

# SOVEREIGN BASE AREAS IN CYPRUS

## SOME HEALTH PROBLEMS IN THE LOCAL PROCUREMENT OF FOODSTUFFS\*

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### Background

SINCE the British Administration and Army withdrew during 1960 from Cyprus to the Sovereign Base Areas of Dhekelia and Akrotiri, the pressure to buy local products has steadily increased. This encouragement of the local economy is understandable but, because of the unique political status of the Sovereign Base Areas, certain practical difficulties have arisen, which in some cases may affect the health of the troops and their families.

To stimulate the local production of foodstuffs, their import has either been banned or drastically reduced not only into the Republic but also into the Sovereign Base Areas. Thus certain local food products, particularly dairy ones, may be the only supply available and yet do not measure up to the previously accepted standards of food hygiene maintained by the Army. These now are some of the difficulties in the local procurement of foodstuffs to be resolved by the Army Medical Services, in inspection and advising by Army Health specialists and in investigation in the laboratory by Army pathologists.

The development of the Republic is rapid and it is making good progress in increasing local production both by building up light industry and extending agriculture. But, as in other countries that have recently attained their independence, interests are focussed rather on what has been gained and the more spectacular "Five Year Plan" than on the more pedestrian problems of the enforcement of food hygiene regulations. These have as well to overcome the inertia of deepseated prejudices and unhygienic customs of the countryside. Only an extensive programme of health education is likely to improve this and this will be a very long term challenge.

Against this background, Army Health specialists are asked to give hygiene clearance to many of these locally produced or processed foods, including fresh meats. As a decision not to give hygiene clearance may well lead to the troops and families being deprived of an item of food if it has also been put on the banned list for import, the decision therefore to give clearance is not a simple 'yes' or 'no', but one influenced by other and imponderable biases and pressures.

### *Milk Supplies*

There are good fresh milk supplies on the island and a number of up-to-date pasteurisation plants, but there is a misconception in their use. The need is for a

\* This paper was submitted in October, 1962.

good wholesome supply of milk from healthy cattle with adequate means of pasteurisation. These two rarely occur together. The man with the up-to-date pasteurisation plant is convinced that he can buy the cheapest raw product from small primitive farms in the villages and process it through his plant to be wholesome and safe milk. The reverse may occur. That is that a large farmer with a good healthy herd uses outdated pasteurisation equipment. All this milk is then sold as pasteurised and it is of course most difficult to convince these two categories of milk retailers that their products do not reach the standards required by the Army, particularly for Army children's schools. Rarely the milk from a few good herds is passed through an up-to-date pasteurisation plant and sold as true, wholesome pasteurised milk and it is also likely that in the near future one dairy may introduce carton packed milk (tetrapak).

#### *Dairy Products such as Cheese*

The main cheeses produced on the island are made from ewes' and goats' milk. The collection of this milk is primitive in the extreme and there is no attempt to cool it prior to transport. When it arrives at the cheese factories it is teeming with organisms, reducing methylene blue instantly. NAAFI have requested hygiene approval for the sale of local cheeses to families to cover the recent 70 per cent cut of imported cheeses. Without this approval cheese will virtually disappear from the NAAFI self service shops.

Factories have been visited. Although in one of these, as the management is well versed in production technique, the standards are an improvement compared with others on the island, some of the practices are still unhygienic. For some types of cheese a form of batch pasteurisation of milk, admitted to be dirty and on bacteriological examination amazingly so, is carried out without any automatic controls. For the manufacture of a Gruyere type cheese, raw unpasteurised milk is used (pasteurised milk is also being tried as an experiment). The standards of practice of food hygiene both in preparation and handling of the mature cheese is very poor. A local well-water is used for cleaning equipment and, as all the town sewage consists of a cess or septic pit for each house, underground water supplies are liable to pollution and earthquake faults also exist. While the process involved in making some of the cheeses promotes overgrowth of pathogenic organisms and the maturing over three months will eliminate any remaining organisms, cheese sold from this factory must always be suspect. Although some modern equipment has been installed in this factory, including stainless steel vats and pasteurisation equipment (not automatic), the building itself has not yet been improved and it is neither clean nor tidy. This, and the unhygienic food handling, should exclude for the time being the official sale of these cheeses to troops and families. The result is that there will be no cheese for sale in NAAFI. However in this particular case one hopeful sign is that the owner and managers are likely to co-operate in raising their standards.

#### *Fresh Meat*

So far in the Sovereign Base Areas there has been little attempt to provide local fresh meat for the troops or organise the sale of it to families. There is only a limited

supply on the island, lamb is of a high quality and pork and some beef are available. Fresh meat sold in the municipal markets is inspected but quickly fouled by flies. A great deal of meat comes from animals killed in private slaughter-houses which are just open air spaces under a tree and, it must be remembered, hydatid disease is a major problem too. Because of this it is unwise to buy fresh meat anywhere. There is a co-operative scheme being organised for the sale of fresh pork. This meat will undoubtedly be offered to NAAFI and the Army. It is however considered that before fresh meat be procured for the soldiers or sold by NAAFI to families, rigid safeguards are required, such as ante-mortem and post-mortem inspection carried out in a properly constructed abattoir, preferably within the Sovereign Base Area itself under military supervision. Any other solution leaves too many loop-holes.

#### *Mineral Waters and Squashes*

There is a thriving trade in locally produced mineral waters and fruit squashes, mostly prepared from the plentiful and high grade fruit grown in Cyprus. Many of the firms are most efficient and reputable, being associated with USA and British firms.

Two small findings have made even these suspect, but not dangerously so yet. In some fruit juices small quantities of malathion have been detected. When one appreciates the most haphazard and indiscriminate use of all insecticides, dangerous possibilities may become a reality. There is no regular check of these fruit juices for these chemicals, except occasional tests by the Army when samples are sent to the Government Chemist in London.

The other finding is that potassium sorbate is used as a preservative in fruit juices. This is not on the list of preservatives in the regulations under the Food and Drugs Act, but is however, relatively harmless, and is included in the list recommended by the Food Standards Committee Report on Preservation in Food, 1959.

#### *Table Waters*

There is a bottled table water on sale in Cyprus, which flourishes on the local prejudice of many against drinking the chlorinated water available in the municipalities. This table water is obtained from an underground spring in the middle of a mountain village, built on the sides of a fairly steep valley. With the usual cesspits, pollution is inevitable. The water is filtered through a modern German Seitz filter which undoubtedly removes most of the pathogenic bacteria. It is said to remove all, but it would have little effect on viruses. There is no treatment with free chlorine, nor is any of the water used in the factory chlorinated.

Two or three bacteriological tests of this bottled water have shown no pathogenic organisms present except once, when the water was found to be badly polluted. The cause was traced to inefficient use of the bottle-washing machine, the water used not being hot enough. This firm wishes to sell through NAAFI.

#### **The Problem of Adulteration**

Even in a reasonably well regulated country such as Italy the control of adulteration is not easy. For instance the *Sunday Observer* of 23rd September, 1962, reported that

'Parmesan cheese' made from sawdust and sand sold at 4s. and cost 8d. Soft cheeses and butter made with ground asses' hooves and pounded banana skins had been found at Padua and, in Rome, the Ministry of Agriculture had discovered a colouring substance liable to cause cancer being used in ice-cream. In Cyprus the owner of one canning factory, when questioned, said he had rarely been visited by a representative of the Health Authorities and none of his products had ever been sampled.

### **Discussion**

What then are the solutions? For whichever one accepts, apart from the ideal and regardless of pressure exerted, there are disadvantages. The ideal is, of course, a product from a concern fully conscious of the problems of food hygiene and hygiene of food handlers, with good supervision by military inspectors. This is not likely to be possible in Cyprus for many years.

Another solution is to prohibit the sale of, or procurement of, any local product in the Sovereign Base Area which is at all hygienically suspicious. This is of necessity already the case as far as the official soldier's ration is concerned. Unfortunately this does not prevent the soldier or his family buying the same item outside, possibly of much more doubtful and inferior quality than would be available in NAAFI. A further effect of enforcement of this recommendation is that an item may be totally excluded from the soldier's menu if this item cannot be otherwise procured. This is now the case with chickens.

In the case of locally killed meat the hygiene risks are considerable including fouling by flies. One certain way of avoiding these risks is to have a small abattoir in the Sovereign Base Area, where all stock can be examined ante-mortem and post-mortem and, on killing, immediately chilled or frozen. This has been considered but to date the abattoir and cold storage facilities proved to be too costly.

Sometimes it is possible to recommend that the firms make reasonable improvements. When these are carried out, then the product is considered fit for procurement by NAAFI and the Army. This meets with some success, but the military follow-up inspections cannot maintain the standards existing in the United Kingdom and, further, there is a tendency to let standards drop soon after obtaining a contract.

Under consideration at present is the scheme to ask firms to allot certain days for production of the particular food product for sale to NAAFI and the Army. On these days hygiene assistants would be present to watch, thus ensuring good standards of hygiene are maintained. This has the disadvantage that few hygiene assistants have the experienced knowledge to advise efficiently and this particularly applies to meat inspection. There is probably a case for the formation of a small food inspectorate team, including a representative of the WD Analyst, to carry this out.

It is difficult under present conditions to adopt any overall supervision that will work and it must be obvious that in the main, it is safer to procure many items of the soldier's rations, including NAAFI supplies, from United Kingdom or from a known reliable source rather than locally. This applies particularly to dairy products and meat. When this cannot be done then the degree of risks to health must be assessed as carefully as possible against the morale factor of going without. But it must not be forgotten, many families buy from NAAFI when they are in doubt about local

products. They expect NAAFI to maintain home standards of food and hygiene and wholesomeness. There will be occasions when the health risk will be unacceptable and an item of diet excluded from the soldier's menu or from his families meals. In the case of the soldier the exclusion of chicken from his menu has not noticeably lowered his morale.

Progress in solving the many problems is slow as is the recognition and understanding of their extent. Apart from the straightforward hygiene of foodhandling, there are all the complex regulations designed and issued in the United Kingdom under the Food and Drugs Act to avoid the sale of unwholesome food. To check that locally purchased foods comply at least with the spirit of these is beyond the knowledge of the average hygiene assistant and frequently the detailed knowledge is not at hand or easily obtained to help the Army Health specialist. It is also usually beyond the knowledge of those responsible for purchasing these local products.

No mention has been made about the raw fruits and vegetables available in the island. Excepting for a short period in the summer these are excellent and a wide range is available. These can be bought in quantity without any major health risks.

### **Conclusions and Summary**

An attempt has been made to describe the difficulties of local purchase of foodstuffs for the soldier and his family in the Cyprus Republic and the Sovereign Base Area.

No hard and fast rule in local purchase can be applied, for there are many hygiene risks involved. The balance between accepting these risks and the exclusion of the item from the soldier's menu is the crux of the problem.

In some cases importation into the Sovereign Base Area from reliable sources is the best and obvious solution. When and where this is not possible for local reasons, then the decision to be made is either to accept the local product, with persuasion to raise hygiene standards, or to exclude the item from the Sovereign Base Areas, that is, from the soldier's menu and from NAAFI. The individual at his own risk, exercising his right of free choice however misplaced, may continue to buy these doubtful items in shops outside or by attendance at village weddings or other engagements put himself at risk.

There seems to be a need for advice from experts and guidance as to the extent that local purchase of food stuffs should be practised overseas.

### **Acknowledgments**

I am most grateful to Brigadier E. M. Hennessy, O.B.E., M.B., D.M.S., H.Q., NEARELF for his general assistance to enable me to publish this paper and to Colonel E. D. H. Williams, M.B., D.P.H., for his kind encouragement and help in checking details.

## COMPILATION OF MEDICAL BIBLIOGRAPHIES\*

THE fruits of medical research are of little value unless they can be made available to many people, either in the form of papers read to societies, articles published in journals, or books, theses, etc. The collection of references for the pursuit of a particular piece of research work or a review of a particular subject is of little value to anyone but the person concerned, unless it is destined for publication. There are a number of useful guides on the preparation of scientific papers, a matter which is beyond the scope of this book. Here we are concerned only with the collection of references and the style in which they are published.

A bibliography is a collection of all the references to the subject under consideration. Many writers use the term "bibliography" to describe what is merely a list of references.

Sometimes an otherwise excellent piece of work is marred by a badly prepared or inaccurate bibliography or list of references. A great deal of trouble is caused to librarians and others by mistakes in giving reference. The list of references should always be checked, at the proof stage if possible. Place (1916) says with regard to the verification of references: "A common fault lies in taking a reference from another's bibliography as though it were thereby Gospel truth. . . . Take no reference for granted. Verify the reference that your best friend gives you. Verify the reference that your revered chief gives you. Verify, most of all, the reference that you yourself found and jotted down. To err is human, to verify is necessary."

When references are collected they are best recorded on separate cards or slips large enough to contain a few notes, and should include author's surname and initials, title of paper, and title, date, volume and page number of journal. In the case of books, publisher and place of publication should be noted.

There are several methods of quoting references in the text. The most commonly used nowadays is the "Harvard" system (although no one seems to know why it is so named). In this method the name of the author quoted is followed immediately by the date of the paper, in parenthesis, thus:

"The next important development came when Murray (1891) injected thyroid extract in the treatment of myxoedema."

References are arranged alphabetically by author, at the end of the paper. When two or more references to an author appear under the same year, the addition of a, b, etc., as necessary, will avoid confusion. The advantage of this method of citation is that last-minute additions can be made without the disturbance which occurs with other methods.

† Another method is to use small superior figures to connect the citation in the text with the reference in the bibliography, thus:

"The next important development came when Murray<sup>6</sup> injected . . ."

The objection to this system is that last-minute insertions will disturb the sequence of the references whether they are numbered in order of citation or are arranged alphabetically and numbered in this sequence.

In the bibliography or list of references, the title of the journal is usually abbreviated. Many British scientific journals use the abbreviations published in the

*World List of Scientific Periodicals* (1952). The code of rules used by the *World List* for these abbreviations has since been modified by the International Standards Organization. To encourage the use of the *World List* abbreviations, Unesco and the World Health Organization in 1953 jointly published *World Medical Periodicals*, a list of current medical, dental and pharmaceutical journals (as well as some of the more important journals which have ceased publication since 1900) together with the *World List* abbreviations of their titles. A third edition of *World Medical Periodicals* was published in 1961.

Thus our reference to Murray, given in each of the two methods suggested, would appear as:

MURRAY, G. R. (1891). *Brit. med. J.*, **2**, 796; or

6. MURRAY, G. R., *Brit. med. J.*, 1891 **2**, 796,

the title of the journal being given in italic type and the volume number in bold type. (In manuscript or typescript *italics* are indicated to the printer by a single straight underline, and **bold** type by a single wavy underline).

In the case of books the title is usually given in italics, followed by place of publication and name of publisher.

OSLER, W. (1892). *Principles and Practice of Medicine*. New York, *Appleton*.

or 7. OSLER, W. *Principles and Practice of Medicine*. New York, *Appleton*, 1892.

The page number can be added if required.

It is important to examine carefully a copy of the journal to which it is proposed to make a contribution, so that references can be put in the style used, the correct procedure with illustrations can be followed, etc.

Some scientific journals (e.g. *Journal of Physiology*) require that where two or more authors are concerned in a paper their names must be arranged alphabetically. Otherwise there is a tendency for a paper by A, B and C to be followed a little later by slight variations on the theme by B, C and A, etc.

In giving references to the *British Medical Journal*, *Lancet*, and *Medical Journal of Australia*, serial volume numbers should not be quoted. Two volumes of each are published per year and it is customary to number these 1 and 2.

In some cases papers difficult to consult in the original will have been read in abstract. In these cases it is useful to add a reference to the abstracting journal concerned: This is an admission that the original has not been consulted and a help to readers who may wish to read the author quoted, e.g.

HISIM, N. (1955). *Hastane*, **12**, 64; (abstr. in *Abstr. Wld. Med.*, 1955, **18**, 51).

The journal *Hastane* is published from Istanbul and is in Turkish.

In the case of contributors to collective works, the following method of citation is suggested:

HURST, A. (1950). In Price, F. W.: *Textbook of the Practice of Medicine*. 8th ed. London, *Cumberledge*, p. 588.

\* Reproduced from Morton, L. T.: *How to Use a Medical Library*. 3rd ed. London, W. Heinemann Medical Books Ltd., 1957, by kind permission of the author and publishers.

† Editor's Note.—Instructions for the preparation of Bibliographies in this Journal are given in "Important Notice" inside the front cover.

## IN RETROSPECT

THE recent death and obituary notice in the *B.M.J.* of Professor GERHARD DOMAGK—the great German chemist and the discoverer of the red dye “Prontosil”—the forerunner of chemo-therapy in the treatment of bacterial infections, has prompted me to obtain from the editor of this Journal a photostatic copy of an article I wrote ‘Septic Abortion Treated with ‘Prontosil’ ’ in March 1937.

At that time I was the Medical Officer I/C. Families Hospital Moascar (Suez Canal Zone). Several wives were being admitted for either partial or complete expulsion of the foetus following the use of sea tangle tents and inserted into the os uteri unsterilised. The complications of acute septicaemia shown by hyperpyrexia, repeated rigors and acute pain in the left iliac fossa soon set in. These patients were very ill—in spite of stating they felt quite well—a memorable example to me of euphoria. Blood cultures showed the *Streptococcus pyogenes* and inevitably death ensued after three or four days—the only therapeutic agent being antistreptococcal serum. About this time a representative of Bayers approached me with some literature on a red dye called “Prontosil” which had been shown to be effective by DOMAGK in 1935 on mice inoculated with ten times the lethal dose of *Streptococcus pyogenes* Group A and there had been some successes in the treatment with this compound in cases of erysipelas and puerperal fever in mankind.

I approached the Officer Commanding, Military Hospital Moascar for permission to buy a supply of this compound for a patient recently admitted following abortion and who was by this time a blood culture positive *Streptococcus pyogenes* Septicaemia with a temperature reaching 105°F.

Fortunately, however, the Bayers representative gave me a small supply of Prontosil. The “red ink” was injected intramuscularly every four hours into the dying euphoric woman and within two days the temperature fell from 105°F. to normal, rigors ceased and the blood became sterile. The temperature chart is before me as I write these notes but poorly reproduced photostatically. The Sister I/C. Families Hospital—Miss Towel, Q.A.I.M.N.S. (no ranks in those days!) was as amazed as myself. The patient was discharged quite fit after a few days. Needless to say my medical colleagues were most sceptical but the positive blood culture gave an indisputable diagnosis. Shortly after this experience I was posted to Abbassia Families Hospital in Cairo. A girl age four was admitted with an acute abdomen and a laparotomy was performed by the surgeon at our Citadel Military Hospital. This revealed an acute primary streptococcal peritonitis and the best that could be done was to insert a drainage tube into the peritoneal cavity and hope! The recent remarkable experience with Prontosil was very much in my mind. The oral administration of this drug together with the irrigating of the peritoneum through the drainage tube with Prontosil soluble had the same dramatic result as that experienced in Moascar. The child made a complete recovery and it was seen eight years later in Aldershot quite healthy.

When writing up these cases in the *R.A.M.C. Journal* only three references were available—*B.M.J.*, February and March 1937, page 445 and 584 respectively and *Lancet*, December 5th, 1936.



Professor DOMAGK was awarded the Nobel Prize and made a foreign member of the Royal Society for his discovery which we soon found transformed the then fatal results of such prevalent diseases as meningococcal meningitis, pneumococcal pneumonia and puerperal sepsis. "Prontosil" went through a rapid evolutionary cycle through M & B 693 and eventually reaching the long acting compounds of today. It is strange that only a few years later Sir Alexander Fleming discovered Penicillin which virtually overshadowed the great German chemist's somewhat "slowly acclaimed" wonder drug.

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## WIDOWS' FUNDS FOR OFFICERS

A NEW widows' fund is being set up for married officers serving in the United Kingdom, and changes are to be made in the existing "Military Widows' Fund".

At present there is no such fund for officers serving in the United Kingdom; married officers may at present subscribe to the MWF only while serving outside the U.K. The subscription to this Fund is £3 per annum which must be started or stopped each time the member leaves or returns to the U.K.

The new Fund, to be called the Army Officers Widows' Fund, is planned to start operations from 1st JANUARY, 1965. From that date any married officer, whether serving at home or abroad, who wishes to subscribe to either Fund must complete AOWF Form 1, supplies of which will shortly be distributed to all units.

Part I of this form is a banker's order which cancels any existing instructions in favour of the MWF and instructs the bank to pay £3 per annum to the new Fund. The AOWF will transfer to the MWF any fraction of this sum immediately it is received so that the officer becomes a valid member of both Funds through the one annual payment. In the event of his death, his widow will be eligible for a benefit from one or other of these two Funds.

A formal announcement will be made in DCIs and copies of the Rules of both Funds will be distributed to Regular Army units as soon as the AOWF has been registered as a charity. Meanwhile it is important that all existing members of the Military Widows' Fund should understand that from 1st JANUARY, 1965 their current banker's orders become invalid and must be cancelled. AOWF Form I should be despatched at least 30 days before the date from which the individual wishes to join.