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New Observations Appropriate for Forming Judgment - Antoine Arnauld and Pierre Nicole
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HISTORY OF PHILOSOPHY



ANTOINE ARNAULD AND PIERRE NICOLE
Logic or the Art of Thinking

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ANTOINE ARNAULD AND PIERRE NICOLE

Logic or the Art of Thinking

*Containing, besides common rules, several new
observations appropriate for forming judgment*

TRANSLATED AND EDITED BY

JILL VANCE BUROKER

California State University, San Bernardino



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This book is dedicated to my mother Phyllis,
and the memory of my father Don.

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Introduction

La Logique ou l'art de penser, better known as the *Port-Royal Logic*, was written by Antoine Arnauld and Pierre Nicole. Arnauld and Nicole were philosophers and theologians associated with the Port-Royal Abbey, a center of the Catholic Jansenist movement in seventeenth-century France. The first edition of the *Logic* appeared in 1662; during the authors' lifetimes four major revisions were published, the last and most important in 1683. This work is a companion to *General and Rational Grammar: The Port-Royal Grammar*, written primarily by Arnauld and "edited" by Claude Lancelot, which appeared two years before the *Logic*. The *Logic* incorporates some theory from the *Grammar*, but develops an account of knowledge and meaning of much greater scope and richness. The *Grammar* is important because it represents a classical "rational" account of language as opposed to recent behavioristic theories. In the last twenty-five years it has received renewed attention, largely due to Noam Chomsky's claims in *Cartesian Linguistics* and elsewhere that it prefigured modern transformational generative grammar. For example, Arnauld and Lancelot recognize that the "surface structure" of a sentence (the organization of the written or spoken sentence) need not mirror its "deep structure" (the aspects relevant to semantic interpretation). There are, however, reasons to question how systematically or self-consciously the *Grammar* develops this view, as well as whether the theory contains other features required to classify it as a transformational generative grammar.¹ Regardless of the historical accuracy of Chomsky's claims, they have raised new interest in the *Grammar*, which prompted a new and

¹ These questions are discussed in Robin Lakoff's review of Herbert Brekle's critical edition of the *Grammar* in *Language*, 45 (1969), 343–64; Karl E. Zimmer's review of *Cartesian Linguistics* in *International Journal of American Linguistics*, 33–4 (1967–8), 290–303; Vivian Salmon's review of *Cartesian Linguistics* in *Journal of Linguistics*, 5–6 (1969–70), 165–87; Hans Aarsleff, "The History of Linguistics and Professor Chomsky," *Language*, 46 (1970), 570–85; Jan Miel, "Pascal, Port-Royal and Cartesian Linguistics," *Journal of the History of Ideas*, 30 (1969), 261–71; Norman Kretzmann, "Transformationalism and the Port-Royal Grammar" in *General and Rational Grammar: The Port-Royal Grammar*, ed. and trans. Jacques Rieux and Bernard E. Rollin (Hague: Mouton, 1975); and Jean-Claude Pariente, *L'Analyse du langage à Port-Royal* (Paris: Les Éditions de Minuit, 1985), especially chapters 1 and 2.

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lucid translation by Jacques Rieux and Bernard E. Rollin, published in 1975.² Meanwhile, philosophers were rediscovering the companion volume, the *Port-Royal Logic*, in many respects a work of greater historical influence. Although the *Logic* borrows some material from the *Grammar*, its most significant contributions to the history of logic and semantics are absent from the earlier work. In general the semantics of the *Port-Royal Logic* are situated in the context of the Cartesian theory of ideas. Its value to us today resides in its curious combination of deep insights and confusions. For if any single work embodies the standpoint from which to understand the major shifts taking place in logic and in theories of language from the seventeenth century to the present, it is the *Port-Royal Logic*.

In this Introduction I explain briefly the historical and philosophical context of the work. The first part sketches the history of the Port-Royal Abbey and Jansenism, and the lives of the authors Antoine Arnauld and Pierre Nicole.³ The second part discusses the major philosophical themes in the text, focusing on the influence of Augustine, Descartes, and Pascal, as well as on the criticisms of Aristotle, Montaigne, Gassendi, and others. Finally, I comment on the place of the *Logic* in the history of logic and semantics, and the features of greatest philosophical interest.

Port-Royal and Jansenism

Jansenism was a radical reform movement within French Catholicism based on Augustine's views of the relation between free will and the efficacy of grace. To appreciate its controversial nature we must understand it against the backdrop of the Counter-Reformation. This was the response of the Catholic Church to the growth of Protestantism, in which the Church attempted to redefine its doctrine and make institutional reforms. Following the Council of Trent (1545–63), civil war broke out in France from 1562 to 1595, during which Catholicism suffered a serious decline. During the first half of the seventeenth century, churches and abbeys were rebuilt, and new convents and seminaries were established throughout France. Although reforms took place in older orders such as the Benedictines and Franciscans, and new orders came into being, the Society of Jesus remained the most politically influential order. Because of the enmity they aroused in other orders, the Jesuits were expelled both from the Sorbonne and from France in 1594 by a decree of Parliament. The lawyer Antoine Arnauld, father of the author of the *Port-Royal Logic*, played a key role in prosecuting the case against the Jesuits. In 1603, however, the Jesuits were readmitted to France by order of Henri IV, who took a Jesuit confessor.

Seventeenth-century France was marked by conflicts between the Catholic

² *General and Rational Grammar: The Port-Royal Grammar*.

³ The history and biographical information relies heavily on Sainte-Beuve's monumental history of Port-Royal, Alexander Sedgwick's *Jansenism in Seventeenth-Century France*, and A. Bailly's introduction to the Slatkine edition of the *Grammaire générale et raisonnée de Port-Royal*.

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Church and French Protestants, the Huguenots, who had been protected by the Edict of Nantes of 1598. But even within Catholicism there were opposing movements. Other religious orders criticized the Jesuits for their interest in the pagan culture of antiquity, their tolerance of liberal thought, and their view that one can act morally of one's own free will. Guided by Luis Molina's work on the compatibility of free will and divine grace, *De Concordia Liberi Arbitrii cum Divinae Gratiae Donis* of 1588, the Jesuits maintained that it is possible to reject God's grace, thereby asserting the priority of human freedom over the efficacy of grace. By contrast, Catholics influenced by the writings of St. Augustine saw humans as powerless to redeem themselves without divine grace. In his writings against the Pelagian heresy (which had denied original sin), Augustine had argued for a form of predestination in which the elect were redeemed by divine grace, which they could not refuse. He claimed, however, that this divine necessity was compatible with human freedom to choose between good and evil. This doctrine of grace attracted scholars at the University of Louvain, in Belgium, where two figures central to Jansenism, Cornelius Jansenius and the Abbot of Saint-Cyran, were later to study theology.

Jansenism was named after Cornelius Jansenius (or Cornelis Jansen), who was born in 1585 in the Dutch Netherlands. He studied theology first at the University of Louvain and later at the Sorbonne. He returned to the Spanish Netherlands where he was ordained a priest, and in 1619 he received his doctorate at Louvain and was admitted to the faculty there. He began his major work *Augustinus* in 1628, envisioning it as the definitive treatise on St. Augustine's theology of grace and free will, but did not complete the work until 1636, when he became the Bishop of Ypres in the Spanish Netherlands. It was not published until 1640, two years after his death from the plague. The treatise *Augustinus* was divided into three parts. The first set the background for understanding Augustine's concept of grace by examining the Pelagian heresy. In rejecting the doctrine of original sin, the Pelagians had argued that one who was untainted by corruption at birth, and who never had the opportunity to know God, could not be condemned. In their view people could attain salvation on their own merits, whether or not they were Christians. In the second part Jansenius argued that Augustine was the best theological authority on matters pertaining to grace. The third part examined the relation between free will and divine grace, and reaffirmed Augustine's view that humans are naturally capable only of evil unless aided by divine grace. These issues – the efficacy of grace, the role of free will in salvation, and the nature of penitence – became the focus of the conflict between Jansenism and more orthodox Catholicism. In fact Jansenism appeared closer to Protestantism than to Catholicism in emphasizing predestination, in putting the spiritual interests of the individual above social interests, and in promoting an elitism in which ordinary individuals do not have access to salvation.

The second major figure in Jansenism was the Abbot of Saint-Cyran, born Jean

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Duvergier de Hauranne at Bayonne in 1581. He received his M.A. in theology in 1600 at the Sorbonne. He met Cornelius Jansenius while continuing his studies at the University of Louvain, and the two worked together from about 1611 to 1617 on Scriptural questions and plans for reforming the church. In 1620, two years after being ordained, Duvergier became abbot of the Benedictine monastery of Saint-Cyran. His first controversy took place six years later with the Jesuit scholar Garasse over the efficacy of reason in man's redemption. Christian Pyrrhonists argued that one should suspend judgment on questions on which there was conflicting evidence. Some Catholics used this skeptical position against the Protestant idea that the individual was competent to interpret Scripture. In defending Pyrrhonism, Saint-Cyran portrayed human reason as even more dangerous than the senses, since it is the source of vanity and ignorance. In his claim that wisdom and redemption depend solely on faith, Saint-Cyran articulated a suspicion of reason that was to become prominent in one strain of Jansenism.

The movement named after Jansenius had already begun early in the century, led largely by Angélique Arnauld and the Abbot of Saint-Cyran. Angélique Arnauld, born Jacqueline Arnauld, was the oldest daughter of Antoine and Catherine Arnauld, and older sister of the philosopher Antoine Arnauld. In 1602, at the age of thirteen, she became abbess of the convent of Port-Royal (later known as Port-Royal-des-Champs), a Cistercian abbey founded in the thirteenth century, near Versailles in the valley of the Chevreuse. Six years later she underwent a "conversion," and set about reforming the abbey, instituting monastic rules and closing it off from the outside world. Because of lack of space and unhealthy conditions – the abbey was surrounded by swamps which gave rise to serious epidemics – in 1626 the nuns relocated to Paris, in the Faubourg Saint-Jacques (the men moved nearby about 1637). The following year the Vatican removed Port-Royal from the Cistercian order and placed it under the jurisdiction of the Bishop of Langres and the Archbishops of Paris and Sens.

Angélique Arnauld had met the Abbot of Saint-Cyran in 1625, but they did not develop a close relationship until ten years later. In 1633 the Bishop of Langres, Sébastien Zamet, called upon Saint-Cyran to adjudicate a dispute over the affair of the prayer book. This concerned a special prayer book, the *Chapelet du Saint-Sacrement*, which Angélique's sister Agnès (the former Jeanne Arnauld) had written for the nuns of Port-Royal. The Archbishop of Sens denounced the prayer book as heretical, and eight theologians agreed with him. In response, Saint-Cyran wrote a defense of the prayer book (*Apologie du Chapelet*), which prevented its condemnation. This incident marked an important point in the history of Jansenism, since it was both the first accusation of heresy against Port-Royal as well as Saint-Cyran's first contact with the abbey.

In 1636 Saint-Cyran became the spiritual director of Port-Royal. At about this time he also became associated with a group of men who were to become known as the *solitaires* of Port-Royal. The first and most influential of the *solitaires* was

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Antoine Le Maistre, the son of the philosopher Antoine Arnauld's sister, Catherine Le Maistre. Reputed to be one of the best lawyers in Paris, he feared his worldly ambitions. After consulting with Saint-Cyran, he abandoned his career and retired to a little house near the abbey in the Faubourg Saint-Jacques in 1637. He was soon joined by his younger brother, Le Maistre de Sacy, as well as Claude Lancelot and Antoine Singlin. Later *solitaires* included, besides Antoine Arnauld, Arnauld's older brother Robert Arnauld d'Andilly, Pierre Nicole, and Nicolas Fontaine. Although some of the *solitaires* remained laymen, Singlin and Le Maistre de Sacy became priests and served as confessors to the nuns of Port-Royal. In addition to performing manual tasks for the convent, the *solitaires* spent their time reading Scripture and patristic theology, and translating devotional works into French. Perhaps their most important project was founding the Little Schools of Port-Royal.

During the 1630s Saint-Cyran came into conflict with the Jesuits, the Bishop of Langres, and Father Joseph, confidential agent to Cardinal Richelieu. In 1630, Saint-Cyran had refused to endorse the annulment of the King's brother. Then in 1633 there was the affair of the prayer book. He also was identified in 1636 with Jansenius's criticism of France's alliance with Sweden and the Netherlands against Spain. Finally, he opposed Richelieu over the question of penitential discipline. According to the Abbot, genuine repentance required *contrition*, which emanates from a love of God, rather than *attrition*, or fear of punishment, really a form of self-love. Since contrition is much rarer, very few souls are redeemed. For Richelieu, however, the Church had the power to reconcile self-love with God's commandments. Thus the ordinary sinner could be absolved as long as he confessed. Only saints were genuinely contrite, and they were automatically absolved by God without needing to confess.

In 1638 Richelieu had had enough. Declaring that Saint-Cyran was "more dangerous than six armies," he had him arrested and imprisoned at Vincennes on charges of heresy. Although the charges were never substantiated, Saint-Cyran remained in prison for four years, writing letters to the nuns of Port-Royal as well as to Church figures, emphasizing the effects of original sin and the need to isolate oneself from worldly values and temptations. This was the doctrine that inspired the *solitaires* of Port-Royal to leave their secular careers. In early 1643, shortly after Richelieu's death, Saint-Cyran was released from prison. As a result of poor health, exacerbated by his imprisonment, he died later that year. He was buried at Saint Jacques-du-Haut-Pas, a little church near Port-Royal in Paris.

The primary author of the *Port-Royal Logic* was Antoine Arnauld. He was the youngest of Antoine and Catherine Arnauld's twenty children, of whom only ten survived infancy. The Arnauld family was largely responsible for supporting the Port-Royal Abbey. The son Antoine was born on 8 February, 1612, in Paris. His father, one of the most famous lawyers of his time, died in 1619, and the son was raised largely by his mother and his older sister, Catherine Le Maistre. After

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studying philosophy with distinction, Arnauld originally wanted to follow his father's footsteps in the study of law. But out of respect for his mother's wishes he decided to study theology. He entered the Sorbonne and became the disciple of Lescot, the confessor of Cardinal Richelieu and later the Bishop of Chartres.

In the four theses he defended from 1638 to 1641, Arnauld exhibited Augustinian views entirely opposed to those of Lescot. This put them in conflict from then on. Even though Arnauld had not fulfilled the conditions normally required for entrance to the Society of the Sorbonne, the Society wanted to admit him because of his rare piety, his extraordinary talent, and the brilliance of his dissertation. Despite Richelieu's opposition, Arnauld was finally admitted in 1641. In preaching the usual sermon in the Church of Notre-Dame, he swore "to defend the truth until my blood flows," an oath which all the professors have since taken. In the same year he was ordained a priest, after having given all his worldly goods to the Port-Royal Abbey.

Arnauld's most important theological work was *On Frequent Communion* (*De la fréquente communion*) of 1643. Although approved by the ecclesiastical province of Auch, several bishops, and twenty-four professors of the Sorbonne, the book became the basis of the persecutions Arnauld would subsequently undergo. In it he argued for the necessity of interior conversion before taking the sacraments. This required true repentance before confession, contrition of the heart (based on love of God) before absolution, and contrite penitence before communion. In general he claimed that one was more likely to achieve redemption by taking communion less frequently. The Jesuits, led by Father Nouet, mounted a furious attack on the work. Unfortunately for Nouet, he had been among the clerics to approve the work, and he later had to undergo the humiliation of disavowing his sermons against Arnauld. Despite this setback, the Jesuits had Arnauld ordered to Rome to defend himself before the Inquisition. Arnauld was saved only because the Parliament and the Sorbonne objected to Rome's interference in a matter they thought concerned only the Church of France. Arnauld went into hiding until 1648, the first of many flights he was to experience. In spite of the original controversy, however, Arnauld's views eventually became generally accepted, even among the Jesuits. The work marked a turning point in the Church. By virtue of the reforms it produced in the administration of sacraments as well as in the method of argument, the book earned Arnauld the name The Great Arnauld (*Le Grand Arnauld*). In describing his style of argumentation, Sainte-Beuve calls Arnauld a "logician without pity" who "erected a dike against the flood of false and subtle theology."⁴

Pierre Nicole, the secondary author of the *Logic*, was born at Chartres in 1625. His father was a prominent lawyer with ties to literary circles in Paris. Nicole studied theology at the Sorbonne, where he came into contact with teachers inclined towards Jansenism, and his bachelor's thesis on grace was suspected of

⁴ Sainte-Beuve, *Port-Royal*, vol. 1, p. 285.

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heretical implications. When Jansenism came under attack at the Sorbonne, he withdrew and went to Port-Royal-des-Champs. While teaching at the Little Schools of Port-Royal, in 1654 he became Arnauld's secretary, helping translate Latin texts. Nicole eventually became one of the most prominent Jansenist writers of the seventeenth century. His most famous work was the *Moral Essays* (1671–8).

The religious disputes marking the history of Jansenism centered around Jansenius's *Augustinus*, and Arnauld's *On Frequent Communion*. The attack against *Augustinus* began with Isaac Habert's sermons during 1643 and his *Defense of the Faith* of 1644. Focusing on eight propositions which he claimed were heretical, Habert attacked both Jansenius for relying too heavily on Augustine's views concerning grace and Port-Royal for propagating these heretical beliefs. These accusations inspired Arnauld to write his *Defense of Monsieur Jansenius* in 1644 and a *Second Defense* in 1645. In 1649 the issue was again raised when Nicolas Cornet, of the theological faculty of the Sorbonne, selected seven propositions from bachelors' theses which he claimed had heretical implications. Although Cornet denied that these propositions had anything to do with *Augustinus*, they were remarkably similar to the ones attacked earlier by Habert. When the faculty would not rule against the propositions, in 1651 Habert wrote a letter to Pope Innocent X, endorsed by seventy-eight French bishops, urging him to condemn the propositions. After heavy lobbying by representatives of Cardinal Mazarin, who wanted the propositions condemned, in 1653 the Pope issued an encyclical, *Cum occasione*, declaring four propositions to be heretical and a fifth false. The four heretical propositions were these:⁵

1. Some commandments [of God] are impossible to the just, who may wish [to obey them] and may exert all their efforts in that direction; they lack the grace necessary to carry them out.
2. In the state of corrupt nature, one can never resist interior grace.
3. In order to act meritoriously or to be blameworthy, it is not necessary that there be in man a liberty that is exempt from necessity. It suffices that liberty be exempt from constraint.
4. The semi-Pelagians admit to the necessity of an inner prevenient grace for each action, even the act of faith. They are heretics insofar as they believe that man's will may resist or accept that grace.

The false proposition was the following:

5. It is a semi-Pelagian sentiment to say that Jesus Christ died or that he shed his blood for all men without exception.

The encyclical hardly settled the matter, however. In the first place, it never referred explicitly to Jansenius's work. And second, it stated the propositions in a way that allowed for differences of interpretation. The Pope was in fact trying to

⁵ These five propositions are given in Sedgwick, *Jansenism*, p. 68.

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walk a fine line between the Jansenists and the Jesuits since he did not want to be seen as condemning either St. Augustine's or St. Thomas's teachings on grace. Under pressure from bishops brought together by Mazarin, however, Innocent X wrote a letter to the French bishops stating that the five propositions were maintained by Jansenius.

Arnauld kept his silence until 1656, when the parish of Saint-Sulpice refused absolution to the Duke of Liancourt if he would not withdraw his granddaughter from Port-Royal. Arnauld published two letters, one "To a Person of Condition," the other "To a Duke and a Peer," which contained two propositions censured by the Sorbonne. The first proposition, raising what was called a question of faith (*question de droit*), was this: "The Fathers show us a just man in the person of St. Peter, to whom the grace without which one can do nothing was lacking on one occasion, when we could not say that he had not sinned." The second proposition opened up a question of fact (*question de fait*) in stating: "One may doubt whether the five propositions condemned by Innocent X and by Alexander VII, as those of Jansenius, the Bishop of Ypres, are in this orator's book."⁶ While Arnauld agreed that only the Pope could decide whether the five propositions were heretical, he argued that whether they were actually expressed in Jansenius's work was an empirical question to be investigated by each individual. Judging Arnauld for the Sorbonne were Lescot and other professors against whom he had written. When he refused to subscribe to the censure, Arnauld was excluded from the faculty along with seventy-two other professors and several other faculty. In 1656 Arnauld retired to Port-Royal-des-Champs, where he remained until 1669, after the Peace of the Church was declared in 1668.

Following the censure, Arnauld in effect became the oracle of his party, carrying on an extensive and widely read correspondence, directed mostly against the Jesuits. Arnauld furnished the main ideas for Pascal's *Provincial Letters*, written from 1656 to 1657 in support of the Jansenists, as well as publishing several other theological tracts against the Jesuits. His most famous polemics were *Five Writings in Favor of the Paris Curates Against the Remiss Casuists*, the *New Heresy* and the *Illusions of the Jesuits*, *Remarks on the Papal Bull of Alexander VII*, *Five Denunciations* of philosophical sins, and the *Practical Ethics of the Jesuits* in eight volumes. While these works were appearing, Arnauld published works of such philosophical significance that many commentators have regretted he ever devoted his time to theological disputes. In addition to the *General and Rational Grammar* and the *Logic*, he wrote the *New Elements of Geometry*, the fourth set of objections to Descartes' *Meditations*, and *On True and False Ideas* against Malebranche. His complete works, which were published at Lausanne in 1780, comprise no less than forty-four volumes.

In 1656, following Arnauld's exclusion from the Sorbonne, Cardinal Mazarin

⁶ See Bailly, "Introduction" in *Grammaire générale*, p. xii.

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asked the assembly of the clergy to endorse both the encyclical *Cum occasione* and Pope Innocent X's letter attributing the five propositions to the *Augustinus*. The assembly drew up a formulary for all members of the French clergy to sign, promising to obey the papal decrees. In 1655, Innocent X was succeeded by Pope Alexander VII. Although the new Pope did not want to strengthen Mazarin's position, Alexander finally issued a third papal encyclical, *Ad sacram*, in 1657. Here he stated explicitly that the five condemned propositions were found in *Augustinus*, and he condemned them as Jansenius had interpreted them. Mazarin carried out his final act against the Jansenists when he closed the Little Schools in 1659. Although the Little Schools had never enrolled more than fifty students at a time, they exerted a disproportionate influence because of the reputations of both the faculty and students, and the publication of such treatises as *Rules for Educating Children*. Teachers included Claude Lancelot and Pierre Nicole. The most famous students were undoubtedly Jean Racine and the historian Sébastien Le Nain de Tillemont.

In April 1661 the Council of State decreed that all churchmen must sign the formulary drawn up in 1657. Even nuns and lay schoolteachers were required to sign. The text of the formulary read:

I submit sincerely to the constitution of Innocent X of May 31, 1653 [*Cum occasione*], according to its proper meaning as set forth in the constitution of our Holy Father Alexander VII of October 16, 1656 [*Ad sacram*].

I recognize that I am obliged to obey these constitutions, and I condemn with heart and mouth the doctrine contained in the five propositions of Jansenius in his book entitled *Augustinus* that two popes and the bishops have condemned, the doctrine that is not at all that of Saint Augustine, entirely misinterpreted by Jansenius.⁷

The Jansenists responded by appealing to Arnauld's distinction between questions of faith and questions of fact: whether a doctrine was heretical was a matter of faith, but whether it was found in a book or held by a certain person was a matter of fact. Although the Church was infallible in questions of faith, the truth of questions of fact depended on human judgment, which is not infallible. The Jansenists, and particularly the nuns, were divided on whether they should sign the formulary. Shortly before her death in 1661, Angélique Arnauld expressed the view that the appropriate response to persecution is humility and submission in silence. Others agreed that although the Church did not have the right to demand submission on questions of fact, those who disagreed on these matters should maintain silence. They thought one should sign the formulary, while maintaining mental reservations about the Church's position on questions of fact.

A more intransigent position was outlined by Blaise Pascal's sister, Jacqueline (Sister Euphémie of Port-Royal), who argued that a signature of any kind was

⁷ See Sedgwick, *Jansenism*, p. 108.

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incompatible with Christian sincerity. She also challenged the view that women should yield to their superiors, stating that if bishops had the courage of women, then women ought to have the courage of bishops.⁸ In her view, endorsed by her brother, anyone who signed the formulary, even while holding mental reservations, was condemning the sacred doctrine of efficacious grace.

Arnauld and Nicole took a third, intermediate position on the formulary, namely that the five propositions were heretical but did not appear in the *Augustinus*. Although Arnauld thought the propositions were highly ambiguous and could be interpreted in both heretical and orthodox ways, he reasoned that the best way to defend Jansenius was to submit on the question of faith. Hence he argued for signing the formulary while appending a statement maintaining a respectful silence on the question of fact. Le Maistre de Sacy, Lancelot, and Le Nain de Tillemont also adopted this position.

In June 1664 the new Archbishop of Paris personally appeared at Port-Royal-de-Paris to interrogate the nuns who had to decide individually whether to sign. Twelve intransigent nuns were removed to other convents, and the nuns who remained at Port-Royal were put under the supervision of another order. The intransigent nuns who signed only with express reservations, including Agnès Arnauld, were deprived of the sacraments and confessors, and many experienced severe psychological hardships. In July 1665 the nuns who had been dispersed from Port-Royal-de-Paris were permitted to go to Port-Royal-des-Champs.

After the Peace of the Church in 1668, Pope Clement IX forbade further discussion of the issues connected with the formulary. He permitted the nuns of Port-Royal to participate in the sacraments, and released Le Maistre de Sacy and Fontaine from the Bastille, where they had been imprisoned in 1666. Also in 1669 Arnauld emerged from Port-Royal, announcing his intention to cease defending Jansenism. Both Pope Clement IX, his secret protector, and Louis XIV received him as a man of great distinction and a defender of the Church. Despite these honors he was never able to return to the Sorbonne. During the 1670s, Port-Royal-des-Champs experienced a few years of tranquillity. It readmitted boarders and postulants, and the *solitaires* returned to their religious tracts. Arnauld and Nicole wrote against the Huguenots and in support of the revocation of the Edict of Nantes. Arnauld also published *The Perpetuity of the Faith of the Catholic Church Concerning the Eucharist* in 1669 in which he attempted to mark Jansenism off from Protestantism, and to smooth over relations with the Church. In 1670 Arnauld, Nicole, and others published the notes Pascal had made for his work defending Christianity, under the title *Thoughts of Monsieur Pascal on Religion and Several Other Subjects (Pensées)*. Many of the ideas contained in Pascal's writings also appeared in Nicole's important *Moral Essays*, which appeared during the 1670s.

⁸ Ibid., p. 117.

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Although after the Peace of the Church Arnauld wrote primarily against the Protestants, he eventually returned to attacking the Jesuits. This finally provoked the mistrust of the King, and Arnauld was once again forced into hiding. In 1679, with the conclusion of the war against the Dutch and the death of their patroness the Duchess of Longueville, Port-Royal again found itself under siege, this time by King Louis XIV. The confessors, postulants, and pensioners of Port-Royal were expelled by decree of the archbishop of Paris. Arnauld went into exile in the Austrian Netherlands in 1679, and wandered from city to city, writing with an ardor that never abated. He continued to criticize both Protestants and ecclesiastical officials for interfering with free inquiry into natural phenomena. In part this defense was based on a fear of the effects of free thinking, since drawing a firm line between religious and scientific matters would protect divine authority in questions of theology. When Pierre Nicole, who had joined him in exile, admitted one day that he was tired of waging war, Arnauld remarked that he would have all of eternity to rest. But unlike Arnauld, Nicole yearned for peace. So he returned to Paris in 1683 where he was reconciled with the authorities. He died in Paris in 1695. Antoine Arnauld died at Brussels on 8 August 1694, at the age of 82. His body was buried in the Church of Saint Catherine at Brussels. His heart was taken to Port-Royal, and in 1710 was moved from there to Palaiseau.

Following Arnauld's death, Jansenists continued to circulate polemical tracts and to feud with the Jesuits. The issue of the formulary was again raised in 1701 before the faculty of the Sorbonne. This case concerned Pascal's nephew, the priest Louis Périier, who had continued to proclaim the doctrines of efficacious grace and contrition. The question was whether he was entitled to final absolution on his deathbed. When forty professors affirmed his rights, Louis XIV again decided to take action against the Jansenists. He had the Jansenist leaders Pasquier Quesnel and Gabriel Gerberon arrested in the Spanish Netherlands by his nephew King Philip V of Spain in 1703. Gerberon was eventually imprisoned at Vincennes, and was released in 1710 after signing the formulary. Quesnel escaped from prison, but his papers and correspondence were confiscated by the Spanish authorities. Aided by the Jesuits, Louis XIV persuaded Pope Clement XI to promulgate another encyclical, *Vineam Domini*, against the Jansenists. Arriving in France in 1705, it specifically condemned maintaining a silence on the question of fact concerning the five propositions of Jansenius. In 1703 the nuns had again been ordered to sign the formulary, and again they refused to sign without noting their reservations. Finally Louis received the Pope's permission to suppress the convent, and in 1709 he dispersed the nuns. He had the bodies of the more prominent *solitaires* and nuns moved elsewhere or thrown into a common grave, and in 1711 the buildings were leveled. A final encyclical, *Unigenitus*, promulgated in 1713 by Pope Clement XI, condemned 101 propositions from Quesnel's *Moral Reflections* including, among other ideas, the doctrine of efficacious grace, Saint-Cyran's notion of contrition, the right to translate Scripture into the vernacular, and the right of informed Christians

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to interpret Scripture on their own. Despite these attacks and the end of Port-Royal, Jansenism survived until the Revolution of 1789.

Philosophical themes and influences

Although St. Augustine shaped the theology of Jansenism, René Descartes was the true philosophical father of the *Port-Royal Logic*. In contrast to Jansenists such as Saint-Cyran and Le Maistre de Sacy, who suspected the efficacy of reason, Arnauld and Nicole wholeheartedly embraced Descartes' rationalism. In fact, the Port-Royal theory of knowledge is taken almost verbatim from Descartes. But Cartesian rationalism is, in its broad outlines, compatible with Augustinian views, and so Arnauld and Nicole often cite the authority of both philosophers. The philosophy of the *Logic* is not confined, however, to epistemological questions. For Descartes the theory of knowledge is inextricably linked with his views of mental and physical reality. Hence we also find Arnauld and Nicole espousing Cartesian dualism as well as the principles of Descartes' mechanistic physics.

In endorsing Cartesian thought the authors of the *Logic* stand squarely opposed to Aristotle and the Scholastics on most philosophical issues. Hence the *Logic* contains criticisms of practically all of Aristotle's fundamental ideas, most borrowed directly from Descartes. Arnauld and Nicole also attack their empiricist contemporaries – especially Thomas Hobbes and Pierre Gassendi – not only for their erroneous views about knowledge, but also for their mistaken metaphysical and physical theories. A third major target is Montaigne, first, for his skeptical arguments, and second for his libertine tendencies. In what follows I shall summarize these main themes in the *Logic*.

As we have seen, the Port-Royal theology is based on St. Augustine's doctrines of original sin, the natural incapacity of humans to act morally of their own free will, and the irresistible efficacy of grace. Moreover, although Arnauld and Nicole accept the Augustinian view that faith and reason each has its own proper domain – religious matters for faith, natural phenomena for reason – they emphasize the importance of human reason in supplementing faith in theological matters. In chapter 12 of Part IV, citing Augustine, they maintain that faith always presupposes some reason, since reason persuades us that there are things we ought to believe, even though we lack the appropriate evidence.

In setting out their philosophical foundations, the authors borrow whole arguments from Descartes' *Rules for the Direction of the Mind*, *Discourse on the Method*, and *Meditations*, occasionally acknowledging their source. The issues most addressed concern the nature and sources of ideas, the analysis of mental faculties, and the primacy of reason or the understanding in attaining certainty. Underlying the entire text is Descartes' anti-empiricist principle that certainty depends solely on the intellect. In Parts I and IV of the *Logic*, Arnauld and Nicole argue that it is possible to attain certainty concerning the nature of both mental and physical reality. This indubitable knowledge is based on self-evident propositions intuited

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by the understanding. Following Descartes, the authors label these perceptions “clear and distinct,” although their analysis, in chapter 9 of Part I, differs somewhat from Descartes’ account. The authors also cite Descartes’ famous *cogito* argument (“I think, therefore I am”) as the primary example of knowledge by intellectual intuition. As Arnauld and Nicole recognize, a version of this argument appeared in Augustine, who also claimed that it is impossible to doubt that one is thinking and existing (or is alive, as Augustine but not Descartes would have it). In Augustine this is referred to as the “interiorization principle,” and it coincides exactly with Descartes’ view that truths about one’s own mental states are self-evident and self-verifying. Like Descartes, Arnauld and Nicole regard mathematics, and in particular geometry, as the paradigm of knowledge. Despite their criticisms in Part IV of Euclid’s definitions and the order of his proofs, they maintain that only mathematics exhibits the essential features of a true science, in the simplicity of its concepts and the rigor of its demonstrations.

On the other side of the same coin, the authors share Descartes’ mistrust of sensory experience and his evaluation of sensory states as obscure and confused. They cite the usual cases of deception by the senses and agree with Descartes that such sensible qualities as color, sound, odor, taste, hot and cold, are merely the content of sensations in the mind and not real properties of corporeal substances. Even though sense perception plays a role in developing scientific hypotheses, and spatial images are occasionally useful in geometry, a true understanding of reality is based on purely intellectual representation. In fact, the empiricist reliance on the senses, characteristic of Aristotelian and Scholastic thought, is an infantile form of epistemology. Just as the child assumes that the world really is the way it appears, empiricists are misled by a naive trust in sense experience. By means of the correct use of “natural reason” and the Cartesian method of doubt, however, the knower can overcome these childhood prejudices and can attain a scientific understanding of the world.

The rationalism of the *Port-Royal Logic* is also partly responsible for its anti-rhetorical polemics. Combined with the puritanical nature of Jansenism, their rationalism leads the authors to condemn writing that relies heavily on metaphorical or figurative styles. Following the line that sensory experience interferes with clear and distinct perceptions of reality, Arnauld and Nicole argue that philosophical writing should avoid appeals to the passions. Now when one’s purpose is to arouse emotion in the reader – for example, to inspire love of God – then a more figurative style may be appropriate. But whenever the subject concerns speculative matters that ought not affect the emotions, an ornate style only leads to sophisms and fallacious reasoning.

In addition to the empiricists, a second target of Port-Royal’s criticisms are the skeptics, and particularly ancient Pyrrhonism as revived by Montaigne. The Cartesians were not threatened by skeptical arguments concerning the senses, because they denied that the senses played any significant role in producing certain

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knowledge. But the matter is quite different concerning skepticism with regard to reason. So the authors are particularly harsh against philosophers who question the capacity of reason to produce knowledge about oneself, God, and the external world. In fact they accuse Montaigne and other skeptics of insincerity and hypocrisy because they deny the self-validating nature of clear and distinct perception.

Cartesian metaphysics and physics are also well represented in the *Logic*. Descartes' major contribution to metaphysics was his dualism, his account of the mind and the body as two distinct kinds of substance. The defining attribute of a mind or soul is thinking, whereas the feature essential to corporeal substance is being extended spatially. Since Descartes thought there was no necessary connection between thinking and being extended, he maintained that minds and bodies share no properties in common and are capable of existing independently. Among existing things, human beings are unique in being a composite of mental and corporeal substances. As states of consciousness, experiences are mental states, although they may be causally related to states of physical substances. Aristotle, by contrast, had a non-dualistic or functional conception of the soul as the principle of life in all living things. For him even plants and nonhuman animals are endowed with souls. Only humans, however, are capable of higher rational activities. Thus Aristotle and Descartes differ radically over the conception of the soul and its relation to physical substance. It is no surprise, then, to find attacks on Aristotle's view of the soul throughout the *Logic*. Their dualism also leads Arnauld and Nicole to object to the view that all reality is physical, whether espoused by ancient philosophers such as Lucretius, the Epicureans, and the Stoics, or their contemporaries Hobbes and Gassendi. Many of these arguments occur in the discussions of definition, and the types of confusions that can take place in defining words.

Equally prominent is Port-Royal's espousal of Descartes' mechanistic physics. As we saw above, Arnauld and Nicole agree with Descartes that sensory qualities cannot be real properties of physical things. The only properties belonging to bodies are extension, motion, and shape. In consequence, all changes in physical states can be accounted for in terms of the motions and impacts of particles on one another. In endorsing Cartesian physics, the authors of the *Logic* condemn as "occult" explanations in terms of "natural motion" or "attractive" powers acting at a distance, such as magnetism and gravity. They also share Descartes' objection to the Scholastic theory of substantial forms. According to this theory one body transmits a quality such as heat, for example, to another by transmitting the "form" of heat from the first to the second body. From the mechanistic point of view, these substantial forms are every bit as mysterious and unintelligible as forces acting at a distance. Now one peculiarity of Descartes' mechanism is his identification of matter with extension. Unlike atomists, who distinguish between the space a particle occupies and the matter making up the particle, Descartes thought matter is constituted solely by extension. Hence there is no such thing as empty space.

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Following this line of reasoning, Arnauld and Nicole also argue against theories postulating a void, whether advocated by the ancients or their contemporary Gassendi.

Finally, the *Logic* is indebted to Blaise Pascal for the theory of definition in chapters 12 through 15 of Part I, as well as the account in Part IV of the relation of definitions to axioms and demonstrations. Although Aristotle had distinguished nominal from real definitions (that is, definitions of words from definitions of things), Pascal extended this analysis in *On the Geometrical Mind and the Art of Persuasion* (probably written between 1657 and 1658). His treatment is noteworthy for rejecting the earlier theory of definitions in terms of genus and difference, and for substituting a Cartesian account in terms of the ideas naturally available to all. Pascal also argued that it is impossible to define all terms, since some ideas are so simple that words expressing them cannot be defined. Many of these views are imported wholesale into the Port-Royal theory of scientific method.

The place of the *Port-Royal Logic* in history

The *Port-Royal Logic* was the most influential logic from Aristotle to the end of the nineteenth century. The 1981 critical edition by Pierre Clair and François Girbal lists 63 French editions and 10 English editions, one of which (1818) served as a text in the course of education at the Universities of Cambridge and Oxford. The work treats topics in logic, grammar, philosophy of language, theory of knowledge, and metaphysics.

As I mentioned earlier, the semantics of the *Logic* is an interesting amalgam of medieval and seventeenth-century theories. Arnauld and Nicole attempt to force a Cartesian view of judgment, none too happily, onto the traditional theory of categorical propositions and a medieval term logic. Similarly, in spite of their Cartesian views of intellectual intuition and the nature of inference, the authors devote Part III on reasoning to the medieval theory of syllogism. So problems are raised, inevitably, by the attempt to graft a new theory of knowledge onto an existing logical framework.

Descartes' influence is evident in two basic features of the semantics. First is the view that thought is prior to language, that words are merely external, conventional signs of independent, private mental states. On this view, strictly speaking, linguistic utterances signify the thoughts occurring in the speaker's mind. Although the association between words and ideas is conventional and thus arbitrary, language can signify thought insofar as both are articulated systems: there is a correlation between the structure of a complex linguistic expression and the natural structure of the ideas it expresses.

The second feature is the general framework of the Cartesian theory of ideas, including both a philosophy of mind as well as an epistemology. Although Arnauld and Nicole depart from Descartes in some of the details of this theory, by and large they accept its general assumptions. First is the traditional view that there are four

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mental operations required for scientific knowledge: conceiving, judging, reasoning, and ordering. These operations must occur in this order, since each operation has for its elements the product of the preceding operation. Arnauld and Nicole agree with Descartes that conceiving consists in a simple apprehension of ideas by the understanding, whereas judging is an action of the will. It is possible to operate on ideas without making judgments, for example, to form complex ideas out of simpler ideas, and to analyze complex ideas into their parts. The Port-Royal authors differ from Descartes in identifying forming a proposition with the act of judgment. Descartes himself drew a sharp line between making a judgment and merely apprehending a proposition, since in mere apprehension the mind is passive, and Descartes thought it possible for an idea to take a propositional form. The Port-Royal treatment of the verb unfortunately makes it impossible to distinguish between simply apprehending a proposition and judging its truth. In the *Logic* the verb both connects the subject and predicate, and has assertive force; hence, forming a proposition is equivalent to judging it.

Another classical aspect of the *Logic* is the treatment of negation. Port-Royal follows the tradition in treating affirmation and denial as two polar forms of judgment. On their account, propositions containing negative particles such as “not” constitute denials as opposed to affirmations. Further, denial is an action opposite to affirming. Since in affirming one connects the subject- and predicate-ideas to form a propositional unity, in denying one must separate the subject from the predicate. Hence negation belongs to the action rather than to the propositional content of the act.

The Port-Royal semantics is a good example of the traditional “two-name” theory of the proposition. Every simple proposition is composed of the same elements: a subject, a predicate, and a copula. Following the theory of categorical propositions, the authors classify all propositions by quantity as universal, particular, or singular, and as affirmative or negative by quality. They also follow the tradition in treating singular propositions as universals. Hence they use the standard A, E, I, O designations for universal affirmative, universal negative, particular affirmative, and particular negative propositions. In trying to force more complex forms of proposition into this categorical framework, Arnauld and Nicole run into the difficulties which motivated the development of modern logic at the end of the nineteenth century.

Despite their traditional view of the proposition, the Port-Royal semantics is based on Descartes’ metaphysics. Without using the terminology, they recognize the medieval distinction between categorematic and syncategorematic expressions. Categorematic expressions, or “terms,” are those which can serve as a subject or predicate of a proposition. Syncategorematic expressions include verbs and quantifiers, since they signify operations on ideas (such as judgment) rather than the ideas themselves. Undoubtedly the most significant contribution of the *Port-Royal Logic* to semantics is the analysis of general terms. General terms are

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categorematic words such as “man” and “philosopher” that signify ideas representing more than one individual. In chapters 6 and 7 of Part I, the authors recognize two aspects of the significance of general terms: the comprehension and the extension. The comprehension of a general term consists of the set of attributes essential to the idea it expresses; the extension is constituted by the “subjects to which this idea applies.” Unlike the modern view, which identifies the extension of a predicate with the individuals to which the term applies, Port-Royal conceives the extension as including the species (or subsets) of the general idea as well as the individuals (members of the set) possessing the relevant attributes. Despite this ambiguity, the analysis marks an important simplification of the medieval theory of supposition, which attempted to account for all the varieties of reference. Although the distinction was prefigured in both ancient and Scholastic works and was also formulated by Leibniz, the Port-Royal account represents the clearest treatment up to that time.

A second important contribution to the history of semantics is the authors’ analysis of the difference between restrictive or “determinative” and nonrestrictive or “explicative” subordinate clauses, developed in the discussions of complex terms and complex propositions. Although their theory of embedded propositions runs into difficulty with their view of the difference between ideas and propositions, their treatment is noteworthy for foreshadowing the distinction between analytic and synthetic propositions.

To appreciate the place of the *Port-Royal Logic* in history, it might be helpful to recall the major developments in logic and philosophy of language after the seventeenth century. Perhaps the first important shift came with Kant’s theory of judgment as a synthetic activity in *The Critique of Pure Reason* (1781). Although Kant accepted the traditional logic, he rejected both Descartes’ notion of passive intellectual intuition of the truth, and the priority of conceiving to judging. Gottlob Frege inaugurated modern logic by discarding the traditional theory of the proposition. First he did away with the subject-predicate analysis, including the traditional theory of the copula. In its place he substituted a sharp distinction between expressions for objects, which he characterized as “complete,” and function-expressions, which are “incomplete” in the sense that they contain gaps for other expressions. Here the unity of the proposition depends not on a linking term such as the copula, but on the fit between complete and incomplete expressions. This syntactical basis allowed him to lay the framework for both sentential and quantificational logic. Negation was analyzed as a sentential function, part of the content of a proposition, rather than the act of denial. At one stroke Frege dismantled the traditional classification scheme of affirmative and negative propositions. The invention of quantifiers replaced the classification of universal, particular, and singular propositions, and permitted an account of embedded generality that was not possible on the traditional subject-predicate analysis.

Subsequent developments in the philosophy of language and philosophy of mind

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have led to a view of meaning as more holistic and socially dependent than the Cartesian view. Wittgenstein's private language argument posed a serious challenge to the account of language as a merely external expression of private, independent thought. Speech act theory has generalized the notion of the force of an utterance, already present in Frege's account of assertion, and brought into relief the contextual aspects of meaning. With a few exceptions, most philosophers regard these developments as putting a definitive end to the Cartesian views that thought is prior to language, and conceiving prior to judging.

There are, of course, many other aspects of the *Port-Royal Logic* of interest to philosophers, linguists, theologians, and rhetoricians. In this introduction I have concentrated only on the features having the most general philosophical import. My hope is that this translation will arouse a new interest among English-speaking scholars in the complex constellation of views presented in the *Logic*.

Chronology

1612	Antoine Arnauld born, Paris, 8 February
1625	Pierre Nicole born, Chartres, 19 October
1633	Arnauld enters the Sorbonne
1640	Jansenius's <i>Augustinus</i> published
1641	Arnauld receives doctorate at the Sorbonne; is admitted to the Society of the Sorbonne
1643	Arnauld publishes <i>On Frequent Communion</i>
1644, 1645	Arnauld publishes two defenses of Jansenius
1648	Arnauld ordered to Rome; goes into hiding
1653	Pope Innocent X issues encyclical <i>Cum occasione</i> , declaring four propositions in <i>Augustinus</i> heretical
1654	Nicole becomes Arnauld's secretary
1655–6	Arnauld publishes two letters, "To a Person of Condition" and "To a Duke and a Peer"
1656	Arnauld expelled from the Sorbonne; goes to Port-Royal-des-Champs
1657	Pope Alexander VII issues encyclical <i>Ad sacram</i> , condemning <i>Augustinus</i>
1659	Cardinal Mazarin closes the Little Schools of Port-Royal
1660	Arnauld publishes <i>General and Rational Grammar</i> with Claude Lancelot
1661	Angélique Arnauld dies
1662	First edition of <i>Logic or the Art of Thinking</i> published, by Arnauld and Nicole
1664–5	Nuns at Port-Royal in Paris are dispersed by the Archbishop of Paris
1668	The Peace of the Church is declared
1669	Arnauld returns to Paris
1669–79	Arnauld publishes <i>The Perpetuity of the Faith</i> , with Nicole
1670	Arnauld publishes Pascal's <i>Pensées</i> , with Nicole and others

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1679	Arnauld goes into exile in Flanders, then the Netherlands
1683	Nicole returns to Paris; fifth edition of <i>Logic</i>
1694	Arnauld dies, Brussels, 8 August
1695	Nicole dies, Paris, 16 November

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Further reading

The classical history of the Port-Royal Abbey and the development of Jansenism in France is available in French in C. A. Sainte-Beuve, *Port Royal* (3 vols., Paris, Bibliothèque de la Pléiade, 1961–5). Alexander Sedgwick's more recent history, *Jansenism in Seventeenth-Century France* (Charlottesville, University Press of Virginia, 1977), presents a clear account of the theological and political controversies in which Jansenists engaged. Ruth Clark's *Strangers and Sojourners at Port Royal* (New York, Octagon Books, 1932; reprint 1972) details the connections between the British Isles and the Jansenists of France and Holland.

Very little of Arnauld's work has been translated into English. In addition to the Dickoff and James translation of the *Logic* and the translation of *The General and Rational Grammar* by Rieux and Rollin, his best known writings have been the *Fourth Objections to the "Meditations on First Philosophy"* in *The Philosophical Writings of Descartes*, trans. by John Cottingham, Robert Stoothoff, and Dugald Murdoch (3 vols., Cambridge, Cambridge University Press, 1985–91), vol. 2; and his correspondence with Leibniz, in *Leibniz: Discourse on Metaphysics, Correspondence with Arnauld and Monadology*, trans. by G. R. Montgomery (Lasalle, IL, Open Court, 1968). Two English translations of Arnauld's *On True and False Ideas* appeared in 1990. The more accurate one is Elmar J. Kremer's *On True and False Ideas, New Objections to Descartes' Meditations and Descartes' Replies* (Lewiston, NY, Edwin Mellen Press). Also available is Stephen Gaukroger's *On True and False Ideas* (Manchester, Manchester University Press).

Until recently, few books were published on the philosophical views of Arnauld and the Port-Royalists. An earlier text was Jean Laporte's *La Doctrine de Port-Royal* (2 vols., Paris, Presses Universitaires de France, 1923). Another is L. Marin's *La Critique du discours: Sur la "logique de Port-Royal" et les "Pensées" de Pascal* (Paris, Les Éditions de Minuit, 1975). In the past several years, new interest in Arnauld's work and his connections to other thinkers of his time has resulted in several volumes. An overview of Arnauld's thought is available in A. R. Ndiaye's *La Philosophie d'Antoine Arnauld* (Paris, J. Vrin, 1991). Steven Nadler's *Arnauld*

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Further reading

and the Cartesian Philosophy of Ideas (Princeton, Princeton University Press, 1989) studies Arnauld's controversy with Malebranche over the status of ideas. R. C. Sleigh, Jr., examines Arnauld's relations to Leibniz in *Leibniz and Arnauld: A Commentary on Their Correspondence* (New Haven, CT, Yale University Press, 1990). Toronto Studies in Philosophy has published a collection of articles on various aspects of Arnauld's thought, *The Great Arnauld and Some of His Philosophical Correspondents*, ed. Elmar J. Kremer (Toronto, University of Toronto Press, 1994). The last four volumes have fairly detailed bibliographies.

Even among Arnauld's commentators, relatively little attention has been paid to his logic and linguistic theory. Marc Dominicy's *La Naissance de la grammaire moderne* (Brussels, Pierre Mardaga, 1985) examines the formal aspects of the Port-Royal semantics and pragmatics. Jean-Claude Pariente's *L'Analyse du langage à Port-Royal* (Paris, Les Éditions de Minuit, 1985) presents a less technical discussion in six essays. Two earlier articles are Jan Miel's "Pascal, Port-Royal and Cartesian Linguistics," *Journal of the History of Ideas*, 30 (1969), 261–71, and Dragan Stoianovici, "Definite Descriptions in Port-Royal Logic," *Revue Roumaine des Sciences Sociales, Série de Philosophie et Logique*, 20 (1976), 145–54. Finally, I discuss the Port-Royal semantics and its relations to modern semantic theory since Frege in two essays, "The Port-Royal Semantics of Terms," *Synthese*, 96 (1993), 455–75, and "Judgment and Predication in the Port-Royal Logic" in *The Great Arnauld*, ed. Kremer, pp. 3–27.

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Note on the text and translation

La Logique ou l'art de penser was first published in 1662 and saw four major revisions during the authors' lifetimes. The definitive state of the *Logic* is represented by the final 1683 version. It contains several highly significant additions, notably chapters 4 and 15 of Part I, and chapters 1–2 (taken from the *Grammar*), and 12 and 14 of Part II. The main text is introduced by a Preface (*Avertissement*), a Foreword (*Avis*), and two Discourses. The first Discourse appeared in the first (1662) edition; the second Discourse was added in 1664 and contains replies to criticisms of the previous edition.

This translation is based on the critical edition by Pierre Clair and François Girbal, which first appeared in 1965 and was revised in 1981.¹ Clair and Girbal use the 1683 version of the *Logic* as their basis and indicate textual variations from the four earlier versions in footnotes. Their edition also contains a chronological catalogue of all French, Latin, and English editions, as well as richly detailed annotations, based on notes originally provided by two nineteenth-century editors, Charles Jourdain and Alfred Fouillée. A second major French edition in three volumes was published in 1967 by Bruno von Freytag Löringhoff and Herbert E. Brekle.² Volume 1 contains the original (1662) text of the *Logic*, volume 2 lists textual variants from 1664–83, and volume 3 consists of textual variants between the 1662 text and the manuscript Fr. 19915 of the Bibliothèque Nationale, evidently an early handwritten copy of the *Logic*.³ There are only minor differences between the Clair–Girbal and the Löringhoff–Brekle editions – mostly a few discrepancies in attributing citations.

Until 1964, contemporary English-speaking readers had access only to the nineteenth-century Thomas Spencer Baynes translation. This edition is serviceable although outdated. In 1964 *The Art of Thinking*, translated by James Dickoff and Patricia James, was published. It favors readability and plausibility over accuracy, and

¹ *La logique ou l'art de penser*, édition critique par Pierre Clair et François Girbal (Paris, J. Vrin, 1981).

² *L'art de penser: La Logique de Port-Royal*, édition par B. von Freytag Löringhoff et H. E. Brekle (Stuttgart-Bad Cannstatt, Friedrich Frommann Verlag, 1967).

³ See p. 3 n. 3.

Note on the text and translation

may thus be unsuitable for close scholarly work. As the translators mention in their introduction, for example, Arnauld and Nicole do repeatedly conflate theses about thought, language, and the external world, and this cannot fail to strike the modern reader as muddled. But these confusions are themselves of considerable philosophical and historical interest, and the tendency of Dickoff and James to introduce post-Fregean distinctions not found in the original can mislead those without access to the French text. The present translation strives to render the original as faithfully as possible – confusions and all – trusting the reader to sort things out.

Although this is a work on logic and language, the reader should keep in mind that the vocabulary of the seventeenth century does not approach ours in precision. While the authors clearly recognize the difference between the validity and the soundness of an argument, for example, they typically evaluate arguments in rather general, nontechnical terms. Thus an argument may be “good” (*bon*) or “bad” (*mauvais*), and even “true” (*vrai*) or “false” (*faux*). Fallacious arguments may be labelled “vicious” (*vicieux*) or “defective” (*défectueux*). In analyzing syllogisms their term most closely approaching “valid” is *concluan*, but since some “concluding moods” (*modes concluans*) of syllogisms violate the rules of logic, the translation here cannot be exact. In short, the reader is cautioned not to take occurrences of English terms such as “valid” and “sound” in this translation to represent technical equivalents in the French. I have generally tried to avoid literal translations such as “true argument” which would be jarring to a modern reader.

A second case where caution is advised concerns the French verb *convenir à* which literally means “to agree with or to conform to.” The difficulty arises because the authors use the term widely and indifferently to express a relation sometimes between ideas, sometimes between ideas or words and the things they signify, and occasionally even between genus and species. The term is translated here variously, depending on the context. Where it expresses a logical relation between ideas, for example, this text may say one idea “conforms to” or “is compatible with” another. Where the term indicates a semantic relation between a word and a thing, it may say the word “applies to” the thing. Again the reader is warned not to assume that these differences represent technical distinctions in the French. My aim throughout has been to make the translation both accurate and sufficiently general to avoid anachronism, while rendering the French into smooth and idiomatic English.

This translation follows the Clair and Girbal format, and thus chapters are organized as in the fifth edition. (The table below displays the differences among the five major editions.) For readers who wish to compare this translation with the French, the page numbers from the Clair and Girbal 1981 edition are given in brackets in the text. I have maintained the paragraph breaks in the original while translating sentences more freely, since the authors’ sentences are extremely long. Also, the French text includes many Latin quotations, only some of which were translated into French. Where Arnauld and Nicole did not provide a translation, an English translation appears in brackets following the Latin quotation.

Note on the text and translation

The annotations rely heavily on those of Clair and Girbal, and fall into three types. The first, marked by letters, give textual variants from the first four editions. Those which quote exactly from an earlier edition begin with three dots, and end with roman numerals in parentheses specifying the editions in which the variant occurred. Others simply indicate the edition in which a passage first appeared. A second type of note gives sources of works cited in the text, where possible listing a readily available English translation. In cases where the authors' quotations from other works are not exact, the note identifies the discrepancy. The last type contains biographical information on less well-known figures referred to in the text as well as sources of some of the Port-Royal views. For the sake of brevity I have not reproduced all the Clair and Girbal references to works of other philosophers, particularly Descartes, from which Arnauld and Nicole borrow; readers who are interested in this information should consult their edition.

ORGANIZATION OF CHAPTERS IN THE FIVE EDITIONS

	I (1662)	II (1664)	III (1668)	IV (1671)	V (1683)
	...	...	...	...	Preface
	Foreword	Foreword	Foreword	Foreword	Foreword
	Discourse	1st Discourse	1st Discourse	1st Discourse	1st Discourse
	...	2nd Discourse	2nd Discourse	2nd Discourse	2nd Discourse
Part I	I–III	I–III	I–III	I– III	I–III
	...	...	...	...	IV
	IV	IV	IV	IV	V
	V	V	V	V	VI
	VI	VI	VI	VI	VII
	VII	VII	VII	VII	VIII
	VIII	VIII	VIII	VIII	IX
	...	IX	IX	IX	X
	IX	X	X	X	XI
	X	XI	XI	XI	XII
	XI	XII	XII	XII	XIII
	XII	XIII	XIII	XIII	XIV
	...	...	...	...	XV
Part II	...	...	...	...	I
	...	...	...	...	II
	I	I	I	I	III
	II	II	II	II	IV
	III	III	III	III	V
	IV	IV	IV	IV	VI
	V	V	V	V	VII
	VI	VI	VI	VI	VIII
	VII	VII	VII	VII	IX

Note on the text and translation

ORGANIZATION OF CHAPTERS IN THE FIVE EDITIONS (*contd*)

	I (1662)	II (1664)	III (1668)	IV (1671)	V (1683)
	VIII	VIII	VIII	VIII	X
	IX	IX	IX	IX	XI
	...	...	...	...	XII
	X	X	X	X	XIII
	...	...	...	...	XIV
	XI	XI	XI	XI	XV
	XII	XII	XII	XII	XVI
	XIII	XIII	XIII	XIII	XVII
	XIV	XIV	XIV	XIV	XVIII
	XV	XV	XV	XV	XIX
	XVI	XVI	XVI	XVI	XX
Part III	I-VIII	I-VIII	I-VIII	I-VIII	I-VIII
	IX	...	...	...	...
	X	IX	IX	IX	IX
	XI	X	X	X	X
	XII	XI	XI	XI	XI
	XIV	XII	XII	XII	XII
	...	XIII	XIII	XIII	XIII
	...	XIV	XIV	XIV	XIV
	...	XV	XV	XV	XV
	XIII	XV-2	XV-2	XV-2	XVI
	XV	XVI	XVI	XVI	XVII
	XVI	XVII	XVII	XVII	XVIII
	XVII	XVIII	XVIII	XVIII	XIX
	XVIII	XIX	XIX	XIX	XX
Part IV	...	I	I	I	I
	I	II	II	II	II
	II	III	III	III	III
	III	IV	IV	IV	IV
	IV	V	V	V	V
	V	VI	VI	VI	VI
	VI	VII	VII	VII	VII
	VII	VIII	VIII	VIII	VIII
	VIII	IX	IX	IX	IX
	IX	IX-2	IX-2	IX-2	X
	X	X	X	X	XI
	XI	XI	XI	XI	XII
	XII	XII	XII	XII	XIII
	XIII	XIII	XIII	XIII	XIV
	XIV	XIV	XIV	XIV	XV
	XV	XV	XV	XV	XVI