Thomas Bayes

Narodený : 1702 v London, England

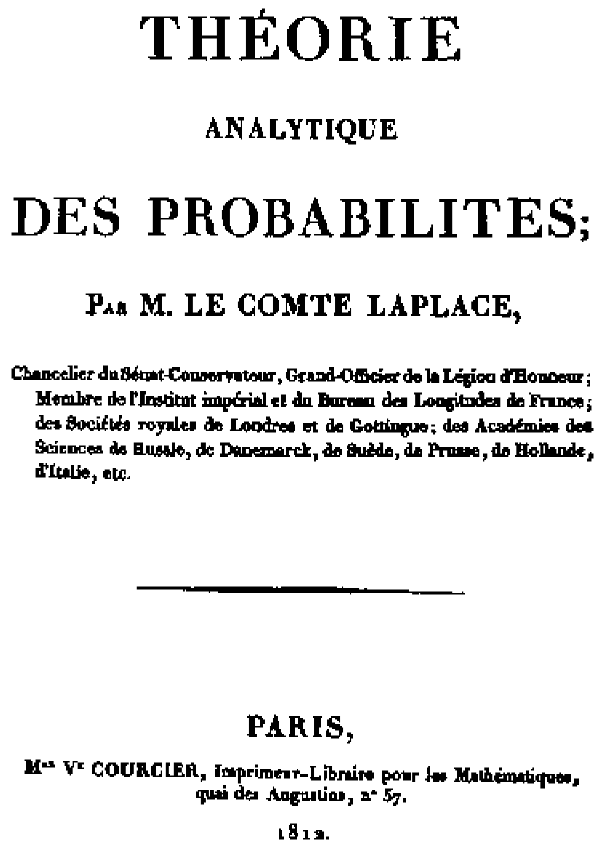
Zomrel: 17 April 1761 v Tunbridge Wells, Kent, England

Bayes set out his theory of probability in 1764. His conclusions were accepted by Laplace in 1781, rediscovered by Condorcet, and remained unchallenged until Boole questioned them. Since then Bayes' techniques have been subject to controversy.

Pierre-Simon Laplace

Narodený : 23 Marec 1749 v Beaumont-en-Auge, Normandy, France

Zomrel: 5 Marec 1827 v Paris, France



THÉORIE

ANALYTIQUE

DES PROBABILITES;

PAR M. LE COMTE LAPLACE,

Chancelier du Sénat-Conservateur, Grand-Officier de la Légion d'Honneur; Membre de l'Institut impérial et du Bureau des Longitudes de France; des Sociétés royales de Londres et de Gottingue; des Académies des Sciences de Russie, de Danemarck, de Suède, de Prusse, de Hollande, d'Italie, etc.

PARIS,

Mme Ve COURCIER, Imprimeur-Libraire pour les Mathématiques, quai des Augustins, n° 57.

1812.

Laplace proved the stability of the solar system. In analysis Laplace introduced the potential function and Laplace coefficients. He also put the theory of mathematical probability on a sound footing.

Jean Baptiste Joseph Fourier

Narodený : 21 Marec 1768 v Auxerre, Bourgogne, France

Zomrel: 16 Maj 1830 v Paris, France

Fourier studied the mathematical theory of heat conduction. He established the partial differential equation governing heat diffusion and solved it by using infinite series of trigonometric functions.

Johann Carl Friedrich Gauss

Narodený : 30 April 1777 v Brunswick (teraz Germany)

Zomrel: 23 Feb 1855 v Göttingen, Hanover (teraz Germany)

9

biquadraticorum sistet, quam ab omni parte perfectam reddere in continuatione subsequente suscipiemus *).

31.

Ante omnia quasdam denominationes praemittimus, per quarum introductionem breuitati et perspicuitati consuletur.

Campus numerorum complexorum $a + bi$ continet

I. numeros reales, vbi $b = 0$, et, inter hos, pro indole ipsius a

1) cifram
2) numeros positiuos
3) numeros negatiuos

II. numeros imaginarios, vbi b cifrae inaequalis. Hic iterum distinguuntur

1) numeri imaginarii absque parte reali, i. e. vbi $a = 0$
2) numeri imaginarii cum parte reali, vbi neque b neque $a = 0$.

Priores si placet numeri imaginarii puri, posteriores numeri imaginarii mixti vocari possunt.

Vnitatibus in hac doctrina vtimur quaternis, $+1$, -1, $+i$, $-i$, quae simpliciter positiua, negatiua, positiua imaginaria, negatiua imaginaria audient.

Producta terna cuiuslibet numeri complexi per -1, $+i$, $-i$ illius *socios* vel *numeros illi associatos* appellabimus. Excepta itaque cifra (quae sibi ipsa associata est), semper quaterni numeri *inaequales* associati sunt.

Contra numero complexo *coniunctum* vocamus eum, qui per permutationem ipsius i cum $-i$ inde oritur. Inter numeros imaginarios itaque bini *inaequales* semper coniuncti sunt, dum numeri reales sibi ipsi sunt coniuncti, siquidem denominationem ad hos extendere placet.

---

*) Obiter saltem hic adhuc monere conuenit, campum ita definitum imprimis theoriae residuorum biquadraticorum accommodatum esse. Theoria residuorum cubicorum simili modo superstruenda est considerationi numerorum formae $a + bh$, vbi h est radix imaginaria aequationis $h^3 - 1 = 0$, puta $h = -\frac{1}{2} + \frac{1}{2}i$; et perinde theoria residuorum potestatum altiorum introductionem aliarum quantitatum imaginariarum postulabit.

B

Gauss worked in a wide variety of fields in both mathematics and physics incuding number theory, analysis, differential geometry, geodesy, magnetism, astronomy and optics. His work has had an immense influence in many areas.

Nikolai Ivanovich Lobachevsky

Narodený : 1 Dec 1792 v Nizny Novgorod Russia

Zomrel: 24 Feb 1856 v Kazan, Russia

János Bolyai

Narodený : 15 Dec 1802 v Kolozsvár, Austrian Empire (teraz Cluj, Romania)

Zomrel: 27 Jan 1860 v Marosvásárhely, Austrian Empire (teraz Tirgu-Mures, Romania)

Gaspard Monge

Narodený : 9 Maj 1746 v Beaune, Bourgogne, France

Zomrel: 28 Jul 1818 v Paris, France

Monge is considered the father of differential geometry because of his work *Application de l'analyse à la géométrie* where he introduced the concept of lines of curvature of a surface in 3-space.

Friedrich Wilhelm Bessel

Narodený : 22 Jul 1784 v Minden, Westphalia (teraz Germany)

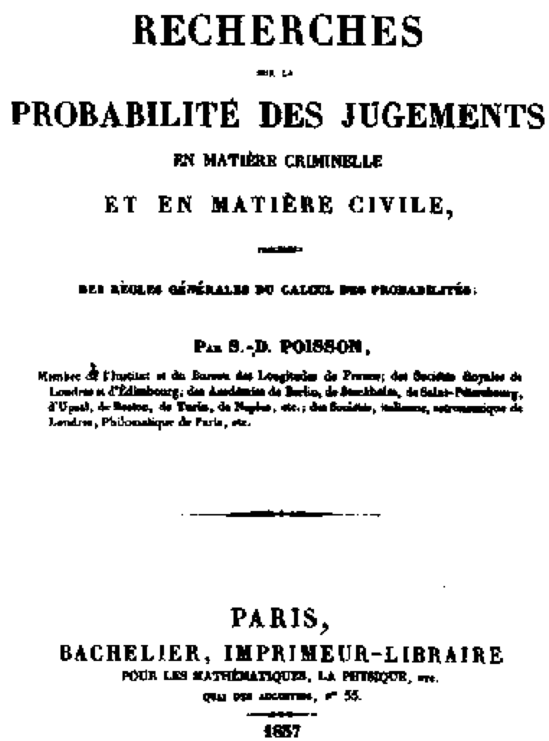
Zomrel: 17 March 1846 v Königsberg, Prussia (teraz Kaliningrad, Russia)

Bessel determined the positions and proper motions of stars and discoveredthe parallax of 61 Cygni. He also used a method of mathematical analysis involving what is now known as the Bessel function.

Siméon Denis Poisson

Narodený: 21 Jun 1781 v Pithiviers, France

Zomrel: 25 April 1840 v Sceaux (blízko Paris), France



RECHERCHES

SUR LA

PROBABILITÉ DES JUGEMENTS

EN MATIÈRE CRIMINELLE

ET EN MATIÈRE CIVILE,

[illegible]

DES RÈGLES GÉNÉRALES DU CALCUL DES PROBABILITÉS;

PAR S.-D. POISSON,

[illegible]

PARIS,

BACHELIER, IMPRIMEUR-LIBRAIRE

POUR LES MATHÉMATIQUES, LA PHYSIQUE, ETC.

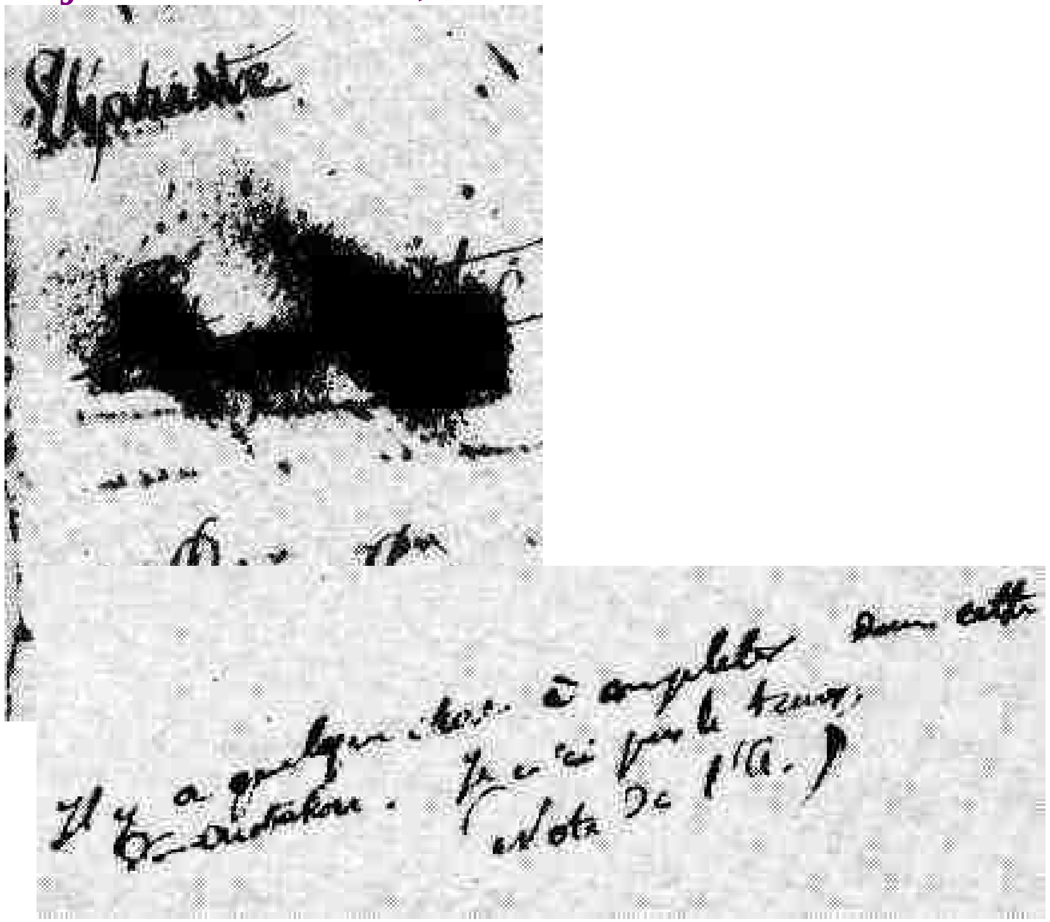
QUAI DES AUGUSTINS, Nº 55.

1837

Evariste Galois

Narodený: 25 Okt 1811 v Bourg La Reine (near Paris), France

Zomrel: 31 Maj 1832 v Paris, France



Bernard Placidus Johann Nepomuk Bolzano

Narodený : 5 Okt 1781 v Prahe, Bohemia, (teraz Czech Republic)
Zomrel: 18 Dec 1848 v Prahe, Bohemia (teraz Czech Republic)

disputed, to be sure, that addends determine their sum, and that
equal addends yield equal sums. This holds not only for finite
but also for infinite sets of summands. In the case of the latter,
however, it is necessary to make sure that the infinite set of
summands in the one sum really is identical with the infinite set
of summands in the other sum; seeing, namely, that there are
different kinds of infinite set. And to make sure of that point, we
see from our theorem how altogether insufficient it is to be able 36
to pair off the terms in the one sum with those in the other. The
conclusion will be unsafe unless *the two sets have identical terms of*
specification (gleiche Bestimmungsgründe). The sequel will bring
many examples of the absurdities in which a calculation with
the infinite involves us if we fail to pay attention to this point.

§25

I now proceed to the assertion that there exists an infinite *even*
in the realm of the actual, and not merely among the things which
make no claim to actuality. Anyone who had arrived at the
momentous conviction (whether by a chain of reasoning from
purely conceptual truths or otherwise) *that there exists a God*, a
Being whose existence is grounded in that of no other being, and
precisely for this reason is a *universally perfect Being*, uniting in
himself all powers and perfections which are compatible with
one another at all, and each of them in the highest degree of
which it is capable—such a person, I say, agrees by this very
fact upon the existence of a Being possessed of infinitude in more
than one respect; with respect to his *knowledge*, in that he *knows*
infinitely much, to wit, the sum of all truths; to his *volition*, in that
he *wills infinitely much*, to wit, the sum of every single possible
good; and to his might, or *action ad extra*, in that he *confers*
actuality, in virtue of his power of action ad extra, to *everything*
that he wills. From this last attribute of God follows the existence
of beings other than God, *creatures*, which we contrast with him
and call merely *finite beings*, but in which for all that many a
trace of infinitude can be found. For the *set* of such beings must 37
already be an infinite one, as also the set of all the *conditions*
experienced by any single one of them during no matter how
short an interval of time—because every such interval contains
infinitely many instants. We therefore encounter infinites even
in the realm of the actual.

Augustin Louis Cauchy

Narodený : 21 Aug 1789 v Paris, France

Zomrel: 23 Maj 1857 v Sceaux (blízko Paris), France

Niels Henrik Abel

Narodený : 5 Aug 1802 v Frindoe (blízko Stavanger), Norway

Zomrel: 6 April 1829 v Froland, Norway

Démonstration

de l'impossibilité de la résolution générale des équations du cinquième degré.

Les géomètres se sont beaucoup occupés de la résolution générale des équations algébriques, et plusieurs d'entre eux ont cherché à en prouver l'impossibilité; mais si je ne me trompe pas, on n'a pas y reussi jusqu'à présent. J'ose donc esperer que les géomètres veulent recevoir avec bienveillance ce mémoire qui a pour but de remplir cette lacune dans la théorie des équations algébriques.

Soit

$$y^5 - ay^4 + by^3 - cy^2 + dy - e = 0$$

l'équation générale du cinquième dégré et supposons qu'elle est résoluble algébriquement c'est-à-dire qu'on peut exprimer y par une fonction des quantités a b c d et e, formée par des radicaux. Il est clair qu'on peut dans ce cas mettre y sous cette forme:

$$y = p + p_1 R^{\frac{1}{m}} + p_2 R^{\frac{2}{m}} + \ldots\ldots + p_{m-1} R^{\frac{m-1}{m}}$$

m étant un nombre premier et R p p_1 p_2 etc. des fonctions de la même forme que y, et ainsi de suite jusqu'à ce qu'on parviendra à des fonctions rationnelles des quantités a b c d et e. On peut aussi supposer qu'il est impossible d'exprimer $R^{\frac{1}{m}}$ par une fonction rationnelle des quantités a b etc. p p_1 p_2 etc., et en mettant $\frac{R}{p_1^m}$ au lieu de R il est clair qu'on peut faire $p_1 = 1$. On aura donc:

$$y = p + R^{\frac{1}{m}} + p_2 R^{\frac{2}{m}} + \ldots p_{m-1} . R^{\frac{m-1}{m}}$$

Johann Peter Gustav Lejeune Dirichlet

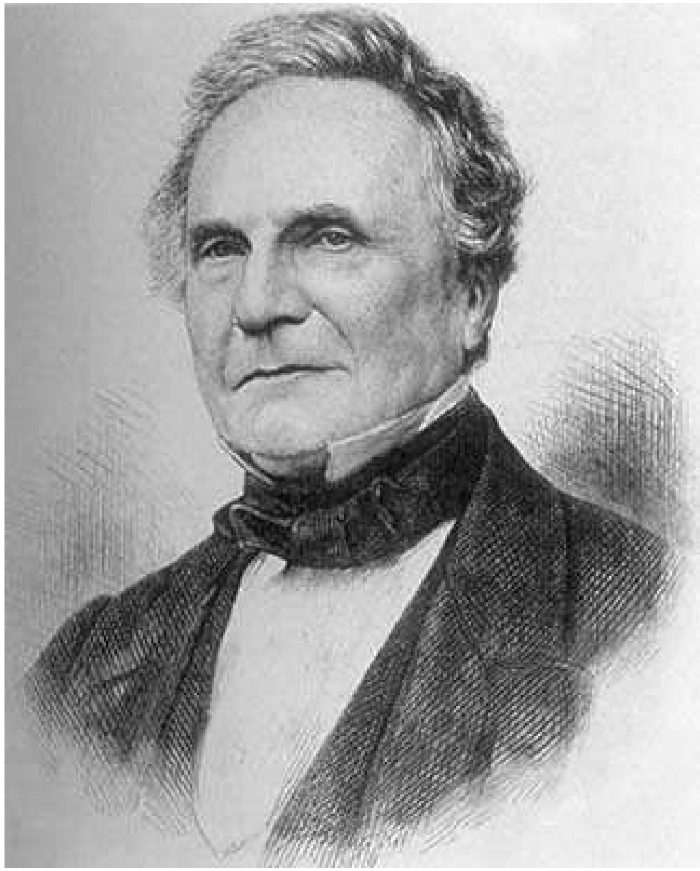
Narodený: 13 Feb 1805 v Düren, French Empire (teraz Germany)

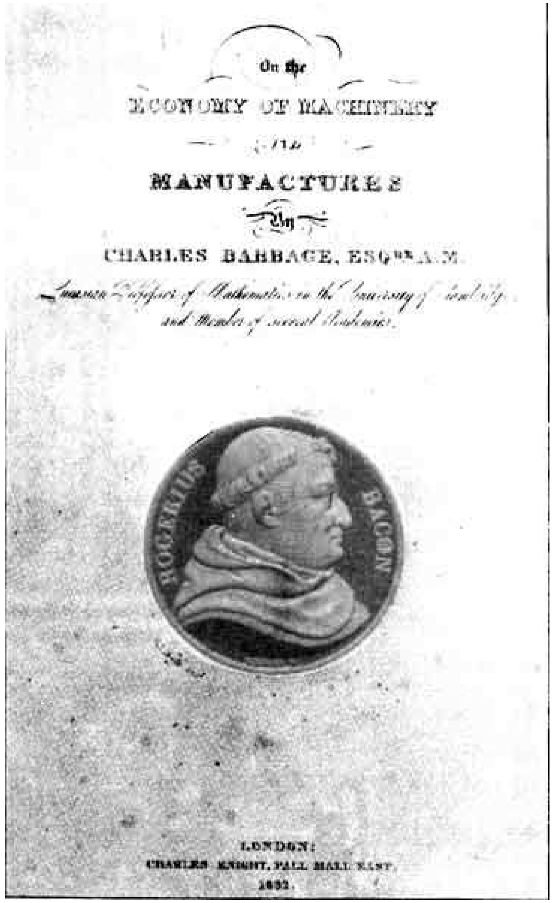
Zomrel: 5 Maj 1859 v Göttingen, Hanover (teraz Germany)

Charles Babbage počitač

Narodený : 26 Dec 1791 v London, England

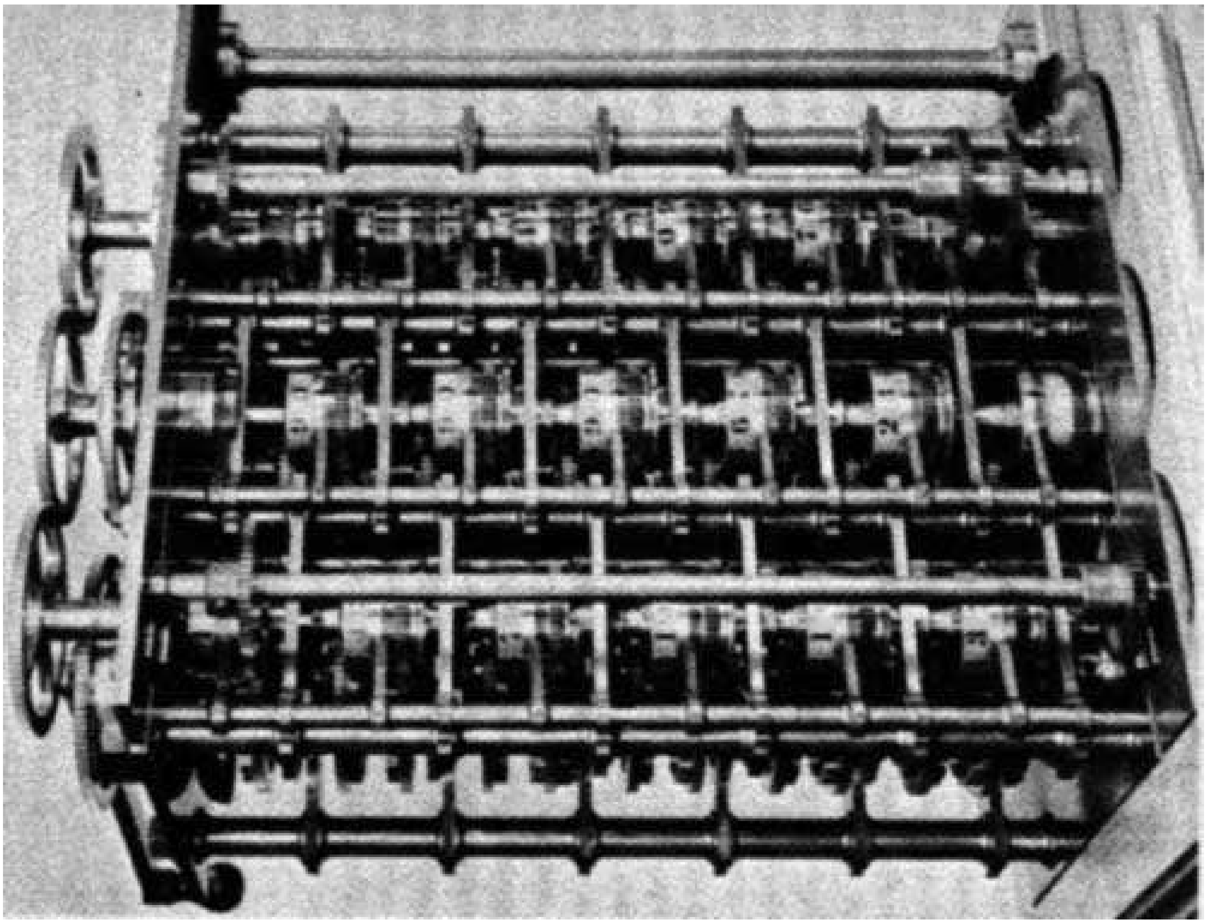
Zomrel: 18 Okt 1871 v London, England





On the
ECONOMY OF MACHINERY
and
MANUFACTURES
by
CHARLES BABBAGE, ESQ. A.M.

LONDON:
CHARLES KNIGHT, PALL MALL EAST,
1832.



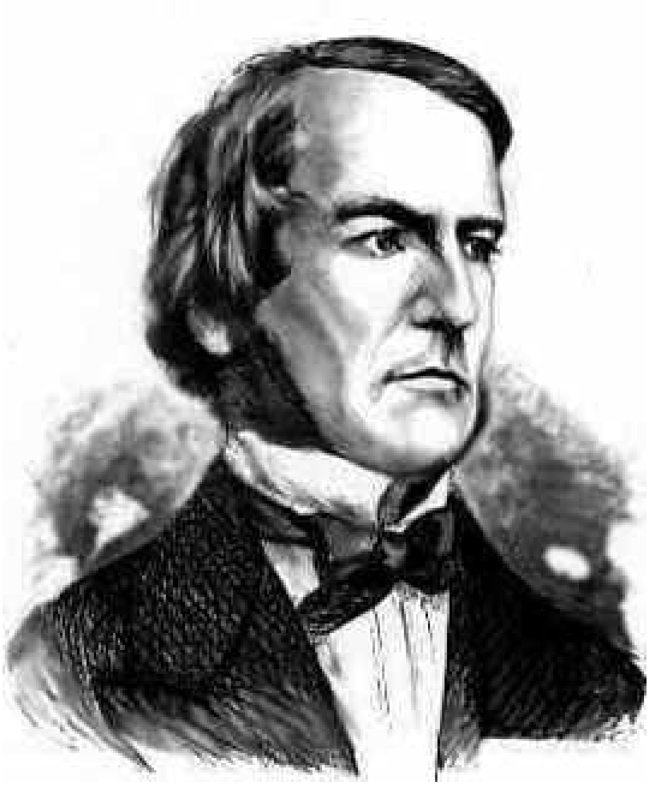
Augustus De Morgan

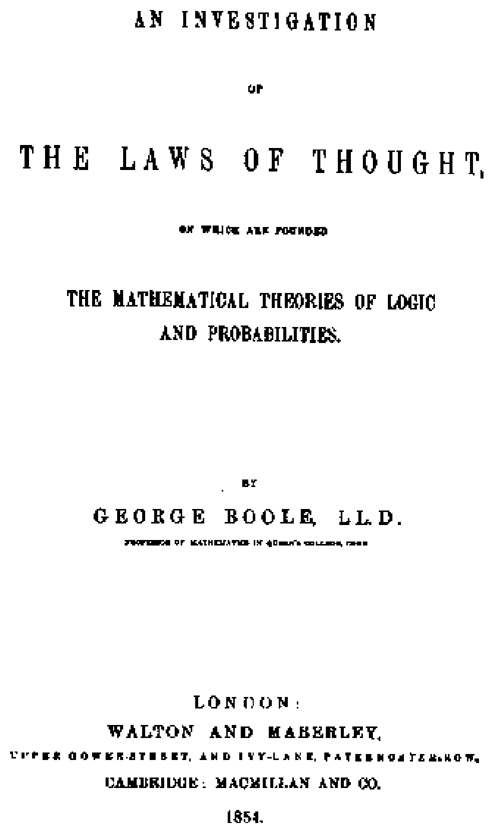
Narodený: 27 Jun 1806 v Madura, Madras Presidency, India
(teraz Madurai, Tamil Nadu, India)
Zomrel: 18 Marec 1871 v London, England

George Boole

Narodený: 2 Nov 1815 v Lincoln, Lincolnshire, England

Zomrel: 8 Dec 1864 v Ballintemple, County Cork, Ireland





AN INVESTIGATION

OF

THE LAWS OF THOUGHT,

THE MATHEMATICAL THEORIES OF LOGIC
AND PROBABILITIES.

BY

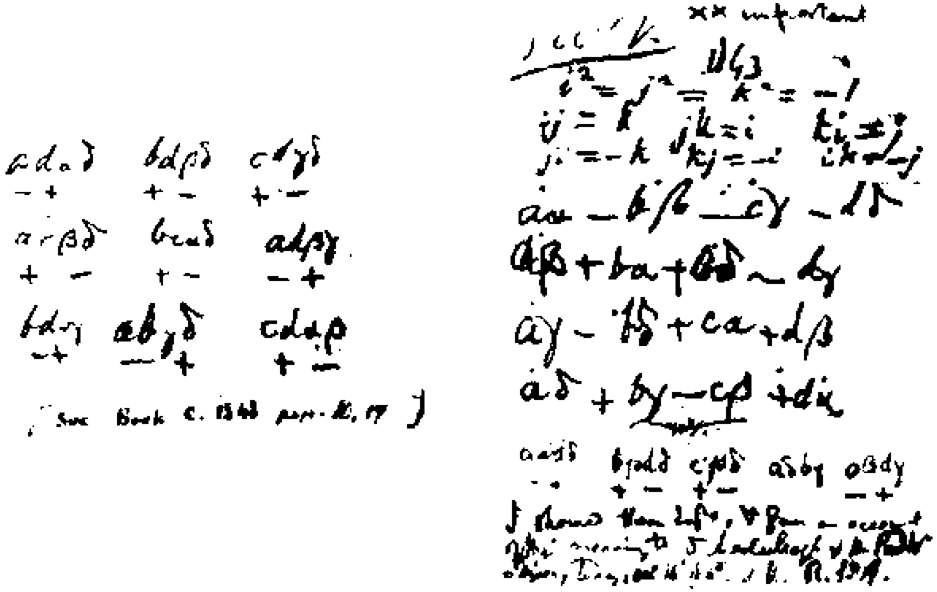
GEORGE BOOLE, LL.D.

LONDON:
WALTON AND MABERLEY,
UPPER GOWER-STREET, AND IVY-LANE, PATERNOSTER-ROW,
CAMBRIDGE: MACMILLAN AND CO.
1854.

Sir William Rowan Hamilton

Narodený: 4 Aug 1805 v Dublin, Ireland

Zomrel: 2 Sept 1865 v Dublin, Ireland



Carl Gustav Jacob Jacobi

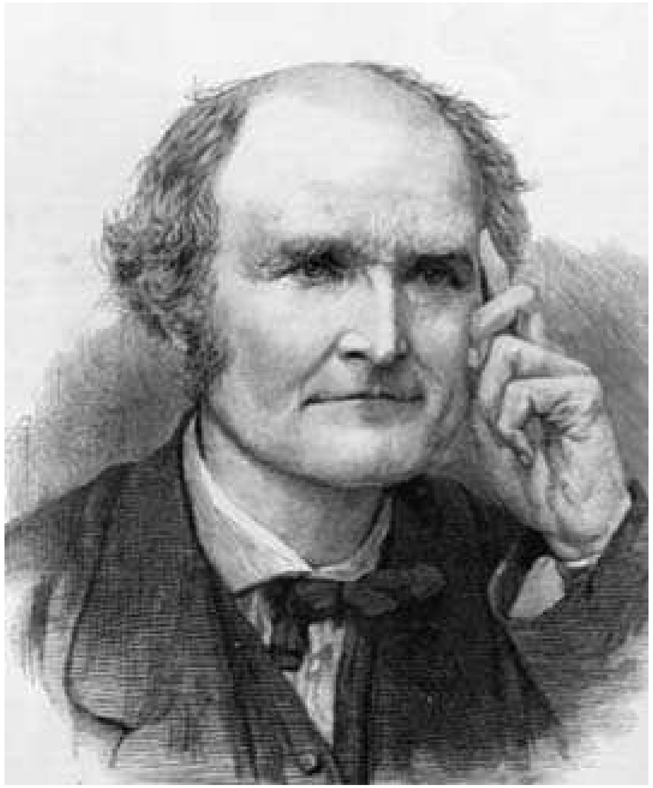
Narodený: 10 Dec 1804 v Potsdam, Prussia (teraz Germany)

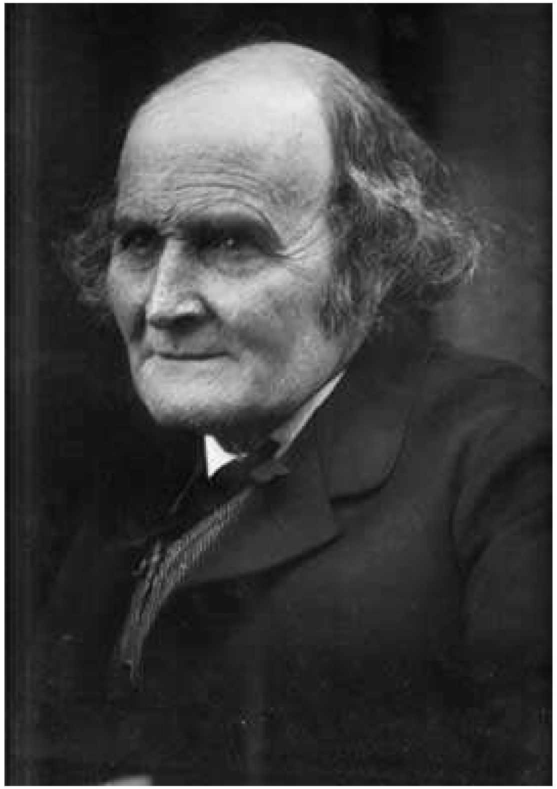
Zomrel: 18 Feb 1851 v Berlin, Germany

Arthur Cayley

Narodený: 16 Aug 1821 v Richmond, Surrey, England

Zomrel: 26 Jan 1895 v Cambridge, Cambridgeshire, England





Karl Theodor Wilhelm Weierstrass

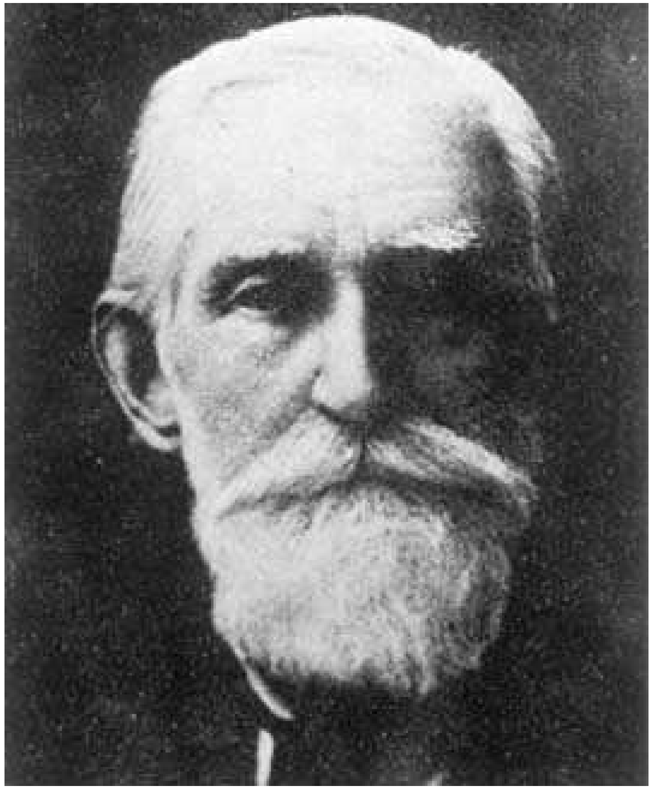
Narodený: 31 Okt 1815 v Ostenfelde, Westphalia (teraz Germany)

Zomrel: 19 Feb 1897 v Berlin, Germany

Pafnuty Lvovich Chebyshev

Narodený: 16 May 1821 v Okatovo, Russia

Zomrel: 8 Dec 1894 v St Petersburg, Russia



Georg Friedrich Bernhard Riemann

Narodený: 17 Sept 1826 v Breselenz, Hanover (teraz Germany)

Zomrel: 20 Jul 1866 v Selasca, Italy

XIII.

Ueber die Hypothesen, welche der Geometrie zu Grunde liegen.

(Aus dem dreizehnten Bande der Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen.*))

Plan der Untersuchung.

Bekanntlich setzt die Geometrie sowohl den Begriff des Raumes als die ersten Grundbegriffe für die Constructionen im Raume als etwas Gegebenes voraus. Sie giebt von ihnen nur Nominaldefinitionen, während die wesentlichen Bestimmungen in Form von Axiomen auftreten. Das Verhältniss dieser Voraussetzungen bleibt dabei im Dunkeln; man sieht weder ein, ob und in wie weit ihre Verbindung nothwendig, noch a priori, ob sie möglich ist.

Diese Dunkelheit wurde auch von Euklid bis auf Legendre, um den berühmtesten neueren Bearbeiter der Geometrie zu nennen, weder von den Mathematikern, noch von den Philosophen, welche sich damit beschäftigten, gehoben. Es hatte dies seinen Grund wohl darin, dass der allgemeine Begriff mehrfach ausgedehnter Grössen, unter welchem die Raumgrössen enthalten sind, ganz unbearbeitet blieb. Ich habe mir daher zunächst die Aufgabe gestellt, den Begriff einer mehrfach ausgedehnten Grösse aus allgemeinen Grössenbegriffen zu construiren. Es wird daraus hervorgehen, dass eine mehrfach ausgedehnte Grösse verschiedener Massverhältnisse fähig ist und der Raum also nur einen besonderen Fall einer dreifach ausgedehnten Grösse bildet. Hiervon aber ist eine nothwendige Folge, dass die Sätze der

*) Diese Abhandlung ist am 10. Juni 1854 von dem Verfasser bei dem zum Zweck seiner Habilitation veranstalteten Colloquium mit der philosophischen Facultät zu Göttingen vorgelesen worden. Hieraus erklärt sich die Form der Darstellung, in welcher die analytischen Untersuchungen nur angedeutet werden konnten; einige Ausführungen derselben findet man in der Beantwortung der Pariser Preisaufgabe nebst den Anmerkungen zu derselben.