Institut National

Classe des Sciences Physiques et Mathématiques

Paris, le an XIV de la République française

Le Secrétaire perpétuel pour les Sciences
Président de la Classe des Sciences Physiques et Mathématiques

à Monsieur le président de l'institut

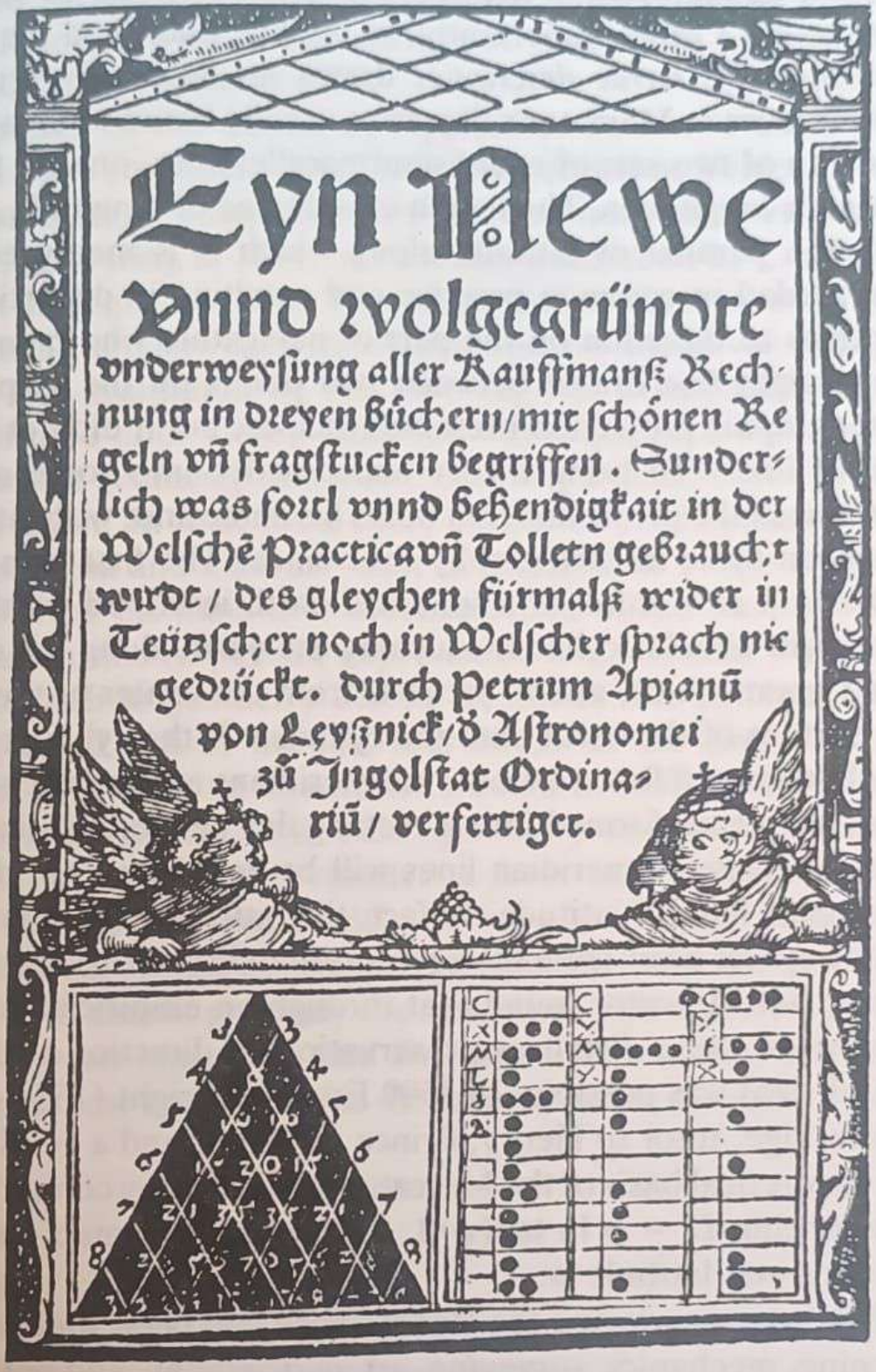
Monsieur et cher Confrère

Je m'empresse de vous informer que la classe des sciences physiques et mathématiques a adopté unanimement le projet décret délibéré dans l'assemblée des Bureaux Elle a pensé en même temps qu'il suffirait que cet objet fut rapporté à l'assemblée générale prochaine de l'institut Sans convoquer aucune séance extraordinaire et hors

Agréez, Monsieur et cher confrère, l'assurance de la Considération distinguée avec laquelle j'ai l'honneur de vous salue

Le Gendre

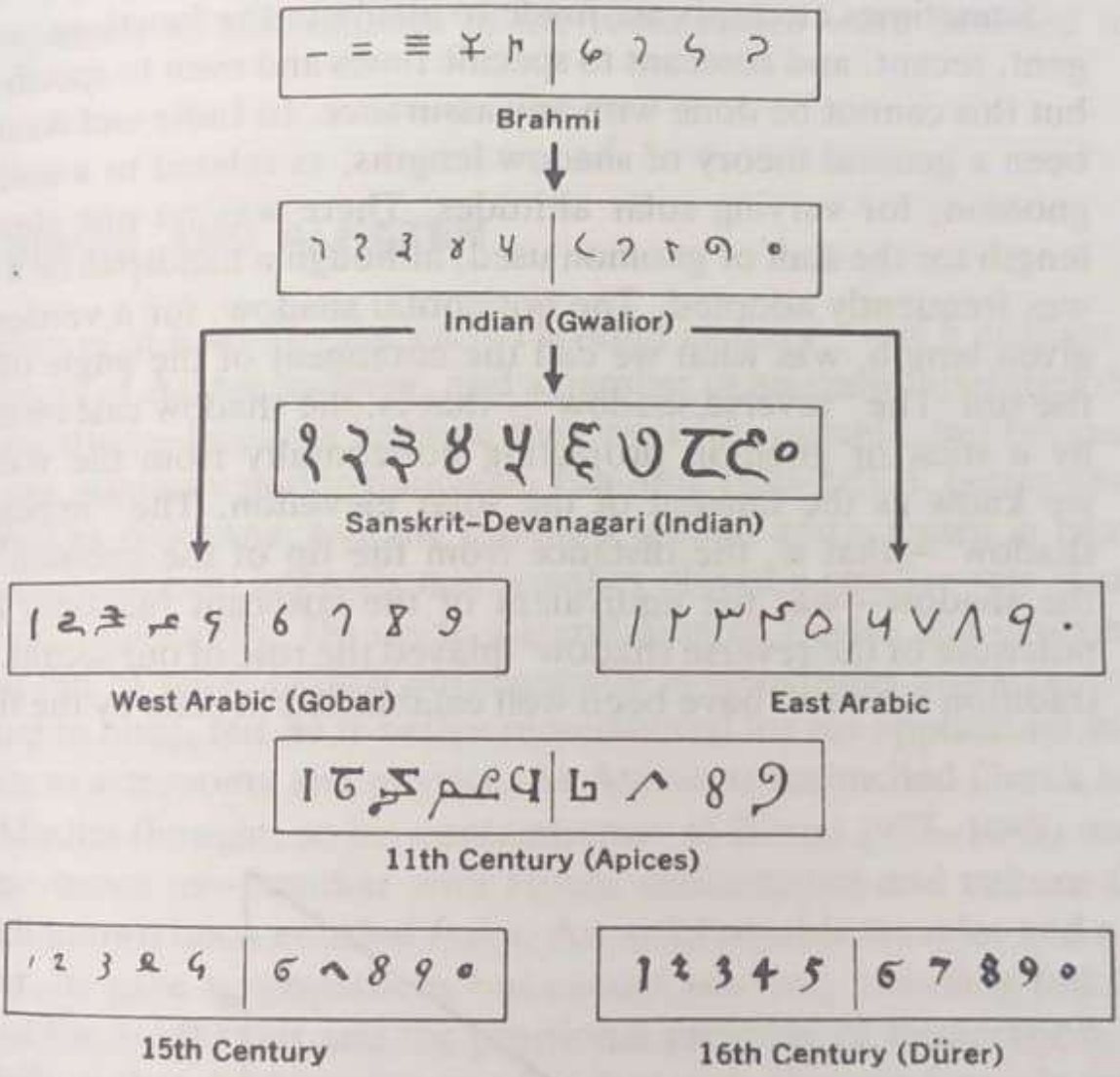
Autograph letter of Legendre. In some of his letters the form "Le Gendre" appears, as in this case. In general the name is spelled Legendre.



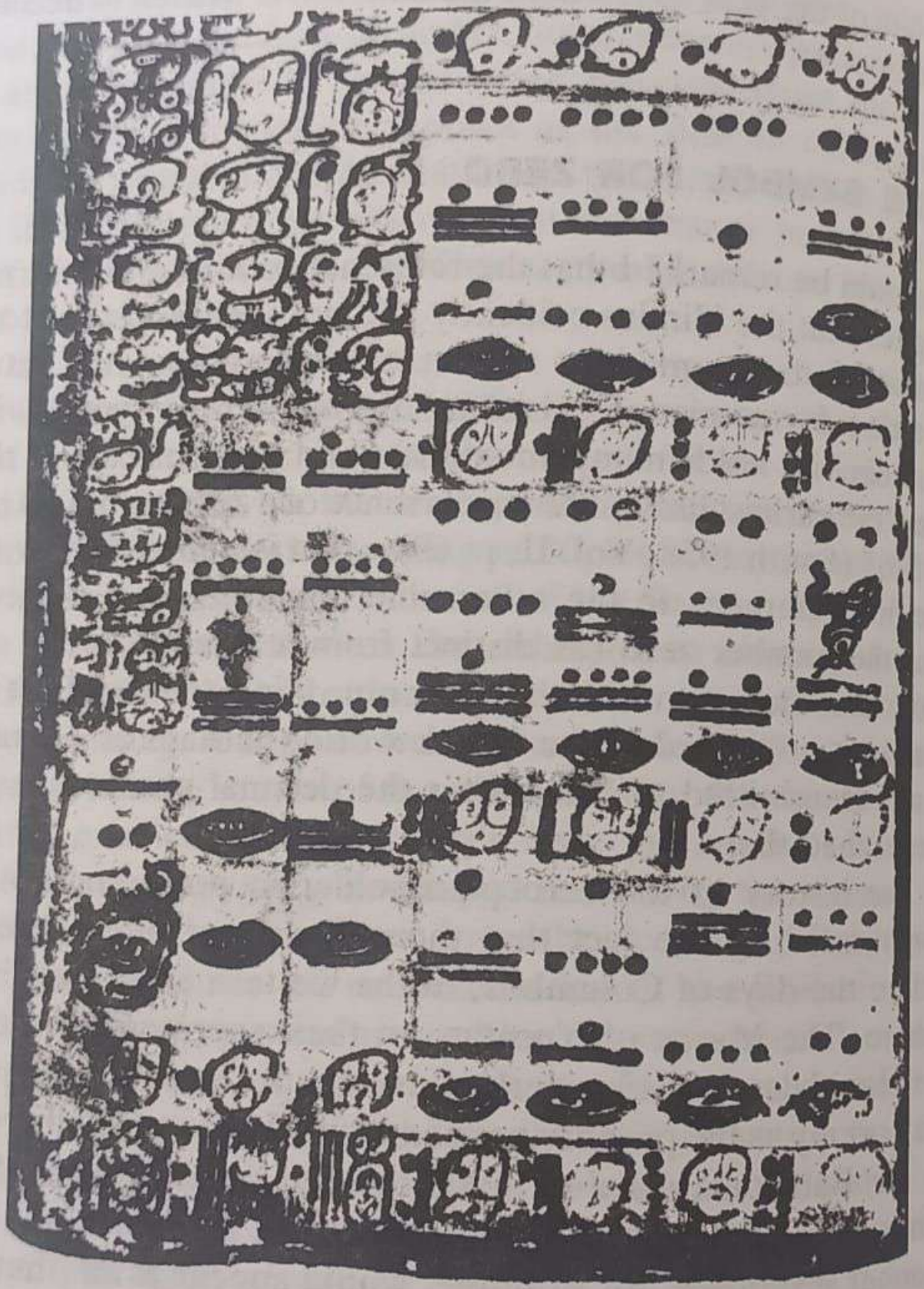
Pascal Triangle as first printed, 1527. Title page of the arithmetic of Petrus Apianus, Ingolstadt, 1527, more than a century before Pascal investigated the properties of the triangle.

13.12. ARABIC TRIGONOMETRY

As in numeration there was competition between systems of Greek and Indian origin, so also in astronomical calculations there were at first in Arabia two types of trigonometry—the Greek geometry of chords, as found in the *Almagest*, and the Hindu tables of sines, as derived through the *Sindhind*. Here, too, the conflict resulted in triumph for the Hindu aspect, and most Arabic trigonometry ultimately was built on the sine function. It was, in fact, again through the Arabs, rather than directly from the Hindus, that this trigonometry of the sine reached Europe. The astronomy of al-Battani (ca. 850–929), known in Europe as Albategnius, served as the primary vehicle of transmission, although Thabit ibn-Qurra seems to



Genealogy of our digits. Following Karl Menninger, Zahlwort und Ziffer *(Göttingen: Vanderhoeck & Ruprecht, 1957–1958, 2 vols.), Vol. II, p. 233.*



From the Dresden Codex, of the Maya, displaying numbers. The second column on the left, from above down, displays the numbers 9, 9, 16, 0, 0, which stand for 9 × 144,000 + 9 × 7200 + 16 × 360 + 0 + 0 = 1,366,560. In the third column are the numerals 9, 9, 9, 16, 0, representing 1,364,360. The original appears in black and red colors. (Taken from Morley 1915, p. 266.)

Vic coronidem, elegantissima omnes expectationes superantia acquisivimus et quidem per methodos quae campum prorsus novum nobis aperiunt. Gott. Jul.

Solutio problematis ballistici Gott. Jul.

Cometarum theoriam perfectiorem reddidi Gott. Jul.

Novus in analysi campus se nobis aperuit scilicet investigatio functionum etc. Oct.

Formas superiores considerare coepimus Br. Febr. 14.

Formulas novas exactas pro parallaxi exhibuimus Br. Apr. 8.

Terminum medium arithmetico-geometricum inter 1 et $\sqrt{2}$ esse $= \frac{\pi}{\omega}$ usque ad figuram undecimam comprobavimus, quare demonstrata prorsus nova campus in analysi certo aperietur Br. Mai 30.

Principia Geometriae egregios progressus fecimus Br. Sept.

Circa terminos medios arithmetico-geometricos multa nova deteximus Br. Novemb.

Facsimile of page in the famous diary of Gauss.