#### THE

# PHILOSOPHICAL MAGAZINE AND JOURNAL:

COMPREHENDING

THE VARIOUS BRANCHES OF SCIENCE, THE LIBERAL AND FINE ARTS, AGRICULTURE, MANUFACTURES,

#### AND COMMERCE.

#### BY ALEXANDER TILLOCH, LL.D.

M.R.I.A. F.S.A. EDIN. AND PERTH; CORRESPONDING MEMBER OF THE ROYAL ACADEMY OF SCIENCES, MUNICH; AND OF THE ACADEMY OF SCIENCES, LITERATURE AND ARTS, LEGHORN, ETC.

#### AND RICHARD TAYLOR, F.L.S.

MEMBER OF THE ASTRONOMICAL SOCIETY OF LONDON, OF THE METEORO-LOGICAL SOCIETY; AND OF THE ROYAL ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND.

"Nec aranearum sane 'textus ideo melior quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes." JUST. LIPS. Monit. Polit. lib. i. cap. 1.

## VOL. LXV. FOR JANUARY, FEBRUARY, MARCH, APRIL, MAY and JUNE, 1825.

#### LONDON:

#### PRINTED BY RICHARD TAYLOR, SHOE-LANE:

AND SOLD BY CADELL; LONGMAN, HURST, REES, ORME, BROWN, AND GREEN; BALDWIN, CRADOCK, AND JOY; HIGHLEY; SHERWOOD, JONES, AND CO.; HARDING; UNDERWOOD; SIMPKIN AND MARSHALL, LONDON:—AND BY CONSTABLE AND CO. EDINBURGH: AND PENMAN, GLASGOW.



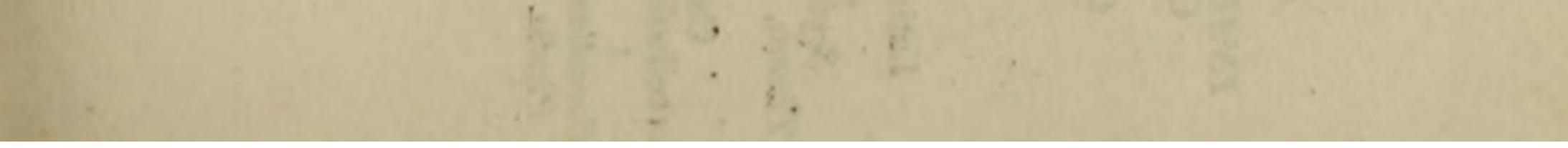
Mr. Haworth's Arrangement of the Macrurous Crustacea. 183 Hence by substitution  $\cos (A' - B) = \frac{\sin B}{\sin A'} + (\cos B - \frac{\sin B}{\sin A'} \cos A') \cos A'$   $= \therefore \frac{\sin B}{\sin A'} + \cos B \cos A' - \frac{\sin B}{\sin A'} \cos^2 A'$   $= \frac{\sin B}{\sin A'} + \cos B \cos A' - \frac{\sin B}{\sin A'} + \sin B \cdot \sin A'$  $= \therefore \cos B \cos A' + \sin B \sin A'$ 

XXIX. A new binary Arrangement of the Macrurous Crustacea. By A. H. HAWORTH, Esq., Fellow of the Linnæan and Horticultural Societies of London, and of the Imperial Natural History Society of Moscow, &c. &c.

[Continued from p. 106.]

### To the Editor of the Philosophical Magazine and Journal. Sir,

HEREUNDER I transmit you the promised continuation of my new binary arrangement of crustaceous animals, including the great branch MACRURA; which, if you could print in the manner of my first and second tables, would much better display the horizontal analogies and affinities than my last or third table can; the *first* articles of every dichotomy in any given group having ever the least affinity to each other, and the last articles the most. Wherefore the said first articles (as animal-vegetable) are often merely analogies (in point of relationship to each other); but these insensibly, as we go down the table and arrive at the genera, lessen and blend into the closest affinities. But I allow that the mode in which you have printed my last or third table shows more advantageously to a mere reader, the current location, or natural distribution of the genera; which, notwithstanding what is in modern, not old times, supposed to the contrary, I now believe to be a continuous one, that is unravelable in the way of a straight line; but arising dichotomously from one root (which I have termed Matter) and proceeding in a repetitely double, and, in point of magnitude or quantity, unequal series; resembling as it were an inverted branching and exuberant tree, whose foliation and flowers may be compared to our artificial genera, and natural, and therefore permanent species. As soon as I can procure some books which must be consulted before I can proceed much further with this business, you shall have the requisite continuations; and in the mean I remain, sir, yours, &c. time A. H. HAWORTH. Queen's Elm, Chelsea, March 1825.



SUBCAPITATA

Ranina ...

INAPPENDICULATA-Biciliicornes-L-Eciliata.

> Corystes ... Remipes, Hippa, Albunea, Posydon, Simathus.

Laticornes Scyllarus, Thenus, Ibacus.

Longicornes-

Dissimilipedes. Similipedes-Astaciformia. Cancriformia-Latimanus-Augustimanus. Porcellanidæ-Megalopidæ.

Porcellana, Pisidia.

Megalopus ...

Æglea, Grimotea, Galathæa, Munida.

M	ac	rur	а,	(continu
---	----	-----	----	----------

APPENDICULATA. ---- NATANTIA. AMBULANTIA ----

Domitata-Indomitata.

Pagurus...

Birgus...

Tenuicornes.

Longissimicornes.

Esquamata-Palinurus...

Eryon Fissilaminata——Integra. (Genus fossile).

Astacidæ...

Gebiadæ-Scorpionoidæ.

Astacus, Nephrops.

Thalassina ... Gebia, Callianassa, Axius.

ued). CAPITATA. SQUILLADE ---- PHYLLOSOMADE. -MAJORA. Phyllosoma ... MINORA-Pectinimanus - - Epectinata. Alima, Smerdis. Squilla ... Ericthus ...

Squamigera. Integripedes-Fissipedes. Mysidæ-Nebaliadæ. Bisetigera-L-Trisetigera. Palæmon, Mysis ... Athanas. Pandalidæ. Crangonidæ-Pandalus, Hippolyte, Atys, Alphæus, Pæneus, Crangon.

Stenopus, Hymenocera, Gnathophile, Nika, Autonomea.

