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[EXTRACT FROM A] REPORT ON MATHEMATICAL TABLES.

[From the *Report of the British Association for the Advancement of Science*, (1873),
pp. 3, 4.]

It was necessary as a preliminary to form a classification of mathematical (numerical) tables; and the following classification was drawn up by Prof. Cayley and adopted by the Committee.

   A.   Auxiliary for non-logarithmic computations.

     1.   Multiplication.

     2.   Quarter-squares.

     3.   Squares, cubes, and higher powers, and reciprocals.

   B.   Logarithmic and circular.

     4.   Logarithms (Briggian) and antilogarithms (do.); addition and subtraction logarithms, &c.

     5.   Circular functions (sines, cosines, &c.), natural, and lengths of circular arcs.

     6.   Circular functions (sines, cosines, &c.), logarithmic.

   C.   Exponential.

     7.   Hyperbolic logarithms.

     8.   Do. antilogarithms (e^x) and $\text{h}.\text{l} \tan (45° + \tfrac{1}{2} \phi)$, and hyperbolic sines, cosines, &c., natural and logarithmic.

   D.   Algebraic constants.

     9.   Accurate integer or fractional values. Bernoulli's Numbers, $\Delta^n 0^m$, &c. Binomial coefficients.

     10.   Decimal values auxiliary to the calculation of series.

E. 11. Transcendental constants, e, π, γ, &c., and their powers and functions.

F. Arithmological.

12. Divisors and prime numbers. Prime roots. The Canon arithmeticus, &c.

13. The Pellian equation.

14. Partitions.

15. Quadratic forms $a^2 + b^2$, &c., and partition of numbers into squares, cubes, and biquadrates.

16. Binary, ternary, &c. quadratic, and higher forms.

17. Complex theories.

G. Transcendental functions.

18. Elliptic.

19. Gamma.

20. Sine-integral, cosine-integral, and exponential-integral.

21. Bessel's and allied functions.

22. Planetary coefficients for given $\dfrac{a}{a'}$.

23. Logarithmic transcendental.

24. Miscellaneous.

Several of these classes need some little explanation. Thus D 9 and 10 are intended to include the same class of constants, the only difference being that in 9 accurate values are given, while in 10 they are only approximate; thus, for example, the accurate Bernoulli's numbers as vulgar fractions, and the decimal values of the same to (say) ten places are placed in different classes, as the former are of theoretical interest, while the latter are only of use in calculation. It is not necessary to enter into further detail with respect to the classification, as in point of fact it is only very partially followed in the Report.