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SCIENTIFIC RESEARCH ON NARCOTICS AND THE UNITED NATIONS NARCOTICS LABORATORY

Note by the Secretary-General

Council resolution 477 (XV)

1. In resolution 477 (XV), the Economic and Social Council, after noting with satisfaction the work undertaken by the United Nations up to that time within the framework of the international programme of scientific research on narcotics, invited the Commission to transmit to the Council not later than its eighteenth session its recommendations "regarding the future of the United Nations narcotics laboratory, taking into account the whole of the scientific work undertaken by the Secretariat in this field". At the same time, it requested the Secretary-General:

"(a) To appoint an international committee of three chemical experts, with a view to evaluating the progress made in developing methods to determine the origins of raw opium by chemical or physical means, and to arrive at conclusions as to whether the methods have been advanced to a point where they can be given practical application in the international field;

(b) To submit the above-mentioned report to the Commission on Narcotic Drugs for its consideration;

(c) To submit to the Commission a note on the cost of installing and equipping a United Nations laboratory at Geneva."

As regards (a) and (b), the report has been circulated as document E/CN.7/278; (c) has been issued as E/2372/Add.1, E/2372 having contained an estimate of the cost of installing the laboratory at Headquarters.

Work on the determination of the origin of opium by chemical and physical means.

2. As regards the work on the determination of the origin of opium, a short summary of the legislative history of the subject is contained in paragraphs 10-15 of the Report of the Chemical Experts (E/CN.7/278). A complete list of references to proceedings in the Commission and in the Council touching this subject is contained in the Annex to this paper. Annex A of the Chemical Experts Report contains a list of the documents, originating both with the Secretariat and with the collaborating scientists, issued on the subject. It is not proposed to submit further general documents on the programme and its results at present; the Secretariat is, however, ready to provide any further information that may be requested.

3. The Opium Protocol of 1953 provides that only opium produced in seven named States may be the subject of licit international trade. The Commission will no doubt wish to consider the bearing of the coming into force of the Protocol on the work on the determination of the origin of opium.

Other scientific research.

4. In considering its recommendations to the Council, the Commission may wish to have the following notes on certain other questions of scientific research.

5. The morphine percentage has often been used as an important factor in origin determinations. The Secretariat chemists have found that by itself it is not nearly as dependable for this purpose as some other characteristics. However, it is necessary to origin determinations for the following three reasons:

- (a) The morphine content shows whether the opium is grossly adulterated of substandard;
- (b) The morphine content is the most convenient basis for ratios between the alkaloids; these ratios are useful in determining the origin and in fact when the opium is grossly adulterated only the ratios can be used, not the absolute percentages;
- (c) The morphine content is considered in combination with other percentages and values found and must be consistent with them in determining the origin.

6. The morphine content has great significance aside from the determination of origin of seizures. It is the chief factor in evaluating opium and also the chief factor in accounting for manufactured narcotic drugs in terms of the raw material from which they are produced. The Permanent Central Opium Board, in its last report to the Economic and Social Council (E/OB/9) stated, "Another factor which might be of value in enhancing the efficiency of statistical control, particularly with reference to the possible diversion of morphine and heroin from licit to illicit channels, is the morphine content of opiums, and the Board will be interested in the results of the scientific research now being made in regard to this factor."

7. The World Health Organization has also expressed its interest in the morphine assay and has expressed the wish that this work could be developed.*

8. Contributions of national scientists on the assay, from Austria, France, Japan, and China, have been issued as ST/SOA/SER.K/3, 11, 15, and 18, and contributions still unpublished have been received from Germany, Israel and China. The objectives sought in various assays of opium for morphine are not entirely the same. The pharmacopoeial assays are intended to provide reasonably simple procedures for standardizing medicinal opium. The Secretariat's objective has been an accurate assay that could be used equally well on all types of opium (including some which do not come into the question for pharmacopoeial purposes), and also on substandard and highly adulterated samples (ST/SOA/SER.K/1). The objective of Dr. Knaffl-Lenz (Austria) was a fairly simple assay which could be used for pharmacopoeial purposes, but based on solvent-extraction instead of precipitation of the morphine (ST/SOA/SER.K/3). The objective of Dr. Liang (China) was a very accurate assay which could be adapted to the complete analysis of opium for all its important alkaloids (ST/SOA/SER.K/18).

9. In connexion with the problem of obtaining data on the percentages of all the major alkaloids, in order to compare various types of opium for origin determinations, the Secretariat has developed a method for obtaining all these values in one unified procedure. The Secretariat chemists have also worked out the separations of the alkaloids by solvent-extraction, so that one quantity of opium taken for analysis yields results for morphine, minor phenolic alkaloids, codeine plus cryptopine, thebaine, papaverine, and narcotine. This "unified analysis" may also be important from the point of view of the statistical control of manufactured drugs in relation to the raw material, opium.

* E/SR.681

10. In the resolution adopted by the Commission at its seventh session (E/2219) it was pointed out that if a laboratory were available, it could be used for the development of methods to analyse adulterated illicit narcotics and to identify synthetic narcotic drugs seized in the illicit traffic. Other laboratory projects which it has been suggested would be of assistance in the international narcotics control system are the establishment of international methods for assaying the morphine and other alkaloids in poppy straw, and the cocaine in the coca leaf; and identification tests for cannabis and research on chemical determination of the active principle or principles.

11. In considering the bearing of such topics on the programme, the Commission would no doubt take into account in the first place the extent to which the relevant work could be carried out in national institutions and, in the light of that, the role of the Secretariat in co-ordinating and otherwise assisting in such work.

ANNEX

Proceedings in the Commission on Narcotic Drugs and the Economic and Social Council
Relating to Laboratory Research on Narcotics

- Commission, second session: Summary Records: E/CN.7/106, pp. 79-80, p.88.
- Commission, third session: Summary Records: E/CN.7/155, pp. 93-96, pp. 191-192.
Report to the Council: E/799, pp. 19-20.
- Council, seventh session: Report of the Social Committee: E/910, p. 2.
Summary Records: E/AC.7/SR.45, pp. 9-11, E/SR.189,
p. 219.
Resolution 159 II C (VII).
Report to General Assembly: A/625, para. 173.
- Commission, fourth session: Summary Records: E/CN.7/SR.78-99, pp. 50-51,
pp. 81-92, pp. 208-209.
Report to Council: E/1361, pp. 41-44.
- Council, ninth session: Summary Records: E/SR.285, E/SR.286.
Resolution: 246 F (IX).
Report to General Assembly: A/972, para. 325.
- Commission, fifth session: Summary Records: E/CN.7/SR.101, p. 9,
E/CN.7/SR.106, pp. 12-16.
Report to Council: E/1889/Rev.1, paras. 28, 174,
175, 182-184.
- Council, twelfth session: Report to General Assembly: A/1884, para. 723.
- Commission, sixth session: Summary Records: E/CN.7/SR.130, pp. 11-12,
E/CN.7/SR.134, p. 4.
Report to Council: E/1998, para. 31.
- Commission, seventh session: Summary Records: E/CN.7/SR.158, pp. 4-5,
E/CN.7/SR.185, pp. 6-14.
Report to Council: E/2219, paras. 23, 123-128.
- Council, fourteenth session: Summary Records: E/SR.581, p. 65.
Resolution: 436 F (XIV).
Report to General Assembly: A/2141, paras. 509-512.

Council, fifteenth session:

Summary Records: E/SR.681, pp. 53-56.

Resolution: 477 (XV).

Report to General Assembly: A/2430, paras. 687-691.

Commission, eighth session:

Summary Records: E/CN.7/SR.205, p. 15,
E/CN.7/SR.213, pp. 10-16.

Report to Council: E/2423, paras. 28, 191-195.
