Science in Europe, 1500–1800: A Secondary Sources Reader

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SCIENCE IN EUROPE, 1500–1800

A SECONDARY SOURCES READER

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the Academy's *Mémoires* represented a more substantial contribution. ... In 1733 Daniel Bernoulli wrote his one-time colleague, Academician Leonard Euler, that 'I cannot tell you often enough how eagerly people everywhere ask for the St. Petersburg *Mémoires*. ...'[4] And England's leading authority on quadrupeds, Thomas Pennant, implicitly confirmed the contention half a century later when requesting copies of thirty-five volumes of the *Mémoires* for his personal library.

The contributions of scientists from western Europe such as Euler and Pallas certainly contributed to their importance, but they were not exclusively responsible. The twenty studies in botany and zoology by N. Ia. Ozeretskovskii (1750–1827), the forty-seven papers in mathematics, physics and astronomy by S. Ia. Rumovskii (1734–1812), and the twenty-four articles in geology, mineralogy and chemistry by Severgin contributed to the important place the *Mémoires* came to occupy in professional circles. Indeed, as suggested by the response of *Journal encyclopédique* to an article by Rumovskii, the professional scientific community regularly expressed confidence in Russian scientists: 'The Russian Academicians are on a par with others in the most sublime knowledge. M. Rumovskii has given the solution and supplied the proof to a problem concerning the *maxima* and *minima*. In truth, the problem relates to M. Euler's celebrated doctrine of isoperimeters which is in no way exhausted. Yet, M. Rumovskii's solution has combined very great elegance with the honor of having surmounted the most perplexing difficulties.'[5] Importantly, Rumovskii was cited as specific but not unique, and his example served to support a generalized assessment made about Russian scientists. In line with that assessment, Ozeretskovskii was elected to four West European scholarly societies, Severgin to eight, and the prolific amateur Count G. K. Razumovskii (1759–1837) to seven. Membership was, of course, contingent on factors other than scientific achievement. Diplomatic considerations and personal friendships undoubtedly played an important role, but membership nevertheless signalled a degree of professional recognition as did references to Russian scientific publications in the writings, for example, of Linnaeus and Buffon. [...]

Linnaeus was remarkably familiar with Russia's natural resources, but because he frequently failed to acknowledge his sources it is virtually impossible to determine precisely the extent to which Russian Academicians contributed to his comprehensive survey of natural history. Undoubtedly, he relied on his student, J. P. Falk of the Russian Medical College, and on G. W. Steller and E. Laxmann, both of whom he recommended for membership in the St. Petersburg Academy of Sciences. The industrialist G. Demidov, who sent his sons to study with Linnaeus, also contributed

[4] Cited in A. Lipski, 'The Foundations of the Russian Academy of Science', *Isis*, 44 (1953), p. 349.

[5] *Journal encyclopédique*, 7 (1764), pp. 16–17.

through the frequent exchange of plant and animal specimens, and Linnaeus must have received additional information from Russian students including Afonin and A. M. Karamyshev (?–1791) whose doctoral dissertation was the first systematic treatment of Siberian plant life. The various studies by Academicians Pallas and both S. G. and J. F. Gmelin also served as important sources of zoological, botanical and geographical information. Last, the numerous zoological studies of at least one Russian academician, Lepekhin, enriched Linnaeus' *General System of Nature*.

Buffon was similarly familiar with Russia's natural resources, but he also frequently failed to acknowledge his sources of information. Academicians Pallas, the Gmelins and G. F. Müller were most frequently cited, but the zoological descriptions by Krasheninnikov served at least occasionally as sources of information. [...]

Additional references to Russian scientific works could be cited and, perhaps, some of the unspecified sources of information could be traced; but neither resort would substantially alter the conclusion that by the end of the eighteenth century Russian amateur and professional scientists had gained entry into the scientific community and had become respected, contributing members of it. Like the vast majority of scientists, they worked within existing paradigms and hence made no memorable discoveries or innovations. Rather, they made standard contributions, including the discovery of new plant and mineral species, the refinement of astronomical data, and the collection and standardization of meteorological information. ... They were paradigmatic in yet another fashion: for like their British contemporaries who met monthly as the Lunar Society, or their French contemporaries who met at Berthollet's residence, the Russian scientists were as intent on the dissemination and utilization of natural science as they were concerned with its internal development. In that, they contributed not just to the scientific tradition but also to the domestication of a modernizing scientific culture in Russia.

13.3 Michael D. Gordin, *The early St Petersburg Academy of Sciences**

'I have to harvest big stocks, but I have no mill; and there is not enough water close by to build a water mill; but there is water enough at a distance; only I shall have no time to make a canal, for the length of my life is uncertain, and therefore I am building the mill first and have only given orders for the canal to be begun, which will the better force my successors to bring water to the completed mill.' Statements like this one by Peter the Great, which concerns his plan to import an academy of sciences into the fledgling city of St. Petersburg, have often been construed as part of a utilitarian

* Michael D. Gordin, 'The importation of being earnest: the early St. Petersburg Academy of Sciences', *Isis*, 91 (2000), pp. 1–10, 15–17, 19, 21–2, 29–31.

design to harness technology and science for the ends of the state.[1] ... Existing work on the place of the Imperial Academy in Russian culture focuses almost exclusively on the academy after its opening in 1725 by Empress Catherine I – wife of Peter the Great, the tsar who had created the Russian academy but died earlier that year. Since these studies concentrate on the course of Russian academic science in the eighteenth century, matters pertaining to its genesis and inception have largely been taken for granted. Instead of exploring the social and cultural roots of the *idea* for an imperial academy, these works explore how scientists were recruited to the academy from abroad, how it fared during the rough early years, and how it became Russified after the 1750s.

This essay concerns the question of inception. The standard accounts stressing utilitarianism are clearly largely correct, but they necessarily leave elements of the academy's history unexplained. For example, if the academy was founded for purely utilitarian reasons, why did the tsars encourage the study of 'speculative' topics like planetary vortices? Why did the bureaucracy not simply continue to rely on the technical advisors regularly imported from abroad, without organizing them into an academic body? The answers to these and related questions are embedded in the other cultural advantages that were to be extracted from the academy. Peter the Great not only imported a politically useful educational institution; he also knowingly imported a particular etiquette regime of refined manners that characterized Western natural philosophy in the eighteenth century. This effort was part of a broader program to establish new social classes through educational stratification and to change the way those classes behaved through cultural reforms. Reading the academy as a part of these two wider purposes complements the standard accounts and broadens our understanding of the links between Peter's courtly life and his scientific policies. [...]

A number of recent studies on academic natural philosophy in the seventeenth and eighteenth centuries have argued that the organization and structure of academies varied – but not arbitrarily – depending on whether the setting was the princely court, gentlemanly society, or the state bureaucracy. The variations in academic protocols followed the etiquette patterns of each specific community of natural philosophers. As Mario Biagioli has argued, the extant etiquette regime – understood as the set of practices and protocols that undergirded mannerly behavior – served as the condition of possibility for a particular academic structure.[2] In the Russian case, however, where poorly developed native etiquette codes were juxtaposed with

[1] Quoted in B. H. Sumner, *Peter the Great and the Emergence of Russia* (New York: Macmillan, 1951), pp. 208–209.

[2] Mario Biagioli, 'Etiquette, interdependence, and sociability in seventeenth-century science', *Critical Inquiry*, 22 (1996), pp. 193–238.

a decidedly advanced academic structure, Biagioli's directional argument ceases to apply. Nevertheless, a great deal may be gained by inverting it. Instead of looking at a set of etiquette protocols as the condition of possibility for the Russian academy, I consider how that academy served as a condition of possibility for the dissemination of a particular set of etiquette codes. Of course, it is not the argument of this essay that the academy was *entirely* an institution devoted to a particular vision of etiquette. Rather, the academy had two faces: one that turned toward the natural philosophical community in Western Europe and one that turned toward St. Petersburg society. The first was concerned with the technical details of mathematical philosophy and is much less specific to the Russian context. I wish to examine the second face here: how the academy functioned with respect to the culture of St. Petersburg and how Peter's project can be understood as more than just the establishment of an institution for abstract natural philosophy and practical technical advice.

The St. Petersburg academy – structure, scholars, etiquette protocols – was imported from abroad, but not without modifications. There are many reasons why Peter *needed* to import these features. I am suggesting that there was also something he *wanted*: that the Russian 'public' – to be understood throughout this essay as a very narrow stratum of the social elite – be exposed to a particular form of life that he saw embodied in this ready-made academy. The plan for the St. Petersburg academy, in fact, was specifically altered from European exemplars to highlight the public aspects of academic natural philosophy. To explore why Peter the Great might have come to associate academic science with mannerly culture, we need to begin as he did: with the idea of and the model for an academy of sciences.

Peter the Great drew the plan for the St. Petersburg Academy of Sciences from a set of impressions he had received from a variety of sources, including the Royal Society of London (which he visited in 1698) and the Académie Royale des Sciences in Paris (visited in 1717). Although some historians have isolated one of these two as the dominant model for the academy, the most significant influence was in fact that of Gottfried Wilhelm Leibniz, the German natural philosopher, and his Berlin Academy of Sciences. Not only can we trace a direct connection – Leibniz actually corresponded with Peter and other major figures of the Russian court for about twenty years – but the Imperial Academy as it was finally formulated bore remarkable similarities to Leibniz's own Berlin academy and to his vision of a global system of academies. While it is important to trace the origins of the model for the St. Petersburg academy, it would be a mistake to focus exclusively on institutional precursors. Instead, after examining the relations of the St. Petersburg academy to the three dominant models (London, Paris, and Berlin), one must ask why any of these appealed to Peter in the first place. There were structural constraints on the type of academy Peter could establish in the

Russian context, but there was also, I contend, a particular type of natural philosopher that he wanted to introduce to Russia, a type exemplified by Leibniz.

Since this argument hinges on the structural constraints facing Peter, we must start with the models open to him and determine why he ended up appropriating many (but not all) of the features of the Berlin academy. Some historians have made the case that Peter the Great based his academy on the English Royal Society, which he had visited during his 1697–1698 'Great Embassy', a full twenty years before he met Leibniz. ... While it is true ... that many of the technicians – navigators, shipbuilders, and the like – Peter brought to Russia came from England through links established by the Russian Jacob Bruce and the Englishman John Colson, precious few academicians did. Most hailed from the German states. The evidence from Peter's visit to England offers only shaky proof that he actually visited the Royal Society in session. What he did see was its museum; it is possible that this gave him the idea of establishing his own personal museum, the *Kunstkamera*, which eventually became attached to the Imperial Academy, but it is unlikely that the influence extended any further. As many studies of the Royal Society have shown, the role played by the free society of gentlemen in the creation and functioning of that institution was enormous. Russia did not already have an educated genteel society; rather, the Royal Society members were exactly the type of gentleman natural philosophers that Peter wanted to *introduce*. If he could have founded a Royal Society in Russia, he wouldn't have needed to build the Imperial Academy. This is not to claim that the only function of the academy was to express mannerly behavior, but to emphasize that a club type of academy required a particular pre-existing etiquette regime in order to sustain its technical work. Russia lacked such codes of manners, and thus a Royal Society-style academy could not have performed the necessary technical functions.

A far better case can be made for the relation of the Imperial Academy to the French Académie Royale des Sciences. Peter visited the French academy in 1717, after Leibniz's death. And in 1721, just before he worked in earnest on the plans for his own academy, he was elected a member of the Académie Royale 'above all ranks', a privilege never before extended to a monarch. The French academy was a more suitable model than the Royal Society for the Russian context: the type of academy that a powerful prince such as Louis XIV required would have seemed appropriate to Peter's imperial pretensions. But he visited the Académie Royale fifty years after its founding, long after Louis XIV had passed away and during a time when its relation to the monarchy was very different. Moreover, the work the members pursued had taken a theoretical and mathematical tack that Peter regarded as suspect.

The third major model, and the most likely candidate for importation to the Russian context, was the Berlin Academy of Sciences, Leibniz's model. This institution had the advantages of being at once suitable for the

Russian context and personally promoted by its creator, who was fairly adept at insinuating himself with powerful patrons. To make the claim that Leibniz impressed Peter the Great as a model of the decorum to be expected in natural philosophers, one would have to demonstrate that Leibniz was (or at least appeared to be) a well-mannered courtier and not, like Isaac Newton, handicapped by a brusque and difficult temperament. Fortunately, several historians have already done a remarkable job of showing just that. After receiving his law degree from Altdorf, Leibniz traveled to several princely courts and aristocratic circles, ending up at Hanover after a long detour in Paris, and demonstrated remarkable skill in advancing himself as a factotum – a natural philosopher for all seasons – able to answer whatever queries his patron put forth. This was partly a strategy Leibniz developed to advance himself at court, but it was also consistent with his belief that, since philosophers did not have the powers of statesmen, it was in their interest to persuade statesmen to take their advice, thus conjoining worldly power and philosophical ideals. This professional tactic was tied to a vision of the necessity of philosophers for the Baroque state. ...

Peter the Great was in many ways Leibniz's ideal patron. For years Leibniz had sought an 'enlightened' patron who was both powerful and interested in natural philosophy. ... In October 1711 he managed to meet Peter in Torgau, where the tsar's son was marrying. A correspondence began in 1712 after the two met again in Carlsbad, and Peter appointed Leibniz a counselor and issued him an annual salary until Leibniz's death in November 1716.

Leibniz had been trying for some time to fulfill his ideal of a global network of scientific academies that would pursue coordinated research, a vision conceived at least partly in reaction to the disunified learned societies that surrounded him. ... [He] saw the Russian case as a potential instantiation of his monadic ideal of state and academy. Besides having one of the European monarchs most amenable to his purposes, Russia stretched from the Arctic to the southern steppe and across Asia. Such a broad climatic differential offered a basis for wide-ranging scientific findings, a promise eventually realized in the Imperial Academy's early geographical expeditions. Furthermore, it connected Asia and Europe and thus could provide a stable land link for findings to travel from East to West, transmitting knowledge and material from Leibniz's Jesuit connections in the Far East to European academies. Finally, Russia was a land untouched by philosophy – or so Leibniz felt – and so it was a virtual blank slate for the best of Western natural philosophy, which it would be able to assimilate rapidly. ...

If Peter was Leibniz's ideal patron, Leibniz was just what Peter thought a natural philosopher should be. He was courteous, learned, and especially interested in developing the untapped potential of Russia. Or that, at least, is what Peter saw. Leibniz, in a fairly typical fashion, tailored his proposals, especially at their first meeting, to what the tsar wanted to hear, emphasizing,

for example, the reform of Russian education and internal navigation. If Peter intended to create in Russia an academic infrastructure that would produce generations of practical natural philosophers, Leibniz – the self-proclaimed 'Solon of Russia' – exemplified the kind of philosopher he hoped to turn out. An anecdote illustrates Peter's perception of Leibniz. During one of their meetings, Peter complained of a partial paralysis in one arm that hindered him in mechanical actions such as firing a pistol. Leibniz quickly threw together a simple wooden device that restored the motion in the tsar's arm. His response was practical, courtly, and philosophical, all at once. ...

The argument that Peter and Leibniz embodied each other's ideal has limits. The two men wanted different results from their relationship: Leibniz eagerly sought patronage from Peter and the fulfillment of his goals for a network of academies; Peter desired practical advice from Leibniz on navigation, education, and the structure of a scientific academy. Neither individual thought of their interaction in terms of courtly roles. This was not a transaction *about* etiquette, but a transaction *conducted through* the language of etiquette. Each party negotiated by the courtly protocols he was accustomed to, but this does not mean that they went through these motions for their own sake. Etiquette was not an end in itself; it was a means for achieving specific goals in the court cultures of early modern Europe. ...

... Before Russia could make its own Leibnizes, some tinkering with both the structure and the functions of the academy had to be done. This tinkering is visible in the outline of Peter's final academy project, written up [in a document known as the Project] just before he died.

[...] Beyond those pertaining to personnel issues, the most formal statement in the Project is that the academy was to serve as a model (*obrazets*) to the rest of the country. ...

The Project envisioned two ways in which the academy could fulfill this self-perpetuating role. The first was through educational reform, a broad restructuring of the entire system along more 'Western' lines, with the academy at its pinnacle. The second involved integrating the academy into the Petrine manners reforms, deliberately *showing* Russians what it meant to belong to polite society. ...

[...] Education was a way of creating new social stratifications; making the occupants of those strata behave properly was another matter. The Imperial Academy of Sciences was supposed to accomplish both tasks by showing the newly created elites proper manners. It was necessary, then, to acquaint the public with the academy. ... It was also necessary, however, to show the public the *manner* in which science was conducted, not just the knowledge it produced. The most important attempt to do this was the series of public scientific assemblies that were to be held three times a year.

As the Project stipulated: 'Thus even for foreigners there will be a great game, since three annual public assemblies (*asamblei*) will be set up and a conversation by one member of the academy will be made from his science, and in this praise of the protector-defender [the tsar] will be introduced.' ... The tsar's invoked presence both bestowed legitimacy on the academy and further attracted the nobility, who were expected to attend such events. Although members of all classes (and, significantly, both genders) were permitted to attend, nobles were 'to freely go before those of lower rank at public assemblies where the court is gathered'. This statement shows that such events were considered more important for the nobility than for lower classes. While praise of the ruler was not unusual even for Western academicians, the explicit order that praise be offered was. ... These [public] meetings were not mere hypothetical conjectures on Peter's part; they actually went into practice after his death. A common topic of the academy members' lectures was heliocentric theory, which was often discussed in this particular public forum, although rarely anywhere else.

Just as education was an explicit mirror of other Petrine reforms, so did these public assemblies reflect the project of Peter's etiquette reforms. Etiquette protocols serve a central function in any courtly context. ... A ruler bent on changing the structure of court life must introduce a corresponding change in his court's etiquette protocols; etiquette serves as both a principle of ordering the court and a means of controlling the network of nobles. For Peter the Great, who was actively trying to adopt not only Western technical advances but also Western cultural procedures, it was vital that the change in hierarchy and the change in etiquette be effected at the same time. [...]

During this period in Russia, it was the state's role to provide the lead in establishing elite cultural patterns. All nobles had to serve the tsar in some capacity – administrative, military, or courtly – and thus major cultural transformations were generally transmitted through the service network of the nobility. Although Peter the Great conducted a great many political and military reforms during his active reign, his cultural reforms are generally perceived as the most dramatic and cataclysmic for the old Russian way of life. From the image of the West in Russian *belles-lettres* of this period to the major influx of Westerners – from footmen and courtiers to shipbuilders and scientists – the emphasis was on how to make Russians look and act like 'Westerners'. The first step was, as it so often is, to change the appearance of things. Of all Peter's cultural reforms, the most discussed and criticized were those pertaining to dress and personal appearance. Shortly after his return from the Great Embassy, Peter began to cut the traditional beards of the older nobility and to proscribe caftans in favor of Western clothes, perceived as immodest by older nobles. Even the appearance of houses was regulated, down to the type of plaster used on the roof, as was the kind of coffin one could be buried in. These cultural changes – which sometimes went so far as the brutal stripping and forced shaving of nobles

in the middle of the street... – of course had their political side. Public humiliation and state intrusion were intended to curb the power of the old ruling families. But the aspect of 'culture building' should not be ignored. Even in the Naval Academy – which trained officers culled from the nobility – dancing was taught to improve 'posture', in the hope of creating a noble who was both an officer and a gentleman. [...]

Changing outside appearances was only part of the reforms, however. Peter was very concerned that Russians start acting the role he had carved out for them, not just look the part. He undertook a series of popular etiquette reforms designed to make the elite conform to his ideal of Western society. Two particular means deserve to be singled out for closer examination: etiquette handbooks and assemblies. Both of these functioned under a principle common to Peter's other court reforms, the use of the tsar (or some other exemplar) as a model or *obrazets* to be copied. The first Russian etiquette book, the 1717 *Honest Mirror of Youth; or, A Testimony to Social Intercourse Collected from Various Authors*, contained general and specific Western etiquette protocols. Among other things, it instructed readers not to eat with their mouths open or spit while talking to ladies. Public violation of any of these codes could result in corporal punishment.

Assemblies were taken even more seriously. ... Attendance at these events was not optional. The nobles who had to come (and even the host, for that matter) were sometimes informed on very short notice. One of the most important features of the assemblies was their part in advancing the position of women in Russian society. Whereas Muscovite society had traditionally excluded women from public life, Peter turned the assemblies into salon-like gatherings where women played the crucial role of facilitating conversation and dancing. ... Recall now the assemblies that were ordained for the Academy of Sciences: just as the conventional assemblies were schools for the social graces, the scientific assemblies were schools for intellectual conduct. In both contexts, Peter's presence had to be announced and praised – or else.

There is a connection between the civilizing process that Peter was engineering at court and in society and the role he perceived for the Academy of Sciences. While in some circumstances – for instance, in matters of personal conduct – the only proper *obrazets* was the tsar himself, the cultural *obrazets* for civilized, nonviolent interactions among individuals was to be the academy, whose members were culled from the most civilized group that Peter had ever interacted with: the Republic of Letters. ...

Implicit behind this ideal view of the academy was the fact that some groups would suffer as a result of the reforms. The academy was widely perceived as an attack on the Church and the old noble culture. The reasons why the academy was seen as anti-Church are fairly clear; but unless it is understood as a purveyor of new courtly protocols, we might be hard pressed to conceive how it threatened the nobility. The academy reflected a more general trend in the restructuring of court dynamics and the establishment

of secure links between the court and the evolving autocratic state. It was an indicator of general cultural change at the same time as it brought that change about. The third loser in this process was the lower ranks. As the elites were becoming more enlightened, the lower classes became comparatively more ignorant. The immense technical development of Russia required a great deal of unskilled labor, which the lower classes furnished. Providing a setting in which good manners can flourish requires work; that labor came from the bottom of society.

But nevertheless the project succeeded, if only gradually. During most of Peter's reign the status of nobles and their property was tenuous, as Russia mutated from a patrimonial state to an autocratic regime with an elaborate state apparatus. The nobility's status stabilized only to the degree that the etiquette protocols imported from the West took hold. The nobility legitimated the reforms by participating in them, and they were in turn legitimated by their participation. For the same reasons, after the 1747 charter it was no longer necessary to have the academy – the link to the West – connected to the university – the link to the elites. The protocols had been internalized to such a degree that the two institutions could be uncoupled. The academy was, so to speak, initially a hybrid creation, with roots in courtly protocols, and not purely an appendage to the bureaucracy. The fact that the academy later lost its close connection to the court is evidence of Peter's success in establishing firm distinctions between the court and the state.

[...]

Situating the Imperial Academy of Sciences in the Petrine reforms requires looking beyond the utilitarian benefits Peter hoped to extract from its establishment. Instead of viewing the academy as simply part of general reforms intended to tap the technical potential of Russia, situating it at the crossroads of the education and manners projects provides a much-needed perspective on the academy's origins in Leibniz's courtly proposals, on its structure, and on how early disputes and publishing projects under its control were conducted. Further implications can be taken from these observations. For example, there has been a substantial debate in the secondary literature on whether Russia underwent an 'Enlightenment' and, if so, when it occurred and what its relation to the French Enlightenment was. The reevaluation of the academy proposed here provides a different angle on some of these older debates.

The standard view of the Russian Enlightenment dates back to the first biography of Peter the Great, written by Voltaire in 1764, which basically extended the vision of Peter presented by Fontenelle in his eulogy of the tsar before the Académie Royale des Sciences. Peter's reforms were a subject of intense debate in the French Enlightenment, and positions ranged from the almost uncritically positive (Voltaire) to the damningly negative

(Rousseau). Voltaire's picture of Peter, related in his two-volume *Histoire de Russie*, was that of a cataclysmic transformer who came upon Russia in the slumber of the Middle Ages and brought it forth to civilization through nothing but the force of an indomitable will. Voltaire's Peter had no master plan, no set of agendas he wished to accomplish beyond taking advantage of the resources available to him to solve contingently pressing problems. Peter coerced both his environment and his people to accomplish these ends, but he had no rational program.

This view of Peter, which has been repeated to the present day, is compelling, and many facts support it. It does, however, specifically deny Peter the status of an 'Enlightenment ruler' – at least by the usual definition. Such rulers, it would seem, have a rational framework that they try to impose on their countries, utilizing the principles of 'Enlightenment' to achieve 'progress'. The view of Peter constructed so adeptly by Voltaire has led historians who speak of a Russian Enlightenment to observe that epoch in the reign of Catherine the Great (1763–1796). Given the claims I have advanced here, however, it appears that such a conception misreads both Peter and the Enlightenment. Peter had more of a master plan than many have given him credit for, as the integration of the Academy of Sciences into the educational and manners reforms indicates. And it was by no means characteristic of Enlightenment rulers to try to apply 'Enlightenment ideas' – usually the armchair recommendations of French *philosophes* – to practical situations. Rather, Peter and his associates were exemplary Enlightenment figures in their selective appropriation and application of elements of Western European thought to advance certain ends. This view of 'Enlightenment' as opportunistic appropriation provides an alternative understanding of Peter the Great as an Enlightenment ruler that avoids the pat classifications of Soviet Marxists. . . .

This view of Peter as a specific kind of Enlightenment ruler is accurate, but only partially so. He was without doubt a man interested in gaining practical advantages for his country: that much cannot be disputed. But, as noted earlier, there has been significant debate as to whether Peter's reforms were part of a master scheme or were merely *ad hoc* responses to pressing needs. It is difficult to find a concrete master plan in his reforms – the network of activities is far too heterogeneous. But this does not mean that there were not elements within a set of chaotic reforms that formed part of a 'minor plan', a plan with something beyond pragmatism as its goal. The Academy of Sciences was one such 'minor plan'. It involved the integration of several levels of reform in order to give the newly formed Russian elite a code of conduct and an etiquette regime in keeping with the Western and Central European pattern of nationhood being adopted by the ruling classes. At moments like this within his tumultuous reign, one sees the nature of Peter the Great as an Enlightenment transformer on a par with Leibniz, waiting to grind his cultural crops with his newly built mill.