

16th August 1717 Prince Eugene ordered a general attack, which resulted in the total defeat of the enemy with an enormous loss, and in the capitulation of the city six days afterwards. The prince was wounded in the heat of the action, this being the thirteenth time that he had been hit upon the field of battle. On his return to Vienna he received, among other testimonies of gratitude, a sword valued at eighty thousand florins from the emperor. In the following year, 1718, after some fruitless negotiations with a view to the conclusion of peace, he again took the field; but the treaty of Passarowitz (21st July 1718) put an end to hostilities at the moment when the prince had well-founded hopes of obtaining still more important successes than those of the last campaign, and even of reaching Constantinople, and dictating a peace on the shores of the Bosphorus.

As the government of the Netherlands, formerly conferred upon Eugene, had now for some reason been bestowed on a sister of the emperor, the prince was appointed vicar-general of Italy, with a pension of three hundred thousand florins. Though still retaining his official position and much of his influence at court, his personal relations with the emperor were not so cordial as before, and he suffered from the intrigues of the anti-German party. During the ten years of peace which ensued, Eugene occupied himself with the arts and with literature, to which he had hitherto been able to devote little of his time. This new interest led him to correspond with many of the most eminent men in Europe. But the contest which arose out of the succession of Augustus II. to the throne of Poland having afforded Austria a pretext for attacking France, war was resolved on, contrary to the advice of Eugene. In spite of this, however, he was appointed to command the army destined to act upon the Rhine, which from the commencement had very superior forces opposed to it; and if it could not prevent the capture of Philippsburg after a long siege, it at least prevented the enemy from entering Bavaria. Prince Eugene, having now attained his seventy-first year, no longer possessed the vigour and activity necessary for a general in the field, and he welcomed the peace which was concluded on the 3d of October 1735. On his return to Vienna, his health declined more and more, and he died in that capital on the 21st April 1736, leaving an immense inheritance to his niece the Princess Victoria of Savoy.

Of a character cold and severe, Prince Eugene had almost no other passion than that of glory. He died unmarried, and seemed so little susceptible to female influence that he was styled a Mars without a Venus. Although one of the greatest generals of his time, military science is not indebted to him for any remarkable improvement. His operations were not directed according to any positive method, nor conformable to invariable principles; it was by sudden inspirations, and an admirable rapidity of *coup d'œil*, that he conducted himself on the ground according to the circumstances and the men he had to deal with; and upon all occasions he took the greatest pains to ascertain the character of the generals who were opposed to him. Despising the lives of his soldiers as much as he exposed his own, it was always by persevering efforts and great sacrifices that he obtained victory. His almost invariable success raised the reputation of the Austrian army to a point which it has never reached either before or since his day. War was with him a passion. Always on the march, in camps, or on the field of battle during more than fifty years, and under the reign of three emperors, he had scarcely passed two years together without fighting. Prince Eugene was a man of the middle size, but, upon the whole, well made; the cast of his visage was somewhat long, his mouth moderate, and almost always open. His

eyes were black and animated, and his complexion such as became a warrior. His funeral oration, composed in Italian by Cardinal Passionei, was translated into French by Madame du Boccaage, 1759.

See *Histoire du Prince Eugène* (Amst. 1740, Vienna, 1755) by Mauvillon, published anonymously; *Histoire Militaire du Prince Eugène, du Duc de Marlborough, et du Prince du Nassau*, by Dumont (Hague, 1729); *Prinz Eugen von Savoyen*, by Von Arneth (3 vols. Vienna, 1858-9); *Prinz Eugen von Savoyen*, by Von Sybel (London, 1868).

**EUGENIUS**, the name of four popes.

**EUGENIUS I.** was a native of Rome. Elected pope in 654, on the banishment of Martin I. by the emperor Constant II., he showed greater deference than his predecessor to the emperor's wishes, and made no public stand against the patriarchs of Constantinople. He died in 657, and was canonized, his day being the 2d of June, although according to Anastasius, he died on the 1st of that month.

**EUGENIUS II.** was a native of Rome, and was chosen to succeed Pascal I. in 824. Another candidate, Zinzinnus, was proposed by the plebeian faction, and the presence of the emperor Lothair was necessary in order to maintain the authority of the new pope. Lothair took advantage of this opportunity to redress many abuses in the papal administration, to vest the election of the pope in the nobles, and to confirm the statute that no pope should be consecrated till his election had the approval of the emperor. A council which assembled at Rome during the reign of Eugenius passed several enactments for the restoration of church discipline, took measures for the foundation of schools and chapters, and decided against priests wearing a secular dress or engaging in secular occupations. Eugenius also adopted various provisions for the care of the poor and of widows and orphans, and on that account received the name of "father of the people," an epithet not altogether appropriate, if he was, as he is said to have been, the author of the "ordeal of cold water." He died in 827.

**EUGENIUS III.**, a native of Pisa, was elected pope in February 1145. When called to occupy this supreme position he was only abbot of the Cistercians, and he owed his elevation partly to the fact that none were eager to accept an office the duties of which were at the time so difficult and dangerous, but chiefly to his being the friend and pupil of Bernard of Clairvaux, the most influential ecclesiastic of the Western church, and a strong assertor of the pope's temporal authority. The choice had not, however, the approval of Bernard, who remonstrated against the election on account of the "innocence and simplicity" of Eugenius; but after the choice was made he took advantage of the qualities in Eugenius which he objected to, so as virtually to rule in his name. During nearly the whole of his pontificate Eugenius was unable to reside in Rome. Hardly had he left the city to be consecrated in the monastery of Farfa, when the citizens, under the influence of Arnold of Brescia—the great opponent of the pope's temporal power—established the old Roman constitution, and elected Giordano to be "patrician." Eugenius appealed for help to Tivoli and to other cities at feud with Rome, and with their aid was successful in making such conditions with the Roman citizens as enabled him for a time to hold the semblance of authority in his capital; but as he would not agree to a treacherous compact against Tivoli, he was compelled to leave the city in March 1146. He stayed for some time at Viterbo and then at Siena, but ultimately went to France. On hearing of the fall of Edessa, he had, in December 1145, addressed a letter to Louis VII. of France, calling on him to take part in another crusade; and at a great diet held at Spire in 1146 the emperor Conrad III. also, and many of his nobles were, by the eloquence of Bernard, incited to dedicate themselves to the holy warfare. After holding councils at Paris, Rheims, and

Trèves, Eugenius, in 1149, returned to Italy, and took up his residence at Viterbo. In 1150, through the aid of the king of Sicily, he was able again to enter Rome, but the jealousy of the republicans soon compelled him to retire. The emperor Frederick Barbarossa had promised to aid him against his revolted subjects, but the death of Eugenius, at Tivoli, June 7, 1153, prevented the fulfilment of the engagement. Though the citizens of Rome were jealous of the efforts of Eugenius to assert his temporal authority, they were always ready to recognize him as their spiritual lord, and they besides deeply revered his personal character. Accordingly he was buried at the Vatican with every mark of respect, and his tomb soon acquired an extraordinary fame for miraculous cures.

**EUGENIUS IV.** (1383-1447), born in 1383, was the son of a Venetian merchant, and bore the name of Gabriel Condolmieri. His mother was the sister of Gregory XII., and when Gregory mounted the papal throne in 1406, Gabriel, then a Celestine monk, became bishop of Sienna. In 1408 he was made cardinal, and on the death of Martin V. he was elected pope, March 3, 1431. Martin V. belonged to the house of Colonna, and the rich treasures which he had accumulated during his pontificate remained in their hands. Eugenius, however, claimed their possession, as the papal successor of Martin, and this being refused, he, with the aid of the rival faction of the Orsini and the general body of the Roman citizens, seized all the Colonnas who were in Rome, captured their castles in the surrounding country, and compelled the prince of Salerno to make humiliating terms. With the large sum of money acquired from the Colonnas he was enabled soon afterwards to quell a revolt which had assumed serious dimensions in the Roman states, and for a time his power was undisputed throughout all his dominions. The augury thus presented of a pontificate of exceptional prosperity and influence was not, however, fulfilled, for the after career of Eugenius was chiefly a succession of humiliations, and during the greater part of it there existed the scandal of a church "divided against itself." It is doubtful whether even Martin V., if he had lived, could have longer delayed the serious quarrel between pope and council which was the chief feature of Eugenius's pontificate; but the latter had neither his predecessor's family influence; nor his practical prudence, personal popularity, or steadfast will. He was a patron and friend of learning, and is admitted to have practised with exemplary conscientiousness all the virtues of his order, but he can scarcely be allowed any other commendation. At times he manifested a certain degree of dexterity in gaining his end, but as he was ignorant of the world, and unable to appreciate the motives and interests which exist beyond the pale of a monastery, he was in a great measure necessarily deprived of the knowledge which could guide him safely through complicated circumstances. In addition to this he was a strong and hard dogmatist, bitter and relentless in his hatred of heresy, and keenly suspicious of anything that in the faintest way seemed to cast a doubt on the dignity, infallibility, and unlimited authority of his office. On the very day that he was chosen pope the council appointed by his predecessor met at Basel. Three principal subjects were to engage its attention,—the reconciliation of the Hussites, the reform of the church, and the reunion of the Greek and Latin churches. A great victory gained by the Hussites a few weeks after the council met seemed, in the opinion of the majority of the members, to lend to the two former subjects an additional and supreme urgency, and they actually arranged to receive a deputation of the Hussites for the purpose of agreeing to a peaceable settlement of the points in dispute. Such a proposal, however, at once excited the alarm of Eugenius,—alarm regarding his own authority, and alarm at the mani-

festation of such signs of clemency towards heretics. His fears were doubtless nourished by the Roman curia, who foresaw the injury that would result to their own interests through the threatened reforms; and on November 12, induced partly by his own misgivings and partly by their advice, Eugenius wrote the cardinal Cæsari, president of the council, ordering him to dissolve it, and summon another to meet two years afterwards at Bologna. Against this command Cæsari strongly remonstrated, but Eugenius was inflexible, and the council, obtaining the support of the emperor and the duke of Milan, proceeded to act independently of the pope's authority. He fulminated letters of excommunication against all who should attend it, but the number of its members went on increasing; and, gaining confidence by its accessions, it cited him on April 20, 1432, to appear before it in less than three months, and on September 6, as he did not obey the summons, declared him guilty of schism. Eugenius, to gain the support of Sigismund, had granted him the imperial crown, but since Sigismund remained faithful to the council, Eugenius was compelled to yield, and in 1433 he revoked his bull of dissolution. In the following year the Colonnas, aided by the Visconti, compelled Eugenius to flee from Rome. He escaped in disguise to Florence, and afterwards, notwithstanding an offer of assistance from the patriarch of Alexandria, took up his residence at Bologna. Meantime the essential subjects of dispute between him and the council, so far from being settled, were gradually leading to a crisis, and when finally the council endeavoured to deprive him of the power of conferring benefices, he in 1437 sought to change the place of meeting to Ferrara, on the ground that the latter place was more suitable for discussing the reunion with the Greek church. The council replied by summoning him to appear before them within sixty days, at the end of which time they, on his failing to appear, suspended him from his functions. In January 10, 1438, the opposition council, supported by the emperor and the patriarch, met at Ferrara, but on account of an outbreak of the plague, the place of meeting was changed to Florence. Here the act declaring the reunion of the Greek and Latin churches was published July 6, 1439. Meantime, the council at Basel proceeded to elect as pope Amadeus duke of Savoy, under the title of Felix V., and continued the work of reform until 1443. In October of that year Eugenius, with the aid of Alphonso king of Aragon, whose claim to the throne he had supported in opposition to René of Anjou, was enabled to enter Rome; and in 1447, through the subtle but unprincipled craft of Aneas Sylvius Piccolomini, who had forsaken his old master Amadeus, the whole of Germany was induced to declare against the antipope. The same day, however, that news reached Eugenius of this diplomatic triumph, he was seized with a mortal illness; and, after only lingering to sign the treaty of pacification, he died 23d February 1447. Nor does he appear to have gained much comfort from this final act of his pontificate, regarding it rather as a necessary but disagreeable compromise than as the means of attaining his original purpose, for he is said to have exclaimed on his deathbed,—“O Gabriel, Gabriel, better would it have been for you to have been neither pope, nor cardinal, nor bishop, but to have finished your days as you commenced them, following peaceably in the monastery the exercises of your order.”

See Platina, *Vite Pontificum*; Aneas Sylvius, *De Concilio Basiliense*, and various passages in his other works; Muratori, *Ann. d'Italia*; Artaud de Montor, *Histoire des Souverains Pontifes romains*; Gregorovius, *Geschichte der Stadt Rom im Mittelalter*; and Milman, *History of Latin Christianity*.

**EUGUBINE** or **IGUVINE TABLES**, *Tabule Eugubinae*, are seven tablets of brass containing a series of sacerdotal inscriptions in the ancient Umbrian language, of

inestimable value to the student of Italian linguistic. According to Concioli, they were discovered in 1444 amid the ruins of a theatre in the vicinity of Gubbio (the ancient Eugubium or Iguvium), and according to Passeri, they were bequeathed in 1456 by a private citizen to the public authorities of the town. Considerable doubt exists as to the original number of the tablets. Concioli asserts that nine were discovered, but that two were taken to Venice in 1540 and never brought back; other early notices speak of eight, and even M. Bréal is inclined to hope that the Venetian tablets may yet be recovered. The seven are preserved in the *palazzo municipale* of their native city, and much more truly than Dante's missal-painter Oderisi they form *Vonori di Eugubio*. Taken altogether they furnish 447 lines, for the most part continuous and entire. Tables I., II., V., and VI. are engraved on both sides, but a considerable blank space is left on one side in the case of II. and V., and the back of VII. contains only a few lines. The inscriptions read from right to left; those of V. and VII., and nearly all on the obverse of V., are in Roman letters; the rest, which are pretty certainly of earlier date, are in Etruscan letters. According to M. Bréal, they may be ascribed to the first and second century A.D. For three centuries after their discovery nothing was known as to the contents of the tables: Salmasius confessed he could not even say whether they should be read from right to left or from left to right. The first attempt at divining their meaning was made by Bernardinus Baldus in the beginning of the 17th century, and he was followed by Adrian van Schrieck who believed he had got possession of the oldest monument of the Low German language, and interpreted accordingly. Olivieri recognized the name of Eugubium in one frequently recurring word. Louis Bourget pointed out that one of the tablets written in the Etruscan letters corresponded in the main with two written in Roman letters. C. O. Müller, in his great work *Die Etrusker*, showed that in spite of the use of Etruscan letters the language of the inscriptions was totally different from the Etruscan language. Lepsius added greatly to the epigraphical criticism of the tablets, and Lassen and Grotefend made several successful attempts at interpretation. And finally Aufrecht and Kirchhoff, summing up the labours of their predecessors, and working according to strict scientific method, brought the interpretation of the tables to a degree of perfection that could hardly have been hoped for, though there still remains in matters of detail sufficient scope for such investigators as Bréal, Ebel, Corssen, Ascoli, Zeys, Savelsberg, and Bugge. The tables contain the acts of a corporation of priests called the Attidian Brethren, who had authority over a considerable region, and probably derived their name from an ancient town Attidium, corresponding to the modern Attigio. The brethren were twelve in number, and acted under the presidency of an *adfertur*. They offered sacrifices to a large number of gods and goddesses—Jupiter, Sancus, Mars, Fesus, Grabovius, Cerfius, Vofionus, Tefer, &c., many of whom are altogether unknown to the classical student, and probably belonged to an indigenous Umbrian cult. Tables VI. and VII. give details of a purification of the Fisian Hill and a lustration of the people of Iguvium; and table II. furnishes a list of the tribes who had a right to participate in a certain sacrifice.

*Literature*.—Antonio Concioli, *Annot. in statuta civ. Eugubii*, Macerata, 1673; Bernardinus Baldus, *Divinatio in Tab. aneam Eugub. lingua Etrusca veteri perscriptam*, 1613; Adrian van Schrieck, *Van 't Beghin der eerster Volcken van Europpen*, Ypres, 1614; Philip Buonarroti in appendix to Dempster's *De Etruria Regali*, 1724; Bourguet, *Bibliothèque Italique ou Hist. litt. de l'Italie*, vol. iii.; A. Franciscus Gorius, *Museum Etruscum*, Florence, 1737; Olivieri, *Saggio di Dissert. acad. di Cortona*, 1742; Passeri, *Lettere Boncagliese*, 1739, *Contin. delle lett. Ronc.* in Angiola Calogera's

collection of scientific and philological works, vol. xxvi., Venice, 1742, and *In Dempsteri libros de Etruria Reg. Paralipomena*, Lucca, 1767; Lanzi, *Scaggio di Lingua Etrusca*, Rome, 1789; Lassen, *Beiträge zur Deutung der Eugubinschen Tafeln*, Bonn, 1833; Lepsius, *De tabulis Eugubinis*, Berlin, 1833; and *Inscript. Umbrica et Osca*, with folio atlas, Leipsic, 1841; Grotefend, *Rudimenta lingue Umbrice*, 1835-6-7-8-9; C. Jannellis, *Inscript. Osca et Tab. Eugub. latina interpret. tentata*, Naples, 1841; Millingen in *Trans. of the Roy. Soc. of Lit.*, 1847; Aufrecht and Kirchhoff, *Die Umbr. Sprachdenkmäler*, Berlin, 2 vols., 1849 and 1851; Panzerbieter, *Quaestiones Umbrice*,—programm for the Gymnasium Bernhardinum at Meiningen, 1851; Francis W. Newman, *The Text of the Iguvine Inscriptions, with interl. Latin trans. and notes*, London, 1864; Louis de Baeker, *Les Tab. Eugubines*, Paris, 1867; Ariodante Fabretti, *Corpus inscrip. antiquioris ævi et gloss. ital.*, Turin, 1867; Bréal, *Les Tables Eugubines*, 1875, and his review of the history of the investigation, in *Rev. des D. Mondes*, Nov. 1875; F. Bücheler, *Populi Iguvini Lustratio*, Bonn, 1876.

EULENSPIEGEL, in French *Ulespiegel*, in older English *Houleglas*, one of the most popular of European chapbooks, consisting in all its innumerable rifacimentos of stories of ludicrous roguery, in which the love of fun is not unmingled with the love of mischief. The name in its present form is equivalent to *Noctua Speculum* or Owl's Mirror, and may be compared with such appellations as Schwabenspiegel, Sachsenspiegel, Lalenspiegel, Speculum historiale, Speculum Conversionis Peccatorum, Speculum de Passione Domini nostri Jesu Christi, the Mirror of the World, the Mirror for Magistrates, the Steele Glas, and a hundred others of the same type. It may possibly have arisen early in the Middle Ages, and it is distinctly mentioned in a book *De Generibus Ebriosorum*, or "Concerning the kinds of drunkards," published in 1515. No definitive explanation has been given of the origin of the name, but one interpretation makes it rest on the fact that man recognizes his faults no more than an owl that looks into a mirror, and another finds the original form in the Low German *Ul en Spiegel*, or *Ul den Spiegel*, which would signify "Cleanse the looking glass." The popularity of the book has not only enriched literary German with the words *Eulenspiegel*, *waggery*, *Eulenspiegel*, to play the wag, &c., but it has furnished French with *espigle* and *espiglerie*. Ben Jonson refers in his *Masque of Fortune* and his *Sad Shepherd* to Owl-glass, Ulespiegel, and Owlspiegle, and Taylor makes a peculiar use of the word when he says—

"Ride on my best invention like an asse  
To the amazement of each Owlglasse."

According to an old tradition, the tricks and jests of the collection are attributed to a certain Till or Tyll Eulenspiegel, otherwise Till the Saxon or Tylus Saxonius, who was born at Kneitlingen near Schoppenstadt, in the duchy of Brunswick, and was the son of Claus Eulenspiegel and Anna Wortbeck. He is usually stated to have been buried in 1350 at Mölln, about four leagues from Lubeck, but the people of Damme in Belgium claim that his grave is with them. At Mölln, to quote an old book of travels cited by Nares, the townsmen "yearly keep a feast for his memory, and yet show the apparell he was wont to wear;" and his tomb was adorned with a fantastic effigy, holding in one hand a little tankard with a jack-in-a-box, and in the other a basket full of little mannikins with fool's caps on their heads. That there was such a person as Tyl seems not improbable, but what connexion he had with the Owl-glass it is hard to discover: Eulenspiegel at least is pretty certainly a later addition to his name. Mr William F. Thoms found the Irish peasantry telling stories of *Old Espeel*, and a writer in the *Gentleman's Magazine*, September 1877, Mr David Fitzgerald, "met with pretty clear traces of Eulenspiegel in the traditions of the county of Limerick, where he figures as one *Ulas*, whose confession, like that of his prototype, is yet a favourite tale."

The book was originally, it would appear, composed in Low German; and, according to Lappenberg, the High German version

printed at Strasburg in 1519 and hitherto regarded as the *editio princeps* was the work of Thomas Murner the Franciscan monk. A Latin translation was made by Nemius; and another by Feriander appeared at Frankfort-on-Maine in 1567 as *Noctua Speculum, omnes res memorabiles variasque et admirabiles Tylli Saxonici machinationes complectens*. An English translation called *Houleglas his life*, printed at London by Copeland, is preserved among the Garrick plays in the British Museum; extracts from it are given in W. F. Thoms's *Lays and Legends of various countries: Germany*. French translations appeared at Lyons in 1550, at Orleans, 1571, at Antwerp, 1579, at Rouen, 1701. Delepierra published an edition at Bruges, 1835, and another at Brussels, 1840; and a complete translation into modern French from the 1519 edition was printed at Paris by P. Jannet, 1858. An English edition was published in 1860, under the direction of Kenneth R. H. Mackenzie, and with illustrations by Alfred Crowquill. In 1865 appeared a photolithographic reprint of the Lower Saxon version, originally printed by Servais Kruffter (Servetius Cruftanus). There is no complete copy of the original, but portions in the Royal Library at Vienna and in the Royal Library at Berlin complete each other.

See Görres, *Die deutschen Volksbücher*, 1867; Lappenberg, *Eulenspiegel*, 1854.

EULER, LEONARD (1707-1783), one of the most distinguished mathematicians of the 18th century, was born at Basel on the 15th of April 1707, his father Paul Euler, who had considerable attainments as a mathematician, being Calvinistic pastor of the neighbouring village of Riechen. After receiving preliminary instructions in mathematics from his father, he was sent to the university of Basel, where geometry soon became his favourite study. His genius for analytical science gained for him a high place in the esteem of John Bernoulli, who was at that time one of the first mathematicians in Europe, as well as of his sons Daniel and Nicholas Bernoulli. Having taken his degree as master of arts in 1723, Euler afterwards applied himself, at his father's desire, to the study of theology and the Oriental languages with the view of entering the church, but, with his father's consent, he soon returned to geometry as his principal pursuit. At the same time, by the advice of the younger Bernoulli, who had removed to St Petersburg in 1725, he applied himself to the study of physiology, to which he made a happy application of his mathematical knowledge; and he also attended the medical lectures of the most eminent professors of Basel. While he was keenly engaged in physiological researches, he composed a dissertation on the nature and propagation of sound, and an answer to a prize-question concerning the masting of ships, to which the French Academy of Sciences adjudged the second rank in the year 1727.

In 1727, on the invitation of Catherine I., Euler took up his residence in St Petersburg, and was made an associate of the Academy of Sciences. In 1730 he became professor of physics, and in 1733 he succeeded his friend Daniel Bernoulli in the chair of mathematics. At the commencement of his new career he enriched the academical collection with many memoirs, which excited a noble emulation between him and the Bernoullis, though this did not in any way affect their friendship. It was at this time that he carried the integral calculus to a higher degree of perfection, invented the calculation of sines, reduced analytical operations to a greater simplicity, and threw new light on nearly all parts of abstract or pure mathematics. In 1735 a problem proposed by the academy, for the solution of which several eminent mathematicians had demanded the space of some months, was solved by Euler in three days, but the effort threw him into a fever which endangered his life and deprived him of the use of his right eye. The Academy of Sciences at Paris in 1738 adjudged the prize to his memoir on the nature and properties of fire, and in 1740 his treatise on the tides shared the prize with those of Colin Maclaurin and Daniel Bernoulli,—a higher honour than if he had carried it away from inferior rivals.

In 1741 Euler accepted the invitation of Frederick the Great to Berlin, where he was made a member of the Academy of Sciences and professor of mathematics. He

enriched the last volume of the *Mélanges* or Miscellanies of Berlin with five memoirs, and these were followed, with an astonishing rapidity, by a great number of important researches, which are scattered throughout the annual memoirs of the Prussian Academy. At the same time he continued his philosophical contributions to the Academy of St Petersburg, which granted him a pension in 1742. The respect in which he was held by the Russians was strikingly shown in 1760, when a farm he occupied near Charlottenburg happened to be pillaged by the invading Russian army. On its being ascertained that the farm belonged to Euler, the general immediately ordered compensation to be paid, and the empress Elizabeth sent an additional sum of four thousand crowns. In 1766 Euler with difficulty obtained permission from the king of Prussia to return to Petersburg, to which he had been originally invited by Catherine II. Soon after his return to St Petersburg a cataract formed in his left eye, which ultimately deprived him almost entirely of sight. It was in these circumstances that he dictated to his servant, a tailor's apprentice, who was absolutely devoid of mathematical knowledge, his *Elements of Algebra*, a work which, though purely elementary, displays the mathematical genius of its author, and is still reckoned one of the best works of its class. Another task to which he set himself immediately after his return to St Petersburg was the preparation of his *Lettres à une Princesse d'Allemagne sur quelques sujets de Physique* (3 vols., 1768-72). They were written at the request of the princess of Anhalt-Dessau, and contain an admirably clear exposition of the principal facts of mechanics, optics, acoustics, and physical astronomy. Theory, however, is frequently unsoundly applied in it, and it is to be observed generally that Euler's strength lay rather in pure than in applied mathematics. In 1755 Euler had been elected a foreign member of the Academy of Sciences at Paris, and some time afterwards the academical prize was adjudged to three of his memoirs *Concerning the Inequalities in the Motions of the Planets*. The two prize-questions proposed by the same academy for 1770 and 1772 were designed to obtain a more perfect theory of the moon's motion. Euler, assisted by his eldest son Johann Albert, was a competitor for these prizes, and obtained both. In the second memoir he reserved for further consideration several inequalities of the moon's motion, which he could not determine in his first theory on account of the complicated calculations in which the method he then employed had engaged him. He afterwards reviewed his whole theory with the assistance of his son and Krafft and Lexell, and pursued his researches until he had constructed the new tables, which appeared, together with the great work, in 1772. Instead of confining himself, as before, to the fruitless integration of three differential equations of the second degree, which are furnished by mathematical principles, he reduced them to the three ordinates which determine the place of the moon; and he divided into classes all the inequalities of that planet, as far as they depend either on the elongation of the sun and moon, or upon the eccentricity, or the parallax, or the inclination of the lunar orbit. The inherent difficulties of this task were immensely enhanced by the fact that Euler was virtually blind, and had to carry all the elaborate computations it involved in his memory. A further difficulty arose from the burning of his house and the destruction of the greater part of his property in 1771. His manuscripts were fortunately preserved. His own life was only saved by the courage of a native of Basel, Peter Grimmon, who carried him out of the burning house.

Some time after this the celebrated Wenzel, by couching the cataract, restored Euler's sight; but a too harsh use of the recovered faculty, along with some carelessness on the part of the surgeons, brought about a relapse. With the