought to have been dealt with lightly from both the theoretical and practical aspects.

The course of pharmacy of 1976-1979 fell into line with the student-worker scheme immediately and although this course was not itself restructured, it seems that it was adapted to run on more practical lines and to provide a programme of applied education for students. The curriculum presented for the restructured B.Pharm. course did not however bring about any clamorous changes.

#### **A Curriculum Development Plan**

A curriculum development plan for the education of pharmacists in a developing country as Malta could include the following essential pharmacy competencies:

1. Evaluates the chemical, physical and bio-equivalency of multisource drugs.
2. Interprets and evaluates accuracy and completeness of prescription order.
3. Selects appropriate ingredients, product, container, brand and dosage form for drugs to be dispensed.
4. Prepares prescriptions accurately by measuring, counting or transferring the medication.
5. Provides appropriate label information for prescriptions to be dispensed.
6. Evaluates OTC drug products.
7. Consults with patients of the selection, use and the effects of OTC drugs.
8. Evaluates the relative therapeutic use of medico-surgical devices and appliances.
9. Consults with patients in the selection, storage and use of medico-surgical devices and supplies.
10. Consults with patients regarding the uses and effects of legend drugs as related to their specific needs.
11. Identifies and locates appropriate drug information.
12. Evaluates and interprets pharmaceutical and medical literature.
13. Evaluates and monitors drug therapy.
14. Provides limited emergency first aid treatment and cardiopulmonary resuscitation.
15. Provides patient with access to poison control and treatment information.
16. Refers patients to other health care professionals and agencies.
17. Communicates effectively and participates cooperatively with other health team professionals.
18. Complies with all pharmacy practice laws, drug laws, pharmacy practice regulations, and drug regulations.;
19. Demonstrates a knowledge of professional practice standards and code of ethics.
20. Demonstrates appropriate professional responsibility and judgement in interpretation of laws and regulations.
21. Applies principles of good management practice to pharmacy personnel, pharmacy inventory control and pharmacy fiscal matters.
22. Applies principles of good management practices to pharmacy operations.
23. Performs drug control, storage and drug security functions in drug distribution.
24. Demonstrates basic knowledge of the nature

and treatment of disease.

25. Demonstrates knowledge of the physical, chemical and bio-pharmaceutical characteristics of drugs that influence the routes and ultimate effectiveness of drug administration.
26. Demonstrates knowledge of the principles of nutrition and relationship to drug use.
27. Explains the characteristics of pharmacy practice according to types, roles and settings.
28. Prepares medication accurately by compounding the prescription.
29. Performs bulk compounding and packaging of ingredients according to legal and professional standards.
30. Demonstrates knowledge of psycho-social correlates and consequences of illness.
31. Demonstrates a knowledge of the relationship of pharmacy to the local healthcare system.
32. Demonstrates a knowledge of public health problems, agencies, and epidemiological research.
33. Demonstrates an understanding of the aetiology, symptoms, mode of transmission, treatment and prevention of infectious diseases.

#### Pharmacist Recommended Medicines

Note that although we have used the abbreviated term for over-the-counter drugs (OTC), we prefer to use the unambiguous term 'Pharmacist-recommended medicines', which directly refers to that function pharmacists have traditionally carried out for generations. However, pharmacists have felt the need of more knowledge in clinical matters in the formal training that they had received at University. We feel that just as direct participation in laboratory work is important in such areas as, analytical chemistry and pharmaceuticals, so is it of utmost importance to present disease, symptoms, signs and treatment of patients as whole beings rather than pieces of isolated tissues in an organ bath as in experimental pharmacology.

Computer-assisted participatory learning system can be a cost-effective way of reducing demands on teachers' time. The initial development of such systems can be very time-consuming so there is a need for central coordination of efforts in this area.

Teaching by seminar or in small groups with interchange between teacher and student is

more expensive than teaching by lecture but is an essential part of the process of promoting understanding rather than communicating information.

Change has occurred globally in pharmacy practice in the last twenty five years, but this is also so at grass roots level where for e.g. particularly in community practice time-honoured compounding skills have been taken over by technological advances. In addition the discovery of new drugs, the complexity of therapeutics, the information explosion, the emergence of biopharmaceutics and pharmacokinetics and growth of health education services rank amongst the factors influencing the change from a 'product-oriented service to a patient-oriented service. Indeed, the clinical pharmacy movement illustrates this new orientation in pharmacy practice. Pharmaceutical education therefore needs also to change in response to these new movements, yet the evidence suggests a widening of the gap between education and practice. In the U.S. it is thought that behavioural science is as much a 'basic' science as chemistry. In 1979, the American Association of Colleges of Pharmacy carried out a survey which indicated that out of 61 schools responding, 48 were offering formal classroom teaching in communication skills.

#### Pharmacy Communication

Recently in the United Kingdom there has been a direct focus on the practice of pharmacy, communication being considered of fundamental importance.

The Working Party Report on Pharmaceutical Education and Training published in the *Pharmaceutical Journal* in 1984 stated that it will be even more important in the future for students to be able to communicate satisfactorily with the public and with members of other health professions. Otherwise they should not expect to graduate and register. The Nuffield Inquiry Committee has also emphasized the importance of communication to effective practice. The Committee recommended the testing of oral skills at the end of the pre-registration period and students would have to be successful before registration. We shall, I hope, later see what are the opinions of the participants of this seminar on this score and on the pharmacy curriculum in general.

Our students may gain some practical training and experience during their work-phase most of



which takes place in the hospital environment such as at out- and in-patient pharmacies, drug information unit, ward pharmacy, etc., and at the Government Medical Stores; others undergo training in a community pharmacy. Whilst we feel that it is important to gain as much experience of as many aspects of pharmacy practice as possible, we feel that practice and training at a community pharmacy should be mandatory for all and this pharmacy should be approved as being professionally run on all counts by none other than the Chamber of Pharmacists in the interest of the students and the public.

### Continuing Education

The Chamber has long realised that continuing education is an essentially integral part of the professional practice of pharmacy. The newly graduated pharmacist must be aware of the need to update his knowledge if he is to keep up with such an everchanging, expanding profession as is pharmacy and indeed all healthcare professions.

In line with international trends, the Chamber has been holding continuing education programmes on various aspects of pharmacy practice for some years now. The aim has always been to reach all pharmacists but especially those who are not so 'green' — participation is of course on a voluntary basis, but, and unfortunately, many pharmacists seem to be happy with the status quo and not enough of those at whom these courses are aimed do in fact attend — it is always the case of the interested minority!

So one might ask, should continued education be mandatory for such an important health professional as the pharmacist? Should there not be cooperation between the University Pharmacy Department and the Chamber; funding and organization have always been the crux of such ventures.

But we know that all this is of utmost importance; firstly, to enable the pharmacists to keep up to date in the light of developing knowledge and changes in practice — this is necessary for all pharmacists but particularly for those who resume practice after an absence from it; secondly, to supplement the initial training of a pharmacist by dealing with things not covered in the degree course; and thirdly, to bring up to date the knowledge of pharmacists now in practice, some of whom will have qualified up to forty years ago or more, after a much shorter

educational course than is now mandatory.

The need to bring the knowledge of existing pharmacists up to date is immediate and once our proposals for enhancing their professional role are adopted these needs will become pressing.

Should continued education be a requirement for continued registration as a pharmacist? Who will be the educators in the continuing education programmes? Besides the services of Pharmacy Department academic staff and members of other health professions, the Chamber has often obtained the services of pharmacists medical representatives who in their specialist areas have given very interesting presentations which were also accompanied by audiovisual aids, all of which were well received by a highly appreciative audience.

The Commonwealth Pharmaceutical Associations of which the Chamber is an Executive member, and the Pharmaceutical Industry, can surely be of great help for resources of various nature and with careful planning and the organizational collaboration of our alma mater, we can surely attract more and more interested members of the profession to further continuing education programmes.

### Post Graduate Education

Pharmacy is of its own nature interdisciplinary — we know that there are several pharmacists who wish to further their studies and specialize.

The pharmacy department should have the necessary funds to allow for post graduate studies. The needs of specialists in the hospital pharmaceutical services must also be identified which specialists should be able to contribute towards undergraduate education.

The establishment of the Faculty of Pharmacy will surely need specialists in various areas, for example Pharmacy Practice, Behavioural Science. We feel that scope for pure research should also be planned, for the training one acquires in the understanding of Research Methodology is an essential constituent of the preparation of trained manpower at this level.

The hospital environment is also an ideal location for academic units for research into the application of pharmacy to patient care as this links well with a clinical pharmacy programme.

Pharmacy Practice research should also be encouraged. Since the graduation of the first local M.Phil. student. Others have proceeded to

further studies abroad and have obtained a Ph.D. It is a pity that the conferral of the local Ph.D. in Pharmacy has not yet become a reality.

We look forward therefore to careful analysis of the needs for specialization and the Chamber hopes that all pharmacists who are suitably talented will be given the chance and encouraged to further their studies so as to staff the Faculty of Pharmacy with local talent as soon as possible.

### WORKSHOP RECOMMENDATIONS

1. **Faculty of Pharmacy**
  - a. **Student Intake**  
There should be an intake of 30 students every two years. The entry requirements should be brought up to 2B's and a C.
  - b. **The Faculty should be made up of initially three departments:**
    - i. Pharmaceutical services
    - ii. Pharmacy practice and social pharmacy
    - iii. Clinical pharmacy and biopharmaceutics
  - c. **Staff requirement**  
Each department should have at least  
1 full time lecturer  
2 part time grade A lecturers  
a number of extraordinary lecturers  
a number of demonstrators
  - d. **Foreign Staff**  
It is felt that the help of foreign expertise is a must in the initial stages. This should be for a period of three to five years during which time local people will be trained.
2. **Curriculum**  
The course will be based on these three main divisions:
  - a. **Pharmaceutical Sciences**
    - i. Pharmaceutical Chemistry and Analytical Chemistry
    - ii. Synthetic and Natural products
    - iii. Pharmaceutics
  - b. **Pharmacy practice and psychosocial pharmacy**
    - i. Pharmacy practice
    - ii. Managerial sciences
    - iii. Psychosocial and legislative aspects of pharmacy
  - c. **Clinical Pharmacy and Biopharmaceutics**
    - i. Pharmacology
    - ii. Clinical Pharmacy
    - iii. Physiology and Biochemistry
    - iv. Biopharmaceutics and Pharmacokinetics
    - v. Disease

### Minister's Concluding Address

The Minister of Education, the Hon. Dr. Mifsud Bonnici, closed the seminar. In his closing address, the Minister stated that this report is not something upon which he can act alone and promised that it will be presented to the University, who will look into the proposals put forward, particularly the proposal re the setting up of a Faculty of Pharmacy.

The Government believes that society needs pharmacists. Government is aware of the problems currently facing the practice of pharmacy, such as the 'nomina'. This he said, is 'a state' which needs to be properly resolved.

There will be no centralisation of pharmacy; medicines will no longer be dispensed only from the hospital pharmacy but private pharmacies will be used as distribution points in the National Health Service.

With reference to the curriculum, he appreciates the fact that foreign lecturers are required during which time Maltese nationals are trained to eventually fill the posts. The Government believes in the need for post graduate education.

In this respect Dr. Mifsud Bonnici stated that whereas EEC countries have mutual recognition of courses and degrees, our degrees are not recognised abroad. His Government is making enquiries with ERASMUS (European Community of Knowledge) and individual European governments.

Post graduate education abroad is very expensive and apart from recognition of our degrees we need all the financial help possible.

The Government is bound through its electoral programme to a lifelong process of education. Today's rapid changes necessitate a process of continuing education for all professionals. The Minister agrees that this has to be done through the University.

3. **Continuing Education**
  - a. Department of Pharmacy must establish an attitude of career and lifelong education in students.
  - b. It is not yet the time for the introduction of mandatory continuing education but we have to start aiming for it.
  - c. There are two forms of continuing education
    - i. active
    - ii. passive
      - i. active — this consists of the organisation of lectures preferably jointly between the Chamber and the University.
      - ii. passive — special articles should be prepared by the University and publish-



ed in the Journal. These will be accompanied with questions which readers will be invited to answer and send in for assessment by the University.

- d. Needless to say topics chosen must be relevant to the day to day running of pharmacy practice.

#### 4. Postgraduate Education

An identification of the possible areas of research has been made by the University. Furthermore areas of continued research particularly with respect to hospital pharmacy should also be identified.

Also an eye should be kept on the future requirements of the Faculty of Pharmacy so that people can be trained to fill these needs in the near future. The setting up of the Faculty of Pharmacy will help provide the necessary pharmaceutical environment for these studies to be carried out including the necessary supervisors.

It is indispensable that students are helped to carry out study periods related to their studies abroad.

#### Specialisation

Apart from postgraduate education there is an immediate need for the development of specialists in areas such as ward pharmacy and analysis. These can be trained locally by bringing tutors from abroad or sending graduates abroad.

It is most unfortunate that finances have to date been generally lacking.

#### Bibliography

- B.Pharm. Course Reorganization Committee 1953-1957, Chamber of Pharmacists records.
- Journal of the Malta Union of Pharmacists, I, No. 1, Oct.-Dec. 1967, Editorial.
- Malta Union of Pharmacists, Administrative Report 1969-70.
- Malta Union of Pharmacists, Administrative Report 1970-71.
- Syllabus for the Course leading to the Degree of Bachelor of Pharmacy 1970/71-72/73.
- Faculty of Medicine and Surgery, R.U.M., The Malta University Press, 1970.
- Regulations for the Degree of Master of Philosophy (M.Phil.) University of Malta.
- Regulations or the Degree of Doctor of Philosophy (Ph.D.).
- Bye-Laws of the Faculty of Medicine and Surgery. Għaqda tal-Ispizjara, Rapport Amministrattiv għas-sena 1977-78.
- The Restructuring of the Pharmacy Degree Course (Discussion Paper) A Report to the Minister of Education, published under the Auspices of the Ministry of Education and the Commission for the Development for Higher Education, February 1981.
- Chamber of Pharmacists-Trade Union, Report, The Student-Worker Scheme, June 1986.
- Chamber of Pharmacists-Trade Union, Memorandum, April 1987, p. 22-23; Appendix III, pp. 3-8.
- The Pharmacists, Journal of the Chamber of Pharmacists-Trade Union, July 1981, No. 2.
- Union News, 'Pharmacy Course', p. 7.
- The Pharmacist, July 1982, No. 4, Editorial.
- The Pharmacist, July 1983, No. 6, Union News, Administrative Report.
- The Pharmacist, Jan. 1987, No. 14, Editorial.
- The Pharmacist, Sept. 1987, No. 16, Editorial.
- Dental Association, Malta, Golden Jubilee, First Dental Graduates 1937-87; Programme and souvenir 9-10-11 October 1987, Roger Vella, Editor.
- British Medical Journal, 287, 6/8/1983, Gallagher, K.F. and Zander, L.I., 'Overlapping General Practice', pp. 397-398.
- The Commonwealth Pharmacist, April-June 1982, Harris, M.F., 'A Curriculum Development Plan', p. 3.
- The Commonwealth Pharmacist, April-June 1982, News from Member States, 'Separate Faculties Needed for Pharmaceutical Studies', p. 7.
- The Commonwealth Pharmacist, July 1984, Tomorrow's Profile, 'Looking Ahead Ten Years Hence', p. 3.
- The Commonwealth Pharmacist, July 1984, Dickson, Raymond. 'Continuing Education — The Only Way Out', pp. 4-6.
- The Pharmaceutical Journal, June 29, 1985, Evison, Rose, and Veitch, G.B.A., 'Towards Effective Communication', pp. 833-836.
- The Pharmaceutical Journal, March 22, 1986, The Nuffield Inquiry Report, A Summary, pp. 348-369.
- Pharmacy International, Journal of the Federation Internationale Pharmaceutique, November 82, Temple, D.J., F.I.P. Sections Special: Academic Section, pp. 379-380.
- Pharmacy International, April 1983, 4, No. 4, Wertheimer, A.I., 'Development in Pharmacy Education in the U.S.A.', pp. 72-73.
- Pharmacy International, October 1983, 4, No. 10, Morrow, N., 'Continuing Education for the Community Pharmacist', pp. 266-268.
- Pharmacy International, Sept. 1984, 5, No. 9, Edwards, C., 'Pharmacist-recommended Medicines', pp. 218-220.
- Pharmacy International, June 1986, Peston, M.H., The Nuffield Inquiry, 'Views of a non-Pharmacist', pp. 134-135.
- International Pharmacy Journal, I, 5, 1987, Hargie, O.D.W. and Morrow, N., 'Introducing Interpersonal Skills training into the Pharmaceutical Curriculum', pp. 175-178.
- Chamber of Pharmacists-Trade Union, Extension Studies Course, 1985, Sant Fournier, Mary Ann, 'Professional Attitudes towards Pharmacy Design' — A Review.
- Journal of the Institute of Pharmacy Management International, Aut./Wint., 1987, 9, No. 3.
- Hardisty, B., 'Further Education for the Practising Pharmacist — Future Shock?' pp. 6-9.