distant from each other so as to facilitate attendance at these meetings by scientific men interested in the work of both unions;

The General Assembly of the International Geodetic and Geophysical Union invites its bureau to enter into correspondence with the Bureau of the International Astronomical Union for the purpose of carrying out, if possible, the proposal in question.

III. The assembly reelects unanimously, as president of the union, M. Charles Lallemand, whose term of office, according to article 6 of the statutes, had expired.

IV. On the proposal of the Section of Geodesy:

The General Assembly recommends that the governments possessing a submarine fleet undertake, as soon as possible, gravity determinations on board submarines by the new method of Vening-Meinesz—such determinations being of the greatest interest to geodesy.

V. On the proposals of the Section of Seismology:

(1) The General Assembly recommends that seismological installations be made in the following regions:

(a) In the northern part of Spain and in the Balearic Islands to complete the réseau of Spanish stations.

(b) In New Caledonia and Tahiti to complete the réseau of the French colonies.

(2) At the request of the American Committee of Geodesy and Geophysics, the General Assembly recommends that, wherever it may be possible, observations and studies be made, in common, on the ocean deeps and on their relations with the bottom-relief, with gravity anomalies, and with depth of seismic centers.

VI. On the proposals of the Section of Meteorology:

(1) The General Assembly notes with satisfaction that the published tables of observations made in the upper atmosphere contain results from tropical stations and from stations in the Southern Hemisphere, in particular wind and temperature soundings at Hongkong and wind soundings at Colombo and Dewa in the Island of Ceylon, at seven stations in Brazil, at Pretoria in South Africa, at Melbourne in Australia, and at Apia in the South Pacific; it recommends that this work be continued and developed through international cooperation.

(2) The General Assembly further recommends that, as far as possible, copies of the minutes of the section be made available to meteorologists desirous of carrying out investigations and that a list of persons to whom these minutes should be sent be drawn up by the national committees.

VII. On the proposals of the Section of Oceanography:

(1) The General Assembly approves the creation of a permanent mixed commission organized with the cooperation of the sections of seismology and volcanology for the purpose of collecting all the documents of use for the study of the phenomenon of bores.

(2) The General Assembly approves the creation of a permanent mixed commission organized with the cooperation of the Section of Meteorology for the purpose of studying the influence of polar ice on climates, especially in the Southern Hemisphere.

VIII. On the proposals of the Section of Volcanology:

(1) The General Assembly, considering that studies of the thermal gradient of the earth are not only of interest to pure science, but also to industrial applications, recommends that the Italian government kindly intrust to its National Research Council the mission of undertaking such investigations on the volcanoes of Italy and especially on Vesuvius.

(2) In view of the importance to science which is offered by the state of the extinct volcanoes and the lavas of the Aegean Sea, the General Assembly recommends that the petrological laboratory of the University of Athens continue its systematic studies of this subject.

(3) At the request of Professor Ktenas, of the Academy of Athens, it recommends that the new volcano in the Kamenis Islands of the Santorin Archipelago, the eruption of which began August 11, 1925, keep the name of the great geologist Fouqué.

(4) In view of the international interest presented by the measurement of the speed of propagation of longitudinal and transversal waves in solid and fluid magmas near the point of fusion, it recommends that such measurements be undertaken by countries having active volcanoes in their territory and in that of their colonies.

CH. LALLEMAND,
President of the Geodetic and Geophysical Union

H. G. LYONS,
Secretary-General

SCIENTIFIC APPARATUS AND LABORATORY METHODS

INFILTRATING PIG EMBRYOS WITH PARAFFIN

AFTER much experimentation in our laboratories with various methods for infiltrating pig embryos with paraffin, we have found the method described below as the most satisfactory and one never failing to give the desired results.

When the embryos have been thoroughly dehydrated they are cleared in oil of cedar or origanum. They should remain in the clearer for one hour after sinking to the bottom of the container to insure thorough clearing. The embryos are then removed and washed in xylol for ten minutes to prepare them for subsequent treatment by removing the oil which adheres. Next, the embryos are placed in a solution of paraffin-xylol. The most satisfactory solution is prepared by dissolving at ordinary room temperature 24 grams of paraffin in 100 cc of xylol. It is well to have this solution prepared a few days in advance to prevent delay. The amount of solution used should be three or four times the bulk of the embryos. The embryos are left in this solution from two to six days depending on their size. (See Schema at end.) After removing the embryos dip them once or twice in xylol, then place them in melted paraffin and put in oven. The melting-point of the paraffin should not exceed 52 degrees Centigrade nor should the temperature of the oven. At the end of fifteen minutes the paraffin is poured off and fresh-melted paraffin put on. This procedure should be repeated at least three times. At the end of forty-five minutes it is wise to smell of the embryos to make certain that all the xylol has been removed. If the slightest trace of xylol is detected change the paraffin a fourth time. All the xylol must be removed, otherwise the imbedding paraffin will crystallize and great difficulty will be experienced in sectioning.

It is a well-known fact that heat is detrimental to all tissue, even adult tissue, not to mention its effect upon embryonic. In infiltrating tissue it is most essential to submit it to heat for the shortest time possible. Heat shrinks, hardens and distorts tissue, thereby rendering it worthless. We have found pig embryos to shrink from 1/16 to 1/4 their natural size when submitted to heat for as short a period as two hours at 52 degrees Centigrade. The tissue shrinks and hardens so rapidly that it is impossible for the paraffin to penetrate and as a consequence imperfect infiltration results, particularly in those parts of the embryo where shrinkage is the greatest. In sectioning, the parts not infiltrated crumble and fall out. This is invariably the case with the liver of the embryo. The liver is very compact, the interstices minute and the shrinkage great. By using a paraffin-xylol solution a sufficient amount of paraffin penetrates the tissues so that when the embryo is placed in the melted paraffin and put in the oven, the paraffin, which has already penetrated the embryo from the paraffin-xylol solution, melts and by capillary action rapidly draws in the fresh paraffin and forces the xylol out in less than one hour. The maximum shrinkage in pig embryos takes place after the first ninety minutes in the oven.

An objection which might be raised against the use of paraffin-xylol is that tissue left in xylol for many hours becomes brittle and brittleness is as ruinous to tissue as heat. This objection is true when xylol is used as the clearer—but when cedar oil or oil of origanum is used as the clearer the embryos may remain in paraffin-xylol for a week without becoming brittle.

Below is a Schema which shows the relative amount of time necessary for embryos of various sizes to remain in the paraffin-xylol solution in order that they may be thoroughly infiltrated after being in the oven from 45 to not more than 60 minutes.

SCHEMA

Size of Embryo	Length of Time Embryo is in Solution of Paraffin-Xylol
7 mm. to 10 mm.	48 hours
11 mm. to 15 mm.	54 hours
16 mm. to 20 mm.	65 hours
21 mm. to 24 mm.	77 hours
25 mm. to 29 mm.	88 hours
30 mm. to 34 mm.	95 hours
35 mm. to 39 mm.	104 hours
40 mm. to 45 mm.	110 hours
46 mm. to 50 mm.	119 hours

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SPECIAL ARTICLES

THE ANATOMY OF THE CORIUM

IT was pointed out by Dupuytren[1] in 1836 that a round, pointed awl thrust into the human skin produced not round openings but linear slits. This property of the corium was very fully studied by K. Langer in 1861.[2] From the work of Langer it is evident that in the human there are very definite directions in which these cleavages take place and that these directions are constant for an anatomical part. Nussbaum[3] and Burkard[4] have studied these cleavage lines in the human foetus and have shown the changes that take place during development.

[1] Quoted by K. Langer.

[2] Langer, K. "Über die Spaltbarkeit der Cutis." *Sitz. berichte d. K. akad. d. Wissenschaften S.* 19 Bd. 44, 1862.

[3] Nussbaum, Ilse. "Über die Spaltungsrichtung Menschlicher Embryonen." Inaug-Diss. Berlin, 1923.

[4] Burkard, Otto. "Über die Hautspaltbarkeit Menschlicher Embryonen." *Arch. f. Anat. u. Physiol. Anat. Abt.* S. 13, 1903.