

Comments and Communications

On the Price of Books: A Publisher's Reply to Mr. Lowry

In your issue of the 22nd April, John R. Lowry protests against the present high prices of scientific books and suggests that books might be issued "in both unbound and bound form."

It has frequently been suggested that the publication of books in paper bindings would result in a considerable saving, but this is in fact not the case. The saving in most instances would amount to only a few cents, since the greater part of the binding cost is in the folding and collating of the sheets and the sewing of the signatures; this operation has to be performed by the binder whether the casing is paper or boards.

The manufacturing cost of many books has doubled in recent years, as your correspondent rightly points out. The list price charged by publishers has been increased by a much smaller proportion. I believe that books show a smaller increase in price over the prices of ten years ago than almost any other commodity on the market.

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Cambridge University Press
American Branch

Precipitation Cycles

Recalling my own papers (Smithsonian Misc. Coll. Vol. 104, Nos. 3, 5, 1944; Vol. 111, No. 4, 1949) a letter from E. Fraselle, translated from the French, is of much interest:

I have much pleasure in informing you that I am verifying the influence of the cycle of 27 days on the precipitation registered at Shangugu (Costermansville) in Ruanda (Afrique Orientale).

The graph enclosed [Fig. 1] is computed from rainfall data of this station for 41 cycles from 4-1-1946 to 14-1-1949, as tabulated below. [The table is here omitted.]

I fixed the zero of the first cycle at 4-1-1946, because it represents the phase of maximum rainfall for the cycle as

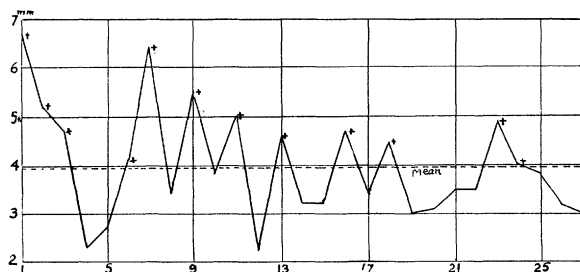


FIG. 1. The 27-day cycle in precipitation at Shangugu, lat. $2^{\circ}30'S$; long. $28^{\circ}54'E$; Alt. 1476 m. Ordinates, mean rainfall per day (mm) on cycle dates (abscissas) from 41 cycles. "Preferred" cycle dates +.

indicated by the mean of the 41 cycles. This day would therefore correspond to the twelfth day of your cycle for Washington, Smithsonian Misc. Coll., Vol. 104, No. 3.

In spite of the restricted number of cycles (41) used to establish my mean curve, the general correspondence of my results with yours is striking, and I cannot hide from you my satisfaction therein. This seems to me to have a great importance when one considers that Washington is situated in the Temperate Zone and Shangugu in the tropics.

I am about to publish a paper on the subject in which I give the ratio of expected average rainfall on preferred days to that on all others as 1.60. This follows from the graph enclosed.

The matter was further referred to in my paper before the National Academy of Sciences (*Science*, 1949, 109, 436).

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Anode-Cathode Labeling in Electrochemistry

There has been much controversy over the use of the terms "anode" and "cathode" in the labeling of the electrodes in electrolytic and galvanic cells. From the standpoint of first year college students, as well as workers in the field, this has been an everlasting problem, always giving rise to doubt and uncertainty.

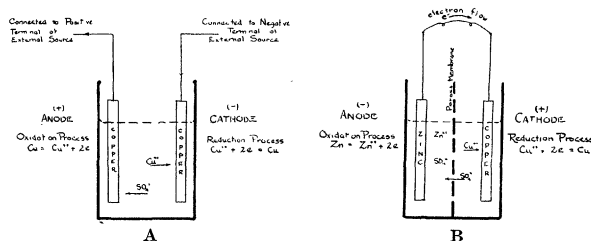


FIG. 1. A—Electrolytic cell. B—Galvanic cell (the Daniell cell).

The use of the terms with respect to an electrolytic cell, Fig. 1A, is not controversial, since it follows directly from Faraday's work on electrolysis. During electrolysis the electrode to which the anions migrate is termed the anode and that to which the cations migrate is termed the cathode. The electrode connected to the positive pole of the external circuit is the anode and that which is connected to the negative pole is the cathode.

On carrying over the use of these two terms to the galvanic cell, either one of two definitions must be followed: (1) the anode is always positive and the cathode always negative, or (2) the anions migrate to the anode and the cations migrate to the cathode. Both of these statements hold true for the electrolytic cell.

If the first statement is accepted, then in the case of the Daniell Cell (a galvanic cell), $Zn/ZnSO_4/CuSO_4/Cu$, the zinc electrode is the cathode and the copper electrode is the anode. This being the case, then the second statement cannot be true for the galvanic cell. From Fig. 1B, it can be seen that the copper ions migrate to the vicinity of the copper electrode and this we have termed anode according to statement 1. Confining ourselves strictly to Faraday's work and using these notations with respect to the galvanic cell, we would label the copper