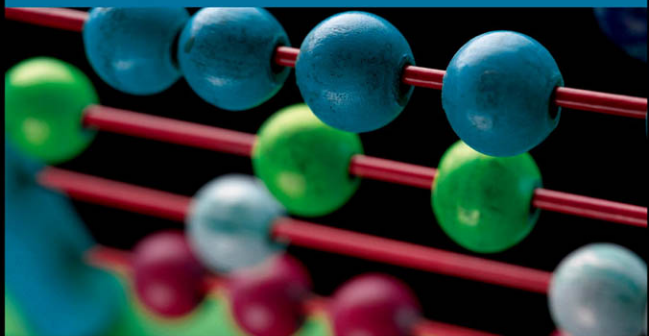


Starting with

# Leibniz

Roger Woolhouse



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## INTRODUCTION

*Starting with Leibniz* begins with an account of the life, works and intellectual interests of the German philosopher Gottfried Leibniz (1646–1716). It then outlines what Bertrand Russell called Leibniz’s ‘fairy tale’. This ‘tale’ concerns elemental beings called ‘monads’ which form the basis of the world of our everyday experience. It was told by Leibniz in his *Monadology*, a short, popular synopsis of his philosophy which he wrote towards the end of his life. The following chapters aim to explain that philosophy. Focussing first on Leibniz’s ideas as they were during the 1680s, and often placing them against those of his predecessor, René Descartes (1596–1650), they discuss his thinking on ‘substance’; material body, immaterial mind and their relationship; the ‘mechanical philosophy’: matter, and motion and its laws; the metaphysics of force; space; freedom; God and our relationship with him. The concluding chapter concerns Leibniz’s infamous optimism, his doctrine that this is the best of all possible worlds.

## CHAPTER 1

### LIFE AND WORKS

Gottfried Wilhelm Leibniz was born on 1 July 1646 in Leipzig, where his father was professor of moral philosophy. Between the ages of 15 and 21 he studied philosophy and jurisprudence at university, first in Leipzig and then in Altdorf. Following his Doctorate in Law at Altdorf he was invited to teach there, but he decided against this. He was, he enigmatically said, 'headed in an entirely different direction'. Whatever it was he had had in mind, he was, by 1668, at the age of 24, in Mainz in the service of the Elector, Johann von Schönborn, and one of his ministers, Baron von Boineburg. Besides an appointment as a judge, Leibniz worked in the capacity of librarian and adviser on foreign affairs. One of the diplomatic projects on which he was engaged by Boineburg concerned the election of the King of Poland. Another, which led to his spending a very important four-year period (1672–1676) in Paris, had the aim of diverting the attentions of Louis XIV, King of France, away from northern Europe by suggesting a plan for the invasion of Egypt.

Besides his involvement with affairs of state these years saw the development of Leibniz the writer, thinker and philosopher. His association with Boineburg led to the composition of a number of legal and jurisprudential pieces, and to the preparation of an edition of a book by a sixteenth-century Italian philosopher, Nizolius. Two important letters he wrote to Jacob Thomasius, his old teacher at Leipzig, also date from this period. Aiming to show continuities between the classical Greek philosopher Aristotle and the leading philosophers of his own time, Leibniz broached themes which were to concern him throughout his life: the nature of body and matter, the nature of motion and the relation of these things to mind.

Also at about the same time, as a result of a study of Thomas Hobbes and Christiaan Huygens, he composed two treatises on motion and the laws governing collisions between bodies. Besides setting down these early ideas on natural philosophy, Leibniz also wrote various papers and letters on religious and theological topics: proofs of the existence of God, the immortality of the soul and the doctrine of the Trinity.

From the very start and throughout his life Leibniz had a deep-rooted desire for harmony and synthesis. He continually tried to reconcile differences by taking the best from opposing factions, or by showing that their disagreements were merely apparent. This desire expressed itself at various points in his theoretical philosophy, as for example in his letters to Thomasius. It lent a certain eclectic quality to his work in which he often strove to find germs of truth even in conflicting theories: towards the end of his life he wrote that he had found that ‘most of the sects are right in a good part of what they propose, but not so much in what they deny’ (L 655). It expresses itself too in his theological writings, which have political and social dimensions as well as purely religious ones.

What Leibniz hoped to achieve in his theological writings was not just an end to religious disagreement but also the promise of civil peace. The Thirty Years’ War which had ended when he was aged two had at least initially been fought across the Catholic/Protestant divide of a fractured Christendom. Both in Leibniz’s Germany (which was a collection of loosely knit states) and throughout Europe these differences still had political as well as strictly religious weight. Leibniz’s abiding hope was to see a reunification of the various Christian churches and sects – in particular the Roman Catholic Church and the Protestant Lutheran Church, of which he was a member.

In order to achieve this practical reunification, Leibniz strove at various points throughout his life to minimize or to effect a reconciliation between doctrinal differences. In various writings he is to be found trying to work out theological principles which would be acceptable to all the main denominations, and he is to be found arguing that any difficulties in what he says are not unique to him, but rather are problems faced by and common to all.

During his association with Boineburg he began work on various doctrinal decisions of the Council of Trent (1545–1563), for example those regarding transubstantiation and multipresence

(the simultaneous presence of Christ's body in all the places where the sacrament is being celebrated). His hope was to arrive at interpretations of these Catholic doctrines which would be acceptable to Protestants. They needed still to be acceptable to Catholics too, of course; and he and Boineburg intended, by relaying them through various powerful and politically influential intermediaries, to have them officially approved by Rome.

A crucial stage in the development of his ideas began when Leibniz left Mainz for Paris on the diplomatic mission to Louis XIV in 1672. Unfortunately, not many months after his arrival in France, Boineburg, his friend and patron, and then (early in 1673) the Elector, von Schönborn, died. For a time Leibniz was allowed by their successors to remain in Paris (which he did until 1676), occupied at least in part as tutor to Boineburg's son.

Paris was the unrivalled intellectual centre of Europe, and Leibniz's stay there was immensely important from the point of view of his intellectual development. He had been brought up in the tradition of Aristotelian scholasticism and was not yet very well acquainted with more recent philosophy and ideas. Besides deepening his knowledge by his reading, the brilliant young twenty-six-year-old had a direct exposure in Paris to some of the foremost philosophers and scientists of the time. He was able to learn at first hand their most recent ideas. He met the Catholic theologian and philosopher, Antoine Arnauld, with whom he must have discussed ecumenical possibilities. He came under the influence of Christiaan Huygens, about whom he had written in his earlier work on motion, and who guided him in mathematical studies. He met Nicolas Malebranche, another Catholic theologian and leading Cartesian philosopher, and on visits to London he met Robert Boyle, and other scientists of the recently formed Royal Society, to which he was elected.

Besides being concerned with various philosophical issues, Leibniz turned his mind to technological matters, such as designing a calculating machine, which he exhibited to the Royal Society in London. But perhaps the most significant of his scholarly work during this time in Paris was in mathematics. His great achievement in this area was the invention of the differential calculus. He had perfected this by 1676, at the age of 30, and was unfortunately to become embroiled in a priority dispute with Royal Society friends and supporters of Isaac Newton, who had been working on the same mathematical ideas at the same time.

Life in Paris, at the heart of European intellectual activity, with its frequent and regular first-hand encounters with people with whom he could usefully discuss his ideas, was exactly to Leibniz's liking. He was made a member of the French Academy of Sciences, and his dearest hope was to obtain a research position there, which would have enabled him to remain in Paris. But this was not forthcoming and he had no choice but to accept an invitation to enter the service of Duke Johann Friedrich in Hanover, as his librarian and adviser. So in 1676 he set out to return to Germany, to what he would have seen as the intellectual provinces.

The journey itself was nevertheless fruitful and immersed him even more in the world of learning. He travelled *via* London, where he cemented his relations with the Royal Society, and thence to Holland. Here he met the microscopists Jan Swammerdam and Antoni van Leeuwenhoek, and the philosopher Benedict Spinoza with whom he had a number of long conversations. All of these three had influence on Leibniz's developing ideas.

Leibniz reached Hanover towards the end of 1676. He was to be based there for forty years, more than half his life, which ended in 1716. His first employer there, Duke Johann Friedrich, died in 1679 and was succeeded by his brother Ernst August; he in turn was followed in 1698 by his son Georg Ludwig (the future King George I of England). Leibniz was employed by the Court in a number of ways, ways whose variety illustrates some of the breadth of his abilities: librarian, diplomat, mining engineer. But his main official task, which was to extend to the end of his life, was to compile a history of the house of Brunswick-Lüneburg. This task, with its search through archival records for materials, involved a lengthy journey (1687–1690) through Germany and Italy. Apart from his official duties he was able during his first years in Hanover to find time to work on mathematics, logic and scientific methodology. He also studied the philosophical systems of Descartes and of Spinoza; and his letters and notes on various aspects of these contain the seeds of what eventually became (from the mid-1680s) a mature philosophy. Moreover, the years from 1682 saw him become a regular contributor (mainly of mathematical papers, often critical of Descartes) to a newly founded German scholarly journal, the Latin language *Acta Eruditorum*.

But, by and large, Leibniz had had to exchange the heady intellectual life of Paris for the less stimulating life of the provincial

Hanover court. Some discussion of his philosophical ideas was possible with Duke Ernst August's wife, Duchess Sophie, and with her daughter Sophie Charlotte. Leibniz never married and his close relations with these women were very important to him on a personal and emotional level. Moreover, his friendship with Sophie Charlotte, who became Queen of Prussia in 1701, gave him the opportunity of contacts with foreign visitors to the Royal Court in Berlin.

For real discussion, however, with equals who shared his intellectual interests Leibniz had to fall back onto exchange of letters, exchange which was inevitably slow, sometimes being held up by war. His contact with the world of learning was very largely by the voluminous correspondence he had with numerous people, spread over Europe. His feeling of isolation from first-hand contact with that world can be seen from a letter he wrote in 1696:

All my difficulties derive from the fact that I am not in a great city like Paris or London, which have a plethora of learned men from whom one can obtain instruction and assistance. For there is much that one cannot do by oneself. Here one finds hardly anyone with whom to talk; indeed, around here one is not regarded as a proper courtier if one speaks of learned matters, and without the Duchess one would discuss such things even less. (Quoted by Mates 1986: 23)

Boineburg's death, while Leibniz was in Paris, had robbed him of some politically influential support for his plans for Church reunification, and Duke Johann Freidrich's death in 1679 did the same. Fortuitously, in the course of dealing with some of the late Duke's affairs, Leibniz was led into correspondence with the Landgrave Ernst von Hessen-Rheinfels, a Catholic convert. He found in this an opportunity of restoring the impetus to his ecumenical plans.

The interest in Church reunification figured in the composition, in 1686, of what has become known as the *Discourse on Metaphysics*. This relatively extended, synoptic, and polished text, written when Leibniz was 40, is often taken to mark the beginning of maturity in his philosophical thinking. Though in one way it was the result of years of thought, the *Discourse* was also the product of a few spare moments. In January 1686 Leibniz was snowbound in a village near the Hartz mountains, where he was occupied with technological problems to do with the drainage of the Duke's silver mines.

‘Being where for several days I had nothing to do’, as he reported, he switched his mind completely, from mining engineering to composing a ‘short discourse on metaphysics’ (LA 11).

In the *Discourse* can be found, in some form or other, most of the philosophical ideas for which Leibniz became famous. In its 37 sections it touches on many of the topics and the themes to which he was to recur throughout the rest of his life: the nature of God and of God’s actions; the nature of created substances; natural philosophy and the nature of body; the relation between natural science and metaphysics; the relation between the mind and the body; the human understanding, the human will and our relation to God.

But the initial motivation of the work, the first fruit of his maturity, is Leibniz’s ecumenicalism. The *Discourse* plainly embodies the intention to provide a religious foundation which all Christians could accept. ‘[F]ar from harming religion’ the principles he worked out ‘serve to confirm it’ he said. They have a ‘usefulness ... in matters of piety and religion’. Far superior to earlier theories they remove ‘very great difficulties, inflaming souls with a divine love’ (DM 32). Wanting some assurance that these ideas really were acceptable to the Catholic point of view, and knowing that Ernst von Hessen-Rhienfels shared his ambitions for Church unity, Leibniz sent him a summary, asking for it to be transmitted to Antoine Arnauld for his reaction. The fact that Arnauld did not have the full text of the *Discourse*, but only its section headings no doubt contributed to his being less sympathetic to it than Leibniz must have hoped. Arnauld found

many things in these thoughts which alarm me, and which nearly all men, unless I am mistaken, will find so shocking that I do not see what can be the use of a document which it seems will be rejected by the whole world. (LA 15)

A lengthy correspondence followed, in the course of which Leibniz explained and developed his arguments. He planned to publish the *Discourse* together with this correspondence, but he never did.

Following the composition of the *Discourse* Leibniz continued to work on its ideas. An objection to an important principle in Descartes’ physics, which was contained in section 17, was published in the *Acta Eruditorum* in 1686. His criticism of this very influential French philosopher of the previous generation excited



some controversy; but, undeterred, Leibniz, during the next decade, developed out of his objection a new science, what he called ‘dynamics’, the science of force.

As Leibniz conceived it, his new physical science, which related to bodily motion, had philosophical dimensions, and there are very close connections between it and his metaphysics. These were briefly touched on in another contribution to the *Acta*, ‘On the correction of metaphysics’ (1694). Leibniz explained them in the French *Journal des Savants* the following year, in ‘New system of the nature and the communication of substances, as well as the connection between the soul and body’. In this important article Leibniz, under the cloak of anonymity, made public for the first time most of the central ideas of the philosophy he had been working on for some time. ‘I thought of this system several years ago’, he said, and in publishing them in French rather than Latin he was aiming to find a larger audience for them. His intention, he said, was ‘to test the water’, to expose the outlines of his philosophy to the learned world in the hope of provoking discussion from which he might benefit:

I have ventured to offer these meditations ... mainly in order to benefit from the judgements of people who are enlightened in these matters, for it would be troublesome to seek out and consult individually all those who might be willing to give me advice – which I shall always be glad to receive, provided it shows a love of the truth, rather than a passion for preconceived opinions. (NS 10–11)

As Leibniz had hoped, his ‘New system’ excited considerable interest. It led to a number of exchanges, both in publications and in private letters, with scholars such as Pierre Bayle and Simon Foucher. There is no doubt that the exchanges he was involved in were a measure of the intrinsic interest of what he had presented to the public, but they were also a reflection of its obscurity, an obscurity which stemmed only partly from the brevity of his exposition.

The conversations Leibniz had had with Sophie Charlotte formed the basis of the only book-length work, *Essays on Theodicy*, which he published in 1710. Aimed at the educated public rather than the world of learning, it deals with the relation between faith and reason, with human freedom and divine foreknowledge, and explains

how God's creation can nevertheless contain evil and imperfections. In large part it was an answer to the ideas of the religious sceptic Pierre Bayle, which Leibniz and Sophie Charlotte had often discussed; but the answer often involves exposition of the bases of Leibniz's wider philosophy, to which it makes appeal.

Towards the end of his life and in answer to requests from friends, Leibniz wrote two popular summaries of his ideas, the *Monadology* and the closely associated *Principles of Nature and Grace*. In his last years he also engaged in a lively correspondence concerning matters in Newton's natural philosophy with Samuel Clarke, a friend of Newton.

Leibniz's intellectual interests were as varied as his public activities. He worked on chemistry, Chinese history, geology, jurisprudence, mathematics, philology, physics, politics, and theology, besides many branches of philosophy. Besides his calculating machine he invented and constructed a new kind of watch with multiple balance wheels, and had ideas for submarines and air-jet propulsion. For years he nurtured the idea of a kind of 'universal encyclopedia', a grand systematizing of all knowledge; and this idea imbued his work on book-cataloguing, on logic and on a rational universal language. It underpinned his interest in the founding of learned societies and journals, too.

Leibniz was a prolific writer. In 1923 what is now the Deutsche Akademie der Wissenschaften began the project of editing and publishing all of his work. By now something over twenty large volumes have been produced, and it is expected that the task will take two more centuries to complete. Most of the material exists only in manuscript, for Leibniz's published output was not great. So as far as philosophy is concerned there is a dozen or so articles in learned journals, and the book of *Essays on Theodicy*. But among what he did not publish there is relatively finished works for which he is now remembered: *Discourse on Metaphysics* (1686), *New Essays on Human Understanding* (1704), *Principles of Nature and Grace* (1714), *Monadology* (1714). There is also a huge amount of material in the form of notes, drafts and letters from his philosophical correspondences.

The student of Leibniz's philosophy is faced with the fact that he never wrote (leave alone published) a *magnum opus*, an exposition of his ideas that was finished, comprehensive, and definitive. Moreover, the short articles and letters in which his ideas are