

Leibniz and Europe

Renate Müller de Paoli reports on 'The Art of Invention and Renaissance': the Sixth International Leibniz Congress, convened in Hanover on July 18-23.

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If today the name "Leibniz" awakens more than just the image associated with the advertising trademark of a cookie maker—but rather brings to mind for many citizens the greatest universal genius of the 17th century, Gottfried Wilhelm Leibniz, the philosopher, mathematician, physicist, historian, jurist, economic scientist, and statesman—for this we owe a debt to, among others, the Leibniz Society founded 30 years ago in the German city of Hanover.

Indeed, Leibniz can reasonably be considered Hanover's most outstanding citizen, since he spent the last 40 years of his life there until his death in 1716, even if the narrow constraints of the Guelph court often led him to wish he were living "in London or in Paris."

Participants from 27 countries attended the July conference to deliberate on the Leibnizian "Grand Design" for Europe, by which he intended to guide Europe beyond the gruesome destruction and depopulation it had suffered during the Thirty Years' War, and into economic prosperity and a durable and harmonious new order. The theme and the historical timing could not have been better chosen, since our present time is convulsed by such multidimensional crises that the parallels to Leibniz's time in the 17th century forcefully impose themselves upon the mind.

Questions such as: "What would Leibniz say to Europe today?" or "What will Europe look like 250 years hence?" arise clearly and intelligibly in this context. Many guests, particularly those from eastern European countries, hoped and expected that examining Leibniz's thinking and proposals would spark concrete ideas for solutions to the problems they confront in the aftermath of the crumbling of Marxism-Leninism. One representative from Romania, responding to a German speaker, brought up this point: "Aren't we facing the same questions today as were posed 300 years ago? Don't we merely have to transplant Leibniz's concepts and thereby put the crowning touch upon his work?"

In his introductory remarks, even the Hanover University president sharply attacked the violation of Leibniz's principle of *theoria cum praxi* ("theory together with practice") in current science policy. He polemically denounced the prevalent cost-benefit analysis thinking and demanded "strategic decisions for the promotion of science," in order to check the "suicidal" trend against basic research while becoming more and more intensely outcome-oriented instead. His underlying argument referred to Leibniz's invention of the infinitesimal calculus, "without which no scientific-technological progress would have been possible during the last 300 years."

In Leibniz's thinking, his multivarious proposals for building up a Europe-wide network of scientific academies formed the decisive foundation for a genuine new European order. In doing so, he directed his attention especially toward Russia, that giant in the European continent's East. Through written memoranda and two personal meetings, he sought to influence the young Czar Peter the Great into building up Russia into one of the most prosperous nations scientifically, culturally, and economically, a plan which could especially be facilitated by means of the land route to China. He often complained of the shortsightedness of the nobility, who "so very poorly recognized the most urgently pressing tasks," namely, "the launching of large-scale development assistance toward Russia to be financed by them."

What he had in mind was "to introduce into the environment surrounding the czar a mathematically and technologically educated man." In August Hermann Francke, a Pietist and the founder of the Francke Foundations, the Halle orphanage, and the closely affiliated reform school academies, Leibniz found an important partner for a dialogue on his "Reconstruction East" project. Both, in turn, kept in contact with Heinrich Wilhelm Ludolf, the first German Slavic specialist and the publisher of a *Grammatica Russica*. Francke promoted the teaching of the Russian language in his reform academies—not only in order to be able to allow well-educated Russian speakers to act as development advisers for Russia—but also in the hope of educating young Russians in his academies, too.

In 1698, Francke established the Oriental Studies Program (*Collegium Orientale*), and the teaching of the Chinese language was initiated in its language program. Apparently, Leibniz thoroughly acquainted himself with the Francke Academy model, as shown by his 1716 memorandum on the "Improvement of the Arts and Sciences in the Russian Realm." In this writing, he stipulates the development of academies which were intended to be simultaneously Virtue, Philology, and Art Academies.

The founding of the University of Moscow by Mikhail Lomonosov in 1755, that of Kazan in 1804, Kharkov in 1804, and of St. Petersburg in 1819, are important realizations of the Leibnizian proposals, along with the Great Siberian Expedition of 1730, the extensive, ordered development in the area of shipbuilding, and the development of navigable waterways. These achievements were reported to the Hanover Congress by two representatives from Moscow.

Since Leibniz always kept "the benefit of the entire human species" before his eyes and, further, effected his "Passion and Delight in the Commonwealth," he presented the czar with a proposal to convoke a conference in Moscow with participation of all the religious confessions. Leibniz saw the necessity of an ecumenical dialogue that might lead to the possibility of a reunion of all the confessions following the horrors of more than 30 years of raging religious warfare and as a critical moral-ethical basis for a practicable, durable peace in Europe. For all his efforts, however, the outbreak of the Russo-Swedish War brought these initiatives to naught.

Within his endeavor to construct an *harmonia universalis* (in modern rendering: a new, just world economic order), Leibniz also included the gigantic Chinese empire. Through intensive correspondence with Jesuit missionaries, he sought to develop within his mind a precise picture of the Chinese culture, language, and infrastructure. He even cherished the desire to build up his house in Hanover as a staging ground for Chinese missionary work. Certainly his "evangelical language" (*Missionarsprache*) is nothing other than the "scientific truth" that he sought to propagate: namely, knowledge of the universe, the investigation and understanding of the natural-law ordering of our universe. "Knowledge of the universe," however, is equivalent to "knowledge of God," and, accordingly, in Leibniz's words, "science is equivalent to service to God," as one participant from East Asia at the Congress emphasized. In contrast to the British empiricist John Locke, Leibniz addressed the capacity in man for creative reason. Hence, Leibniz also insisted upon a scientific foundation of knowledge for every deliberative process and procedure of action.

A speaker from the United States characterized Leibniz's recognition that justice could be nothing other than "the love of the wise," *caritas sapientis*, as being the most significant contribution to politics overall. Economic policy is certainly the best yardstick of how far this principle extends into poli-

cy. However, Leibniz's memoranda—on establishing manufacturing; on the promotion of the Silesian linen industry; the planting of mulberry trees for silk production; the founding of a royal college of mining to promote mining technology research in the realm; the introduction of fire casualty insurance; the establishment of a fire insurance bureau, the proceeds of which "would make it possible to assist and give further support to our subjects, preserve them from disasters, and promote their livelihood"—these many memoranda were unfortunately only mentioned in passing.

Leibniz himself always regarded economic science as the most important of the sciences, since through this scientific knowledge becomes concretely realized, and humanity is given the possibility of imitating the order of creation. For Leibniz, accordingly, economic progress is always directly coupled to that capacity of man, the "spiritual-intellectual monad" (*Geistmonade*), to continuously further develop his creative potential, such that the continuity of scientific-technological progress will never be interrupted. Scientific development is, therefore, necessarily dependent upon the *ars inveniendi*, the "Art of Invention."

The real aspiration in the life of Gottfried Wilhelm Leibniz was always the perfection of this *ars inveniendi*. This also becomes intelligible from a hitherto unknown source—thoughts which Leibniz wrote down during his sojourn in Vienna.

Starting in 1668, Leibniz attempted to present his conceptions to Emperor Leopold in Vienna. Four times, he had made great efforts to no avail, until the emperor finally granted him an audience in October of that year. Leibniz utilized this personal discussion to directly confront the emperor with the greatest challenge with respect to statecraft, which lies in promoting, for the sake of the survival of the human species, the vitally necessary art of invention. The key to this would be a *characteristica universalis*, that is, a method whereby not just the different fields of mathematics (analysis, algebra, combinatorial analysis, differential calculus, and so on), but in general all relationships "of which one has an intelligible concept may be brought to an exact character, and so enable calculation just as with numbers." To this would be subsumed "a universal language which one could learn in 14 days."

Leibniz concludes: "I confess that I desire to realize this concept more than any other to the lasting benefit of the human species, for it is the key to everything, which the human understanding might be capable of accomplishing." Unfortunately, Leibniz was not able to consummate this lifelong pursuit that he so longed for.

Since Leibniz's time, this challenge, to create such an ABC of the "Art of Discovery," of hypothesis formation, still stands. For this reason no other question during the entire Leibniz Congress was as relevant as the one raised by a guest from Katowice, Poland: "When is the new Leibniz coming?"