USSR Letter

Aspects of Soviet surgery

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In recent months the Western media has given prominence to the multiple and deep rooted shortcomings of the Soviet economy, as identified with great incisiveness by the new general secretary of the CPSU, Mikhail Gorbachev. Informative as the reporting has been, however, it is open to objection on the ground that its narrow focus tends to reinforce a fairly widespread disposition to underestimate the actual and potential achievements of the Soviet Union. For those who take for granted the backwardness of that country's industry and technology it is salutary to recall at least two dates on which, contrary to prediction, the Soviet Union outstripped the United States of America. On 4 October 1957 it put the first artificial satellite into space and on 12 April 1961 it launched the first manned spacecraft.

Those historic successes undoubtedly entailed enormous costs that were imposed on a passive population by a self perpetuating oligarchy. As hardly needs to be emphasised the military might and geopolitical influence of the world's second most powerful state is based at least in part on a system of national economic planning that has the ability to deny the demands of consumers for goods and services at levels normal in most Western countries. Nevertheless, even under such a "command economy" it is not impossible for adequate resources to be allocated to prestige projects within a relatively low priority sector such as the health service.

Recent achievements

That generalisation can be supported by an article published before the death of Chernenko, which, among other things, describes advances in techniques and the development of inventions in one area of medical practice.¹ Its author, academician Boris Petrovski, is the previous health minister of the USSR and has also made his name as a cardiac surgeon. With such a background, he can be said to write with double authority about contemporary Soviet surgery that makes possible "the restoration to health and return to work of even those patients whose lives could not be saved only 20 to 30 years ago".

Professor Petrovski now occupies the post of chairman of the All Union Scientific Society of Surgeons, and in that capacity presumably has experiential knowledge of work undertaken at the All Union Research Centre for Surgery, which is, so to speak, the apex of the institutional pyramid in this discipline. Noting that the transplantation of organs and tissue has reached a new level of sophistication, he refers to the centre's kidney transplant programme: the number of operations performed now totals over 730 and some patients (how many is not recorded) have lived for 15 to 18 years or more after the operation.

Mention is also made of the centre's innovatory successes in respect of such things as artificial heart valves, vascular prostheses, electrocardiostimulators, apparatus for the artificial circulation of blood, the artificial kidney, and precision instruments for vascular and microsurgical operations. Interestingly, the list ends with the comment that the capability of these instruments (or perhaps all the objects mentioned) is "not inferior" to that of their foreign equivalents. Currently staff at the centre are perfecting their expertise in the use of artificial heart ventricles, employing them temporarily in the case of patients who are acutely ill.

Another breakthrough in advanced medical technology that Petrovski claims for his country is the computer monitoring system known as Simfonia (Symphony). In this case, seemingly, the pervasive departmentalism that discourages innovation in the USSR was no obstacle to creative collaboration between researchers at the centre and designers in another unit working under the direction of academician N Pilyugin. As for its application the system makes it possible to monitor the most critical functions of a patient's organs during complex reconstructive surgery and also during the postoperative period.

In a similar strain, Petrovski states that "an international reputation" has been won by the Centre for Hyperbaric Oxygenation. Each year thousands of patients receive treatment there within a complex that was constructed to a Soviet design and contains only Soviet equipment and materials.

Widespread shortages

From what has been conveyed so far—and from other passages—it might be supposed that the *Pravda* article was conceived as a straightforward propaganda exercise. And to a degree it may be construed as an affirmation of the state's commitment to medical research that will serve to protect and further improve the people's health. At the same time it approaches a Gorbachev style indictment of low product quality and organisational shortcomings.

It is true that Professor Petrovski does not fail to remind his readers of a universally experienced problem: delays between the researching of new ideas and their application in everyday clinical practice. "It is necessary to note that it is not only with us," he wrote, "but also in other countries that there are shortages of the latest medical technology."

The general issue receives no further attention, however, and Petrovski certainly makes no attempt to argue that Soviet hospitals are as well equipped as those in the West. Without question, he admits, the various types of surgical units in the country are short of sophisticated modern equipment, a position that "powerfully inhibits the surgeon's work." By way of examples he records that there are "few instruments for express diagnosis and few modern programmed sterilisers and ultrasonic cardiographs."

But shortages constitute only one of the constraints on the practice of surgery. "Unfortunately, in many cases the excellent design characteristics of a piece of equipment and ease of handling are nullified by the lack of complementary products—micro-

processors, microcomputers, and materials specially intended for medical purposes." Moreover, design and performance often leave much to be desired: "Improvements in functional characteristics, in length of service life, and in durability are required for many types of equipment."

The article then addresses a problem that is endemic to almost all sectors of the Soviet economy—namely, the difficulty of maintaining hardware in good working order. Frequently restated in the central press, it evidently creates widespread frustration and gives rise to a vast degree of avoidable inefficiency. As for the nature of the problem in the health service, which is the extent of his concern, Petrovski lists the following points: "The service life of equipment frequently fails to come up to the best foreign standards. It soon breaks down and demands constant attention from highly qualified specialists. And incidentally the repair and other forms of servicing of equipment in medical institutions is still inadequately organised. The number of engineers and technicians is insufficient and their qualifications fall a long way short of requirements."

Predicting the outcome of these adverse factors hardly calls for speculation: a substantial amount of equipment must remain out of commission for longish periods of time. That conclusion is confirmed in the article, which then goes on to state: "This not only reduces the quality of curative-prophylactic activity but also inflicts substantial economic losses."

Two proposals

It seems most unlikely that the criticisms recorded above would cause much surprise to readers of *Pravda*—no privileged information was divulged—and, arguably, the article's main importance resides in its recommendations for change. One of these, in fact, may be within Petrovski's power to bring about, or help to bring about, and that is the establishment of new research organisations. Their function would be to enable resources to be concentrated on designing equipment in the most essential and most promising areas of medical technology. Envisaged as multidisciplinary units, their staff "ought to include eminent surgeons and scientists in related specialties, together with representatives from the academies and technical institutes."

From an analytical viewpoint, however, greater interest attaches to the article's recognition that fundamental to a solution of the problems is the notion of allocative priorities. This recognition is shown by Petrovski's statement that medical equipment ought to be accorded the same production rating as widely used consumer goods. While that may sound a limited upgrading, the point is that, in Petrovski's opinion, it would result in enterprises devoting more attention to the work in question. Moreover, as a specific measure to further the broad objective, the appropriate plants and factories should be guaranteed supplies of the necessary component parts, high quality raw materials, and chemical reagents. Conceptualising his recommendation in terms of a recognised programme, Petrovski writes that the planning agencies should investigate the possibilities of making available finance and supplies on an earmarked basis.

Comment

These proposals may seem curiously complex and circuitous to those who are unfamiliar with the *modus operandi* of a centralised, state run economy in which the activities of producers and the requirements of consumers are coordinated not by market forces but by administrative means. For Soviet readers of *Pravda*, though, the establishment of a specific programme might well have seemed most appropriate for the existing position: a labyrinth of power relationships that link directive agencies, ministries, industrial associations, production units, and finally the customer or user.

It is against such a background that Professor Petrovski's recommendations need to be understood: irrespective of whether they gain acceptance they are noteworthy as a positive response to problems arising from the manifold rigidities inherent in the Soviet system. Moreover, at a fairly high level of generality they may be perceived as an endorsement of Edmund Burke's sombre dictum: "A state without the means of some change is without the means of its own conservation."

Reference

- 1 Petrovski B. Arsenal khirurga. *Pravda* 1985 March 3:3.

A doctor I used to work with would write TG on the foot of patients' notes by which he meant tinted glasses. Is there any relation between wearing tinted glasses and personality disorder or psychiatric morbidity?

Most people do not need to wear tinted glasses even in bright sunlight. A few people with genetic anomalies such as albinism or with retinal disorders need to wear glasses. In the first half of this century comparatively few wore tinted glasses and, like certain floral hats or extravagant footwear, "shades" were often an extension of a flamboyant personality. Today the affection of tinted glasses is more widespread and usually intended to avoid minor discomfort. It would be unsafe to regard tinted glasses as a reliable correlate of any personality type or disorder.—SYDNEY BRANDON, professor of psychiatry, Leicester.

A gardener in his early 70s had a persistent ulcer on the bridge of his nose, which he successfully treated with the juice of milkweed (Euphorbia peplus). What might the lesion have been and is milkweed known for its medicinal properties?

The common name, milkweed, refers to plants of the genus *Euphorbia*, whose stems exude a white juice that is a well known irritant. *Euphorbia peplus* is a common weed on cultivated ground and known as petty spurge according to *The Concise British Flora*.¹ Culpeper's *Complete Herbal* describes the juice of these plants as a "dangerous purge, better let alone than meddled with" but used "outwardly in ointments they cleanse the skin, take away sunburning."² The active principle is probably a complex substance, euphorbiosteroid. The juice of the sun spurge is used by children for treating their warts, but they suffer intense irritation of the tongue and lips should they suck their fingers, accounting for the local names of "wolf's milk," "cat's milk," "wart-wort," and "wart-weed."³ The juice acts as a potent irritant on mucous and raw surfaces. This patient had a raw surface

on the bridge of his nose painted with the irritant fluid. The caustic effect could destroy an eroded solar keratosis, even a superficial basal cell carcinoma, and a benign lesion such as a plane virus wart that had been traumatised could also disappear. Many dermatological remedies for virus warts, solar keratoses, and basal cell carcinomas act simply by irritating the skin, so milkweed juice could perform the same service at a cost that compares very favourably indeed with a visit to a dermatological clinic. But that is not an invitation to doctors to recommend milkweed juice for any eroded skin lesion to avoid making a proper diagnosis.—ALAN B SHRANK, consultant dermatologist, Shrewsbury.

- 1 Keble Martin W. *The concise British flora in colour*. London: Ebury Press, 1965: plate 75.
- 2 Culpeper N. *The complete herbal*. 1653. (Edition printed by the Kynoch Press for Imperial Chemical (Pharmaceuticals) Ltd 1953, 313, 340.)
- 3 Forsythe AA. *British poisonous plants*. London: HMSO, 1968:74.

A man in his 50s with arthritic hips has had annual radiographs since 1983. In the original ones lead pellets were seen in the right iliac fossa. The pellets were lined up in two or three rows with eight to 10 pellets a row. Their arrangement has not changed over the years and the pattern suggests that they are in some diverticulum (Meckel's or vermiform appendix). Is there any chemical or physical risk in leaving them where they are?

The risks of this man developing lead poisoning from pellets lodged in the gut are small. If they are indeed in a diverticulum then they are presumably surrounded by fibrous tissue, which will greatly reduce their absorption into the blood. It would seem a reasonable precaution, however, to arrange for a blood lead determination and to repeat this at each follow up clinic. If the blood lead concentration becomes raised (say over 80 µg/dl) then it would be prudent to remove the source of his lead.—H A WALDRON, lecturer in occupational health, London.