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LEIBNIZ AND RUSSIA

In the history of Russia the first quarter of the 18th century is remarkable for some deep social and economic changes and a successful accomplishment of the end of the long-lasting and bloody Northern War. For since that time not only regained Russia the lands which had belonged to her for a long time before but she also began to rank among the leading powers of Europe.

From the very beginnig the foreign policy and the internal reforms of Peter I, as well as the outstanding personality of the young czar were attracting close attention of Western Europe. On attempting to realize his reforms Peter I opened the door of his country wide to all scientists and technicians of diverse specialities coming from abroad. Among the prominent Western European scientists, which were in one way or another involved in the czar's reformator activity and particularly so in the task of developing sciences and culture in Russia, ranks also the name of a famous German scientist, philosopher, mathematician, physicist, geologist, biologist, as well as historian and diplomat, who was also a member of the Royal Society of London (1673) and of the Académie des Sciences of Paris (1700), and the first president of the Berlin Academy—that of Gottfried Wilhelm von Leibniz (I. UP. 1646, November 14, 1716) *.

Leibniz's interest in the Russian State or, as it used to be called in the West, in Muscovy, had arisen in the 90's and was primarily concerned with two problems. The first was to study the origin of nations and languages, and he hoped to obtain from the Russians some necessary materials on philology and ethnography of a great many nations living in the vast possessions of the czar of Russia. The second was the attraction he experienced like many other European scientists of those times by the idea of Christianization and dessemination of European culture and civilization in the countries of the East, in China and Central Asia.

* The author expresses his deep gratitude to Mrs. M. G. Novlanskaja, who was very helpful in the preparation of this study.

And Leibniz expected to attain this goal by means of the Russian State as "an intermediate link between the World of the West and East".

In 1697 Leibniz became even more interested in Muscovy when he learnt that the Great Legation, including the young czar incognito, would pass through Hannover. He specially left for Minden where he hoped to meet the legation and to make acquaintance, if not with the czar himself, then at least with his envoy Lefort, and particularly with Golovin, the czar's ex-governor in Siberia, who knew well the Siberian nations. Even though the meeting fell through, the scientist had managed to talk to Franz Lefort's nephew, Peter Lefort, who promised to send him information on the family three of the Russian czars and on languages spoken by the nations of the Russian Empire.

With an utmost interest Leibniz kept on watching Peter's journey also after the Russian legation had left Hannover. He was curious about the character, the way of life, and plans of the czar, and was very eager to know some particulars from his life and activities during his visit in the Netherlands and in England. He was amazed at and full of admiration for the simplicity and the accessibility of this man, for his lively mind and sparkling energy, for his greed for knowledge and a stubborn pursuit to achieve it. According to Leibniz, Peter I was just the man with whose help his long-planned idea of dissemination of European civilization in the countries of the East could have been realized. According to the spirit of his epoch, Leibniz frankly believed the mankind's progress lies in the hands of individual sovereigns. That is why in his letters to his close and formal friends he expresses his deep regret and indignation at the fact that neither country where Peter I sojourned in the years of 1697–1698 took the trouble to face Russia's future ruler with the problem of the goals of civilization. In his letter to Morel, a numismatist, of October 1, 1697, Leibniz wrote: "You could not believe, dear Sir, how much sorry I feel that no proper advantage is taken from the presence of Russia's czar and his good intentions; for to win the attention of only one man like the czar or the emperor of China and to turn it into the real goodness, implanting in him earnestness to the Lord Glory and to the improvement of the human nature, would be more important to us than to win a hundred battles, because upon the will of such a man several millions of other people depend. I cannot forgive the Dutch and the English for their carelessness in this matter." [1]

Not confining himself to the expression of the regret alone Leibniz tried to persuade his friends in England and the Netherlands to influence the governments of their countries and to arouse some interest and support of these governments to his plans of christianization of China with help from the czar of Russia, as well as of dissemination of

[1] V. I. Gerie, *Sbornik pisem i memorialov Leibnitsa, otnosyashchikhsya k Rossii i Petru Velikomu*, St. Petersburg, 1873, p. 27.

European culture and education within the boundaries of that extensive country. In a letter to the above-mentioned Morel, of May 4-14, 1698, Leibniz is writing as follows: "I wrote to Mr. Witsen, mayor of Amsterdam, and to Mr. Bernet, mayor of Salisbury, in order to convince them that the visit of the czar and his plans might be used for much more significant aims than a benefit of some private persons and that owing to his mediation some very useful, also for religion, relations with China might be established." [2] Moreover Leibniz had made up an extensive note in which he set forth the programme and the ways how to implant in Russia the European culture and education. In the note which was probably addressed to Peter I, first of all he recommends to draw up a general project which would comprise particulars of a number of the most fundamental means. He especially advises to organize a central institution for arts and sciences, to bring the most eminent and the most experienced scientists from abroad, to set up libraries, book-stores, printing offices, collections of rare items, botanical and zoological gardens, store rooms with a variety of materials, and workshops of any kind. Recommending to send abroad Russian young men he at the same time proposes to open schools of lower and higher grades for studies of arts and sciences as well as of crafts of any sort. He goes on planning to compile for them instructions and manuals and to provide them with various educational equipment. Simultaneously Leibniz also believes it to be necessary to get to know thoroughly the country and the peoples that live there. In this connection he urges to draw maps, to explore flora, fauna, and resources of the country, to study languages spoken by particular nations as well as their customs and trades. In order to achieve an exact geographical description of the country he was suggesting a programme of taking pictures of the land and of observations of the magnetic needle that would help in the determination of latitudes and longitudes of geographic places. Under such a programme the exploration of the north east coast of Asia should help to elucidate the problem that was absorbing the European scientists' minds—that of the existence of strait between Asia and America.

This note has been found among the rough copies and drafts of Leibniz and it could not have been ascertained yet whether it has ever reached Peter I, according to the address it bears, since the scientist had not succeeded in meeting the czar when the latter travelled for the first time to the West. Nevertheless for many years that followed the first sojourn abroad of the czar and before his next visit in 1711 Leibniz kept contemplating his own ambitious plans and believing that Russia's czar is indeed the great man that he was looking for for such a long time, the ono who is able to make those plans to come true.

[2] *Ibid.*, p. 36.

However when the Northern War broke out and it became evident that the czar intended to conquer the Baltic coast, Leibniz began to fear that the growing power of Russia could turn against the enlightened world. Moreover, as an adherent to protestantism, in which he saw a powerful tool of progress, Leibniz was all for Sweden, the then chief support for that religion. In the letter written in 1701 to a Swedish friend of the name Storren Leibniz pointed out that "Muscovites will pay for their folly." On his own part, he went on, "he said his desire was that the rule of the young king of Sweden would extend over Moscow itself and further on up to the Amur river that naturally separates the Empire of Russia from the Empire of China." [3] However, the enthusiasm aroused by the glorious victories of Charles XII at the beginning of the Northern War was not a long-lasting one. The renowned Russian historian, V. I. Gerie, whose voluminous works devoted to the study on the life and accomplishments of the great German scientist are well recognized abroad, has pointed out in this connection: "For a short moment only did Leibniz let himself to be caried away by the chivalry of the young Alexander II of Sweden who with his victorious arms would open the access to the Far East for the European civilization. The personality of Charles XII must have appeared to him the more attractive as the kings of Sweden were always known to protect protestantism and religious freedom, and the triumphs of Charles XII would strengthen the position of protestantism in Europe forever. But Leibniz had soon become disappointed as to the results he expected from Charles's triumph. While he was standing in front of Charles XII in Althomstedt "without knowing what to tell him" he found out that the Swedish victories would not serve the cause of civilization. He realized that the European education would penetrate eastwards only when Russia herself would become its centre of propagation, and since then he set all hopes on Peter I. As far as it goes—adds V. I. Gerie—Leibniz can be hold up as a model to the people from the West; for since Leibniz's times till now people from the West are more afraid of the growing power of Russia than they are interested in the achievements in developing civilization there, closely connected as they are with the vital interests of mankind. [4]

Having finally found out that nobody but Peter I would be able to materialize his ambitions of christianization and civilization of nations of the East, Leibniz began to look even more persistently for people who would provide him some more detailed information about Muscovy, and to hand in to the czar his projects and proposals. When he hand learnt that one of his friends, baron von Guessen went into the Russian service and was about to leave for Moscow, in his letter of November 5, 1703,

[3] *Ibid.*, p. 49.

[4] V. I. Gerie, *Otnosheniya Leibnitsa k Rossi i Petromu Velikomu po neizdannym bumagam Leibnitsa v Gannoverskoi biblioteke*, St. Petersburg, 1871, p. 66.

he asked the baron to convey him more detailed information about Moscow and the plans of the czar. He also asked his friend to have him sent a translation of the Lord's Prayer into the languages spoken by the numerous nations under the rule of the czar. Guessen, who was a tutor of the young Tsarevich Alexis, had done his best to fulfill Leibniz's request but as soon as he was transferred to Vienna (in 1705) as a Russian diplomatic officer he lost direct contact with the Russian government circles. In this connection Leibniz was forced to find out another correspondent. In 1707 one of some old acquaintances of Leibniz, baron von Urbich was appointed extraordinary Russian envoy in Vienna. The scientist was extremely happy with that nomination as with the help of Urbich he hoped to form a connection with the Russian court and to get a chance to hand to the czar his project of educational development in Russia. In the letter bearing the date of January 3, 1708, discussing the problem of possible ways of peace-making between Russia and Sweden, Leibniz writes: "The reason why I feel obliged to long for peace is the desire that the czar may fulfill his beautiful and heroic plan to civilize his vast empire and to implant there sciences, arts, and good manners. And as I put the general wellfare of mankind (i.e. also the Glory of God) before any private affairs I do wish that this desire would come true, for this would mean an immediate improvement of the larger part of our globe and of almost all the Northern East of our Continent. This would also result in a close union of Europe with China, the country which can be regarded in a way an Eastern Europe. Actually I should not be able to ennumerate all the benefits that would be accomplished as I can see it. That is why so frequently was I eager to meet the czar in person or else by means of other people with the help of which the czar realizes his grand work; I could find out and suggest an infinite number of means... There are plenty of interesting and very useful projects which he could realize more easily than any other ruler, and the more so because the country which he rules in is a virgin land indeed." [5]

In his answer von Urbich informed Leibniz that he had sent to the czar some excerpts from his letter dealing with the problem of introducing education in Russia. He writes there: "Please do not immagine that the War has weakened the praiseworthy intentions of His Imperial or Czarist Highness to make sciences to flourish more in his country, but just the opposite. Be kind enough to send me some appropriate men and also your projects, and even if you would like to come to Russia yourself you are welcome to do so. I can assure you of a warm reception there regardless if you remain there longer or come just to give some of your indications." [6]

In November of 1708 Leibniz came to Vienna where he was able to

[5] *Ibid.*, p. 75f.
[6] *Ibid.*, p. 78.

talk to Urbich about his own plans. As a result of these meetings the scientist presented a note on the introduction of sciences in Russia, which von Urbich promised to convey to the czar, after having it translated into Dutch. In the preface of the note the scientist speaks about the problem of essential goal of education and significance of it and points out a superiority of Russia over other countries in this respect that she is, so to speak, an untouched fallow, in which pure, weedless seeds can be sown; in other words that in Russia there could be developed a civilization deprived of the vices that it has acquired in the process of its developement in Western Europe. He believes that the plan of the introduction of sciences into Russia should be devised in such a way as to ensure a successful and a hormonious way of their development. He warns, however, that this question can be considered only in theory, and the realization of his ideas requires more detailed study of the conditions and available means in this country as well as that of the people who will be put in charge of his task. Further the scientist remarks that in order to transplant arts and sciences to that country and to ensure their proper development the most experienced scientists ought to be brought along and a number of organizations and establishments ought to be set up like: libraries, museums, zoological and botanical gardens, observatories, and laboratories. Then he dwells upon libraries and supplementing their collections of books from various fields, and emphasises the necessity to organize the astronomical observatories whose observations provide the basis for geography and navigation. He warmly recommends to establish a close co-operation of researches in chemical laboratories with the works conducted in apothecaries, and medical service, in mining, mint, and assay offices, in glass and iron works, and in the artillery command. In the end of the note he suggests to establish a governing body that would control the educational organizations of higher and lower grade, editing offices, printing offices censorship, as well as tradesmen and craftsmen along with their goods and products.

In addition to the problem of introducing the Western European education in Russia Leibniz attempted to propose to the czar through baron von Urbich the idea of unification of Eastern and Western churches, or at least that of organization of the oecumenical council that would settle the secular hostility between both churches, and would introduce more tolerance and mutual understanding between different Christian believes.

Meanwhile the splendid victory of the Russians at Poltava had aroused in Leibniz some hopes for a close end of the war and approaching moments when his plans of the propagation of the Western European education in Russia would start gaining momentum. In his letter of Semptember 2, 1707, where he expressed these hopes to baron von Urbich, Leibniz makes him know also the wish of taking over the presi-

dency of this scientific governing body or academy that would supervise education in Russia. "The honour of being one of the oldest members of all academies [i. e. the Royal Society of London, Academie des Sciences, and Berlin Academy] and the president of the latter"—he writes—"let alone the most significant discoveries acribed to me, it justifiably makes me to believe that this is I who will be charged with the leadership of this great undertaking, and I give priority to it above any other ambitions." [7]

However the times did not particularly favour making projects. Defeated and crushed as the Swedish army was in the Poltava battle, Sweden itself, disposing of an excellent fleet and backed by her allies, was still a threatening enemy of Russia that did not think of a peace treaty. The measures that had to be taken because of the war and other urgent affairs had made Peter I to put off realization of a great many projects planned. In September of 1710 after his arrival to Vienna back from Moscow, von Urbich was writing to Leibniz: "I can say that during my sojourn in Moscow I was doing my best for your sake and for the sake of your project which has been accepted there." [8] According to his words von Urbich had spoken even of a universal oecumenical meeting and of the plan of unification of the churches, suggested by Leibniz. But in Moscow, though the plans were welcomed, it was said that first peace would have to come.

Not having received for years any response from the Russian government to his projects and proposals and without any definite confirmation of numerous assurances of von Urbich that the projects had undoubtedly been delivered to and approved by the czar, the scientist decided to seek other ways that would open to him and to his plans a direct access to the monarch. And shortly an opportunity did actually arise. For he found out that Peter I, who stayed in Karlsbad, was going to Torgau to take part in the wedding celebrations on the marriage of his son Alexis with a grand-daughter of prince Wolfenbuettel, Sophia Charlotte. Knowing that the eminent prince shows him a high esteem Leibniz turned to this aristocrat with the request that he should hand his projects and proposals to the czar and obtain an audience for him. During the visit in Torgau, where he came with the train of prince Wolfenbuettel, Leibniz made up some notes relevant to the plans and proposals he set forth before. In one of those notes he dwells upon the measures he considers necessary for the realization of his projects, and in the other—he expounds the plans of the organization of the scientific council and its tasks which would include: organization of education, carrying out physical, astronomical and magnetic observations, compiling a set of major inventions developed in particular countries so as to make a prac-

[7] *Ibid.*, p. 121.
[8] *Ibid.* p. 148.

tical use of them in Russia. Finally, in his third note addressed directly to the czar himself, the scientist appeals to the sovereign to take a number of measures, despite the burdens and difficulties arising in the war times, which could be realized simply by way of edicts, thus without any expenditures of money. He proposes to begin with the establishment of a scientific council with himself in its staff. In the end Leibniz asks the czar for an audience so that he could make him know in person some of the major points of his suggestions. Apparently, as it follows from a note found among his rough copies, the scientist was going to tell the czar of the calculating machine invented by him to the solution of arithmetical problems, then to draw the czar's attention to the importance of carrying out astronomical observations from Finland up to the frontiers with China, to propose some means to improve navigation or navigability on the rivers, and to show the monarch a projectile with the help of which and without resort to gunpowder it was possible to throw 2 pound weights 90 steps away over 400 times in an hour.

Prince Anthon von Urlich had fulfilled the wish of Leibniz and obtained an audience for him with the czar. Judging from some information taken at random from the correspondence of the scientist, the czar and his confidants, and particularly Y. V. Bruess, showed a great interest in those proposals. Leibniz was promised to receive neccessary linguistic materials and the magnetic observations were to be initiated, the organization of which were to be based on suitable instructions provided by Leibniz to Bruess.

In January of 1712, Leibniz turns to Peter I again with a long letter announcing there the news of having built for him a magnetic globe with deviations of the magnetic needle marked on it. The globe could be used for 10 years for the determination of geographical longitude (east or west).

He appeals again there for the czar to set about, at once and in spite of hard war times, developing education and instruction in the country. Leibniz assures that if the czar would only like, he is ready to submit his suggestions on how to start this undertaking and how to form quickly and at a minimum cost that which is the most essential for the purpose. "I will consider it as a greatest honour, satisfaction and pride" —he writes—"if I am able to serve to Your Majesty in the cause so laudable and useful, for I do not belong to those who are on the side of their fatherland or of any other nation. The general welfare of mankind is my concern ... and it is a greater pleasure for me to contribute to a major benefit of Russians than to a minor interest of Germans or of other Europeans, even if I were greatly honoured by them and enjoyed wealth and quietness without being able to be useful to others." [9]

[9] *Ibid.*, p. 208.

In 1712 Leibniz had made up and submitted to Peter I "A Provisional Report (*Vorläufiger Bericht*) on the Origin of Slavic Peoples", where he made an erroneous statement that the Huns were of Slavic origin. In the summer of 1712 Peter I revisited Germany. Leibniz took an opportunity and through his old friend Schleinitz he sent to the czar one more note on the introduction of sciences in Russia before the war ends, along with a special device with the help of which one could easily draw a map of any fortress.

About that time J. V. Bruess, who sojourned together with the czar at Greifswald, received an extensive memorial on languages of the peoples of the Russian Empire and on magnetic needle deviations. In the first part of the memorial, repeating to some extent the contents of the note submitted to the czar, the scientist has detailed his point of view on ethnography. The second part of it emphasizes a particular significance of the magnetic needle in its use for the determination of latitude on sea. "When on land"—he says—"the latitude can be easily found on the basis of eclipses of the moon or observations of the Jupiter's satellites, on sea these ways prove to be inadequate, as the eclipses of the moon often fail to occur just when they are needed, and observations of the Jupiter's satellites with optical instruments aboard is extremely inconvenient." Earlier the geographical lattitude was determined from the ship's movement, but this approach is very uncertain. Then, when a pendulum clock has been invented, it came into use on ships to the advantage. But because of motions of the ship the clocks used to stop thus losing their precision. In the meantime a long time ago it occurred to people that the deviations of the magnetic needle from a meridian, varying over the earth's places, could be advantageously used. It was readily realized that these variations are due to some irregular magnetic veins in the earthi's crust but later it was found out that these changes are caused by a regularity, gradually and not all of a sudden as they occur, which can be seen from the logbooks of Great Voyages made by the Dutch, the English and the French. "This made me think"—Leibniz writes—"that the observations of deviations of the magnetic needle may temporarily supersede another, more precise way of the determination of the geographic longitude, provided these were repeated every 10–12 years." By comparing the results of the observations marked on the magnetic globe surface it would be possible to establish the rules governing such deviations. Subsequently, in pointing out that no obsevations of the magnetic deviation within the boundaries of the immense czar's land are performed, Leibniz advises him to set up stations for such observations in many places like: St. Petersburg, Moscow, Riga, Revel (Tallinn), Pskov, Arkhangelsk, Kiev, Voronezh, Kazan, Astrakhan, Tobolsk, then in the mouth of the Ob and Lena rivers, and in several other spots. The longitude and latitude of each of these spots would have to

be previously determined by the known methods. In the end he considers the question of whether or not Asia and America are divided by a strait. "Under the rule of the czar"—he notes—"there is a large land belt reaching far north towards the unknown 'Ice Cape'. And it is worthwile to ascertain whether this cape does really exist and represents the end of that land belt." Leibniz suggests to organize in summer time some expeditions composed of the natives to those areas which should proceed by land up to the Ice Cape or by sea along either seacoast of the eventual strait. An evidence for whether the oceans on both sides of the strait are connected with one another could be obtained by watching sea currents, kinds of fish and other phenomena. [10]

Shortly Leibniz came to know from the letters he received from Bruess and Schleiniz that his notes had been traslated into Russian and handed to the czar together with the mathematical instrument for a fast map drawing of any fortress, and that the czar had approved of it and became interested in his notes as well. Following this news Leibniz was announced by Bruess that the czar would like to see him and asks him to come to Karlsbad, the place where he stayed at that time. Setting off to Karlsbad, Leibniz had in his mind not only the scientific but also some political aims.

The point is that the great scholar Leibniz, who had extensive connections and many friends in a number of European courts, was always ready to take on all kinds of diplomatic missions that some German princes would ask him to assume. And also with his active part a defence alliance with the elector of Hannover very beneficial for Russia was concluded in 1711. Now he was going to Peter I with a secret mission from prince Anthon Urbich von Wolffenbuettel, who took on the role of mediator in establishing friendly relations and a close alliance between Russia and Austria. And although the noncommitting answer that he received as a result of his diplomatic endeavours to the proposal of Anthon Urbich could not satisfy Leibniz, his achievements in another field were completely gratifying. Leibniz was engaged for the Russian service as a legal adviser with an annual income of a thousand thalers. In a decree promulgated on this occasion it was stated that the czar is going to take advantage of his services and his erudition in order to bring arts and sciences in the Russian State to a higher development. At the same time Leibniz was asked to submit his ideas and projects connected with judicature and legislature in Russia. His sallary was due since 1711 on, and in Karlsbad he was paid 500 ducats for the past year of 1711. The czar wanted Leibniz to accompany him as far as Teplitz and thence on to Dresden. Before he left from Karlsbad the scientist had presented a list of books and materials he needed for his future work.

[10] L. Richter, *Leibnitz und sein Russlandbild*, Berlin, 1946, 94–7.

With the same request he turned also to the metropolitan of Ryazan, Stefan Yavorskii, to a lecturer of mathematics Favorson of the School of Navigation, and to the ambassador of Russia in Dresden, Golovkin. In Dresden Leibniz took his leave of the czar and set out for Vienna. There he tried to obtain from the Russian government a formal diplomatic nomination. In the letter to Peter I of October 6 he gave a hint that he may be useful to the czar as he is in favour with the Emperor Charles XII. He also addressed a letter to vice-chacellor Shafirov with the hope to achieve his much desired end. However all attempts in this field failed chiefly owing to, according to Leibniz, the reluctant and/or unfavourable czar's ambassador in Vienna, Matveev, who made the scientist impossible to show his eventual services to the Russian government and did not, as would do Urbich, make use of his influence in the Viennese court.

In the summer of 1716 Leibniz for the last time met Peter I. He spent a week with the czar in Pyrmont and two days in Harrenhausen. In his letters dating from those times the scholar speaks with admiration about the czar's personality. "I feel surprised not only with how good the sovereign is but also with his knowledge and his sound opinions," Leibniz was writing to senator Widau. "The closer I get to know the czar's character"—he revealed to Bernoulli—"the more I adore this man". "I cannot stop admiring"—he wrote in still another—"the initiative and wisdom of this great ruler. He is constantly surrounded by experienced men whom he gathered himself, and when he talks with them they feel very amazed." [11] Apparently in Pyrmont better than before Leibniz came to know Peter I and found out that the monarch does really love arts and sciences and shows interests for mechanics, geography, and astronomy, but navigation and everything related to it is of his main concern.

Seemingly during their personal contacts at that time the czar must have manifested a particular interest in the problem whether or not Asia and America are unseparated, since Leibniz has decidedly assured that this problem with certainty will be solved by the czar. When in Pyrmont Leibniz had presented to the czar several notes in which he more detailed the suggestions and proposals set forth many years ago.

In one of these notes he specifies again the means the use of which would enable the czar to contribute to the development of sciences and education in the czar's country. Among these means would be: collecting linguistic materials, propagation of Christianity, systematic observations of magnetic deviation, development of astronomy, geography, natural sciences, and all the remaining sciences, arts, and craftmanships.

In the second, the most extensive note of all that he submitted to the czar Leibniz explains a detailed plan of organization of the education.

[11] *Ibid.*, p. 360.

There are three stages that refer to this problem as outlined in the note, namely:

1) teaching of the existing sciences,
2) acquisition of some instruction aids required,
3) further development of these sciences.

The number of teaching aids comprises, like outlined in his earlier notes: libraries, museums, botanical and zoological gardens, observatories, anatomical room, etc. He divides all educational establishments into three groups: schools for children, universities for adolescents, and academies for adults, which could carry on independent scientific researches. In the following part of the note the scientist treats at some length the organization of particular school types and the problem of which subjects are to be taught in any type.

On changing the subject to the development of sciences Leibniz points out the necessity of collecting all that is already known in the first place; and the study of unknown sciences in the second one. He also urges to compile encyclopaedic dictionaries, "systems", and manuals. By the term "system" he refers to a complete summary of every particular science, in other words to a collection of all that has been said on given science in books. In conclusion he recommends to collect, put down, and systemize all usefull information, and particularly that on medicinal herbs, possessed by peasants, craftsmen, tradesmen, hunters, fishermen, as well as by various nations inhabiting Russia and the frontier countries.

Finally, one more note refers to the same period, although some investigators including V. I. Gerie question the time of its being written and the authorship of Leibniz itself. This has reference to the note on the creation of nine administrative bodies (colleges) for the highest government authorities. After having mentioned one by one the author gives a detailed description of one particular college, namely the scientific one.

Shortly after his return from Pyrmont to Hannover the health of Leibniz began to grow worse and, at about 10 o'clock at night, on the 14th of November of 1716 he died.

For over 20 years the eminent scholar Leibniz kept on dreaming of the beautiful idea of introduction and development of the Western European education in this huge country of Russia's czar. In his numerous letters, proposals and projects he tried to convince Peter I that it was necessary to start immediately the realization of that great cause and to take at least partly some of the measures he had proposed. But the long-lasting and bloody war against Sweden, a hard and unsuccessful campaign against the Turks at the Prut river, and some other urgent affairs of the state did not allow the czar to devote enough time to the proposals and suggestions which were made by Leibniz. Nev-

ertheless the acquaintance of the czar with Leibniz and the ideas conveyed to him by the eminent scholar either in personal conversations or in the projects submitted had undoubtedly borne influence on such steps taken by the monarch as the expeditions of the geodet Evreinov with Luzhin to explore Kamchatka Peninsula and the Kuril Islands, and that of professor D. G. Messerschmidt to Siberia. Or the organization in 1720 of taking of the topographical-carthographic pictures of the land and the drawing of the map of the Russian Empire. Further, according to the edict of 23rd of December, 1724, the organization of the first expedition to Kamchatka with the task of solving the question whether or not Asia and America form an integral part—finally in 1725, the foundation of the St. Petersburg Academy of Sciences, as well as many other undertakings of this kind.

But the highest merit of the illustrous German scientist has been the fact of amazing intuition with which he was able to foresee that brilliant future that was expecting the young Russian State and the important part of the education transferred from Western Europe which it was to play in the process of development and growth of this state.

RECORDS FROM THE U.S.S.R. ACADEMY OF SCIENCES ARCHIVES RELATING TO THE POSTHUMOUS STUDIES ON LEIBNIZ'S ACTIVITIES IN RUSSIA AND TO THE EDITION OF HIS WORKS

It is known that one of the first academicians of the St. Petersburg Academy, Gottlieb Siegfried Beier, used to correspond with Leibniz. In the Beier's correspondence, kept in the Archives of the Academy of Sciences of USSR, there is his letter to Leibniz from the end of 1716 (the letter may not have been sent perhaps because of Leibniz's death).

Cristian Goldbach, who later became also a member of the St. Petersburg Academy, in January of 1717 sent to Beier his verse composed in elegiac distich in Latin to commemorate Leibniz. The verse was also found among Beier's letters (the Archives of the Academy of Sciences of U.S.S.R., vol. 784, op. 2, no. 1, v. 28–30, 36).

The name of Leibniz was resounding during the first sessions of the St. Petersburg Academy Conference. On the 4th of December, 1725, Nicolas Bernoulli pronounced a lecture devoted to the proof of the Leibniz theorem of force measurements. On the 25th of December, in the same year, professor Martini delivered a lecture on the Leibnizian principle of non-material substances (*de principii indiscernibilium*) (*Protocols of the sessions of the Imperial Academy of Sciences of the period 1725–1808*, vol. I, St. Petersburg, 1897, p. 3).

The works left by Leibniz and his ideas comprised therein occupy much of the 1st volume of "The Commentaries of the St. Petersburg Academy of Sciences" (*Commentarii Academiae Scientarum Imperialis Petropolitanae*, vol. I, *Ad annum* 1726, Petropoli, 1728). The papers edited in that volume are written by a number of St. Petersburg academicians, namely by: Yakov German, "On Measuring Forces in Bodies" (*De mensury virium corporum*), Georg Bernhard Bühlfinger, "On Mechanical Demonstrations of Forces Inherent in Bodies in Motion and on the Measurements of These Forces" (*De viribus corpori mot insitis et illarum mensura*

demonstrationes mechanicae), and by a foreign member of the Academy, Christian Wolff, "Principles of Dynamics" (*Principia dinamica*). All these papers deal with the problem of measuring the "living forces", a concept developed by Leibniz for the kinetic energy. Actively participating in the polemics on this problem that had arisen between the advocates of Leibniz on the one hand, and those of Descartes on the other, the St. Petersburg authors entirely share Leibniz's point of view i.e., that the "living forces" are proportional to the products of masses of the bodies and their squared velocities) and confirm it with new arguments.

It is known that later the ideas developed by Leibniz and Wolff on the structure of matter and on the properties of motion were frequently subject of controversy in the St. Petersburg Academy, where they were criticized in the works of such scholars as Leonard Eiler, and Mikhail Vassilevich Lomonosov.

In the second half of the 19th century the Petersburg academicians began to work systematically on the materials concerning the contacts of Leibniz and Peter I and the problem of Russian culture. The academician A. A. Kunik in the book *Briefe von Christian Wolff* (1860) published a letter that Leibniz wrote to Areskin. In 1863 the academician A. A. Schiffner has edited in *Bulletin de l'Académie,* vol. IV, 319–321, the letter of Leibniz written to baron G. Guessen. Shortly a mention of this letter appeared in *Annaly Akademii Nauk,* vol. IV, St. Petersburg, 1864, p. 81. In the same volume (pp. 1–19) there is an article by the academician P. P. Pekarskii "Correspondence of Leibniz with Numerous People Relating to the Archaisms and Dialects of Slavis Languages".

In 1869, the Moscow University professor, V. I. Gerie, proposed to the St. Petersburg Academy of Sciences the edition of the letters and materials of Leibniz, which refer to the problem of Russia and Peter I. Part of these materials was in Russia and part was found by professor Gerie in Hannover where he studied the biography of Leibniz. The Academy has summoned a Commission composed of the members of the Academy N. G. Ustialov, A. A. Kunik, and A. A. Schiffner, which, afer having made a scrupulous study of the material presented by professor Gerie, has decided to publish it. The Faculty of History and Philosophy decided to publish the book by Gerie, on the 30th of September 1869 (400 copies, with a preface in and notes in Russian, and 300 copies in German; the relevant correspondence cf. vol. II, op. 1, 1869, no 13). The book appeared in 1873.

In 1910–1915 two works were presented to the Academy in a competition to the Akhmatov Award, namely *Leibniz and Spinoza* by W. A. Belaev (St. Petersburg 1914) and *Leibniz and His Teachings of Man's Soul,* by W. S. Serebrennikov (The Records Office, Academy of Sciences of the U.S.S.R., vol. II, op. 1910, No. 38, v. 67–77, vol. II, op. 1913, No. 29).

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Translations of Leibniz's works that appeared in pre-revolutionary Russia:

1. "Teodicea", *Vera i Rozum,* 1887–1892.
2. "Selected Philosophical Works", *Proceedings of the Moscow Psychological Society,* vol. 4, 1908.
3. "Monadologie", *Vera i Rozum,* No. 20, 1892.
4. "Reasonable Principles of Nature and Happiness", *Vera i Rozum,* No. 22, 1892.
5. "New experience of Human Reason", *Vera i Rozum,* 1892–1893.

Besides, till 1900 more than 10 various articles have been published on Leibniz in the following journals: *Sovremennik, Russkii Vestnik, Zhurnal Ministerstva Narodnogo Prosveshcheniya, Vera i Rozum,* and some others. The listings of the titles of these articles can be found in the records of the academician A. S. Lappo-Danilevskii, vol. 113, op. I, v. 24–25.