ANNALES ACADEMIAE SCIENTIARUM FENNICAE
DISSERTATIONES HUMANARUM LITTERARUM 76

ANNELI AER

PATENTS IN IMPERIAL RUSSIA

A History of the Russian Institution of Invention Privileges under the Old Regime

HELSINKI 1995
SUOMALAINEN TIEDEAKATEMIA

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Preface

> Is it not like that that you too, Russia, are speeding along like a spirited *troika* that nothing can overtake? The road is like a cloud of smoke under you, the bridges thunder, and everything falls back and is left far behind. The spectator stops dead, struck down by the divine miracle; is it not a flash of lightening thrown down by heaven? What is the meaning of this terrifying motion? ... Russia, where are you flying to? Answer! She gives no answer.[1]

At the time of writing, in the early 1990's, and taking the long historical view, Russia's current efforts towards modernization do not seem to represent a major break in tradition; the impression that arises is rather one of cyclicity. At certain times, western models and western institutions have been admired, and eager efforts made to transplant them to Russian soil; at other times, equally powerful efforts have been made to uproot and eradicate them. The patent system is an interesting example of the fate in Russia of an institution originating in western capitalism. I thus believe that a study of the history of the Russian patent system is of greater topical relevance today than anyone might have anticipated even a few years ago.

In the course of my work on these and many other questions of Russian economic history, I have received abundant support and valuable comments from Jorma Ahvenainen, Professor of General History at the University of Jyväskylä. The interest shown in my work by Academician Boris Anan'ich, of the Russian Academy of Sciences, and his comments on the manuscript, have given me great encouragement. The constructive criticism offered by Professor Pertti Luntinen, of the University of Tampere, has helped me to clarify many of my ideas.

Of the various comments presented on earlier versions of this study, those of Associate Professor Reino Kero, of the University of Turku, must be singled out. It was Professor Kero who first directed my interest to the history of the patent system, and who helped me to recognize the many problems associated with this field of study. The critical comments expressed by Professor Kero, as also by Professor Kalervo Hovi, of the University of Turku, and Professor Sune Jungar, of Åbo Akademi (the Swedish-language university in Turku), have been of great help. The encouragement given me by Professor Nina Kinyapina, of the University of Moscow, and her supportive guidance in the early stages of the work, have likewise been of great help, and have given me faith in the value of the work.

At various stages of the work, I have been financially assisted by the Kone Foundation and the Emil Aaltonen Foundation. My numerous trips to St. Petersburg, for the purpose of work in the archives, have been financed primarily by the Finnish-Russian Scientific and Technical Committee. The Soviet Union also gave me a scholarship to study at the University of Moscow during the academic year 1986-87.

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[1] Nikolai Gogol: *Dead Souls*, English translation by David Magarshack, Penguin Books 1961, 259.

I am grateful to the Finnish Academy of Science and Letters for publishing this work, and in particular to Professor Heikki Palva and Mr. Kaj Öhrnberg, the Editorial Secretary, for the time and effort they have devoted to preparing the manuscript for publication.

Of the many libraries I have made use of in the course of the work, special mention should go to the Russian State Library in Moscow and the Russian National Library in St. Petersburg, and to their respective staffs. The Slavic Department of the Library of the University of Helsinki contains a unique collection of Russian literature; the staff of the department have given me all possible help. Similar helpfulness has been demonstrated by the interlibrary loan departments of the various university libraries whose services I have so often had to make use of.

The ambitious task of translating the work into English was undertaken by Ellen Valle, of the University of Turku; the success of her efforts can be judged by the reader. Dr. Juli Belchikov was kind enough to check the orthography of the Russian passages.

I also wish to express my warmest thanks to the Russian State Historical Archives, in St. Petersburg, above all to its Director Dr. Vladimir Lapin. In addition to guidance in the use of the Archives, Dr. Lapin has enthusiastically educated me in the Russian mentality and way of life, and has helped me in the creation of many contacts which have been important to the completion of the work. Without the hospitality and helpfulness of the Zuev family in St. Petersburg, my scholarly sojourns in the city would have been both duller and less useful.

Finally, my parents and my husband have shown admirable patience and understanding; I cannot thank them enough.

January 6th, 1995 Anneli Aer

Introduction

1. Context of the work

The origins of the Western European patent system extend back to the medieval institution of the craft guilds. The earliest predecessors of the modern patent are found in Venice during the 13th to the 15th century; in most studies, however, the modern patent system is considered to have originated with the English Statute of Monopolies, enacted at the beginning of the 17th century. This Statute prohibited all monopolies, with the exception of the privileges granted to inventors for a specific period of time. The encouragement and protection of industrial innovations soon became an economically important issue for the state as well as to the inventor himself.

Douglass C. North has particularly emphasized the view that, up to the beginning of the modern period, one of the major factors contributing to the slowness of technological change was the poorly developed systematic protection of property rights in innovations. It was only with the patent system that the benefit derived by the individual from his invention became comparable to its social benefit. The specific patent law, however, was only part of a more general system for the protection of private property rights; considerably more important than the law as such, in fact, was "the development and enforcement of a body of impersonal law protecting and enforcing contracts in which property rights are specified". The rise in private profit acted as a stimulus in the constant effort towards technological improvement, while the expansion of the market further increased the profit to be derived from an innovation.[1]

Russian rulers understood at an early stage the importance of new technical ideas and their exploitation in the creation and defence of a militarily and economically powerful state. From Peter the Great onward, the government made increasingly systematic efforts, by means of various industrial privileges, to encourage the

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1 North 1981, 164–5. Boehm, Ashton, and Landes, on the other hand, deny sharply any causal connection between the patent system and the explosive spread of new inventions which began in England at the end of the 18th century. Patent protection as such was nothing new, the cost of obtaining a patent rose steadily and the process was a difficult one; competitors easily made patents ineffective, and in general manufacturers trusted more to secrecy than to the protection of the law. In more recent studies concerning the role of the patent system in the Industrial Revolution in England, the question of causality has received less attention. According to Dutton, the expansion of the patent system during the Industrial Revolution indicates that the most important motivation for inventors was the expectation of profit. Patenting one's invention was the best means available for protecting it, and for converting the inventor's knowledge and skill into a marketable commodity. According to MacLeod, patents were often connected to capital-intensive industries and to fields in which the competition was severe. There are more or less comprehensive accounts of the social and economic implications of the patent system for several countries, including Prussia, Germany, France and the Scandinavian countries. Ashton 1961, 12–13; Boehm 1967, 32–7; Dutton 1984, 202–3; Landes 1970, 64; MacLeod 1988.

establishment of new branches of industry. The first Invention Privilege Manifesto, however, was issued only in 1812, and its vagueness was such as to force the government to re-examine Russian privilege legislation at the end of the 1820's and to enact a new law, more closely adapted to the needs of Russian industry and to the government's goals in terms of economic policy. The new law was passed in 1833; with minor revisions, it remained in force until 1896. Unlike other European countries, the term 'patent' (or its Russian equivalent) was never officially adopted in Russia in its Western European sense.[1]

The first thoroughgoing study of Russian patent legislation was that of Pilenko, whose two-volume work, *The Rights of the Inventor* (Право изобретателя), appeared in 1902–3.[2] Pilenko's approach is based on the positivist approach to legal scholarship, and the historical survey included in Volume I focuses chiefly on the juridical history of the subject. Political, administrative and economic aspects are bypassed with a few brief mentions. In its time, the work evidently enjoyed a high reputation; it was translated in 1907 into German. The year 1902 also saw the publication of Katkov's *On Invention Privileges (Patents)* (О привилегиях "патентах" на промышленные изобретения), but this work is less thoroughgoing than that of Pilenko. Katkov too was a legal scholar, which affected his approach to the subject. A third work which appeared at the beginning of the century was Skorodinsky's *Privileges and Patents* (Привилегии и патенты), a non-scholarly work intended for inventors and manufacturers.

During the Soviet era, the scholarly historical study of the patent institution has been almost entirely ignored. The institution has not been considered particularly important as a research subject, since patents have been generally seen as connected chiefly with the developed industrial nations. Another factor may have been the fact that in the Soviet legal system the 'certificate of authorship' (авторское свидетельство) in practice replaced the actual patent.[3]

The only more fundamental investigation by a historian of the development of the Russian patent system is Pluzhnik's unpublished Licentiate thesis from 1969, entitled *The history of the development of patent activity in the Russian administration: Its origin and consolidation up to the bourgeois reform of 1870* (История развития патентоведения в государственных учреждениях России. Зарождение патентного дела до его буржуазной реформы 1870г.); this work has also given rise to a few brief articles, 2–3 pages in length. Pluzhnik's study, with its saliently administration-oriented point of view, covers only the early stages of the Russian

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1 The exclusive rights of the inventor were referred to in the legislation by the term 'invention privilege'. The term 'patent' itself in 19th-century Russian referred primarily to the certificate which entitled the holder to practice commercial and/or industrial activity. The term 'privilege' persisted, in spite of its connotation of 'special favor'. One reason for wanting to retain the term was evidently to avoid confusing the rights of the inventor with the licensing of business activity.

2 A.A. Pilenko (1873–1920) was a leading Russian legal scholar and a professor at the University of Petrograd. In 1917 he emigrated to France. Плужник 1969, 36.

3 In the Soviet Union, the inventor relinquished his invention to the state in return for a small payment, and was given a certificate of authorship. Actual patents were granted chiefly to foreigners. Юридический словарь 1956, vol. 2, 104–5; Balz 1975, 40–50.

patent institution; over half of the work deals with the period before the Statute of 1833. Due to its focus on administrative history, the economic background, and the implications in terms of economic policy, are almost entirely excluded from the study. Pluzhnik notes the dominant role of foreign inventors in Russia, but tends to minimize its significance.

Kinyapina touches briefly upon the drafting of the invention privilege statute of 1833 in her dissertation, dealing with Russian industrial policy during 1820–50. In Kinyapina's work, the debate which arose in the Manufacturing Council around the drafting of the 1833 Statute appears as an interesting 'subplot' in Russian industrial policy in the 1830's. She also briefly shows the way in which the key areas in Russian industry at any given time are revealed by the fields for which privileges were granted. Unlike Pluzhnik, Kinyapina does not belittle the role of foreigners; she explains their dominant role by the lack of technical expertise in Russia. On the early stages of the invention privilege system, there is also Aer's article. On the legislation in this field at the end of the 19th century, there are only a couple of brief articles (3–4 pages each) by Pluzhnik and Filippov. Of scholarly research on the patent system of the Finnish Grand Duchy, Kero's work might be mentioned; Kero has surveyed in particular the patenting of foreign inventions during the period preceding World War I.[1]

What was lacking in Russia was a central patent office, with the responsibility for compiling statistics, classifying inventions and publishing privileges granted. A collection of privileges (Свод выданных в России привилегий) was published after 1863. The general and superficial nature of the material published has hampered the extensive use of privilege statistics in research. The greatest drawback is the lack of a classification by field up to the middle of 1896.[2] Despite the superficiality and generality of the Russian classification, Raievskaya and Shukhardin have considered the privilege statistics to be acceptable as a source of data, since they make possible a more exact picture of the development of different economic areas. No such study, however, has been carried out.[3]

This relative lack of research on the privilege system, however, has not prevented certain scholars from drawing quite far-reaching conclusions as to the importance of foreign entrepreneurs in the modernization of Russian industry and the rise in produc-

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1 Киняпина 1968; Плужник 1971; Плужник & Филиппов 1971; Aer 1988; Kero 1987. Basberg has studied patents and technological change in Norway during 1840–1980, and has arrived at a similar conclusion as Kinyapina as to patent statistics and the leading sectors of the economy in terms of technological development. Likewise Schmookler, Krantz and Kero consider patent statistics, when used with caution, to be appropriate sources of information in studying the development of innovatory activity, especially up to World War II, when it was less common than after the war to omit taking out a patent on an invention. Basberg 1984, 295–8; Kero 1982, *passim*; Krantz 1982, 8–10; Schmookler 1966, 18–56. See also the assessment of Basberg's work by Johansen and Krantz. Johansen 1988, 72–5 and Krantz 1988, 65–72.

2 Statistical information concerning privileges has been used to a limited extent by Киняпина 1968, 227–30; Лукьянов 1948, 484–7; Немировский 1964, 29–30; Плужник 1969, 43–4. The very general character of the classification into 12 classes adopted in Russia is reflected by the fact that the patents granted in the Grand Duchy of Finland, which were numerically modest even compared to Russia, were classified at the turn of the century into 79 different classes. Kero 1987, 155.

3 Раевская 1957, 58–60 and 1959, 159–62, 166–7; Шухардин 1953, 90–5.

tion in the 1890's and at the turn of the century. The entry of entrepreneurs and capital from abroad has been automatically linked with the importation of most advanced new technology.[1] The privilege system has received less than its due share in the historical study of economic institutions, while there are good monographs for instance on the development of the corporation system and of tariff policy.[2] There had been a number of reforms which had been under way for decades in Russia, and which were intimately linked with economic and technological development. Of these, the legislative reform concerning invention privileges, carried out in the second half of the 1890's, was one of the few which bore fruit. In spite of this, there has been no full-length study devoted to it. The development of the protection of inventors' rights has likewise not been of interest to historians concerned with Russian concepts of property rights.[3]

2. Purpose and design of the study

The purpose of this study is to examine the origins and development of the Russian institution of the invention privilege. Institutions such as the patent system, which structure, organize and delimit political, economic and social interaction, are essential in that they tend to create order and reduce uncertainty. Institutions consist of both informal constraints such as sanctions, taboos, customs, traditions, and codes of conduct, and formal rules such as constitutions, laws and property rights. Moral and ethical norms of behavior play a crucial role in determining the costs of compliance with transactions, in that these costs depend on the attitudes of the individual parties regarding the fairness and justice of the acts themselves.[4]

In Russia, the laws regulating privileges and the inventor's property rights were an integral element of the formal constraints regulating economic activity; at the same time, they were a means used by the government to further its economic policy. To understand the privilege institution, we cannot restrict our study merely to the formal

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1 Carstensen 1983; Crisp 1976; McKay 1970.

2 In pre-revolutionary Russian scholarship, tariff policies were seen merely as a device of governmental fiscal policy, aimed at collecting funds to cover the steadily increasing expenses. More recent scholarship has rejected this unduly narrow view, assuming that from the 1860's onward the government's economic policies had other aims besides the effort to cover expenses. The Russian tariff policy shows a clear effort to increase the level of industrialization in the country. The fiscal functions of tariffs have not received sufficient attention. In more recent research, the view has been accepted that from Reutern's time onward the government increasingly intervened in industrial activity and tightened its control over economic life. In particular McKay, however, has warned against the dangers of an undue emphasis on the importance of direct state intervention in the economy. Соболев 1911 *passim*; Гиндин 1959a, 1959b and 1960, *passim*; Лященко 1952 and 1956; Шепелев 1981, *passim*; Gerschenkron 1962 and 1968; McKay 1970, 8–12; Von Laue 1963, 303–7.

3 Соболев 1911; Шепелев 1973 and 1981; Owen 1991; Pipes 1994; Weickhardt 1993 and 1994; Wortman 1989.

4 North 1985, 559 and 1991, 97 and 1993, 37. North defines institutions as follows: a) a set of constraints on behavior in the form of rules and regulations; b) a set of procedures designed to detect deviations from and enforce compliance with the rules and regulations; and c) an existing framework of moral and ethical behavioral norms that influence the way the rules are specified and the costs of compliance. North 1985, 559.

constraints involved; it is also essential to look at informal constraints, such as the various established customs and traditions which affected the behavior of inventors, entrepreneurs and officials. The meaning of these informal constraints becomes clear only in a cultural context.

The existence of an extensive contemporary and archival material makes it possible to determine the views and objectives which guided the work of legislators. The preparatory and draft material also reflects contemporary perceptions of basic juridical concepts and the attitudes of officials and inventors. The theoretical basis of the study is in Lotman's conception of the basic legal concepts and categories in a culture, which determine the entire character of juridical and legal practices in that culture, as profoundly dependent on the type of cultural consciousness. The differences between Russian and Western European juridical institutions are related to differences in the semiotic mechanisms of the respective cultures.[1] The privilege institution offers a new perspective from which to study the Russian concept of property rights, in that immaterial rights, among which patents are included, have traditionally been considered as being at the core of property rights. A particularly important question is that of the relationship of privilege legislation on the one hand with the development of corporation legislation, on the other with tariff policy.

In this study, the development of the Russian system of privileges is examined against the background of the colorful and subtle cultural context in which it arose and developed. Russia had a long-lasting tradition of borrowing, adapting and assimilating foreign institutions. An interesting question in fact is that of the conditions in which the patent institution was adopted, and how Russia was able to import and shape to her own political, social and cultural environment an institution which had arisen in an entirely different legal tradition and culture. What were the connotations which were linked in Russia with property rights and invention privileges? In what way did the prevailing system of values affect attitudes towards technology and the patent system? What was the effect of the level of technical education, and of the expertise of officials, on the role played by the patent institution in the diffusion of new technology? To what extent did Russian inventors themselves have confidence in the justice and authority of the privileges system?

The chronological focus of the work is on the period following the emancipation of the serfs, which is when the public debate over the privilege system began in the periodical press. In order to understand the nature of the patent institution and the special features it acquired in Russia, we must first glance at the earliest origins of the institution in Western Europe and Russia; this accounts for the relatively long time span covered in the study. The end-point of the work is in 1896, the year in which the new Patent Statute was enacted; this marked the culmination of the process of revision which had begun in the late 1870's. The next law concerning the protection of inventions was passed only after the Revolution. The time following the Statute of 1896 is discussed only insofar as it casts light on the effect of the statute

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1 Particularly illuminating are studies of the dualistic model of Russian culture and the concept of the 'contract', and the linguistic-semiotic analysis of the development of Russian law. Живов 1988; Лотман 1981. On Lotman's concept of culture see Лотман 1994, 5–9.

on the subsequent development of the privileging process. The development of the patent system in the Grand Duchy of Finland is likewise not discussed in detail, since 19th century Finland, with her own separate patent legislation, constituted an entity separate in this respect from the rest of the Russian empire. Poland, on the other hand, lost her autonomy in privilege matters in 1867, after which she came within the sphere of Russian privilege legislation.[1]

3. Source material

The contemporary material related to the Russian system of invention privileges is closely linked with the efforts made by various instances to revise and reform the system. The archival material is derived from the collections of the Ministries, the State Council and its various departments, the Second Section of the Emperor's own Personal Chancellery, and various other units of the national administration, preserved at the Russian State Historical Archives at Saint Petersburg. The State Council,[2] functioning from 1810 onward, was the supreme advisory body in legislative affairs. All proposals submitted to the Council were first dealt with by one of its Departments, after which the matter was introduced for debate in the Joint Assembly of the Council. The tsar might ratify the new law according to either the majority or the minority view of the Council. The central role played by the State Council is reflected by the fact that all legislative matters and important economic issues passed through its hands.[3]

The Collection of the State Council contains material related to the drafting of various statutes, including law proposals by the commercial and technical societies, correspondence at a high official level concerning the reform, statistical data and the minutes and memoranda from the Joint Meeting. In addition, the Collection of the Department of the State Economy includes the extensive program of economic reform, drawn up by Witte in 1893, which also deals with the reform of the system of invention privileges and its adaptation to the ideology of 'national industry'.[4] The other economic programs of Reutern, Bunge and Witte are available in print.[5] The Collection of the Second Section of the Emperor's own Personal Chancellery contains material related to the extensive debate of the late 1860's concerning the nature of invention privileges.

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1 On the development of Finnish patent legislation in the 19th century, see Aro 1977 and 1978, *passim*; Kero 1987, 126 34. According to the Edict of 1867, in granting privileges Poland was to adhere to Russian legislation. Именной, данный Сенату, распубликованный, 24-го того же февраля – О применении к царству Польскому существующих в империи постановлений относительно выдачи привилегий на открытия, изобретения и усовершенствования 16.2.1867 ПСЗ 1871, vol. 42, no. 44255.

2 The State Council consisted of four Departments, for legal, military, civilian and spiritual affairs and state economy respectively; it also had two Commissions and an Office. Ерошкин 1960, 184–6.

3 Ерошкин 1960, 184–6, 251 2.

4 РГИА f. 1152, op. 11, 1893g., d. 447.

5 Бунге 1880, 1884 and 1886; Витте 1899a, 1899b and 1900; Рейтерн 1866 and 1877.

The Russian National Law Collection, Полное Собрание Законов (ПСЗ) contains, with minor exceptions, all statutes issued in Russia since 1649. The Law Collection is the most important source for legislation, since it also contains all laws and statutes issued on the organization of the state and all statutes concerning Russian economic development. The laws in force for any one year appear from the Russian national 'Lawbook', (Свод законов Российской империи).

In the debate over invention privileges, a central role was played by the commercial and technical societies, which aimed not only at the promotion of industry and technology but also at the active dissemination of technical knowledge and at encouraging scientific activity. In practice, the societies also dealt with questions of a purely economic nature. The Russian Imperial Technical Society (императорское Русское техническое общество), founded in 1866, had over six hundred members already, in its first year; by the end of the century, the membership, including the forty branch sections, had climbed to more than one thousand. The Society had a quasi-official status; in addition to a direct subsidy from the state it also had close ties to the highest level of administrative bureaucracy, despite the fact that it did not belong administratively within the domain of any particular government office. Many smaller societies and manufacturers sought contact with the government using the Technical Society as a mediating channel, suggesting that contemporaries at least believed in its authority and influence.[1]

The Collection of the Imperial Technical Society for the 19th century has unfortunately been to a considerable extent damaged or destroyed, hampering severely the investigation of the activity of the Privilege Commission which functioned in connection with the Society from 1879 onward. Material relating to the work of the Commission has been gathered, in addition to the Collections of the Ministry of Finance and the State Council, from the reports of the meetings, published in the Transactions of the Society (Записки императорского Русского технического общества). These are in most cases published in their entirety, including papers and speeches,[2] reports, the ensuing debate and the decisions and resolutions passed.[3] Not all the minutes of the Commission on Privileges (headed by V.I. Veshnyakov) were, however, published in the Transactions. The records have been supplemented by extracts from the minutes published in the newspapers, and by material found in

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1 Соболева 1983, 143–4; Филиппов 1976, 25–6, 34 and 1985, 32–3; Шепелев 1981, 127. During the years 1866–1881 altogether seven different technical and scientific societies were founded, chiefly in the fields of chemistry and physics. Филиппов 1976, 206–7.

2 Белов 1895; Вешняков 1870; Рагозин 1895; Салов 1882.

3 Журнал заседания Совета императорского Русского технического общества 24.9.1883; Журнал заседания Совета императорского Русского технического общества 23.11.1883; Журнал заседания Совета императорского Русского технического общества 17.3.1893; Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895; Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895; Записка Комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения, 1895; Проект положения о привилегиях на изобретения и усовершенствования, выработанный императорским Русским техническим обществом, 1896.

the private collection of A.G. Nebolsin, a member of the Commission.[1] The small private collections of the central figures in the reform of the privilege statute — the Ministers of Finance and V. I. Veshnyakov — do not contain material directly related to the drafting of the privilege statutes.

The other scientific society which took part in the drafting process, the Society for the Encouragement of Russian Industry and Trade (Общество для содействия русской промышленности и торговле) published its 'position paper' on the question of the invention privilege, and its proposal to the Minister of Finance for the complete revision of the 1833 Statute on Privileges, in its journal.[2] Many of the persons who played an active part in the preparation of the new law presented their views in the press, sometimes quite sharply. Such writings appeared across the ideological spectrum, from the extreme conservative to the liberal papers.[3] More extensive comments on the revision of the privilege legislation and on invention activity in general were also published in separate pamphlets.[4]

Statistical information has had to be collected from a variety of sources. The lists of privileges published by the Ministry of Finance give only a general picture of the privileges granted each year. The total picture of the annual volume of applications and fees is based on the material found in the Collection of the Council of Trade and Manufactures and on the annual applications for additional funds addressed to the State Council. The general trends in the numbers of applications have been obtained from the work of Rosenzweig. In calculating the duration of the processing of applications, sources used include reports by the Ministry of Finance and the scholarly literature; in part, the calculations are based on information obtained from newspapers, from the Journal of the Technical Society and from individual privilege publications by the Ministry of Finance. For many years, the address of the recipient of the privilege is not given at all; merely whether he is a Russian or a foreigner. For the years 1880, 1891 and 1904 it has been possible to calculate the distribution of recipients by country. For 1904, it has also been possible to calculate the distribution in terms of various privilege categories.

The system of transliteration used in the study has been adopted from *Webster's Third International Dictionary, Unabridged* (Encyclopedia Britannica, 1961, 1981). References to archival sources give first the archive reference, followed by the collection (f.) and where relevant the year; this is followed by the catalogue reference (op.), and finally the file (d.) and the page number.

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1 РГИА f. 1001, op. 1, d. 299; Голос 20.1.1882 no. 15.

2 Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий, 1893; Рагозин 1893.

3 Вестник промышленности (Ф.В. Чижов), Сборник государственных знаний (В.И. Вешняков), Петербургский листок (П.А. Зарубин), Отголоски (Н.Н. Салов), Новое Время (А.Н. Гурьев).

4 Каупе 1882a and 1882b; Козлов 1897; Салов 1877 and 1881a; Энгельмейер 1897.

I. Russian invention privileges in relation to the protection of inventors' rights and the encouragement of inventions between the 16th and the 19th century

1. Intellectual property, the craft guilds and early forms of protection of inventors' rights

Towards the end of the Middle Ages, professional craft procedures and methods began to be perceived in Western European towns and cities as a form of property, with a commercial value of their own. The new respect for these immaterial property rights, developed within the guilds, was spread by craftsmen who had broken away from the guilds; these individuals no longer accepted corporate ownership of their intellectual property, and demanded patent protection for their professional skills. The customary law gradually began to recognize the inventor's ownership of and control over his invention. With the development of the cult of individual brilliance in the 15th century, conflicts and disputes began to arise over the first inventor of a new technique or device.[1]

There is evidence of patents, in the form of a limited monopoly over a new occupational process or an invention, already in the 13th century; in 15th century Venice, the granting of patents was already commonplace.[2] Patents were seen in Venice, starting from the 15th century, as part of economic policy, used to control ownership of craft skills and to encourage new inventions. Italy also promoted the spreading of the concept of the patent elsewhere in continental Europe and England.[3]

Most important for the development of inventor's privileges were the personal privileges granted by the king, which liberated the holder from control by the guilds.

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1 Bugbee 1967, 14; Long 1991, 869–70, 874–5, 881–3; Silberstein 1961, 107–8, 290. For the medieval craftsman, the finished product was the embodiment of its maker's skill, taste and working time; it was individually meaningful to him and carried with it the stamp of his personality, leading to a certain poeticization of craft and guild activity. At its most extreme, this might take the form of the master's difficulty in relinquishing his finished product. Work had more than an economic significance alone; it could also serve as a source of moral satisfaction. This moral aspect was particularly evident in the concept of the *chef d'œuvre* or 'masterpiece' required to qualify for membership, since only the conscientious and honest craftsman, manufacturing products of high quality, was eligible for guild membership and was thereby entitled to the personal prestige and social position attached to such membership. Guild membership involved pride in one's guild and ensured full burgher status. Гуревич 1972, 244–5, 247.

2 Пиленко 1902, 64–8; Boehm 1967, 14; Bugbee 1967, 15–16; Long 1991, 874–7; Machlup & Penrose 1950, 2; MacLeod 1988, 10–11.

3 Long 1991, 875, 879–80; MacLeod 1988, 10–11; Phillips 1982, 71–7. The first general patent law was enacted by the Venetian Senate in 1474; according to this law, anyone in Venice who invented a new and ingenious invention had to inform the 'Provveditori di Comun'. The invention was then protected for ten years, during which no-one else in Venice had the right to claim the same invention. The Venetian government, on the other hand, had full rights to use the invention for its own ends. Bugbee 1967, 23–4; Long 1991, 878; Silberstein 1961, 16–24.

Royal privileges thus took precedence over guild regulations. This repudiation of full guild autonomy made possible the introduction and privileging of new inventions and methods of production. The grounds on which these limited monopolies were granted for new machines and manufacturing procedures during the 15th and 16th century were either the inventor's authorship of his own invention or the ownership of a particular method or mechanism. The right of ownership of an invention was often adequately protected merely by royal license to manufacture a particular product, since no-one outside the guilds had the same right. Thus license to manufacture a particular product carried a *de facto* monopoly status. The prohibitory function of the patent became prominent only when the guilds were unable to maintain adequate control over the activities of craftsmen.[1]

It is difficult to distinguish between patents and other privileges and dispensations granted by the Crown, since patents were used in the late Middle Ages and the early modern period for both economic and political ends. Patents tended to be associated with other means used for encouraging inventors, such as tax exemptions and mercantilist grants of mining, land and water rights for the promotion of economic activity.[2] The rise of the modern patent system in England at the beginning of the 17th century was linked specifically with the need to distinguish privileges granted to inventors from other monopolies and privileges granted by the Crown.

From the 16th century onward, English rulers had used the *privilegium exclusivum* to attract entrepreneurs into establishing new industries. Under the Stuarts, this procedure became part of a broad program of economic policy, aimed at increasing Crown control over industrial activity. The *privilegium exclusivum* was considered to be important to the development of native English manufacturing; it was this factor which to a great extent determined the content of Crown privilege policy. In England the granting of privileges was aimed primarily at encouraging the adaptation of new inventions in manufacturing, rather than inventions as such. The individual who imported or introduced a new technique was entitled to a patent equally with the actual inventor. A controversial aspect of the Crown's industrial policy was the granting of general monopolies in various branches of industry to individual subjects or groups. To relieve the outcry which had arisen around the issue of monopolies, and to pacify Parliament, Elizabeth issued a decree in 1601 whereby the chief monopolies were abolished and the common-law courts were entitled to define the validity of the remaining ones. To pacify anti-monopoly feelings, James I was forced in 1610 to accept the 'Book of Bounty', in which the monarch announced that he would cease to grant new monopolies and would restrict the scope of existing ones. The 'Book of Bounty' meant a clear distinction, at least formally, between 'invention privileges' and ordinary monopolies.[3]

Despite his promise to Parliament and the decisions by courts, James I widely exploited the old system of monopolies. Increasing abuse of the system caused

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1 Пиленко 1902, 67–9, 72–3; Creutz 1983, 95–8; Gleitsmann 1985, 69 74; Long 1991, 880; Silberstein 1961, 290–4.

2 Dübeck 1982, 179–81; Long 1991, 880–1; Silberstein 1961, 10–13, 108–9, 292–5.

3 Boehm 1967, 14–17; MacLeod 1988, 12–15; Silberstein 1961, 196–203.

growing dissatisfaction, until James consented to Parliamentary demands to abolish all monopolies. The Statute of Monopolies of 1624[1] rescinded all monopolies granted up to that time. The Statute was heavily based, in terms of both language and content, on the 1610 'Book of Bounty' act. At the same time, the encouragement of invention activity was replaced by protection of the inventor and the invention. The act contained an exception to the general rule, giving the inventor a potential 'monopoly' for fourteen years. In England, the year 1624 marked the foundation of the modern patent system.[2]

Muscovite Russia did not offer a fertile ground for the development of the concept of 'intellectual property' which was central to the protection of the inventor's rights. The low level of division of labor in society meant that the various crafts were not clearly differentiated; a craftsman might practice several different crafts simultaneously.[3] Western forms of guild organization, and the written rules regulating guild activities, were either totally absent in Russia or their character was different. The only places where craft skills could be acquired in pre-Petrine Russia were the craft workshops, and entrance into these as an apprentice was common. Unlike Western Europe, where the guilds kept close watch over the master's skill, in Russia the master of a workshop did not have to satisfy corporate norms of professional competence. The various *societas*-type artels and other groups should not be confused with the typically corporate guilds.[4] The level of technological development in most branches of industry was too elementary to demand a large work force or complex tools. The exceptions to this rule were certain production plants established by foreigners and the manufacture of luxury goods and costly metal objects by foreign master-craftsmen. Closest of all to the Western European craft guild was the

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1 The article VI of the Statute of Monopolies concerning patents is as follows: "Provided also, that any declaration before mentioned shall not extend to any letters patent and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures, within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patent and grants shall not use, so as also they be not contrary to the law nor mischievous to the state by raising prices of commodities at home, or hurt of trade, or generally inconvenient: the said fourteen years to be accounted from the date of the first letters patents or grants of such privilege hereafter to be made, but that the same shall be of such force as they should be if this act had never been made, and of none other." Sources of English Constitutional History, 1937; van Zyl Smit 1980, 71.

2 Boehm 1967, 16, 19; Machlup & Penrose 1950, 2; MacLeod 1988, 17–19; van Zyl Smit 1980, 70–1; Weber 1966, 231.

3 This does not mean that the making for instance of clothing and of weapons were not in any way differentiated from each other. It is impossible, however, to speak of actual professional craft differentiation. Лященко 1952, 263.

4 Лященко 1952, 259–60, 263–5; Носов 1991, 69–70: Пажитнов 1952, 169; Пушкарев 1987, 274, 277; Baron 1970, 330–1 and 1983, 51, 54, 56; Gerschenkron 1970, 60; Long 1991, 874–5. The existence and level of development of a Western-European type of guild system in Russia is a controversial issue. According to B.A. Rybakov, in the largest Russian cities it is possible to speak of elements of a Western-European guild institution during the 14th and 15th century, even though no direct evidence has survived. The earliest scattered traces of an elementary guild system date from the 16th and 17th century. These documents contain elements which were typical of the late stages of guild development; it is from this that Rybakov concludes that the Russian craft guild institution was the result of a long process of development. According to Gerschenkron and Pazhitnov, on the other hand, a craft guild institution cannot be said to have existed in Russia at all. Рыбаков 1948, 745–7, 766 7, 775–6. Cf. Пажитнов 1952, 25–30, 35–6, 169; Gerschenkron 1970, 60.

community of foreign masters resident in Muscovy.[1]

Under favorable conditions, the pre-Petrine Russian corporations of craftsmen might have evolved into craft guilds, but due to the relative absence of industrial production and the weak growth of towns this did not occur. The lack of a guild institution in turn retarded the development of craftsmanship and craft production. The absence of a guild system likewise entailed the poor development of a sense of professional pride and of a work and business ethic; the lack of these in turn formed a long-term obstacle to general economic development. Through their rules and practices, the guilds instilled in their members an "incipient instinct of workmanship" and a set of moral instructions to be adhered to in trade.[2] At the same time, Russia evidently also lacked one of the essential conditions for the development of a patent system, the concept of immaterial property rights as it developed in the guilds. But the development of an elementary form of the concept of 'intellectual property' in guilds established by foreign master-craftsmen living in Russia cannot be totally excluded; but the absence of a self-aware bourgeoisie and the slowness with which cities and towns developed from administrative-military centers into commercial and industrial ones,[3] along with the generally undeveloped division of labor within society,[4] hampered the development of a concept of 'intellectual property'. Thus the moral basis for authorship, which in Western Europe had evolved within the guilds and was established as part of customary law, was in Russia to some extent absent.

2. Commercial and manufacturing privileges in Muscovite Russia

Muscovy was patrimonial in its politico-economic character. The state constituted a kind of enormous estate, the вотчина, whose natural resources and means of production belonged in the first instance to the tsar. The concept of the state or realm (государство) was identified with those of the ruler (государь) and the hereditary estate (вотчина). The concept of 'Great Russia' gave rise to the notion of a commu-

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1 Лященко 1952, 263–4; Пажитнов 1952, 25, 35–6; Рыбаков 1948, 746–7, 766 7; Baron 1983, 56. It should of course be noted that for the most part in Western Europe too the technology of production was simple; the prevailing form of industrial organization was the putting-out system. Baron 1983, 57; Landes 1969, 80, 118–19.

2 Пажитнов 1952, 169; Baron 1983, 54; Buss 1989, 241; Gerschenkron 1962, 48–9 and 1970, 59–60.

3 With only a few exceptions, Russian towns were created primarily to serve the administrative needs of the government. It is symptomatic that up to the 18th century the term "город", 'town', preserved a meaning corresponding to the modern Russian expression "кремль", 'fortress'. The merchants and craftsmen actually lived outside the town. Russian towns developed into the bearers of bourgeois traditions and culture only in the 18th century. According to Landes, European cities and towns served as political, economic and social 'schools', in which bourgeois values and the bourgeoisie's self-awareness as an interest group were developed and refined. Милюков 1896, 178–9; Носов 1991, 69; Baron 1983, 45; Landes 1969, 20–1.

4 The differentiation of trade and manufacturing from agriculture developed only slowly; in the 1760's, 59 % of towns were still agrarian (i.e. the principal occupation of their inhabitants was agriculture). Only 2 % were commercial, 48 % industrial, 31 % had some mixed occupation, and 4 % were administrative-military ones. Mironov 1992, 467.

nity of nations; this was contrary to the conception of the hereditary estate, but was nevertheless thought of in that spirit. The tsar of all Russia was thought of not as the supreme leader of the Russian people but as a hereditary ruler, the owner of Russian lands. This patrimonial conception had the tacit acceptance of the people; thus the tsar's right for instance to a monopoly over trade or manufacture of certain goods or his right to collect rent for forests or for salt deposits was not questioned. Private commercial activity depended entirely on the tsar's good will, and the occurrence of property confiscations ensured that the public remained aware of the insecure position of private enterprise.[1]

In a sense, the tsar relinquished a certain strictly delimited part of his property rights by deed of gift; this gift could be rescinded at will. The wealthiest merchants (гости) were actually 'royal factors'; in addition to their own business activities, they carried on state trade in monopoly commodities[2] both at home and abroad, leased the right of collection of liquor and customs duties, and took care of state requisitions. These numerous responsibilities of the *gosti* weakened their opportunities for independent trade. They generally received no compensation for their services to the state, while their property could be seized for failure in business transactions carried out in the name of the tsar and in the collection of liquor and customs duties. Likewise industry, operating on the basis of deeds of gift, functioned mainly in the interests of the state, since it was able to sell and set a free price only on those goods which the tsar did not want to buy.[3] In spite of the non-existing protection of private property, however, trade and manufacturing offered a tempting source of additional income to many a nobleman, monastery and peasant.[4]

A majority of the privileges granted during the 17th century still consisted of the exclusive right to carry on trade in a given area, conveyed by deed of gift. Such grants were used to compensate the recipient for services to the state; increasingly, however, they were also issued to merchants, private commercial companies and

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1 Ключевский 1957, 15–17, 55–6, 67 9. In Klyuchevskii's view, this dynastic conception of the state as a hereditary estate (вотчинно-династический взгляд) was one of the underlying causes leading to the Time of Troubles. Only after this period, with the Romanov dynasty, did a new political way of thinking begin to slowly develop in Muscovy, of the ruler as the chosen of the people (государь-избранник народа). There is some disagreement among modern scholars as to the definition of the term 'patrimonialism'; there is, however, a relatively wide consensus as to the patrimonial character of Russia before Peter the Great, if the term is understood in its broad sense. Ключевский 1957, 51–3, 68–9; Baron 1978, *passim*; Pipes 1955, *passim* and 1987, 21–4 and 1994, *passim*. Cf. e.g. Aer 1992, 34–44; Jussila 1992, 30–4; Szeftel 1980, *passim*; Weickhardt 1993 and 1994, *passim*.

2 Monopoly commodities included grain, hemp, raw silk, caviar, potash, at various times also silk cloth and Russian leather. In practice the state monopoly affected all economic activity, from the setting up of a flour mill to the selling of soap. Лященко 1952, 299–300, 355; Pipes 1987, 194–5.

3 Ключевский 1959, 356–7; Лященко 1952, 274–5, 298, 303, 355; Милюков 1896, 183–4; Baron 1970, 328–30, 333–6; Pipes 1987, 196–8; Szeftel 1975, 340–1.

4 Baron 1970, 329–30, 335–6 and 1983, 49, 54; Pipes 1987, 193–6. An example of a peasant family which rose to a high social position is that of the Stroganovs, in whose fifth and sixth generation we already find several *gost'* figures, belonging to the merchant elite, and in the seventh generation certain *imenitye lyudi*, 'persons of status'. By the time of the tenth generation, in the 18th century, we find several barons. The great boyar Morozov, again, is a good example of a nobleman who in addition to his successful manufacture of potash also carried on iron, leather and brick manufacture, liquor distilling, and both foreign and domestic trade in grain. Лященко 1952, 267, 311–12; Baron 1983, 44, 46–7; Pipes 1987, 196.

whole towns.[1] In practice, the tsar was the greatest merchant in the country, gradually taking control in the 17th century over the most profitable trade. For decades the state held a monopoly over the grain trade, and the production and sale of vodka were under total state control. Trade with Persia, and the export of the fine Siberian furs, were likewise the exclusive privilege of the tsar. Quite often the discoverer of a profitable new opening in the market would find that the state declared it its own monopoly. In addition to carrying on extensive trade in its own name, the state also aimed at close control over the activities of private merchants.[2]

In the 16th and 17th century, Russian industry was based primarily on the manorial economy. Most production was for home consumption, and markets remained limited because most of the population had at most very slight contact with them. Only a few products, such as weapons and iron, were produced to a significant extent under monopoly rights in large state enterprises or on great boyar estates. In many cases, these individual privileges, granted during the 17th century especially for the manufacture of weapons and iron, concerned foreign craftsmen, who had come to Russia by permission of the tsar and who carried on their trade under a state license.[3] This was the origin of many of the earliest Muscovite industrial enterprises, concerned with the manufacture of weapons, paper, glass and woolen goods, as well as mining activity. The proportion of foreigners among the founders of the earliest industrial plants was very great. The primitive state of the economy is shown by the fact that even the most basic materials, such as the fireproof clay used in glass manufacturing, had at first to be imported from abroad.[4]

Due to the lack of guilds and to the prevalent patrimonialism, the character of the earliest privileges differed from those typical of Western Europe. The absence of a Western craft guild institution, however, should not necessarily lead us to the conclusion that the Russian privileges had a purely prohibitive function. According to Pilenko, the permissive vs. prohibitive character of privileges is still unclear even in the 18th century, since the issue of freedom of enterprise was never decided in Russia as categorically as for instance in France. According to Skorodinskii, Russian privileges had from the very beginning a prohibitive function due to the lack of a guild institution.[5] Pluzhnik, on the other hand, stresses the restrictive elements of privileges issued for manufacturing activity in 17th century Russia, i.e. the importance

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1 Взгляд на историю привилегий в России 1832, 108–9; Краткий очерк русского законодательства о привилегиях на изобретения и открытия 1860, 68–9; Пиленко 1902, 139; Плужник 1966, 8 and 1969, 69, 75; Baron, 1970, 330.

2 Baron 1970, 328–9, 335 and 1983, 47–9; Pipes 1987, 193–5; Лященко 1952, 299–300, 303.

3 A frequent condition for such a license was the obligation to train Russian craftsmen for the work. Лукьянов 1948, 236; Szeftel 1975, 347.

4 Лукьянов 1948, 233–6; Лященко 1952, 266–8, 297, 311–13, 315, 387; Плужник 1966, 9 and 1969, 77–8; Струмилин 1966, 326–7, 332; Baron 1983, 46; Vucinich 1963, 16. In 1632 the Tsar Mikhail Feodorovich granted the Dutch merchant Winius a deed of gift entitling him to establish an iron foundry near Tula. The gift also included the mines of Dedilovskii and the *volosti* of 347 peasants. In 1634 a glass factory and a paper factory were built by foreigners near Moscow. Лященко 1952, 312–13, 387; Плужник 1969, 77; Струмилин 1966, 327; Pipes 1987, 196.

5 Скородинский 1904, 8; Пиленко 1902, 151–2.

of privileges granted for a specific limited period.[1]

The relationship between the inventor's privilege and the privilege for industrial activity is by no means clear. In Western Europe, mercantilist privileges have often been seen as means of emancipation from restrictions imposed by the guilds; if this is so, the institution of the privilege can be considered rather as a forerunner of the concept of freedom of trade than of the patent.[2] Russian merchants were not interested in removing the restrictive regulation of business activity; what they demanded was a closed system strictly protected by exclusive rights, thus involving no competition. Russian merchants were not accustomed to trade with foreigners, and felt their foreign fellow-merchants to be a particular threat, because of the special privileges granted to the latter.[3] The Russian economy and Russian merchants were unable to seize and exploit the opportunities offered by the rapid development of trade in the 16th and 17th century. The repugnance felt by Russians towards the formation of large trading companies, and the lack of a native commercial fleet, helped to bring about what was *de facto* a monopoly of foreign merchants over Russian foreign trade.[4]

Definition of the character of these privileges is made more complex by the active role played by the state in the trade and production of many profitable commodities. Either by means of outright monopolies or indirectly through its own commercial agents, the state reserved for itself the exclusive right to many important commodities. Foreign merchants were allowed to sell their goods only after first showing them to the tsar, who had reserved for himself the option of first choice, at a price pleasing to him. This arbitrary power of the ruler might also take the form of the rescinding of a monopoly grant to a private merchant or manufacturer, or the confiscation of his property. It should also be taken into account that in the 17th century many of the recipients of privileges were foreigners; for them the grant of a privilege certainly entailed permission, but possibly also a monopoly status. The character of privileges in Muscovite Russia has to be decided in each case individually; it is difficult to draw any generalizations.

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1 Плужник 1966, 9 and 1969, 77–8. In the 17th century, the number of deeds of gift granted for manufacturing and mining ("на заведение мануфактур" and "на прииск полезных ископаемых") began to increase. These deeds conferred on their recipients a monopoly on a given activity, generally for ten, fifteen or twenty years. *Ibid.*

2 Beier 1979, 187–8; Dübeck 1985, 23–4; Hilaire-Pérez 1991, 930; Kemppinen 1983, 456; Long 1991, 881. Due to the corporate control practiced over production by the guilds, the business license was a considerably more important element than the right of prevention carried by the privilege. Beier 1979, 187.

3 Baron 1970, 335 and 1978, 573, 580–1 and 1983, 49; Pipes 1987, 198, 208. After the late 16th century the government restricted the activity of foreign merchants, but despite the wishes of Russian merchants did not prohibit it altogether. In the latter half of the 16th century a 'book of instructions' was drawn up for Russians trading on the coast of the Arctic Ocean with Dutch and Flemish merchants. Evidently because of the Russian lack of experience some sort of protection was considered necessary. Ahvenainen 1967, 15; Szeftel 1975, 337–9.

4 Милюков 1896, 97–8; Ahvenainen 1967, 5–45; Baron 1970, 323. For details on the Dutch penetration of Russian markets in the late 16th century see Ahvenainen 1967, *passim*.

3. Manufacturing privileges in the policy of Peter the Great

During the reign of Peter the Great, under the stimulus of foreign influence, a large-scale program of economic and administrative reform was initiated from above. One of the most important means used by Peter for his reformation and 're-education' of the entire Russian society was legislative reform;[1] in the new legislation the didactic and polemical functions were foregrounded, to the extent that the distinction between a juridicial decision and a polemical tractate was occasionally obscured. The rhetoric of the new legislation repeatedly indicated that the earlier order and earlier views had been wrong and against the interests of society (против государственной пользы).[2] The tsar, who took a personal part in the drafting and revising of many of the laws, saw himself as a father, thinking of his children's own best interests in forcing the latter to acquire new ideas and new ways. This paternalistic attitude towards the people, and the didactic function of legislation, is clearly shown by the following phrase: "No matter how good and how necessary a new idea, our people will not do anything unless under compulsion".[3]

Under Peter the Great, the tsar's person and the power he wielded became identified with the state. The concepts of the state and the fatherland were sacred to every subject, as the symbolic representation of the independent national existence of Russia. These concepts were identified, following medieval tradition, with the tsar as the actual, human bearer of statehood, and extended to him the notion of sacrality and the norms of statehood. Any act against this bearer of power was perceived as an act against the statehood which was embodied in him, against Russia and against the Russian people.[4] The prevalent cultural policy had a consciously religious character, due to which the statehood embodied in the ruler could not be seen in a religiously neutral light. From the perspective of traditional Russian culture, Peter's policy of reform was interpreted as the work of the Antichrist. In other circles, the person and

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1 The belief in the omnipotence of the state was reflected in the legislation, and helps to explain the enormous increase in the volume of legislation under Peter the Great and his successors. Even in the latter half of the 17th century new edicts and regulative decrees were issued at an average rate of 36 annually, while in the early 18th century this rate increased to 160 annually and in the later 18th century to 198 annually. Ерошкин 1960, 88; Живов 1988, 78–9; Павленко 1964, 416.

2 Живов 1988, 81 2, 85; Raeff 1983, 206–7. Underlying the edicts is the theory of the state as the most just form of social organization, regulating the lives of its members for the common good. The expressions used in this connection, such as "общее благо" and "всенародная польза", remained somewhat vague and indeterminate. After 1702, the phrase (для общего блага) 'for the common good' was commonly used in edicts. For the meanings assigned to this phrase in the 18th century see Павленко 1964, 398–403.

3 Именный, данный президенту камер-коллегии князю Голицыну – Об отправлении в разные хлебородные места крестьян для обучения местных обывателей снимать хлеб с поля косами. 11.5.1721 ПСЗ 1830, vol. 6, no. 3781; Анисимов 1989, 13–4; Ключевский 1958, 110; Павленко 1964, 409–10. In Muscovite Russia, the duties of a 'good tsar' were liturgical by nature and static in content. Under Peter the Great the myth arose of the 'reformer tsar', in whom the duties of the good tsar became secular and progressive. Peter combined autocracy and reform in a peculiar symbiotic amalgam, and each following generation created its own image of the 'reformer tsar'. For more on the myth of the tsar, see Whittaker 1992 *passim*; Aer 1992 *passim*.

4 Анисимов 1989, 13; Raeff 1984, 46–7. But cf. Whittaker, according to whom Peter succeeded in maintaining the distinction between himself and the state. Whittaker 1992 *passim*.

actions of the tsar were the object of comprehensive sacralization. Since in the 18th century legislation took on a cultural status, and since it was one of the most important elements and instruments of cultural change, legislation shared in this religious valuation.[1] Peter's reform policies meant a conflict between despotism on the one hand and the Russian people's well-ingrained beliefs on the other. The purpose of the reforms was to create a spirit of initiative and independence, and through the mediation of the serf-owning nobility to foster in Russia the science and popular education of the West.[2]

In the early 18th century, due to the new efficiency of the administrative machinery, the absolute authority of the tsar took on quite new features of despotism. Peter's motives in his efforts to accelerate the industrialization of Russia were primarily military; only towards the end of his reign did other aims become evident in his economic policy.[3] We cannot speak, however, of an actual modernization of the social system, or of a change in the basic principles of economic policy. The state continued to have close links with industry, even though after 1710 the government began to lease state enterprises to private individuals. This attempt to privatize state industry was fairly successful; of the manufacturing plants in existence at the end of Peter's reign, more than half were in private hands. The most important task of the enterprise was to supply state requisitions, and the government might change the terms of the lease or confiscate the business if all conditions were not fulfilled. In the absence of willing entrepreneurs, the government assigned the manufacture of the goods needed to a particular company. The founding of a factory or company became an obligation, and industrial activity took on the nature of a service to the state.[4]

One means used by Peter the Great to promote the introduction of new branches of manufacturing in Russia and the renewal of production technology was by inviting experts from abroad and conversely by sending Russians abroad to learn new methods. But this was not enough. The training offered in Russia by foreign masters often turned out to be inadequate, while Russians sent abroad to acquire new skills in many cases failed to acquire sufficient expertise. To increase the level of practical technical skills, elementary schools and schools giving more or less vocational instruction were established in cities and towns. To supply the missing higher level of knowledge in agriculture, an Academy of Sciences was founded in 1725. The attitude towards science was utilitarian: mechanics, chemistry, astronomy and mathematics were needed for shipbuilding, navigation and the construction of canals,

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1 Живов 1988, 82–4; Hartley 1992, 370.

2 Анисимов 1989, 13–14; Витчевский 1909, 13; Живов 1988, 82; Ключевский 1958, 220–1.

3 Raeff warns of the dangers of linking Peter's reforms with military objectives alone, in that the radical and energetic reforms which he initiated considerably exceeded military needs as narrowly defined. Raeff 1984, 36–7.

4 Анисимов 1989, 7; Ключевский 1958, 110, 116, 118, 212; Милюков 1896, 80–1; Blackwell 1968, 16–19 and 1970, 9–10; Pipes 1987, 209. Various estimates have been proposed as to the number of manufacturing plants during the reign of Peter the Great, ranging from 200 to 233. Blackwell 1968, 17 and 1970, 9; Mironov 1992, 461.

but also for the development of the artillery, of manufacturing and of mining.[1] All in all, Peter's efforts to modernize Russian military institutions demanded far-reaching economic and cultural changes in their support.[2]

One example of a failed attempt to bring about cultural change was the edict of 1699, according to which Russian merchants were to follow the Western example and establish trading companies in order to collect larger amounts of capital. This effort at introducing Western commercial customs in Russia did not succeed as desired. The idea was alien in Russian culture; this, combined with the mutual distrust of the merchants, meant that the idea of the limited company did not take root. Instead, what arose was a unique form of commercial company, growing out of the old Russian tradition and based on individual family relations and the indivisibility of property rather than on the collecting and combining of capital resources. In a society lacking mutual confidence among individuals, the principles of collective economic activity were built upon the remnants of age-old blood relations. On this traditional foundation, economic needs led to the development of the Russian merchant house.[3]

A more positive effect on Russian entrepreneurs than the edict of 1699 seems to have been exerted, along with the use of compulsion, by the benefits and advantages granted by the state to manufacturers. The College of Manufacturies, which from the early 18th century onward was responsible for the control of industry, encouraged all kinds of private enterprise, for instance by more readily granting privileges for purposes of industrial activity.[4] In addition to the license to establish the factory, the privileges entailed various benefits: for instance the release of the recipient and his descendants from the obligation of state service, the right to buy serfs, and various

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1 Leading technicians and inventors, such as Nartov and Leitman, were recruited as educators and scientists for the Academy of Sciences. Initially the Academy consisted entirely of foreigners. The Academy played a vital role in the development of Russian technology. The first Russian-language textbook of mechanics appeared in 1722. The work had been written by G.G. Skornjakov-Pisarov, a protegé of Peter the Great. Blackwell 1968, 31–2.

2 Ерошкин 1960, 86; Ключевский 1958, 107–8; Лукьянов 1948, 236 9, 273–4; Blackwell 1968, 16 and 1970 7, 9–10; Vucinich 1963, 72–4. During the reign of Peter the Great the following schools were founded, among others: in 1701 a school of mathematics and seafaring in Moscow, which was transferred to St. Petersburg in 1715 and became the Naval Academy; artillery and engineering schools; a medical school; the Moscow school of mathematics; a Slavic, Greek and Latin school; the Glück gymnasium; and elementary schools in various towns. Ключевский 1958, 240–1, 244–5, 248–9; Blackwell 1968, 30–1; Vucinich 1963, 43, 51 2.

3 Ключевский 1956, 27–8 and 1958, 114–15; Милюков 1896, 98; Baron 1983, 54–5, 57. Baron discusses the reasons why the idea of the limited company did not take root in Russia: in addition to the fear of being swindled, he mentions the Russian merchants' feelings of inferiority vis-à-vis their Western counterparts and their desire to conceal their wealth from the state, which at times of need did not hesitate to seize private property. Russian merchants, unlike Western ones, were not organized into guilds; in the West these had functioned as forerunners of the merchant companies. Actual trading companies were not founded in Russia until the mid-18th century, to serve the south-east trade; here there was no dangerous competition from foreigners. It soon became apparent, however, that these companies were merely abusing their privileges; they were abolished under Catherine the Great, and lost all their significance. Милюков 1896, 98; Baron 1983, 54–5.

4 Бабурин 1939, 68–70; Ключевский 1958, 115–16; Rieber 1982, 9. The College of Manufacturies was established in 1724, for the purpose of issuing licenses and privileges for the founding of new manufacturing enterprises. During 1731–41 the College was combined with the College of Commerce and Mines. Amburger 1966, 119; Peterson 1979, 369; Rieber 1982, 9.

tax and customs exemptions.[1] The purpose of these privileges was to attract in particular foreign know-how to Russia and to control the development of various branches of industry. Peter the Great valued the technical expertise of foreigners, but he was not willing to place Russian factories in their hands. Only few foreigners succeeded in establishing their own factories during Peter's lifetime.[2]

The government policy of encouraging industrial enterprise had both advantages and disadvantages; the numerous special benefits tended to reduce competition between manufacturers. The state was aware of this danger; according to a decree of the College of Manufacturies, a privilege did not bestow upon its recipient either an exclusive monopoly of the field or the right to prevent others from establishing similar factories.[3] A majority of the manufacturing privileges issued meant a license or encouragement in the form of various benefits and special exemptions, rather than an actual monopoly. Similar 'ordinary privileges' (*privilèges ordinaires*) were granted in France, where they served to free the recipient from the control of the guilds. The Russian privileges often also entailed various fiscal and legal benefits.[4]

The various bureaucratic institutions established to control trade and manufacturing, such as the Colleges of Mines, of Manufacturies and of Commerce and the Chief Magistracy, made use of various decrees, edicts, regulations, privileges and inspections in their efforts to control and guide the development of economic life. The Russian Colleges, modeled on their Swedish counterparts, differed from the latter in their unusual stringency, their special systems of supervision and control.[5] The production of factories and mines was intended to satisfy in the first place the needs of the state, which also controlled the extent and quality of production. The College of Manufacturies might revoke the license of a later factory if the quality of its output did not satisfy the standards of the College and if an earlier factory was able to satisfy the demand by itself. The status of the entrepreneur, and the protection of his private property, had not changed since the Muscovy era; private persons were allowed to sell on the free market only those goods which the state did not want to purchase. Private enterprise was tightly bound up with the requirements of the state; this on the one hand guaranteed the manufacturer a reliable income, but on the other it reduced competition and the manufacturers' interest in developing their methods

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1 Бабурин 1939, 96, 100; Ключевский 1958, 115–17; Нисселович 1884, 99; Лященко 1952, 364.

2 Взгляд на историю привилегий в России 1832, 109; Нисселович 1884, 99; Туган-Барановский 1907, 9–10; Blackwell 1968, 18 and 1970, 10.

3 Регламент мануфактур-коллегии 3.12.1723 ПСЗ 1830, vol. 7 no. 4378.

4 Взгляд на историю привилегий в России 1832, 109–10; Краткий очерк русского законодательства о привилегиях на изобретения и открытия 1860, 69; Нисселович 1884, 99–100; Плужник 1969, 95–6; Hilaire-Pérez 1991, 914–15.

5 For details, see the debate between Torke and Keep concerning the significance of the Colleges and the Senate in forming the relationship between the society and the bureaucracy during the reign of Peter the Great. According to Torke, a majority of government officials did not understand the purpose of the reforms or the new principles of legality. Torke 1971, *passim* and 1972, 10–12. Cf. Keep 1972, 1 9.

of production.[1]

As in the West, in Russia too in addition to manufacturing privileges so-called 'private monopolies' (частные монополии) continued to be granted; these gave their possessor the exclusive right to carry on a specific type of production for a specified period of time. Despite this, however, the government might grant another manufacturer exclusive rights to the same production, or cancel the monopoly before its term had lapsed. The manufacturies established by force under Peter the Great often involved some sort of production monopoly. Thus the 'private monopolies' and the manufacturing privileges functioned as two parallel systems, with no clear distinction between them.[2]

The state continued to be the largest single entrepreneur. The efforts by Peter to shift manufacturing and state property into private hands was offset by the desire to keep economic activity under government control. The private sector operated under strict state supervision, and the officials of the Colleges of Manufacturies and Commerce had extensive powers to intervene in the activities of private entrepreneurs operating under the protection of privileges granted by the Colleges.[3] During the reign of Peter the Great a total of 51 manufacturing privileges were granted;[4] a majority of the manufacturies operating during the early 18th century were in the hands of a small class of entrepreneurs, created out of former merchants by means of manufacturing privileges.[5] These 17th and early 18th century privileges granted for the establishment of manufacturies (привилегия на "заведение" мануфактур) formed part of a broader category of industrial privileges, which also included exclusive rights granted for mining operations (привилегия на "прииск" полезных ископаемых), and from the late 17th century onward to trade in 'newly discovered goods' (новоприисканный товар).[6] Underlying the policy of manufacturing

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1 Анисимов 1989, 7–8; Бабурин 1939, 95; Павленко 1964, 424 5; Pipes 1987, 209. Certain edicts issued in 1722 gave craftsmen in towns the right to establish self-governing 'cells' (ячейки/цехи) in order to improve their craft skills and the quality of their products. The cells were entitled to require membership from all the craftsmen in the town, with the exception of serfs living in their master's house. There were, however, no sanctions for failure to join the cell; this can be seen as evidence of the formal, rhetorical nature of the edicts. In addition, the seven-year term of apprenticeship for all crafts tended to reduce interest effectively. Assessments of the degree of success of this attempt to establish a guild system in Russia have varied greatly. Лященко 1952, 396 7; Пажитнов 1952, 45–55, 169–70.

2 Ministry of Finance to Imperial Secretary 14.3.1895, РГИА f. 1152, op. 12, 1896g., d. 110, 2; Ключевский 1958, 118.

3 Ключевский 1958, 116, 212; Rieber 1982, 6–8.

4 According to a source dating from 1832, only 18 privileges were granted during Peter's reign, but this is not accurate. Взгляд на историю привилегий в России 1832, 110. Cf. Роспись представляющего число уставов, учреждений, наказов, жалованных грамот, указов и трактатов, состоявшихся со времени уложения царя Алексея Михайловича, с 29 января 1649 по 12 декабря 1825 года. ПСЗ 1830, vol. 1, XXXI; Плужник 1969, 119.

5 Blackwell 1970, 10. The proportion of the nobility out of private manufacturers operating during 1700–25 was 5 %, i.e. two out of forty. Струмилин 1966, 332; Mironov 1992, 465.

6 This concept first occurs as the basis for the granting of a privilege in 1699. Привилегия голландцам Брансу и Любсу, на закупку овечьей шерсти во всем Российском государстве и на вывоз оной за границу, в продолжение двенадцати лет без перекупа со взятием пошлин 18.1.1699 ПСЗ 1830, vol. 3 no. 1671.

privileges adopted under Peter the Great was the desire to stimulate the establishing of new fields of industry.[1]

The manufacturing privilege can be interpreted as a kind of transitional stage between the private monopoly and the inventor's privilege; in cases of exclusive rights, it meant a tightening of the grounds on which a monopoly might be granted. The granting of the exclusive right to some entirely new product, not on the market earlier, was considered more acceptable, and more favorable in terms of the development of the national economy, than a monopoly on some product already on the market.[2] From the point of view of the 'true patent', based on the strict and natural right of possession of the inventor, it is difficult to see a connection between the manufacturing privilege and the inventor's privilege. The only common factor is the right of prevention, which as such was not particularly common in 18th century Russian privileges.

Despite the desire to encourage inventions and the development of new branches of manufacturing, no special law was enacted in Russia to protect the rights of inventors, parallel to the English 'Statute of Monopolies', even though the lack of such a law had been estimated as early as 1720 to have a negative effect on invention activity.[3] The backwardness of manufacturing activity and of the guilds tended to hamper the development in Russia of a precise concept of the patent. The weak protection of private property inherited from the Muscovite era, and the dominant role played by the state in business activity, were not likely to encourage private enterprise. The Colleges responsible for the overseeing of industry and the granting of manufacturing privileges had unlimited freedom to interfere, in the name of the public good, in the activity of private entrepreneurs operating under these privileges.

4. The anti-monopoly atmosphere and its effect on the development of the invention privilege institution in the second half of the 18th century

In England, the growth of anti-monopoly feeling in the early 17th century had forced

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1 Плужник 1969, 100. On the evolution of industrial privileges in France see Silberstein 1961, 214–15.

2 Взгляд на историю привилегий в России 1832, 108–9; Пиленко 1902, 140–6, 149–50; Плужник 1969, 100. There was a natural connection between the privilege and the service to the state. What was involved, however, was a royal prerogative which served the economic policy of the state. While the privilege and the service to the state approached closer to each other between the end of the 17th and the mid-18th century, the inventor still had no natural right over his intellectual property. Пиленко 1902, 142–5, 149–50.

3 One of the most noteworthy economic thinkers during the era of Peter the Great, the peasant Ivan Pososhkov, wrote a book during the 1720's entitled *Book on Poverty and Wealth* (Книга о скудости и богатстве) in which he complained that many inventors did not dare publish their inventions, because the law does not secure the inventor's rights. Pososhkov believed that the enactment of such a law would promote the appearance of new ideas and reduce the concealment of inventions. The author died in prison, and the work was first published, in censored form, only in 1842. Посошков 1842, 141 2. For a more detailed discussion of Pososhkov and his economic thinking, see Лященко 1952, 371–5; Лукьянов 1948, 481–2; Vucinich 1963, 64–5.

the Crown to think seriously about the justification of monopolies. In Russia, the government became concerned about the negative effects of monopolies during the early 18th century, and had to seriously reconsider the grounds on which monopolies were granted. The first stage in limiting the scope of monopolies was the introduction of the concept of the 'newly discovered good' (новоприисканный товар), by means of which monopolies were supposed to be restricted to new kinds of things. The concept of the 'new invention' as the grounds for the granting of a privilege was first more widely adopted in the mid-18th century. In the privileges granted in 1748 and 1749 for the manufacture of dyes,[1] the prohibitive function of the invention privilege, so central to the emergence and early development of the inventor's rights, is clearly evident.[2] These privileges retained elements of the older type of privilege or deed of gift, such as the right to hire the necessary number of free workers and peasants to work in the factory. The new privileges, however, also already possess the core of the modern patent law; the inventor now considers himself to be entitled to compensation for his efforts, and this compensation can only be secured in cooperation with the state. Naturally the obtaining of a privilege depended ultimately on the higher power alone.

The prevalent hostility towards monopolies was one of the reasons why from the mid-18th century onward applicants for manufacturing privileges tended increasingly to mention in their applications that they had invented a new manufacturing process, thus ensuring a positive response. The applicants were petitioning primarily for the exclusive right to a particular type of production and only secondarily for the exclusive right to an invention.[3] The government was not interested so much in stimulating invention activity as in encouraging the importation of new production techniques and processes.

Under Catherine the Great, further blows were struck against the old industrial and trade monopolies. In a series of edicts and manifests issued during 1762–75, a large number of old monopolies were revoked.[4] The College of Manufacturies, which

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1 In 1748, A. Tavleev, I. Dedov and T. Voloskov were granted a privilege for the industrial manufacture of a dye of their invention, and the right to sell the dye tax-free for ten years in St. Petersburg, Moscow and other cities. Three years later they were, together with K. Komolov, given another privilege for dye manufacture. A privilege carrying the same rights, but for other dye numbers, was given to Sukharev and Belyaev in 1749. Сенатский – О привилегии купцу Тавлееву на устроение фабрик для делания красок и о правилах на учреждение оных. 2.3.1748 ПСЗ 1830, vol. 12 no. 9487; Сенатский – О дозволении московским купцам Сухареву и Беляеву завести фабрику для делания красок кармина, бакана и прочих. 13.12.1749 ПСЗ 1830, vol. 13 no. 9693; Сенатский – О привилегии купцам Тавлееву, Дедову, Волоскову и Комолову на заведение фабрики для делания из российских материалов синей брусковой кубовой краски. 25.10.1751 ПСЗ 1830, vol. 13 no. 9895.

2 Пиленко 1902, 146–8; Плужник 1969, 108–11, 114–18.

3 Пиленко 1902, 146–50; Плужник 1969, 89–90, 108–11, 114–18.

4 In 1762, the monopolies concerning the tar trade were revoked, and the manufacture of calico cloth was demonopolized with the expiration of the Chamberlen manufacturing privilege. Other forms of economic activity which were demonopolized at this time were seal-hunting, fishing, and the manufacturing of tobacco products and sugar. Именный, состоявшийся в Сенате – О разных постановлениях касательно торговли 31.7.1762 ПСЗ 1830, vol. 16 no. 11630. Ordinances issued in 1767, 1769 and 1775 were designed to encourage all kinds of crafts. Именный, данный мануфактур-коллегии – О незапрещении промыслов и рукоделий, коими городские жите-

had been responsible for overseeing industrial activities, was also abolished, since no special license was needed any longer for the establishing of a manufacturing plant.[1] The right to practice trade or manufacturing was open freely to all. 'Private' factories, according to the Empress, were to be considered their owner's private property. In spite of the abolishing of industrial monopolies, however, the state simultaneously granted to the nobility a monopoly on distilling, and continued the granting of privileges; this casts some doubt on the liberalism of Catherine's economic policy. The liberalist rhetoric of the proclamations was expressed in practice only insofar as it was consistent with the government's political and fiscal objectives;[2] this is not surprising, when we take into account the change in the character and significance of legislation which occurred under Peter the Great. Laws and statutes were seen as texts, as proclamation, with the function of educating the public and reforming Russian society. The law had lost its pragmatic meaning.

The anti-monopolistic stance, then, was actually embodied in Russia to some extent only in the rhetoric of proclamations. A counterpart to this is found in France, where the government granted increasingly fewer exclusive privileges, and adopted a policy of financial encouragement of inventions rather than the granting of exclusive rights. The state adopted the role of protector of individual rights, and exercised increasingly strict control over the guilds and towns, whose privileges and monopolies allowed them to restrict individual business enterprise. The royal proclamation of 1762 strengthened the power of the state over the guilds, even though freedom of trade and patent legislation were achieved only with the Revolution.[3]

The industrial policy of Catherine the Great served the interests above all of the nobility, to some extent also of the peasants, in that manufacturing privileges granted to the bourgeoisie had restricted the business activities of the other two groups. After the mid-18th century, manufactures operating in connection with large estates grew more rapidly than did merchant manufactures, especially in fields where no great

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ли снискивают пропитание 17.4.1767 ПСЗ 1830, vol. 18 no. 12872; Сенатский в следствие именного – О дозволении всем желающим заводить ткацкие станы, с объявлением о том в мануфактур-коллегии и с платежем положенной на них подати 30.10.1769 ПСЗ 1830, vol. 18 no. 13374; Манифест – О Высочайше дарованных разным сословиям милостях, по случаю заключенного мира с Портою Оттоманскою 17.3.1775 ПСЗ 1830, vol. 20 no. 14275.

1 The College of Manufacturies was abolished in 1779, but already in 1796 it was being re-established. It was finally abolished in 1803, and its functions were transferred to the Department of State Economy, newly established under the auspices of the Ministry of Internal Affairs. Иванов 1844, 187–90; Ерошкин 1960, 153; Amburger 1966, 229.

2 Витчевский 1909, 17–18; Милюков 1896, 82; Дружинин 1987, 252–3; Лященко 1952, 410–11, 413; Плужник 1968, 36 7 and 1969, 121–6. Catherine's Charter to the Nobility of 1785 confirmed the exemption of the nobility from compulsory military or civil service dating from 1762, and conferred certain other privileges based on rank, such as the right to use serf labor. At the same time the nobility was exempted from corporal punishment, military conscription and taxes. Details as to the personal privileges of the nobility are given in the proclamation of 1785. Грамота на права, вольности и преимущества благородного Российского дворянства 21.4.1785 ПСЗ 1830, vol. 22 no. 16187; Pipes 1987, 133–4; Riasanovsky 1984, 262; Szamuely 1988, 155.

3 Hilaire-Pérez 1991, 923–6, 929, 930–1. Economic liberalism, however, did not have the unreserved support of the administration. Some of the Inspectors of Manufactures, for instance, were in favor of strict state control, while others considered the rules important in curbing the excesses of the market. Those who advocated the most liberal policy considered that the only regulator of the economy should be consumer demand. Hilaire-Pérez 1991, 930.

technical expertise was needed and where the manpower and raw materials available on the estate could be utilized. The nobility's interest in the manufacture of woolen and linen cloth and in liquor distilling was further increased by guaranteed purchases by the state, by customs exemptions, and by the monopoly on distilling.[1] The abolishing of monopolies, the promulgation of tax exemptions and reduced customs tariffs,[2] and the encouragement of private enterprise were signs of an interest in bringing about greater freedom of enterprise. There are evident differences between the means adopted by Peter and Catherine to improve the Russian economy; the belief in detailed regulation and control and in overt compulsion gradually gave way to the idea of enlightened self-interest and of the force of example in the development of trade and industry. One factor contributing to the abolishment of manufacturing privileges was also the abuses and weaknesses of the system. This, however, does not mean that the state gave up to any significant extent the basic principles of its industrial policy; it was merely the means towards that end which changed.[3]

In spite of this stringent state control, individual business activity played an important role in the development of industry and particularly of the iron industry during the later 18th century. At the end of the century, the nobility of merchant origin controlled more than 66 % of Russian metallurgy. The state's encouragement of industry continued under Peter's successors; the maintenance of the new war machinery had become politically essential. Of the members of the nobility engaged in iron production during the 18th century, a majority had risen from among court favorites or from among the powerful merchant families.[4]

When the commercial and industrial monopolies were revoked, no specific attention was paid to invention privileges. There was not even any statute concerning the rewarding of inventors, as noted by the Senate in dealing with the distilling innovation invented by A. Ratetsov. On the basis of the reports it had received, the Senate was convinced of the usefulness of the invention, and in 1776 granted Ratetsov a reward of 1000 rubles. In the same statute it was noted that the government was empowered to reward inventors "who had made a new invention serving the common good" (сделавших новое изобретение для общей пользы). This, however, was not a question of a privilege or of the protection of the inventor's

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1 Лященко 1952, 409–13; Павленко 1964, 425–6; Плужник 1969, 127–9; Blackwell 1968, 26–7; Mironov 1992, 465–6; Pipes 1987, 211–14; Rieber 1982, 40–3, 45–8. In the first quarter of the 18th century, the landowning nobility controlled only 5 % of all manufactures, but by 1773 this figure had increased to 20 % of manufactures and one third of total production. Catherine's industrial policy had a favorable effect at least on the sawmill industry of the Province of Vyborg, where unprecedentedly high shipping figures for sawmill goods were achieved during her reign. Ahvenainen 1984, 54–5; Mironov 1992, 465–6.

2 The first customs tariff under Catherine the Great, in 1766, reduced import duties to some extent, but the following tariffs, in 1782 and 1797, once more hampered imports. All three tariffs encouraged the importation of raw materials from abroad and discouraged the importation of commodities which would lead to tighter competition on the domestic market. Витчевский 1909, 17–20; Милюков 1896, 82; Покровский 1947, 151–2.

3 Труды Комиссии, учрежденной для пересмотра уставов фабричного и ремесленного, приложение I, 1863, 11–12; Витчевский 1909, 18–20; Павленко 1964, 424–5; Blackwell 1968, 27–8.

4 Blackwell 1968, 28 and 1970, 11–12; Mironov 1992, 465; Pipes 1987, 212; Rieber 1982, 37.

rights, but of a monetary reward. The statute was never widely applied, and the dissemination of information concerning inventions remained a minor side issue, as shown for instance by the complaints of contemporaries. There was some attempt to publish new inventions in the Commentaries issued by the Russian Academy of Sciences, but the spreading of information was hampered by the slowness of publication.[1]

From the reign of Peter the Great onward, the privilege system had been used in the attempt to increase the interest of manufacturers in expanding their activities and in developing production technology; at the same time the system could be used to control manufacturing activity.[2] Pososhkov's idea, tentatively formulated in the early 18th century, of distinguishing inventor's privileges legislatively on the English model from other privileges granted by the Crown, ripened into an actual legislative proposal only at the end of the century. A legislative proposal presented to Catherine in 1794 dealt in particular with the problem of reconciling the public interest with that of the inventor. This proposal, drafted by Kozodavlev,[3] included a discussion of the importance of inventions for the development of science and technology, and a detailed draft for a statute. The text stressed the importance of privileges especially for the development of Russian manufacturing and foreign trade. According to Kozodavlev, it was time for Russians to stop their blind admiration for foreign goods and their contempt for domestic ones. This draft, however, did not lead to any concrete measures to enact a law concerning invention privileges.[4]

Despite the lack of protection for inventor's rights, there were several important Russian inventors during the 18th century. Today they have been more or less forgotten, and in the historiography of technology dealing with certain important inventions their place has been appropriated by European and American names. One reason which has been suggested for this relative obscurity is the romanticized view of the self-taught Russian peasant genius, working in total isolation from the mainstream development of Western European technology. Significant inventions could not be implemented due to lack of funds. This explanation holds true only in part; the history of technology is also familiar with several Russian inventors, the originators of noteworthy inventions, who closely followed the achievements of Western science and who in some cases received considerable financial support from the government. They were by no means self-taught peasants; they were the sons of factory workers, of small tradesmen and shopkeepers, and of soldiers who had lived

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1 Лукьянов 1948, 482. Высочайше утвержденный доклад Сената – О награждении подпоручика Ратецова, за найденный им в винокурении новый легчайший способ, и о вознаграждении таким же образом и прочих, кои сделают для общей пользы новое изобретение. 9.3.1776 ПСЗ 1830, vol. 20 no. 14447.

2 During the reign of Catherine the Great (1762 96), a total of 32 privileges were granted; under Paul I (1796–1801) the number was fifteen. Роспись представляющего число уставов, учреждений, наказов, жалованных грамот, указов и трактатов, состоявшихся со времени уложения царя Алексея Михайловича, с 29 января 1649 по 12 декабря 1825 года. ПСЗ 1830, vol. 1, XXXI; Плужник 1969, 119, 124–5.

3 It has been shown by Pluzhnik that the anonymous author of the text of this draft was Osip Petrovich Kozodavlev (1754–1819), Minister of Internal Affairs during 1810–19. Плужник 1969, 164.

4 Лукьянов 1948, 482 3; Плужник 1968, 37–8 and 1969, 139–42, 156–62.

in industrial communities. They had studied engineering in Russia and in some cases also abroad.[1]

An example of the important 18th century Russian inventors is I.I. Polzunov (1728?–1766), who studied mining at the Ekaterinburg Mining School. In 1766, in other words a few years before Watt, Polzunov built a 32-horsepower steam engine. The machine was a working development of the Newcome engine, and was intended for use in pumping water out of the Altaian mine of Barnaul. In spite of its significance and broad spectrum of potential applications, Polzunov's invention was forgotten soon after his death, since no-one was able to repair the machine once it was broken.[2] There are other important 18th century inventors who might be mentioned. I.P. Kulibin (1735–1818) constructed telescopes, reflector lamps and other scientific instruments. A. Nartov (1693–1756) built minting presses, canals and artillery weapons. K. Frolov (1726–1800) built efficient water-powered machines in the Altai mining region.[3]

The forgetting of important Russian 18th century inventions has been attributed to the backwardness of Russian industry, which had access to a cheap and large pool of human labor, and which thus did not feel a need for new inventions. The 1767 *Nakaz*[4] of Catherine the Great shows that the attitude towards labor-saving devices was somewhat dubious; it was feared that the mechanization of production would lead to unemployment, which in a country like Russia, with its large population, would be harmful. This, however, did not concern the mechanization of craft production, which had to compete for foreign markets. Mechanization which affected the production of goods for export to other countries, which could also buy the same goods from other neighboring countries, should be promoted wherever possible.[5] Kozodavlev's claim of the admiration and confidence felt towards foreign technology was perhaps not unfounded; the acquisition of new technology tended to be directed abroad. Even Catherine, 'Patron of the Arts and Sciences', commissioned the steam engine pump

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1 Зарецкая 1983, 133–4; Blackwell 1968, 35; Vuchinich 1963, 173–4. Zaretskaya represents the typical mythicized, romanticized view of the obscure self-taught genius arising from the great mass of the common people to become an important inventor. Vucinich too comments on the failure to make use of the intellectual resources of the peasantry, but also on the indifference of the Russian nobility towards the achievements of science and mathematics despite increasing contacts with Western Europe. Зарецкая 1983, 134; Vucinich 1963, 174, 182.

2 Виргинский 1962, 97–113; Конфедаретов 1978, 282–6, 293–4; Blackwell 1968, 35–6, 395; Vucinich 1963, 172.

3 Виргинский 1962, 119–20, 135–6; Загорский 1978, 327–8; Кузин & Шухардин 1978, 147–50; Blackwell 1968, 35–6, 395; Vucinich 1963, 172–3.

4 The *Nakaz* was Catherine's Instruction to the Legislative Commission of 1767–68. This juridicial and political document reflects Catherine's ambition, at this early time in her reign, to modify Russian legislation according to new Western European models, in the spirit mainly of Montesquieu and Beccaria, although extensively adapted to Russian conditions. The *Nakaz* consisted of three sections, containing a total of 655 articles. Of these, 526 dealt with the character and form of law, with crime and punishment, with social structure and freedom of religion. Dmytryshyn 1960, 1–2; Hartley 1992, 370–1.

5 Наказ, данный Комиссии о сочинении проекта Нового Уложения 30.7.1767 ПСЗ 1830, vol. 18 no. 12949.

for the Kronstadt shipyard from England rather than from Russia.[1]

Attempts to lay a permanent foundation for the industrialization of the country did not bear fruit. In the 'price revolution' of the 18th century, the prices of agricultural products, especially of grain, rose more rapidly than those of craft and industrial products. This trend hampered the development of cities and towns, and in the later part of the century the flow of the population was reversed, out of the towns into the countryside. Russian towns did not develop into significant centers of commerce and industry; an estimated one half of the urban population gained their livelihood from agriculture.[2]

The 18th century brought with it a new turn in the development of the earlier manufacturing privileges into the newer invention privileges. During the reigns of Peter the Great and Catherine II, important ideological and social changes took place, which prepared the ground for the developments of the 19th century. Among the most important was the changed Russian attitude towards Western Europe. The new ideology which arose in the 18th century was based on Russian recognition of the importance of continental Europe and of the superiority of European civilization. Western Europe, which was technologically and industrially more advanced, provided elements which were eclectically borrowed by Russia for the purpose of reforming a society governed from above.

Even if Peter's Westernization program was to some extent a matter of surface appearances, a deceptive European facade, this does not lessen the importance of the profound change in Russian attitudes towards the West. One external sign of this change can be seen in the construction of the new capital, St. Petersburg, and in the proclamation of Russia as an Empire in the European style. By means of her proclamations, Catherine II, like Peter, tried to convince Europeans that Russia was a European state, not differing significantly from other such states. She [Russia] was thus able to borrow, at least in modified form, both institutions and the ideas of leading European thinkers. The change in the Empress's thinking following the French Revolution may have been one reason why Kozodavlev's French-influenced proposal for the first Russian law on invention privileges was not accepted.

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1 Blackwell 1968, 35–6, 395; Конфедаретов 1978, 286.

2 Витчевский 1909, 11–12; Mironov 1992, 461–4, 467–74. Due to the program of industrialization, the share of raw and processed agricultural produce out of total exports had fallen in favor of manufactured goods, from 92 % in 1710 to 52 % in 1725; after this, there was an upward swing again. The percentual proportion of craft and manufactured goods out of Russian exports developed as follows: in 1710 7.9 %, in 1725 48.5 %, in 1750 46.9 %, in 1769 37 % and in 1802–1805 27.9 %. Mironov 1992, 461.

II. The Russian invention privilege system, 1812–60

1. The Invention Privilege Manifesto of 1812 and its ideological background

The ideological background against which the 19th century system of invention privilege developed in Russia differed considerably from that which gave rise to the patent laws of the United States or the leading European industrial nations. In the thirteen North American colonies prior to 1776, inventions were protected as in the mother country,[1] but in the Articles of Confederation of 1781 the practice was confirmed whereby each new state was allowed to issue patents independently of the others; this practice soon gave rise to serious problems. The Constitution of 1787 explicitly mentions the need to protect the rights of inventors;[2] a separate patent law, based on this, was enacted in 1790.[3]

The first American patent law allowed for the granting of patents for useful and important inventions for a period of 14 years. In 1793, a system of patent registration was adopted in the country to remedy the slowness of the investigation process, which had given rise to numerous complaints. After this, the final power of decision in patent controversies rested with the courts. Up to the 1820's and 30's, the courts applied moral grounds in determining patent eligibility; during the 18th and early 19th century, technical change was not yet a morally neutral issue in the United States. The view of Joseph Story, a member of the Supreme Court, is revealing: a useful patent "should not be frivolous or injurious to the well-being, good policy, or sound morals of society". The kind of progress considered acceptable was such that did not threaten the sacredness of private property or the traditional moral values of society.[4]

In France, exclusive privileges (*privilège exclusif*), under the term *brevet d'invention*, had been granted since the mid-16th century. This, however, was not yet an actual patent, but a royal prerogative, under which the inventor was granted a monopoly over the exploitation of his invention usually for a period of five to thirty

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1 In 1641, the Court of Massachusetts ratified the 'Body of Liberties', according to which monopolies were to be granted only for inventions which were useful to the country and even then only for a short time. The statute closely resembled the 'Statute of Monopolies' issued in England in 1624. A similar statute was issued in 1672 in Connecticut. In many of the colonies, monopolies of a technical nature were granted for specific periods (7 to 21 years), a kind of industrial privilege for the manufacture of important commodities. Bugbee 1967, 61, 65–6; Neumeyer 1956, 128.

2 The United States Constitution (Article I, section 8) refers to the rights of inventors as follows: "The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Significant Documents in United States History. Vol. I (1620–1896), 1969.

3 Bugbee 1967, 142–4; Lubar 1991, 934–5; Neumeyer 1956, 127–8.

4 Bugbee 1967, 149–50; Lubar 1991, 935–6, 939; Neumeyer 1956, 137. According to the Patent Act of 1790, a patent could be granted only "to the original and first inventor". This was entirely in accordance with the principle embodied in the 'Statute of Monopolies' issued in England 166 years earlier. Neumeyer 1956, 137.

years, sometimes even for life. This '*privilège*' was granted by decree of the Royal Council (*Arrêt du Conseil*).[1] A royal decree of 1762 eliminated the granting of privileges for an indefinite period and established fifteen years as the term of the privilege. After this, the attitude of the state towards exclusive privileges became more cautious.[2]

In order to ensure the success of the new patent law in the anti-monopolistic atmosphere of the Revolution, the Marquis Stanislas de Bouffler constructed a theory of the invention as the intellectual property of the inventor, within a framework of natural law. According to this theory, a new idea which was beneficial to society belonged to the inventor on the basis of his human rights. Since intellectual property was a natural right, the granting of a *brevet d'invention* could not be a discretionary or arbitrary matter. The evaluation of inventions was up to the market. The patent was the outcome of a process of negotiation or bargaining between society and the inventor, a kind of contract, whereby the inventor consented to reveal his secret, while the state in turn bound itself to protect the inventor for a limited period of time from the copying of his idea by others. By thus appealing to the concept of the social contract it was possible to avoid the interpretation of the patent as a privilege, and Stanislas de Bouffler's proposal, with minor modifications, was enacted into law in 1791. Despite this new law and the theoretical framework of 'natural law', however, the conceptual difference between the *privilège* and the *brevet d'invention* remained unclear. To eliminate this confusion, a law was enacted in 1801, which once again stated that the *brevet* was not a 'favor' granted by the state but the legal recognition of the inventor's property rights. This right was modeled on the law of real property, the ownership of land; accordingly, intellectual property was considered to be a natural right comparable to private property.[3]

The English Statute of Monopolies, and the principles of natural law, played an important role in the development of inventors' rights in the United States and France. According to de Bouffler, it would have been foolish for France not to adopt the model of the English patent law, which had been in force for over a century, since even the Americans, so "jealous of their freedom", had accepted its principles.[4] The same desire to imitate a pre-existing model can also be seen in the Russian inventor's privilege manifesto of 1812, although there the interests of the state were at least equally prominent as a motive.

The process leading up to the first Russian inventor's privilege manifesto was set in motion in 1810, when the foreigners Geren and Älglund turned to Alexander I, petitioning for a monopoly on the exploitation of a new distilling apparatus, based on an invention by Adam and Berar. A committee consisting of the Minister of Finance and by State Secretary Vitovtov approved the petition, and gave the two foreigners permission to secure the necessary fifty persons, each of whom would invest 2000

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1 Hilaire-Pérez 1991, 914–16.

2 Hilaire-Pérez 1991, 923–6, 928, 930–1.

3 Hilaire-Pérez 1991, 931; Machlup & Penrose 1950, 11, 16, 26; Neumeyer 1956, 145, 149; Пиленко 1902, 84–7.

4 Neumeyer 1956, 147–8.

rubles in spreading the invention in Russia. Sufficient interest in the idea, however, was not aroused, nor was the government interested in the invention. Geren and Älglund were about to leave Russia, when they succeeded in establishing a distilling company which purchased the invention. In 1811, an edict was issued in the name of the Ministry of Finance, granting the company exclusive rights over the invention in question up to May 1 1820. The public announcement of the edict was delayed to await the ratification of the actual privilege manifesto.[1]

Up to now, monopoly privileges had generally been sought above all for the initiation of production, only secondarily for control over new production processes. Geren and Älglund, in contrast, were selling know-how. The idea of the monopoly privilege as a means of pricing and selling inventions and innovations was a new one for the government; up to now privileges had been conceived of chiefly as a means of encouraging manufacturing and invention activity. Up to this time, two statutes, to be characterized more or less as decrees, had been issued, in 1776 and 1801; the latter contained general instructions for the examination and rewarding of inventions. In the case of inventions which were found to be genuinely useful, a moderate reward could be granted, in proportion to this usefulness.[2] In the case of the foreigners Geren and Älglund, because of the complexity of the matter and the lack of legislative guidance, the tsar's edict was delegated to the Committee of Ministers,[3] set up to deal with difficult and complicated affairs relating to more than one government department. The Committee too, however, seemed not to understand the situation, and to end the dispute Alexander I requested State Secretary Mikhail Speranskii,

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1 Копия с высочайшего его императорского величества рескрипта, данного г. действительному тайному советнику, сенатору, министру финансов и кавалеру Дмитрию Александровичу Гурьеву 3.7.1811, РГИА f. 1152, op. 1, 1814g., d. 57, 6; Minister of Justice Dmitriev to State Secretary 24.4.1812 "О привилегиях на изобретения"; excerpt from Minutes of Joint Session of Departments of State Economy and of Laws of the State Council 8.5.1812 "О привилегии данной компании на винокурение по методе Адама и Берара, и о привилегиях на разные изобретения"; excerpt from Minutes of General Assembly of State Council 13.5.1812, РГИА f. 1152, op. 1, 1812g., d. 24, 8–11, 40–4, 54–5, 60–1; Minister of Internal Affairs Kozodavlev to State Council 7.9.1814 "О привилегии компании винокурения по способу Адама и Берара" РГИА f. 1152, op. 1, 1814g., d. 57, 2 5; Minister of Internal Affairs Kozodavlev to State Council 11.2.1815 "О привилегии компании винокурения по способу Адама и Берара" РГИА f. 1152, op. 1, 1815g., d. 10, 1–3; Плужник 1969, 194–6. Cf. Пиленко 1902, 152.

2 Высочайше утвержденный доклад Сената – О награждении подпоручика Ратецова, за найденный им в винокурении новый легчайший способ, и о вознаграждении таким же образом и прочих, кои сделают для общей пользы новое изобретение 9.3.1776 ПСЗ 1830, vol. 20, no. 14447; Именный, данный Сенату – О поощрении учинивших изобретения и открытия к усовершенствованию земледелия, торговли и промыслов. С приложением рескрипта на имя действительного каммергера Новосильцова, в коем изложены правила о рассмотрении проектов сочинений о награждении сочинителей 7.8.1801 ПСЗ 1830, vol. 26, no. 19965. The execution of the decree of 1801 had been entrusted to N.N. Novosil'tsev (1761–1836), who was a diplomat rather than an economist, and the decree remained a dead letter. Лукьянов 1948, 484.

3 The Committee, founded in 1802, was the supreme administrative organ; in addition to ministers, it included Chiefs of Office possessing ministerial powers. After the establishment of the State Council in 1810, the Committee of Ministers also included the heads of the Council Departments, as well as, after 1812, private persons appointed directly by the tsar. Ерошкин 1960, 186.

who had entered a dissenting opinion, to submit a separate report.[1]

Like Kozodavlev, Speranskii saw invention privileges above all as an instrument of technological progress, at the same time encouraging invention activity and freeing the inventor from the need to protect the secrecy of his inventions. Both Kozodavlev and Speranskii advocated a protectionist policy and considered the industrialization of Russia to be of the foremost importance. For Kozodavlev, industrialization was in fact a matter of national interest, in that only an industrially strong Russia would be able to free herself of her dependence on the developed industrial nations. The main emphasis was on the development of private enterprise, although the role of the state remained important in seeking means of encouraging business enterprise. Together with medals and monetary rewards, invention privileges offered the state a means of encouraging inventions which contributed to the development of manufacturing technology.[2]

Speranskii considered it especially important to establish a solid, stable legal basis for the development of trade and manufacturing, at the same time ensuring the rights of private property; it is thus not surprising that he included in his special report his own legislative proposal for a system of privileges. Both of Speranskii's proposals (Проект о привилегиях на изобретения и открытия в художествах и ремеслах and Проект учреждения о привилегиях на изобретения) created at least some sort of legal foundation for a system of privileges. With a few minor changes, the proposals were approved by the State Council and were published in the form of a manifesto in June 1812.[3]

This first Russian manifesto on invention privileges defined the privilege as a document certifying that the invention submitted to the government was the property of the person mentioned in the privilege. An invention based on a given new idea was not as such comparable to other property, since the privilege merely conferred on its holder exclusive rights over the invention mentioned in the privilege, for a specified period of time.[4] At this point, the concept of 'intellectual property' was not questioned, but was copied directly from the late 18th century French definition of the invention as the property of the inventor.

The Russian Manifesto also followed the French model with regard to the

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1 Minister of Justice Dmitriev to State Secretary 24.4.1812 "О привилегиях на изобретения" РГИА f. 1152, op. 1, 1812g., d. 24, 8–11; Пиленко 1902, 152–6; Плужник 1969, 199–200; Скородинский 1904, 7. Speranskii was particularly impressed by the English 'freedom', which by its very nature guaranteed the basic rights of subjects. Jussila 1969, 32.

2 Blackwell 1968, 129–32. Alexander I's attitude towards technology and manufacturing was an indifferent one. The only exception to this indifference was the railroads. For Alexander, machinery and factories represented mere curiosities. Nicholas I, on the other hand, showed a considerable interest in technological and economic issues, although in situations of conflict between the two, economic interests often gave way to military ones. Blackwell 1968, 127, 172.

3 Minister of Internal Affairs Kozodavlev to State Council 24.4.1812 "О привилегиях на изобретения" РГИА f. 1152, op. 1, 1812g., d. 24, 9–10; Пиленко 1902, 156–9; Плужник 1969, 200–3; Скородинский 1904, 7; Blackwell 1968, 130.

4 Манифест о привилегиях на разные изобретения и открытия в художествах и ремеслах 17.6.1812, ПСЗ 1830, vol. 32 no. 25143.

'importation privilege';[1] such a privilege could be granted for an invention imported from abroad which was not yet known in Russia. Importation privileges were comparable in every way to those awarded for inventions made in Russia, despite the fact that the holder of the privilege was not necessarily the original inventor. The terms for which privileges were granted in Russia were shorter than those specified in the Anglo-American and French laws: in Russia the term was three, five or ten years. In keeping with the principles followed in other countries, no distinction was made between Russian and foreign applicants for a privilege. In cases of dispute, the power of decision lay with the Ministry of Internal Affairs; the decision could be appealed to the Senate.[2] The handling of applications was divided in the Manifesto between the Ministry of Internal Affairs and the State Council. After and administrative reorganization in 1819, invention privileges and the control of industrial activity became the responsibility of the Ministry of Finance.[3]

In the scholarly literature, two opposite views have been proposed concerning the nature of the procedure whereby privileges were granted. According to Pluzhnik, Russia was the first country to adopt a procedure of examination of privilege applications, in which the authorities had the obligation to investigate the usefulness, safety and novelty of the invention.[4] Pilenko, on the contrary, claims that the Russian system, like its French model, was a matter simply of the inventor informing the authorities of his invention; neither the usefulness nor the novelty of the invention were investigated, since in practice the government did not guarantee either its profitability or its usefulness.[5]

The seeming contradiction between the views of Pluzhnik and Pilenko can be understood in terms of the difference in their approaches. Pluzhnik looks at the development of invention privilege legislation from an evolutionary point of view, as part of a change which occurred in the mid-18th century and which led to the gradual differentiation which arose between privileges granted for inventions and manufacturing privileges. The invention privilege was something created by legislative act rather than something belonging to the inventor by natural right. Here Pluzhnik is basing his conclusions on the prevailing practice and on the Manifesto, according to which the

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1 Early versions of the American patent law followed the mercantilist ideas of George Washington, according to which a patent monopoly could be granted not only to the inventor but also to a person who imported a useful invention into the country. The final version of the law did not include either import patents or compulsory import licenses. Lubar 1991, 935; Neumeyer 1956, 133.

2 The Governing Senate (Правительствующий сенат) was established in 1711, but its functions had changed significantly since the time of Peter the Great. The Senate was the supreme judicial and law-enforcing body, but control over the machinery of government began to slip from the Senate to other supreme organs of the state already in the early 19th century. Ерошкин 1960, 90–4; Amburger 1966, 71–4.

3 Манифест о привилегиях на разные изобретения и открытия в художествах и ремеслах 17.6.1812, ПСЗ 1830, vol. 32 no. 25143; Ерошкин 1960, 206; Киняпина 1968, 218. In 1819, the Department of Manufactures and Domestic Trade was transferred from the Ministry of Internal Affairs to the Ministry of Finance. Ерошкин 1960, 206; Киняпина 1968, 218.

4 Плужник 1969, 210; Катков 1902, 22. It should be noted, however, that in the United States a procedure for the examination of the usefulness and importance of an invention was in use during 1790–93. Катков 1902, 22; Bugbee 1967, 150.

5 Пиленко 1902, 157–8.

inventor, in his application, had to clearly demonstrate the usefulness of his invention; the Ministry of Internal Affairs was entitled by law to present to the State Council for approval only inventions which seemed useful. In addition, the Ministry had to make sure that the invention had not earlier been granted a privilege in Russia.[1] Pilenko's interpretation, on the other hand, arises from a definition of the invention privilege based on the doctrine of natural rights, according to which every inventor had a natural right to a patent. Since the state was unable to guarantee the usefulness or the novelty of the invention, it likewise did not have the right to refuse to confirm the inventor's natural right to his intellectual property.

From the administrative and economic point of view, what was involved in the Manifesto was to a great extent the legal formulation of the views expressed by Kozodavlev at the end of the 18th century, attempting to reconcile on the one hand the desire to encourage the inventor, on the other the public or common good (общественная польза). In the opinion of both Speranskii and Kozodavlev, the interests of private enterprise and an enlightened state policy with regard to industry were not necessarily totally incompatible. The task of the government was in particular to ensure the basic economic and legal conditions necessary for private industrial enterprise and for the encouragement of technological development. The Manifesto was very clearly one such measure. The view of the Manifesto as having the nature purely of a guideline seems indisputable.[2] Juridically the manifesto merely provided a certain 'directive' to the State Council; each privilege constituted its own separate legislative act, which had to be dealt with individually in the State Council.

Russia lacked the readiness to leave the evaluation of the usefulness of an invention to the market, as would have been implied by a system of simple registration on the model of England, France and the United States. Unlike the liberal practice adopted in these countries, in Prussia the patent law of 1815 introduced a system of examination of claims; the power of assessing the usefulness and novelty of an invention thus rested with the government. The Prussian legislation also allowed the issuing of importation privileges, which are generally considered to be typical of economically backward countries.[3] Both in Russia and in Prussia there was a strong belief in the need for government guidance in business life; the views of contemporaries do not support Pilenko's claim as to the purely registrative nature of the Russian system of privileges.

The view, accepted in the Manifesto, of the invention privilege as a kind of special law, approved individually on an ad hoc basis, does not demonstrate any particularly clear understanding of the protection of the rights of the inventor. The contradictory instructions concerning the granting of privileges indicate a similar lack

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1 See paragraphs 7, 11 and 12 of the Manifesto. Манифест о привилегиях на разные изобретения и открытия в художествах и ремеслах 17.6.1812, ПСЗ 1830, vol. 32 no. 25143.

2 Плужник 1969, 212, 278; Скородинский 1904, 7; Blackwell 1968, 130–2.

3 Bugbee 1967, 149–50; Fischer 1964, 86; Heggen 1975, 28–33; Treue 1979, 165. In the process of revision of the Manifesto, begun in 1826, the head of the Department of Manufactures and Domestic Trade proposed abandoning the demand for examination. Director of Department of Manufactures and Domestic Trade Druzhinin to the Council of the Minister of Finance 25.5.1826 "О разных неудобствиях ныне существующего порядка в выдаче привилегий" РГИА f. 18, op. 2, d. 492, 9–11.

of conceptual clarity. In Russia an invention privilege, like any other special right, always meant an exemption from the general law; such an exemption could only be granted by the tsar. A similar way of thinking is also apparent behind the Prussian law.[1] The problems arising from the character of the invention privilege as a special law became evident in the 1870's, when it became of concern to the legislature; it was found that Russian legislation did not contain any statute which would allow the courts to repeal a special law once confirmed by the tsar.

In France and in the United States, the grounds given for the need to safeguard the inventor's rights were based emphatically on the concept of human rights. The inventor was considered to have a natural and unalienable right to the protection of the fruits of his intellectual labor, just as much as his other private property. In the Declaration of the Rights of Man, property was understood in a sense as an extension of the individual, whose possession and/or enjoyment of it could be restricted only to the extent that it was considered by law to interfere with the rights of others.[2] In England, on the other hand, the appeal to natural right was never popular in seeking grounds for a patent. The tradition of common law, based heavily on precedent and customary law, conflicted with theories of natural right. Patent applicants tended rather to trust utilitarian rationales; a temporary monopoly was granted as a reward, for encouragement or in return for the revealing of a secret.[3]

The difference in argumentation between France and the United States on the one hand and Russia on the other is due to the fact that in the former the arguments of the advocates of patent rights were directed primarily to elected legislatures, which were concerned about the monopoly effects of patents. To ensure the success of the patent laws, the arguments in their favor therefore leaned heavily on the theory of natural property rights.[4] In Russia, the debate took place within the government, for whom the issues involved in the question of invention privileges were primarily of an economic nature. The primacy of economic arguments can thus be explained in terms of the audience to whom they were directed.

This difference in argumentation can also be accounted for at least partly in terms of differences in the concept of property rights. Like many other Western concepts, that of property rights was modified in the Russian cultural environment, taking on certain culture-specific connotations and associations. In Western Europe the modern concept of property took definite shape at the time of the French Revolution, although already Locke's theory of labor had assumed that a man's labor belongs to him, and that he does not owe either his work or its product to society. Work was the absolute property of the individual, justifying possession and creating value. According to this individualist concept of work, every man had a natural right of ownership over the products of his personal labor, and the most important function of the state was to

1 On the drafting of the Prussian patent law see Heggen 1975, 28 31.

2 Sewell 1980, 134–6. Cf. Declaration of the Rights of Man and Citizen (Articles 4, 5 and 17). A Documentary Survey of the French Revolution, 1965.

3 MacLeod 1988, 199.

4 Bugbee 1967, 129–31; Neumeyer 1956, 145–6.

protect the property of its subjects.[1]

According to Article 17 of the Declaration of the Rights of Man, property was an inviolable and sacred right, of which the individual could be deprived only when this was necessary for the sake of the common good as legally defined, and for a just compensation. This reservation created a semantic continuity between the old and the new concept of property, under the 'umbrella' of natural right. The reservation justified the abolishing of the rights of the feudal lords, and made possible the transformation from the old feudal concept of property as an attribute of privilege, to the new one of property as a natural right belonging inalienably to all individuals. Thus the new concept of property, detached from its feudal origins, became an attribute of freedom.[2]

In Russia, according to Wortman, a corresponding transformation never took place; property rights remained an alien element, never achieving even the status of a fully legitimate privilege. The moral and legal character of the state prevented property rights from achieving the same prestige as in the West. The Russian nobility's right of ownership of the land had not been justified by feudal right as in the West, but by an ethos of service to the state as the embodiment of the common good. The release of the nobility from its service obligations did not sever the conceptual bond between service and land. The estates of the nobility became 'unfree landed property', which always involved at least a moral obligation to perform services.[3]

The concept of property rights was introduced in Russia in 1785 in the charter granted to the nobility; without historical roots in the Russian culture, however, it took on specific connotations of its own. In the Russian semiosphere,[4] the concept of property rights was linked from the very beginning with endorsement of the power of the nobility over the peasants, and with abuses of the institution of serfdom. In the charter, the word 'right' (право) is used only in connection with property. The concept of 'pravo' was thus linked with other rights of the nobility, such as 'bondage right' (крепостное право) and serfdom. The owner of a serf was seen as a servant of the state, who was entitled to the protection of the state and who had certain judicial, fiscal and law-enforcement obligations. The Russian term 'property' involves such secondary meanings and connotations as 'oppression', 'exploitation' and the illegal deprivation of property. The charter of 1785 freed the nobility from many of its

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1 Locke 1982, 17 31; Macpherson 1975, 197 221; Ryan 1986, 14–5, 17, 24, 29, 31–2; Tolonen 1992, 219–23, 251–9; Tully 1980, 116–24. For Locke, property means "lives, liberties and estates" to which we have a natural right, "whereof we may not be deprived without our consent". Locke was concerned primarily with broader rights, which can be protected by 'civil society'. Property from the legal point of view was of secondary interest. Ryan 1986, 15, 29, 45–6, 48.

2 Sewell 1980, 134–6; Wortman 1989, 15. The National Assembly defined property as 'a set of physically palpable possessions that a person had annexed to himself by his labor and was free to use in any way that did not infringe on the liberty of other citizens'. Cited in Sewell 1980, 136. According to Macpherson, Locke's theory of work created "a moral foundation for bourgeois appropriation". Macpherson 1975, 220–1.

3 Crisp 1989, 35, 63–4; Wortman 1989, 15–6.

4 The term is derived from Lotman, and refers to the semiotic space or universe which gives reality to an individual sign. The combining of individual semiotic acts does not in itself create a semiosphere. See Лотман 1984, *passim*.

obligations towards the state, but at the same time destroyed the legitimacy of its property rights, without, however, affecting the service ethos.[1]

Thus at the beginning of the 19th century the concept of property rights in Russia was both unclear and, due to its associations with the ownership of land, negatively loaded; restrictions on the power of the state, crucial to a respect for property rights, were to a great extent absent.[2] Since invention privileges were considered parallel to other personal privileges, which were weaker than actual property rights (права) it naturally follows that the invention privilege was not an actual guarantee of the inventor's property right. The interests of the individual and the social estate had to yield to the public interest. Russian inventors applied for the exclusive right to the exploitation of a particular invention, not for actual guarantees of a right of ownership.

It was the right of land ownership, justified originally in terms of the nobility's service ethos, which formed the conceptual context into which the property rights of inventors were attempted to be fitted. In a predominantly agrarian country like Russia, property rights referred above all to the ownership of land and of serfs. The inventor's property right, as a juridical category, was conceptualized in Russia as a special privilege, justified ideologically on the grounds of an ethos of service to the state, similar to that which justified the nobility's ownership of land. Due to this character of invention privileges as in fact privileges, exemptions from the normal law, the statute of 1812 could not at least in principle involve a system of registration as claimed by Pilenko.

2. The textile industry as the pioneer of new production technology, and events leading up to the Invention Privilege Statute of 1833

Russia had a strong tradition of active state intervention in economic life. Under Nicholas I, however, the state displayed exceptional passivity with regard both to industry and to the support of economic development. It was not a matter of actual hostility towards industry, at least during Kankrin's term as Minister of Finance (1823–44). It was simply that for the statesmen and leaders of Nicholas's time

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1 Манифест – О даровании вольности и свободы всему Российскому дворянству 18.2.1762 ПСЗ 1830, vol. 15 no. 11444; Грамота на права, вольности и преимущества благородного Российского дворянства 21.4.1785 ПСЗ 1830, vol. 22 no. 16187; Crisp 1989, 35–6; Wortman 1989, 14, 16. The word 'right' occurs in the Charter in the following contexts: the right to buy villages and to carry on wholesale trade in their products, to own, build or buy town houses and to carry on craft work in them, and to use the title 'estate owner'. The term 'property right' "право собственности", occurs twice, in connection with the ownership of forest and of land. Грамота на права, вольности и преимущества благородного Российского дворянства 21.4.1785 ПСЗ 1830, vol. 22 no. 16187.

2 See Wortman 1989, 16, 20; Crisp 1989, 35. In the reform of 1861, the owners of serfs were compensated only for their landed property, not for their serfs, who also have to be included in the property of the estate owner. In the vocabulary of autocratic Russia in the early 19th century, the word 'right' merely meant a stronger and more important form of privilege. Wortman 1989, 16, 20.

industry was not a particular priority, since the factories established during the 18th and early 19th century were more or less adequate to satisfy the needs of the state. Economic policy was dominated by fiscal objectives. The importance of technical training for the development of industry was realized, but the interest in the development of technical education which still prevailed in government circles during the 1820's weakened somewhat during the 1830's, and was not significantly restored during the 1840's or 50's. There was no unanimity as to the need to develop and expand the network of technical colleges. At the same time, Kankrin's plans for the organization of practical training came to nothing due to opposition from Uvarov, the Minister of Education.[1]

In 1810, Russia had only two university-level institutions offering technical training:[2] the Mining Institute (Горный институт), founded in 1773, and the Institute of Transport Engineers (Институт инженеров путей сообщения), founded in 1809. Due to their links with military administration, these were unable to offer the expertise necessary for the modernization of Russian production technology. The same was true of the universities, in which the teaching was furthermore isolated from practical activity. Attempts were made under Nicholas I to remedy the situation by establishing intermediate-level technical schools, but the first attempt to found a Moscow Technological Institute foundered due to lack of students. The year 1830 saw the opening of the Moscow Craft School, financed by private funds and with a curriculum similar to that of the Practical Technological Institute which was established the following year in St. Petersburg under the auspices of the Ministry of Finance. Three years later a Mining College was opened in connection with the Institute, and in 1862 the Institute achieved university-level status.[3]

Towards the end of Nicholas's reign the number of students graduating annually from the Practical Technological Institute increased slightly; the number of graduates from the Institute of Mining Engineers and the Institute of Transport Engineers, on the other hand, remained the same or even declined. It was not a matter of complete indifference; the Construction School of the Ministry of Internal Affairs (later the Institute of Civil Engineers) was founded in 1842, and in the late 1840's more practical courses for instance in mathematics were added to the gymnasium curriculum. These changes in the training of lower officials, however, had no practical significance in terms of technological training for the needs of business and industry. The curricula of the higher technological institutes tended to stress theoretical knowledge at the expense of practice; partly for this reason there was a high rate of student

1 Balzer 1980, 55–6; Pintner 1967, 94 7, 232, 250–2. Cf. Киняпина 1968, 330–1.

2 The term "высшее техническое учебное заведение" refers to technical colleges which produced qualified personnel to work as engineers and executive managers for technical and industrial plants, for technical positions in government and as teachers and professors in technical schools. Дерюжинский (1900) 1969, 488.

3 Дерюжинский (1900) 1969, 488–91; Киняпина 1968, 330–41, 343–6, 359–61; Balzer 1980, 18, 35–6; Pintner 1967, 48–52, 94 7; Rieber 1990, 544–5.

dropout.[1]

The protectionist tariff policy adopted in 1822 was continued throughout the reign of Nicholas I, partly due to government fears of a repetition of the consequences of the liberal tariff of 1819, and the need for large-scale rescue measures to prevent industrial bankruptcies.[2] The 1822 tariff prohibited or in practice prevented entirely the importation of many industrial products, such as for instance many types of broadcloth and printed cottons, and the tariffs imposed on individual cotton, silk and woolen fabrics were as high as 100–250 %. The raw materials needed by the Russian textile industry, on the other hand, were taxed at a very low rate, and the import of machinery was duty-free. Import tariffs were increased several times during the 1830's and 40's. This protectionist tariff policy was based on custom and the desire to preserve the status quo rather than on the interests of new branches of industry. In the 1820's the weak competitiveness of the Russian textile industry and the limitations of the domestic demand led to difficulties, and in their fear of further crises due to overproduction and the consequent economic burdens the government's efforts were directed to restraining business expansion and the development of technical training, rather than encouraging them.[3]

The first demands for the reform of the invention privilege laws arose, not by chance, from within the cotton industry. Cotton manufacturing had expanded and adopted new techniques considerably ahead of other branches of industry; in particular the spinning and printing processes had been mechanized. Up to 1837 the importation of cotton yarn had grown steadily, but at that time Russian yarn began to replace foreign sources. The mechanical spinning of cotton spread rapidly in the late 1830's; along with the state Alexandrovsk works, large private factories began to arise, such as the Stieglitz, Mal'tsev and Russian Cotton Spinning Company. These factories used raw cotton from America, and the finished yarn was sold to weavers.[4] The first significant invention privilege disputes, however, occurred over the printing process, for which by the 1820's several important privileges had been granted. Cloth was printed mechanically in several large factories in Moscow, St. Petersburg, Schlüsselburg and Yamburg. This form of industry was evidently profitable, as

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1 Дерюжинский (1900) 1969, 491; Balzer 1980, 54–5; Pintner 1967, 232 3; Rieber 1990, 564. During 1837–60, the Technological Institute produced a total of 512 graduates. The number of students increased correspondingly from 52 in 1831 to 325 in 1860. Киняпина 1968, 359–60.

2 Finance Minister Kankrin to State Council 13.9.1827 "По прошению фабрикантов Вебера и Теша о продолжении истекающего срока, выданной им привилегии на цилиндрическую для печатания ситцев машину" РГИА f. 1152, op. 1, 1827g., d. 73, 2, 6–8; Витчевский 1909, 39, 45–6; Киняпина 1968, 96–7; Лященко 1952, 459–60; Pintner 1967, 46. The cotton manufacturers had complained of the irreplaceable losses caused by the customs tariffs of 1819 and 1820, and the government had been forced to lend the manufacturers millions of rubles to prevent bankruptcies. Finance Minister Kankrin to State Council 13.9.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 2, 6–8.

3 Finance Minister Kankrin to State Council 13.9.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 6–8; Витчевский 1909, 50–1; Киняпина 1968, 111–13; Лященко 1952, 460, 488; Blackwell 1968, 173; Pintner 1964, 46–7, 58–9 and 1967, 45–7, 226–7, 238, 252.

4 Виргинский & Захаров 1973, 79–81; Зельцер 1934a, 16, 19–20; Киняпина 1968, 43–5, 52; Aer 1988, 78–9; Blackwell 1968, 39, 46–7, 387; Pintner 1967, 106, 227. The state Alexandrovsk works also experimented with the mechanical spinning of flax and hemp. The factory was closed down in 1862. Зельцер 1934a, 7, 16.

indicated by the fact that in the late 1820's both the Department of Manufactures and Domestic Trade and the Council of the Minister of Finance were concerned over a possible flood of entrepreneurs in this field.[1]

Among the pioneers in the mechanical spinning of cotton in the late 18th century, along with the state Alexandrovsk works, was the German Leiman, who sold his mill in the early 1800's to Weber. With the change in ownership the focus in the development of production technology shifted to the printing of cotton fabric by means of a steam-powered cylindrical press. This technical improvement brought about a significant increase in productivity; the press did the work of five hundred hand-printers.[2] In 1817, Weber was granted an importation privilege for the machine for a term of ten years; at his request, a merchant by the name of Lib was also allowed to use the steam press at his cloth mill in Yamburg. When the factory-owner Lib sold his business, with all its commitments and rights, to the merchant Tesh, the privilege too was transferred to the latter.[3]

In 1816, the well-known mill-owner Bielebage established a mechanical cloth printing factory in St. Petersburg, and petitioned for an invention privilege for a cylindrical press he had developed. A dispute arose between Bielebage and Weber over who had the right to the privilege. Weber protested against Bielebage's application, but this did not prevent the granting of the privilege to the latter, since in the opinion of the Department these were two different inventions. Thus in 1818 Bielebage too finally received his invention privilege, like Weber for a term of ten years. With regard to Weber's protest, the State Council noted that the Council was the wrong forum for dealing with the dispute between Weber and Bielebage.[4]

One significant role in the mechanization of Russian cotton manufacturing was played by the English Industrial Revolution; at the beginning of the 19th century,

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1 Finance Minister Kankrin to State Council 13.9.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 6–7; Зельцер 1934a, 21–6. The largest entrepreneurs in the field were Bielebage in St. Petersburg, Tesh at Yamburg, Gordon at Schlüsselburg, and Weber, Grebenshchikov and Titov in Moscow. РГИА f. 1152, op. 1, 1827g., d. 73, 6.

2 According to Zel'tser, Weber's machine replaced 250 hand-printers; according to Kozodavlev's figures, however, it was half again as efficient. Minister of Internal Affairs Kozodavlev to State Council 27.7.1817 "О выдаче фабриканту Веберу привилегии на введенную им в употребление цилиндрическую для печатания ситцев машину" РГИА f. 1152, op. 1, 1817g., d. 59, 2; Зельцер 1934a, 22.

3 Minister of Internal Affairs Kozodavlev to State Council 27.7.1817 РГИА f. 1152, op. 1, 1817g., d. 59, 1–7, 9–10; Finance Minister Kankrin to State Council 13.9.1827 "По прошению фабрикантов Вебера и Теша о продлении истекающего срока, выданной им привилегии на цилиндрическую для печатания ситцев машину" РГИА f. 1152, op. 1, 1827g., d. 73, 2; Зельцер 1934a, 14–15, 19 23 and 1934b, 81–2; Хромов 1950, 56; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 2.

4 Minister of Internal Affairs Kozodavlev to State Council 27.12.1817 "О выдаче купцу Битепажу привилегии на изобретенную им для печатания шелковых и бумажных материй машину"; copy of Memorandum from Minister of Internal Affairs Kozodavlev to President of State Council Lopukhin 12.2.1818; Minister of Internal Affairs Kozodavlev to State Council 12.5.1818; undated copy of Minutes of Department of State Economy of the State Council РГИА f. 1152, op. 1, 1818g., d. 5, 2–7, 11–15, 18–19; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 2; Зельцер 1934a, 22; Ellison 1965, 526–7.

Britain was by far Russia's most important trading partner. Despite the rapid quantitative growth of the Russian cotton industry during the 1820's, it was nevertheless technically quite backward compared to Britain. Up to the revoking of the English ban on the export of spinning machines in 1842, Russian cotton cloth production was built chiefly on the availability of cheap English yarn. The mechanization of the spinning industry which began in the 1830's gained power only with the importation of more sophisticated English spinning machines. The rapid growth of the 1820's was due more to the favorable price trends of English cotton yarn and the high import tariff on cotton cloth than to the attempts at mechanization of the state Alexandrovsk works.[1]

The high profit rate of printed cotton production continued to tempt new entrepreneurs, who did not necessarily respect the rights of invention privilege holders. In 1817 the big Moscow mill-owner Grachev started cotton printing with a press which used two colors simultaneously; he applied for a privilege for his invention in 1820. In the same year, Weber too applied for a privilege for a similar machine. The situation became more complex when the Department received a letter from Monet, a mechanical engineer living in Neuchâtel but originally from Moscow, who claimed to have invented the press. In fact, the factory-owners Lib and Weber had invited Monet from Switzerland to Russia to develop such a machine, but evidently disputes had arisen over the compensation to be paid, as a consequence of which Monet decided to apply for the invention privilege in his own name. Neither Monet nor Weber were actually the original inventors; the machine was constructed on the basis of foreign models. Some sort of compromise and agreement was evidently finally reached in the matter of compensation, since in the next year Monet announced that he would refuse the privilege.[2]

The dispute between Weber and Grachev over the privilege for the press ended with a negative decision by the Department. The latter considered, on the basis of reports it had received, that the machine was not useful, and decided to oppose the granting of a privilege. The applications disappeared into the Ministry files for thir-

1 Blackwell 1968, 44; Pintner 1967, 106–7. The phase of cotton manufacture which was the slowest to be mechanized was that of weaving; here significant mechanization did not occur prior to the emancipation of the serfs. Зельцер 1934a, 21; Киняпина 1968, 47.

2 Зелыцер 1934a, 23–4. The Moscow merchant Grebenshchikov had worked on a textile printing press since 1809, but in 1812, as the work was nearing completion, he was forced to flee Moscow at the approach of Napoleon's troops. After the war, Grebenshchikov had to start all over again, and when the work on the machine was finished he was faced with the fact that Bielebage had already succeeded in obtaining a privilege for his own press. The experts, however, considered that Grebenshchikov's invention was original, and in 1821 he was granted a ten-year privilege for a cylindrical press powered by human and horse power. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 2; Данилевский 1948, 193–4; Хромов 1950, 56.

teen years, and finally lapsed.[1] There was yet another dispute over the infringement of invention privileges in the textile printing industry in 1825, when slightly before the lapsing of the privileges held by Weber, Bielebage and Tesh, the Moscow factory-owner Witt introduced a cylindrical press in his factory. The privilege-holders succeeded in having this prevented.[2]

This reaction on the part of the textile manufacturers indicates the 'significance' of privileges, because the number of privilege disputes can be seen as at least some indication of the usefulness and importance of privileged inventions; useless inventions generally do not give rise to disputes. The high level of invention activity among textile manufacturers in the area of textile printing may also be a sign of increasing competition in a small and quickly saturated market. In the textile industry the number of important manufacturers and manufacturing centers was small, making it easier to keep up with the technical development of the field. It is thus not surprising that the initiative for a legislative reform came specifically from the textile industry, where the numerous disputes had been due in part to the obsolescence of the laws.

In 1825, the Department of Manufactures and Domestic Trade was confronted with a new and awkward problem, when the manufacturer Osterid applied for an invention privilege on an improved version of the wooden color applicator for Weber's familiar and privileged printing press. The Department was at a loss; the Manifesto of 1812 made no mention of possible privileges for the further improvement of an earlier and already privileged invention. When letters and memoranda began to arrive from manufacturers opposing the granting of Osterid's application, the Department began to consider seriously the remedying of this and other deficiencies in the Manifesto.[3]

A decision in the Osterid case became even more problematic when in 1827 Weber and Tesh both applied for a six-year extension of the ten-year term of the privilege. The Department spent considerable time considering the effect of such an extension on textile production and technical development in the field. Following the debate, the Department decided to recommend to the State Council that the application be granted, appealing to the instructions issued in 1723 to the College of Manufacturies according to which the College was to control the quantity and quality of production. Evidently the current situation was considered satisfactory, since the Department feared that the appearance on the scene of new manufacturers would lead

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1 In 1821 the Department of Manufactures and Domestic Trade had taken a negative stand regarding Grachev's application concerning the machine printing two colors simultaneously. Thirteen years later, when the Department returned to the matter and inquired as to the opinion of the Minister's Office, it turned out that the memorandum sent by the Department had not been discussed or even introduced due to the lack of certain supplementary information. The Minister's Office informed the Department that the parties in question had evidently given up their intention, since they had not renewed the petition. Зельцер 1934a, 23–5.

2 Зельцер 1934a, 23–5.

3 Director of Department of Manufactures and Domestic Trade Druzhinin to the Council of the Minister of Finance 25.5.1826 "О разных неудобствиях ныне существующего порядка в выдаче привилегий" РГИА f. 18, op. 2, d. 492, 1–5 and 493, 1–5; Киняпина 1968, 218; Плужник 1969, 278 9; Шапиро 1939, 148.

to overproduction and bankruptcies. The extension of Weber's invention privilege, however, should not be allowed to prevent the plans for instance of Osterid or of others, who could claim that they were merely waiting for Weber's privilege to lapse. Despite the Department's recommendation, the Council decided against the extension, since Osterid was just one of the numerous manufacturers who had been waiting for the lapsing of Weber's privilege in order to adopt the latter's process either as such or with further improvements. The position taken by the State Council in the Weber case had an immediate effect on the granting of invention privileges in the textile industry. In 1827 the Ministry of Finance decided not to grant any more privileges for textile printing presses, since the privileges granted to Weber and Bielebage were considered to have considerably hampered the development of textile printing technology. In spinning and weaving too, privileges were now granted chiefly for the further improvement of machines which were freely available to everyone.[1]

The rapid development of the textile industry, the Osterid and Weber cases and the disputes over privileges made very clear the necessity of legislative reform. The Manifesto was severely out of date; it totally ignored the possibility of a privilege for the further development or improvement of an existing invention, nor did it define or differentiate between such concepts as 'invention', 'discovery' and 'improvement of an invention', all of which were important in safeguarding the rights of the inventor. Questions of responsibility in cases where privilege rights had been infringed were likewise not regulated with sufficient precision.[2]

In its project of revision, the Department started from the principles implied in the Manifesto. The only major change concerned the processing of privilege applications; here the Department proposed abandoning the practice of examination, adopting the practice of merely ensuring that the new invention was not a health hazard and did not involve anything that might endanger public tranquillity.[3] The purpose of the revision was evidently to speed up the handling of the applications, which had been unduly prolonged by the complicated procedures for hearing expert testimony. The proposed changes concerned only importation privileges.[4]

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1 Finance Minister Kankrin to State Council 13.9.1827 "По прошению фабрикантов Вебера и Теша о продлении истекающего срока, выданной им привилегии на цилиндрическую печатания ситцев машину"; excerpt from Minutes of Department of State Economy of State Council 24.9. and of the General Assembly of the State Council 7.11.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 4–5, 9–10; Киняпина 1968, 228. Zel'tser has not checked the original sources for the erroneous idea that Weber and Tesh received a six-year extension of their privilege in 1827. The Department had supported the application, and opinions in the Council of the Minister of Finance were divided. The State Council, however, rejected the application. Ministry of Finance 13.9.1827 and General Assembly of State Council 24.9. and 7.11.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 1–10. Cf. Зельцер 1934a, 22.

2 Director of Department of Manufactures and Domestic Trade Druzhinin to the Council of the Minister of Finance 25.5.1826 РГИА f. 18, op. 2, d. 493, 1 5; Киняпина 1968, 218–19; Плужник 1969, 279–81.

3 Director of Department of Manufactures and Domestic Trade Druzhinin to the Council of the Minister of Finance 25.5.1826 РГИА f. 18, op. 2, d. 492, 9–11.

4 Director of Department of Manufactures and Domestic Trade Druzhinin to the Council of the Minister of Finance 25.5.1826 РГИА f. 18, op. 2, d. 493, 4; Киняпина 1968, 219; Плужник 1969, 279–84 and 1970, 8–9.

Inventions made and patented abroad but not yet known in Russia were no longer to be dealt with in the same way as completely Russian inventions. In the first draft by Druzhinin, the Department proposed a term of either three or five years for the former. The draft also mentioned the compulsory working, i.e. application or exploitation in practice, of privileged inventions; the invention had to be worked within a year from the granting of the privilege. If the holder was unable to demonstrate that he had begun its working, the privilege was revoked. The draft completed by the Department of Manufactures and Domestic Trade in 1826 was sent to the Ministry of Finance for further processing.[1]

In 1829, the task of drafting the revision was given to the Manufacturing Council, acting under the auspices of the Department of Manufactures and Domestic Trade. This Council, established on the petition of Moscow, St. Petersburg and Vladimir merchants, consisted of factory owners, merchants, two professors of chemistry and mechanics, and one technical engineer. Both the Council itself and the local committees acting under it collected information concerning industrial development, invention privileges and production quality. The Manufacturing Council, which acted in an advisory capacity, offered factory owners a direct channel of access to the government, to safeguard and promote their own interests and to make their needs known.[2]

In 1829 the Manufacturing Council and its Moscow section received an inquiry from the Department of Manufactures and Domestic Trade, in an effort to determine the worst problems of the existing system of invention privileges and to suggest possible solutions to them. The list of twelve questions sent to the Council gave rise to heated debate not only about privileges as such but also about more general issues of industrial policy.[3] The manufacturers evidently made use of this newly created channel of influence to bring up questions regarding the general direction of the government's industrial policy and government control over manufacturing, both of which were closely related to the development and character of the Russian institution of the invention privilege.

The rapid development of some sectors of the textile industry had highlighted the general contradiction involved in the privilege system, between on the one hand a high degree of invention activity, on the other the maximal diffusion of inventions.

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1 Druzhinin, head of the Department of Manufactures and Domestic Trade, to the Council of the Minister of Finance 25.5.1826 РГИА f. 18, op. 2, d. 492, 13–15. The rules as to the one-year deadline for working and the maximum five-year term for importation privileges occur only in the earliest draft by Druzhinin. E.V. Karneev and Frolov-Bagreev immediately opposed the first of these; in the 1829 draft which was circulated for comments, this was in fact changed to two years, and the maximum term for importation privileges was extended from three to six years. РГИА f. 18, op. 2, d. 493, 53, 56, 66–7.

2 Высочайше утвержденное мнение государственного совета – Об учреждении при Департаменте мануфактур и внутренней торговли мануфактурного совета 11.7.1828, ПСЗ 1830 vol. 3, no. 2146; Ерошкин 1960, 208. In the following year, a similar advisory body, the Commercial Council (Коммерческий совет), was founded on the petition of merchants. Высочайше утвержденное положение – О коммерческом совете при Министерстве финансов учрежденном 23.10.1829, ПСЗ 1830 vol. 4, no. 3250; Ерошкин 1960, 208.

3 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 151; Киняпина 1968, 219–24; Плужник 1969, 287–300 and 1970, 9–10.

The members of the Council, who were unreservedly convinced of the usefulness of invention privileges, nevertheless considered that the concealment of inventions due to the lack of a privilege system was a greater threat to industry than the time-lag in the diffusion of technical know-how.[1]

Invention privileges were seen as useful, because the private individual was spurred on to effort only by the promise of gain and personal reward. The privilege, and the exclusive right which it contained, provided justified compensation for the inventor's effort. A majority of the Council members would no longer have considered justified the extension of a lapsed privilege, because — as for instance in the case of Weber and Tesh — it would merely have brought privileges closer to monopolies.[2] The justification of importation privileges was considerably more difficult to reconcile with the concept of the privilege as some sort of reward for the inventor's labor, since the applicants were primarily making use of the work of others. In this case, the key point was in fact the potential advantage to industry.[3]

For the wealthy merchant Polevoi, known as an advocate of free enterprise, every monopoly was actually a privilege; the latter term itself meant the right to manufacture or sell for one's own gain alone, and at the expense of society at large. State enterprises and factories based on privileges, and narrowly defined special rights based on social status and position, prevented the free development of trade and industry. Invention privileges, however, were even more restrictive than other privileges, nor did they involve trade with the government at the expense of others as in the case of monopolies. The invention privilege was a reward for an industrial invention, which was the inalienable property of the inventor even if the ideas on which the invention was based were the common property of all. Despite the negative aspects of privileges at the general level, Polevoi accepted invention privileges, because the pursuit of self-interest formed a crucial motive for human effort.[4]

Egor Karneev, director of the Department of Mining and Salt,[5] stressed in particular the negative effects linked with invention privileges in the textile printing

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1 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 151–3, 155–8, 161–3, 166–8; Киняпина 1968, 220–1; Плужник 1969, 288–92. Among the most enthusiastic advocates of invention privileges were Count A. Stroganov and Secret Councillor Wagner, a member of the Moscow section of the Manufacturing Council. Others were V. Vsevolozhskii, F. Samarin, Industrial Councillor I. Rybnikov, the factory-owner G. Urusov and the cavalry captain N. Shubin. *Ibid.*

2 Among those opposed to the extension of an already granted privilege were A. Stroganov, V. Vsevolozhskii, I. Myatlev, Karneev, Rennenkampf, Ponomarev, A. Rall, Gagarin, Wagner and Bielebage. Extension was supported by N. Kusov, K. Berd and Klark. Stroganov's memorandum, 28.11.1829; N. Kusov's, 14.12.1829; Berd's, 27.11.1829; Bielebage's, undated; Rall's, 21.11.1829; Rennenkampf's, undated; Myatlev's, 19.12.1829; Vsevolozhskii's, 4.12.1829; Ponomarev's, undated; Klark's, 27.12.1829; Gagarin's, undated; Wagner's, undated РГИА f. 18, op. 2, d. 493, 77, 81 2, 85, 87, 89, 91–4, 96, 99, 103, 109, 114, 164, 168.

3 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 151–3; Киняпина 1968, 220–1; Плужник 1969, 288–9.

4 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 161–3; Киняпина 1968, 221–2.

5 Karneev was the head of the Department during 1824–37; he was also the head of the Mining Institute, named after Catherine II, during 1823-34. Amburger 1966, 234, 490.

industry, referring to the privileges awarded to Weber and Bielebage.[1] The drawbacks of the system for industry, however, were still considered so minor that there was no suggestion of abolishing the institution of the invention privilege. Privileges were nevertheless to be granted only with extreme caution, since according to the reports received by the Council the volume of new inventions and the interest in the mechanization of production had increased since the Manifesto of 1812.[2]

The Council was aware of the possibility of abuse by inventors of the monopoly power offered by the privilege. Myatlev, the member of the Moscow Manufacturing Council who took the most cautious and reluctant attitude towards invention privileges, drew up his own plan for minimizing the cost to society of the privilege system. Theoretically, the simplest means would have been for the state to acquire by purchase all important inventions itself and then offer them without compensation for common use. In practice, however, the state did not have the funds to redeem in this way even all of the more important inventions; privileges therefore had to be granted with strictly defined limitations as to time and place. The granting of locally defined privileges was also easier, in that at the local level the authorities were able to obtain reliable information as to whether the invention described in the application was perhaps already in use in that area. The actual holder of the privilege was not likely to suffer from such local restrictions, since due to lack of capital he rarely had the chance to make use of his invention at a national level in any case.[3]

The alternative approach to minimizing the social cost of privileges was to shorten significantly the term for which the privilege was granted. Some of the Council members wished to restrict the term of the privilege, in the name of the common good, to three or at most six years.[4] The abolishing of importation privileges was considered to be crucial in minimizing social costs, since the privileging of imported inventions was considered to hamper the development of Russia's own industry.[5]

Despite these contradictory views within the Manufacturing Council, it was decided to retain the system of invention privileges; this is very understandable in the light of the small number of privileges granted. It was impossible as yet to draw any conclusions regarding the effect of privileges on industry as a whole, since during the

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1 Excerpt from Minutes of Meeting of Department of State Economy of State Council 24.9.1827 and of General Assembly of State Council 7.11.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 9–10; Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 156; Киняпина 1968, 228. Cf. Зельцер 1934a, 21–3.

2 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 156.

3 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 153, 167 71; Киняпина 1968, 223–4.

4 Ponomarev wanted to leave decisions as to the term of privileges entirely to the Manufacturing Council, since he considered that the inventor could not make judgments in his own affair. Bielebage wanted to restrict the term to the shortest possible, and Klark wanted to grant privileges only for three years. Undated memoranda by Ponomarev and Bielebage, and Klark's memorandum to Druzhinin dated 27.12.1829 РГИА f. 18, op. 2, d. 493, 89, 109, 114.

5 Плужник 1969, 293–4, 297. Importation privileges had been opposed in particular by Ponomarev and Bielebage. Undated memoranda by Ponomarev and Bielebage РГИА f. 18, op. 2, d. 493, 89, 108.

years 1814–35 privileges were granted on average for four inventions annually. In Russia, in other words, approximately the same number of inventions was privileged annually as had been patented in England a century earlier, prior to the 1720's.[1] Unanimity on the content of the new law was not easy to achieve; during 1830 the State Council discussed the issue of privileges three times. The new draft was finally ratified in 1833.

3. Reforms contained in the Privilege Statute of 1833 and the quantitative development of privileges during 1812–60

The new Statute on Invention Privileges followed the formulation used in the Manifesto, defining an invention as the personal property of the inventor, for which he could apply to the government for exclusive right of exploitation. The State Council also did not change the regulations concerning the terms of privileges; it was evidently considered safer to adhere to the established practice, especially since the Manufacturing Council had been unable to achieve unanimity on the subject.[2]

The revisions proposed by the Manufacturing Council gave greater specificity to the somewhat vague regulations in the 1812 Manifesto concerning the privileging of foreign inventions. Under the new statute, it was only in exceptional cases that a Russian privilege could be granted for a foreign invention which was as yet unknown in Russia and which was in use abroad without a patent. In such cases, the government required particularly strong evidence as to the usefulness and necessity of the invention.[3] Under a strictly Lockean concept of property rights, importation privileges would actually no longer have been granted at all. Despite protests by the Manufacturing Council, such privileges were considered beneficial for the development of Russian industrial technology. The problem of the legitimacy of property rights was resolved by defining the importation privilege as a means of compensating the importer of a new technology for the costs incurred in the process.[4] In the Manifesto, importation privileges had been considered comparable in all ways to those for native Russian inventions; in the new statute, the term of importation privileges was restricted to at most six years.

To avoid problems like those of the Osterid case, arising from the obsolescence of legislation, the new statute contained a clause specifically concerned with the further development and improvement of already privileged inventions. The holder

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1 On the development of patenting in England see Boehm, 1967, 23.

2 Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8 no. 6588.

3 Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8 no. 6588.

4 Cf. views presented in the Manufacturing Council. Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 153, 158, 164. Polevoi, who took an extremely reluctant view of privileges, would have granted payments for only three years for the working of foreign inventions which were known abroad but had not yet been introduced in Russia. Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 164–5.

of the privilege could obtain a so-called 'additional privilege' for such improvements. If the developer of the privileged invention was someone else than the holder of the original privilege, the improver had to have the consent of the original holder in order to obtain a privilege for his improvement. Another new regulation was that stipulating the compulsory working of the privilege; the holder had to begin the working of his invention within the first quarter of the term for which the privilege had been granted, and he had to submit proof of working, confirmed by the local authorities, to the Department of Manufactures and Domestic Trade. If reliable proof could not be submitted by the privilege holder, the privilege was revoked. The purpose of this regulation was to ensure that the new invention was adopted in practice as soon as possible, and that Russian industry would not suffer unduly by the privilege.[1]

There was yet another change in the statute, which played a crucial role with regard to the number of disputes over privileges and the safeguarding of the rights of inventors. This change concerned cases in which there was more than one simultaneous application for a privilege for the same invention.[2] Under the Manifesto, the privilege was granted in such cases to the earliest applicant. Under the new regulations, no privilege was granted in such cases at all, since it was considered that the invention was already known.

The statute did not contain other changes significantly affecting invention privilege practice. In particular there was no simplification of the bureaucratic and slow processing of applications, and the number of unresolved applications thus continued to increase steadily. Of the 173 applications which reached the Manufacturing Council in 1857, 72 were not dealt with that year; two years later only 22 applications were processed, so that 116 remained to add to the incoming load of subsequent years.[3]

The main purpose of the new statute was to make the system of invention privileges more compatible with the level of development of Russian industry; this was in fact explicitly stated in the preamble. In considering invention privilege applications, the Manufacturing Council was to take into account above all the condition and needs of Russian industry. In assessing the importance and usefulness of an invention, the Council was to consider the state of development of the branch of industry in question. The authority of the Manufacturing Council, and in the final analysis of the State Council, with respect for instance to the term for which a privilege was granted was likewise unchanged.[4] In other words, the needs of Russian industry at any one time considerably influenced decisions as to whether a privilege was granted, and if so for how long.

The overriding principle governing the invention privilege institution in the

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1 Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8 no. 6588.

2 An extensive dispute had arisen for instance in the early 1820's over the cylindrical printing press printing with two colors simultaneously. Cf. Зельцер 1934a, 23–5 and above 40–1.

3 Киняпина 1968, 227.

4 Cf. the debate which took place in the Department of Manufactures and Domestic Trade and the Ministry of Finance in 1827, in connection with the applications for extension by Weber and Tesh. The discussion appealed to the instructions issued for the College of Manufacturies in 1723. Ministry of Finance 13.9.1827 РГИА f. 1152, op. 1, 1827g., d. 73, 4–7.

1830's was concerned not with the interests of the inventor — the protection of his rights — but rather with the interests of Russian industry. According to the statute, the usefulness and safety of the invention had to be demonstrated; furthermore, it was taken for granted that only the government had a sufficiently general view of the condition and prospects of the particular branch of industry in question. Personal gain and self-interest were not allowed to influence the development of industry. The rights of the individual over the fruit of his creative intellectual labor were relegated to the background in Russia, contrary to the situation for instance in France or the United States, where individual rights and liberties were clearly foregrounded in patent legislation as elsewhere.

The first Russian laws concerning joint-stock corporations, passed in 1836, reflect this same lack of confidence on the part of the authorities in business enterprise, and the same safeguarding of state interests. The establishing of a joint-stock company required the approval of the Committee of Ministers and ratification by the tsar. The authorities had discretionary powers with regard to the profitability of the company, its legality, its morality and whether or not it posed a threat to state revenues and to the development of industry. In connection with the founding of the company, the State Council might grant special rights for a limited period of time, such as monopoly rights, tax exemptions and financial support, to a company which was founded to work some particular new invention[1] or whose operations concerned an area important to the state, such as railroads. Companies given such monopoly rights and special privileges were always set up for a specified time. There was nothing unique about these requirements — in other countries too companies had to apply for government permission and might be granted special rights; but nowhere else in 19th century Europe did these conditions have and retain such force as in Russia.[2]

Because of the system of concessions, and the requirement of licensing each individual joint-stock company by a special legislative act, the *ustav*, which defined the sphere of activity and structure of the company, these laws became the main lever of the government in its policy with respect to joint-stock companies, and brought them completely under bureaucratic control. The links between the bureaucracy and the corporations were highly complex, and were typical of later corporate activity in

1 If the purpose of the company was the working of an invention, the duration of the exclusive rights granted to the company could not exceed the term of the invention privilege. With the lapsing of the privilege, the company could continue its operations but without monopoly rights. The privilege belonged to the company only if it was legally assigned to it. Minutes of the General Assembly of the State Council 2.11., 9.11. and 16.11.1836 "О проекте положения для компаний на акциях" РГИА f. 1152, op. 2, 1836g., d. 100, 159–61.

2 Minutes of the General Assembly of the State Council 2.11., 9.11. and 16.11.1836 "О проекте положения для компаний на акциях" РГИА f. 1152, op. 2, 1836g., d. 100, 159–61; Шепелев 1973, 55–7; Blackwell 1968, 140–2; Owen 1991, 18–19, 21–2. In particular Kankrin, Minister of Finance 1823–44, had a negative attitude towards the industrialization of the country, viewing entrepreneurs as ignorant and irresponsible speculators. Blackwell 1968, 142; Pintner 1967, 102–3.

Russia.[1] Business activity needed institutions which would be able to maintain modern economic relationships impartially and flexibly; but the patriarchal and hierarchic state, in which the government and the bureaucracy had been able to act without much regard to the restrictions of the law, did not offer much room for an independent legal system.[2]

The government viewed the issue of invention privileges from an economic perspective, and saw the institution above all as a means for the spreading of information. The importance of the dissemination of new technological knowledge in the granting of invention privileges was also stressed by the Manufacturing Council. The point was stated most clearly by Gagarin, who suggested that a list be drawn up by the authorities of Russian invention privileges which had already lapsed and a selection of the most important foreign patents which had likewise lapsed.[3]

The Statute on Privileges of 1833 did not mark a major change in the history of the invention privilege institution in Russia, since it was based to a great extent on the principles underlying the original Manifesto. In the process of drafting the statute, however, important debates over the basic character of the invention privilege took place, which recurred at a later date. The mechanization of the Russian textile industry and the privilege disputes of the 1820's forced the Manufacturing Council to think about the social costs of the institution. The example of the textile industry had demonstrated that the invention privilege had become a means of setting a value on new technological knowledge. The discussion also aimed at anticipating possible drawbacks to industry from invention privileges, while the number of the latter was still relatively low.

Despite the rapid mechanization of the textile industry, the number of privileges granted annually was fewer than ten; it was only in the later half of the 1830's that a rate of more than twenty annually was reached, which was not far behind that of Prussia at the same time. This was equivalent to the number of privileges granted in England some seventy years earlier, in the 1760's.[4]

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1 Боханов 1992, 53 5; Зайончковский 1978, 99–102; Шепелев 1973, 55–6; Owen 1991, 18–19, 21–2; Pintner 1967, 102–3. The regulations concerning the time limits of corporations granted special rights were quite vague. Factors taken into account included the nature of the corporation, the preliminary expenditures and the extent of the risk involved. Minutes of the General Assembly of the State Council 2.11., 9.11. and 16.11.1836 "О проекте положения для компаний на акциях" РГИА f. 1152, op. 2, 1836g., d. 100, 161.

2 Torke 1967, 289 99 and 1971, 457–8; Wagner 1976, 392 3.

3 Вопросы к членам мануфактурного совета, по которым надлежало высказать свое мнение 27.11.1829г., 1939, 156–7.

4 Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 11–13; Boehm 1967, 23; Heggen 1975, 39; Sullivan 1989, 449.

Table 1. Patents granted in Russia, Prussia and England, 1815–40

Year	Russia	Prussia	England
1815	0	9	102
1816	1	8	118
1817	4	14	102
1818	2	15	132
1819	4	7	101
1820	3	6	97
1821	3	6	109
1822	7	4	114
1823	2	16	138
1824	3	17	180
1825	4	20	250
1826	2	11	130
1827	2	14	149
1828	2	23	153
1829	9	19	130
1830	10	11	180
1831	6	8	150
1832	3	12	147
1833	2	34	179
1834	3	25	206
1835	12	23	232
1836	21	31	296
1837	17	18	256
1838	21	40	393
1839	30	46	411
1840	25	53	440

Sources: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 1–23; Boehm 1967, 23; Dutton 1984, 2; Heggen 1975, 39; Sullivan 1989, 448–9.

In comparing the quantitative development of patents in different countries, it is important to keep in mind that differences in the systems for granting patents may crucially affect the statistics. In this sense, the figures for Russia and Prussia are mutually commensurable, since in both a system of examination was applied. In England, on the other hand, a system of registration was in use up to the Patent Act of 1883;[1] thus the figures are not entirely commensurable with those for the other two countries. In addition to the patent-granting system, such factors as the number of officials involved and their expertise, and the economic policy practiced at a given time, also had a considerable effect on the number of patents granted and what they were granted for. The Russian system, based on the use of outside experts whose fees were paid out of a special budgetary fund, was unable to accommodate itself to the sudden increase in applications. When the money ran out, applications were deferred to the following year. In certain cases, crucial legislative changes might affect the numbers of patents. The interest of the individual inventor was significantly affected by many factors, including the cost of taking out a patent, its simplicity and aspects

1 Dutton 1984, 63, 68.

of legal protection. The mentality of manufacturers and the general level of economic development naturally also played a role.

The relatively steady growth in the numbers of invention privileges in Russia was interrupted in 1850 by a temporary decline, after which it resumed and continued at a steady pace. There has been no explanation of the statistical drop of 1850. During the 1850's an average of thirty invention privileges were granted in Russia annually; this corresponded approximately to the figure for England in the 1770's, but fell far behind the average of 65 patents issued annually in Prussia in the 1850's. In England by the 1850's the figures had risen to another level altogether, exceeding a thousand patents annually; this is considered to have been due at least in part to the Patent Act of 1852 and the changes it brought with it.[1]

Table 2. Patents granted in Russia, Prussia and England, 1850–60

Year	Russia	Prussia	England
1850	7	87	521
1851	30	57	453
1852	22	82	1384
1853	23	83	2187
1854	38	62	1878
1855	21	62	2046
1856	24	66	2094
1857	35	53	2028
1858	64	55	1954
1859	53	44	1977
1860	70	79	2063

Sources: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 43–84; Boehm 1967, 23, 33; Dutton 1984, 209; Heggen 1975, 78; Sullivan 1989, 449.

In Russia, the share of privileges granted for various machines and their further improvements, and for inventions in the chemical industry, grew steadily. In 1853 and 1856, for instance, these accounted for over half of all privileges granted. In the figures for 1858 and 1859, invention privileges granted to foreigners were highly prominent; of the 64 privileges granted in the former year, as many as 48 went to foreigners, mainly Frenchmen. In the following year too a majority of privileges, 38 out of 52, went to non-Russians.[2] The average duration of processing of the application in 1858 was 8.4 months.

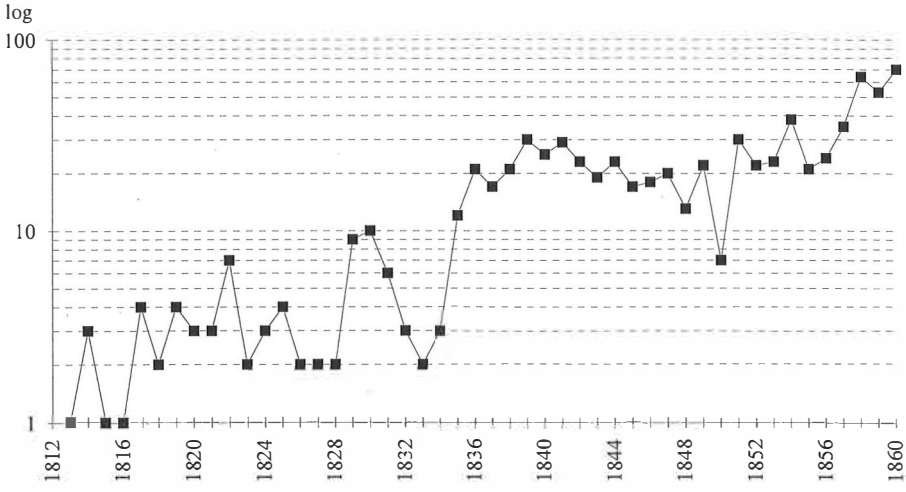
According to Kinyapina, the government's industrial policy and technical bottlenecks played a crucial part in the issuing of privileges in the first half of the

1 The new law introduced the 'single patent', which was automatically in force not only in England but also in Ireland and Scotland. The Act also reduced patent fees and simplified the system considerably. Boehm 1967, 28–9; Dutton 1984, 35, 63.

2 Киняпина 1968, 229.

19th century. For instance the fuel shortage in the Moscow industrial area was reflected not only in the many committees which tried to deal with the problem but also in the number of invention privilege applications for the development of various kinds of furnaces. Similarly, the rise of the sugarbeet refining during the 1830's–50's was reflected in the increase in the number of applications for inventions relating to the sugar industry. Up to the beginning of the century, many privileges were granted for agriculture and for the textile industry, but in mid-century new fields entered the picture: sugar refining, the metal industry and the development of various machines. The government was interested in granting privileges especially for inventions in new and poorly developed branches of industry. Technological bottlenecks, the obsolescence of Russian technology and the preferential focus of the government's industrial policy, together with the beginning of railroad construction, account for the growing interest on the part of foreigners in obtaining privileges for railroad technology and steam engines especially in the late 1850's; this was reflected in the statistics.[1] Kinyapina notes that the privileges granted during the 1820's to 1850's included a number of inventions which were relatively trivial and industrially non-essential, such as musical instruments, carriages, lamps and candles.[2] In practice it is impossible to assess the importance of privileges even in those branches of industry which were seen by the government as focal.

Figure 1. Privileges granted in Russia, 1812–60



Source: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 1–84.

1 In 1858 a total of 16 privileges were granted for the development of steam engines, locomotives, carriages and tracks, and seven for heating and smelting furnaces. Only two privileges, on the other hand, were now granted for weaving looms. In 1859, a total of 18 privileges were granted for the development of steam engines, locomotives, carriages, tracks and chemicals and chemical apparatus. Киняпина 1968, 229.

2 Киняпина 1968, 228–30; Плужник 1969, 321–2.

Using a logarithmic scale to indicate relative change (figure 1.), the numbers of privileges seem to have developed relatively steadily from the late 1830's to the end of the 1850's; at that time, the next major increment might be said to occur. The year 1850 forms a sudden and inexplicable but temporary hiatus. During the first two decades of the century, there was considerably more fluctuation in the numbers of privileges granted. The total numbers, however, were so low that a minor and temporary factor, such as a internal bureaucratic matter, might play a crucial role. The statute of 1833 did not fundamentally change either the grounds for the granting of privileges or the cost, so that it probably did not play a significant role in subsequent quantitative trends. The detachment of agricultural privileges as an administratively separate unit in 1840 likewise did not play a crucial part; during the years 1843–60 a total of 62 agricultural privileges were granted, i.e. on average 3.5 annually.[1]

The Decembrist insurrection, and the unrest and revolutions which broke out in Western Europe in the 1830's and 40's, led in Russia to a stricter ideological control and to restrictions on foreign contacts, in the fear of harmful new ideological currents. In spite of these new restrictions, however, it was impossible to prevent the ideological debate which had already begun over the direction of social development in Russia. The Slavophils were prepared to bring completely to an end the eclectic copying of Western principles and organizational models. The atmosphere of the period was evidently not favorable to any profound changes in the privilege system, adopted at the beginning of the 19th century evidently to a considerable extent in a desire to imitate Western models. Invention privileges continued to constitute a special privilege or exemption granted to the inventor, justified by an ethos of service to the state. The government's interest in economic policy was not sufficient for the drafting of a program of industrial development, in connection with which the question of invention privileges might have come to the fore.

1 Department of State Properties and Agriculture and Rural Industries to Scientific Committee of Ministry of Agriculture 10.2.1886 РГИА f. 382, op. 1, d. 705, 4–8.

III. Invention privileges in Reutern's economic policy

1. Invention privileges as an element of tariff policy

In the later half of the 19th century, a somewhat paradoxical situation developed: on the one hand, the development of international trade and communications meant an increasing need for the protection of inventions; at the same time, however, the freeing of international markets demanded the lifting of official restrictions on trade and business. The growing importance of Germany and the United States towards the end of the century was prominently reflected in the structure and volume of world trade. In overall quantitative terms Britain did not lose her dominant position in world commerce, but the relative share of different branches of manufacturing and marketing changed considerably. Heavy industry developed most rapidly in Germany and the USA, while Britain retained her supremacy in textiles, coal and machine production.[1]

Important new inventions such as the steam engine together with its applications and the telegraph brought about a fundamental contraction of global distances and a reduction in transportation costs. In particular the telegraph, which spread rapidly, introduced a completely new time factor in world politics and economics. Steam power and electricity for their part considerably lessened the role of physical location as a limiting factor for production. The growth of industrialization and division of labor on a global scale made the complex new technology an increasingly desirable commodity. Time became more and more important as a factor in economic activity. The capacity and the willingness of industry to adopt new technologies was quite different from those of the earlier agrarian society, and the spread of technical know-how recognized neither national boundaries nor tariff barriers.[2]

At the latest after the defeat suffered in the Crimean War, the Russian

1 Condliffe 1951, 287–94; Woodruff 1975, 663–75, 680–1.

2 Ahvenainen 1981, 7, 13–25; Penrose 1951, 42–3: Woodruff 1975, 688 99. In the history of technology the inventors of the electromagnetic telegraph are generally given as the Englishmen William Cooke and Charles Wheatstone, who patented their invention in 1837. In the same year, F.B. Morse presented his own telegraph to the U.S. Congress. Cooke's and Wheatstone's invention was evidently merely a simplified version of the invention presented by Schilling von Cannstadt in Heidelberg in 1836. Von Cannstadt, who worked in Russia, was forgotten, and only a few experimental telegraph lines were constructed on the basis of his invention during the 1840's. The first Russian long-distance line, that between Moscow and St. Petersburg, was based on the Morse telegraph. After the construction of telegraph lines in European Russia, in the 1860's, construction expanded eastward. In the early 1860's a line was built connecting European Russia and Siberia, the Kazan – Chumen – Omsk – Irkutsk line. In 1860 a foreign company obtained a ten-year privilege for the development of the Morse telegraph. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 84; Виргинский 1962, 301–2, 310; Техника в ее историческом развитии 1982, 290–2; Энциклопедический словарь 1901, vol. 32, 779–80 and 1903, vol. 39, 563; Ahvenainen 1981, 13, 31; Blackwell 1968, 399–400.

government came to realize the importance of modern technology for the economic development of the country and for her position in international politics. Russia either had to accept a role as an agricultural country in world trade,[1] or she would have to find effective ways to develop her industry. Russian industry, in particular the iron industry, suffered at this time severely from the backwardness of its production technology. Some estimates saw Russia as being in this respect some fifty to sixty years behind Great Britain. The decade following the emancipation of the serfs saw only a slow growth in production, in some sectors an actual decline.[2]

The Crimean War had convinced the government of the strategic and economic importance of the railroads; this necessitated a program of rail construction and a rapid increase in the production of iron. The actual boom in railroad construction began in the second half of the 1860's, when the government's measures to attract foreign capital to Russia began to bear fruit.[3] It was, however, impossible to stop the growing indebtedness of the state, and the government had to borrow money merely for the payment of interest and amortization on earlier loans. The program of railroad construction and the consequences of the emancipation of the serfs were much more expensive than had been anticipated.[4]

To cope with the economic problems caused by the Crimean War and the Polish rebellion, and to strengthen his own position in the highest governmental circles,[5] in 1866 Finance Minister Reutern presented an economic program which included the following general objectives:

1) Railroad construction had to be supported in all ways possible, since expansion of the rail network would activate both domestic and foreign trade;
2) the government was to make special efforts to find ways to prevent the flow of foreign and domestic capital out of Russia and to attract foreign investment

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1 Most important among Russian agricultural exports was grain, accounting during 1861–79 for approximately 33–56 % of all exports. Grain was followed, in order of importance, by wool, flax and lumber. The most important imports were industrial products and raw materials. Лященко 1956, 137; Покровский 1947, 317–18; 321–6; Хромов 1950, 252 3, 255–6, 472–3.

2 Лященко 1956, 31–4, 92 3; Филиппов 1965, 242–3; Хромов 1950, 195–6; Geyer 1987, 18–21. The negative repercussions of the emancipation of the serfs were particularly apparent in the iron industry, where the pre-emancipation levels were reached again only in 1870. Хромов 1950, 195.

3 In 1857 a private company was founded, The Russian Railroad Company (The Great Society of Russian Railroads), which was granted a privilege for the building of over 4000 km of railroads. Attempts to sell shares in the new company abroad failed, and it was unable to carry out the task. After this, the government began to award licenses to other private companies for the building of individual lines. Typical of the period of economic revival and growth which began in the second half of the 60's was an increase in the importance of railroad investment. The liveliness of such investment is indicated by the fact that during 1866–73 more than 66 % of all corporate capital was invested in rail construction. Лященко 1956, 118–19; Соловьева 1975, 70–1, 100, 123–4; Шепелев 1973, 80, 82.

4 Рейтерн (1866) 1910, 75; Соловьева 1975, 61 2; Хромов 1950, 88–9, 275–6; Чернуха 1978b, 270 1; Шепелев 1981, 59–60, 70, 87–90; Geyer 1987, 20–1, 33–41.

5 In 1866, after the unsuccessful attempt to assassinate Alexander II, the Director of the Emperor's Own Personal Chancellery Third Section and head of the Gendarme Department V.A. Dolgorukov was replaced by P.A. Shuvalov, who made active attempts to displace his opponents, including Reutern. The activities of the Finance Minister Reutern were also criticized by the nobility, who were struggling with the economic difficulties arising from the emancipation of the serfs, and who were demanding the broadening of their political rights. Чернуха 1978a, 67, 208–10 and 1978b, 270–1.

capital to the country;
3) to relieve problems in the balance of payments, it was important to reduce payments abroad and to channel large orders to Russian producers whenever possible;
4) to help balance the budget, a more liberal tariff policy was to be introduced, which would reduce smuggling. The tariff policy was to be based on the need to secure raw materials for Russian industry at a reasonable cost.[1]

Reutern's program involved the creation of the general conditions necessary for the development of industry: the construction of a railroad network, the development of a capitalist credit system, and the creation of an adequate protective tariff barrier. The government, however, did not intend at any stage to relinquish its right of intervention in private business, sometimes at an extremely detailed level. This activity on the part of the state was founded not only on centuries-old tradition but on a firm material basis; the state possessed very large property holdings in forest and land, in metallurgy and in bank loans. The main concrete consequences of the program were the raising of the soul tax in 1867, the new import tariff in 1868, the reductions in ministerial expenditure and the encouragement given to railroad construction. The revised import tariff, drafted by G.P. Nebolsin,[2] aimed at removing the disproportion between the size of the import tariff and the value of the product, and at reducing the tariffs on raw materials needed by Russian industry within the limits dictated by the condition of the national economy.[3] The system of strict tariff barriers had been given up in 1850, since domestic industry did not benefit significantly from high import tariffs and the large number of prohibited imports. The only beneficiaries of the system had been the smugglers. The tariff revision of 1857 had continued the moderate protection of domestic industry. To give new impetus to railroad construction and to encourage domestic rail and equipment production, the government permitted the importing of iron and pig iron by sea. In 1864, all machine-building factories were given the right to import the necessary raw materials duty-free.[4]

The tariff of 1868 permitted the duty-free importing of the most important raw materials, such as coal, iron ore and raw cotton; the tariffs payable on pig iron, rails and power engines were low. Factories which manufactured machinery retained the right to import the necessary metals free of duty. Duties were imposed for the first time on most imported machinery, with the exception of machines which were

1 Рейтерн (1866) 1910, 75–6, 82, 96 100.

2 Nebolsin was assistant to the Minister of Finance during 1863–66. Шепелев 1981, 74; Amburger 1966, 208.

3 Finance Minister Reutern to I.P. Varpakhovskii, 26.6.1867 "По вопросу о пересмотре таможенного тарифа", РГИА f. 1275, op. 1, d. 72, 4–6; Отчет по Государственному совету за 1891г., 233–4; Гиндин 1959a, 68–9 and 1960, 34–8, 44–5; Куломзин & Рейтерн-Нолькен 1910, 45 7; Соболев 1911, 218–21; Соловьева 1975, 98; Чернуха 1978b, 281, 284; Шепелев 1981, 114.

4 Finance Minister Reutern to I.P. Varpakhovskii 26.6.1867 РГИА f. 1275, op. 1, d. 72, 4; Сборник сведений по истории и статистике внешней торговли 1902, 230, 267; Соболев 1911, 190–3, 196–7; Шепелев 1981, 66–7; Blackwell 1968, 173; Hayward 1973, 432, 443. The percentual share of the 1857 tariffs out of the total price of the product was in the case of foodstuffs 32.1 %, for raw materials and semi-finished goods 9.2 % and for processed goods 24.3 %. Соболев 1911, 176.

produced in sufficient quantity in Russia, such as agricultural machinery. There was likewise no duty on complicated machines which were not yet produced in Russia and whose manufacture could not be expected to begin in the near future; these included the machines used in the spinning and cloth-weaving industries. At the same time the import duties especially on foodstuffs were increased.[1]

Reutern would have liked to keep all imported machinery free of import duty; the share of transportation costs and other fees and payments, together equalling some 20 % of the cost of the machine, was a sufficient advantage favoring Russian manufacturers.[2] It was also unwise to revoke the duty-free status of machinery because the duty on a large number of manufactured goods had been increased and certain raw materials were also now taxed. What was especially important was to retain the duty-free status of complicated machines, since many such machines were protected by Western European patents and thus could not be freely manufactured in Russia. The imposition of a tariff would have made such patent-protected machines even more expensive for Russian industry; the spreading of innovative methods of production would have been even more greatly hampered.[3]

Reutern considered that the government should take all possible steps to ease the importation of new patent-protected production technology into Russia. If, however, the State Council wanted to revoke the general duty-free status of imported machinery, new, patent-protected machines and devices should be exempted from custom tariffs.[4] Patents provided Reutern with an additional argument in favor of a duty-free status for machines, as indicated by his statement to the State Council: "The taxation of machinery imports will not give rise to the production of complicated and delicate machines [in Russia], either immediately or in the near future; such machines are produced even in Europe only in a few specialized factories, and it is such machines which constitute the main part of machinery imports into Russia. Such machines are constantly developing as the result of new inventions, and their production is in most cases protected by privileges granted to the inventor or the particular manufacturer; thus our manufacturers have necessarily to order such

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1 Именной, данный Сенату, распубликованный 13.7. – О новом общем тарифе по Европейской торговле для таможен Российской империи и царства Польского 5.7.1868, ПСЗ 1873, vol. 43 no. 46079; Лященко 1956, 190; Отчет по Государственному совету за 1891г., 234; Соболев 1911, 296–8; Шепелев 1981, 115; Hayward 1973, 437, 438–40, 443.

2 The Tariff Commission had estimated the various expenses arising from packing, loading, transportation, shipping, insurance and other indirect costs as raising the price of the machine as follows: *machines-outiles*, weaving and spinning machines and locomotives 10-12 %, machines and parts of machines which took up considerable space, such as steam engines and ship-building components a minimum of 20–25 % and sometimes up to 40-70 %. In the summertime transportation and shipping costs were somewhat lower, but on average the various costs raised the price of the imported machine when sold in Russia by 20 %. Журнал Комиссии высочайше учрежденной для пересмотра таможенного тарифа, заседания 6, 8 и 20 февраля 1868 года, 1868, 300, 303, 334–5, 344–8.

3 Finance Minister Reutern to State Council 22.4.1868 "По проекту общего таможенного тарифа по Европейской торговле" РГИА f. 1244, op. 16, d. 1 part 2, 92–3.

4 If the machine in question represented a new and patented production technique, even if it was not one of the 'complicated machines or devices' specified in the tariffs, the government was to refund the customs payment to the importer. Finance Minister Reutern to State Council 22.4.1868 РГИА f. 1244, op. 16, d. 1 part 2, 93.

machines from abroad. Because of this, customs tariffs cannot exert any protective effect, but will merely make such machines even more expensive for Russian manufacturers."[1] The manufacture of such machines in Russia would not in any case be possible for a long time to come, due to the backwardness of the Russian machine-building industry. The State Council retained duty-free status only for complex machines, which could not have been produced in Russia.[2]

Reutern and the State Council evidently realized the importance of a developed industrial technology for the modernization of Russia. The number of machine-building factories had increased over the past ten years; the figures are given in the following table.

Table 3. Russian machine-building factories, production and importation of machines and other means of production, 1855–65

Year	Number of factories	Number of workers	Production in million rubles	Imports in million rubles
1855	35	5.2	3.9	0.4
1856	31	6.6	3.8	2.3
1857	35	6.9	4.0	6.2
1858	46	7.6	4.1	7.5
1859	85	8.5	5.2	11.2
1860	99	11.6	7.9	8.5
1861	106	12.3	7.2	8.6
1862	93	9.6	6.8	8.8
1863	103	14.6	12.1	5.8
1864	108	16.4	16.5	7.0
1865	126	17.8	11.7	6.0

Sources: Журнал Комиссии высочайше учрежденной для пересмотра таможенного тарифа, заседания 6, 8 и 20 февраля 1868 года, 1868, 307–8; Материалы к пересмотру общего таможенного тарифа Российской империи и царства Польского по Европейской торговле 1867, 55; Покровский 1947, 324; Сборник сведений по истории и статистике внешней торговли России 1902, табл. 97а, 266–7.

The table is somewhat misleading, in that it includes the St. Petersburg and Moscow iron foundries and iron works, which filled orders for agricultural and industrial machinery; the production figures for these plants include all their pig-iron and other iron production, including machines. Of the 100 machine works in the country, the Technical Society, which took part in the drafting of the new tariffs, was prepared with some reservations to accept at most 31 as actual machine-building factories, producing other than agricultural machinery. In 1865 there were altogether 26 of the latter type of factory, producing farm machinery. Of the total of 100 machine works, 48 were so small and applied such technologically primitive production processes as not actually to deserve the name of factory at all. Only two of the agricultural

1 Finance Minister Reutern to State Council 22.4.1868, РГИА f. 1244, op. 16, d. 1 part 2, 92.

2 Copy of Minutes of General Assembly of State Council 6.6.1868 РГИА f. 1244, op. 16, d. 1, part 2, 364–5, 396-7.

machine works and eleven of the others had an annual volume of production exceeding 100 000 rubles; the others were considerably more modest. Production was heavily concentrated in St. Petersburg, whose share out of the total machine production volume in 1864 was 80 %.[1]

Russian machine production was concentrated almost completely on agricultural machinery and tools and on filling orders from shipyards and railroads. It is thus not surprising that for many decades following the emancipation of the serfs the large Russian factories still used chiefly foreign machinery.[2] The government's own economic policy had a decisive effect on the development of machine production. Considering the huge size of the country, it was natural for the government to watch especially closely and actively over the development of those branches of industry which served the construction of railroads. Faced with constant complaints from machine manufacturers as to the high cost and poor availability of Russian raw materials, the government responded first by revoking prohibitions on the importation of iron and pig-iron, finally by permitting the duty-free importing of metal for the needs of machinery production. The railroads were also given the right to import duty-free the metal they needed for rail construction.[3] Despite these measures, the domestic machine-building industry[4] was unable to satisfy the rapidly growing demand. The importation of machinery had risen particularly sharply during the second half of the 1860's. During 1861–65, various machines and instruments had been imported to a value of 7.5 million rubles annually, but during 1865–70 the value was more than 18 million rubles annually. During the twenty years following the emancipation of the serfs, the percentual share of machines out of total imports was at its highest in 1878, when machines accounted for 13 % of the total value of imports. During 1876–80 Russia had to buy machines and other means of production from abroad to a value of 51 million rubles annually.[5]

The exemption from import duty of complex machines, which were often

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1 Журнал Комиссии высочайше учрежденной для пересмотра таможенного тарифа, заседания 6, 8 и 20 февраля 1868 года 1868, 308; Записка технического общества в С.-Петербурге о необходимости поддержать машиностроение в России 1868, 35–6; Материалы к пересмотру общего таможенного тарифа Российской империи и царства Польского по Европейской торговле 1867, 56.

2 Рындзюнский 1978, 198–200; Яцунский 1952, 61; Blackwell 1968, 392–3.

3 In 1859 the tariff on pig iron was reduced significantly, and the difference in tariffs between iron imported by sea and by land was removed. In 1861, factories which employed steam engines and water wheels were empowered to import iron and pig-iron duty-free. In 1864, this right was extended to all machine-works. The importation of machinery was next taxed only in the customs tariff of 1868. Сборник сведений по истории и статистике внешней торговли России 1902, 230, 266–7.

4 In 1870 Russia had 145 machine-works, with a total production volume worth 27 million rubles. In 1875 this figure was 41 million rubles; by 1880 it had risen to 270 factories and 56 million rubles. Покровский 1947, 324; Рындзюнский 1978, 199; Сборник сведений по истории и статистике внешней торговли России 1902, 266–7.

5 Журнал Комиссии высочайше учрежденной для пересмотра таможенного тарифа, заседания 6, 8 и 20 февраля 1868 года. 1868, 300; Записка технического общества в С.-Петербурге о необходимости поддержать машиностроение в России 1868, 35–6; Гулишамбаров 1898, 26–9; Лященко 1956, 137; Покровский 1947, 324–6; Сборник сведений по истории и статистике внешней торговли России 1902, 267–9; Хромов 1950, 476; Portal 1966, 814.

protected by patents, or the refunding of customs payments, was consistent with the principles of the 1868 customs tariffs, aiming at ensuring the availability of adequate raw materials and machinery for Russian industry at a moderate price. In spite of the rapid development of certain branches of industry, Russia was unable to raise her tariffs to the same level as in the industrialized European nations. This new and more liberal tariff policy, however, soon led to a deficit in the balance of trade.[1]

The construction of railroads brought about a rapid rise in demand, revealing the inadequate capacity and low technical level of the Russian metallurgic and machine industry.[2] The technology used in the Russian iron industry had fallen irretrievably behind that of Western Europe by all of the three commonly applied criteria.[3] As late as 1860, only 50 % of Russian iron was produced by the puddling technique, which began to spread more rapidly only during the twenty years following the emancipation of the serfs. Puddling continued to take place in Russia with charcoal rather than coal, due to which the procedure lost most of its considerable advantages.[4]

Table 4. Output of pig-iron (in thousands of metric tons) in the United Kingdom, France, Germany and Russia in 1860–80

Year	Britain	France	Germany	Russia
1860	3888	898	529	336
1865	4882	1204	988	300
1870	6059	1178	1261	359
1875	6467	1448	1759	428
1880	7873	1725	2468	449

Note: 'Russia' here denotes the entire empire, including Finland, Poland and the Caucasus.
Sources: Гливиц 1911, 10 табл. 6; Хромов 1950, 452 табл. 4; Mitchell 1978, 215–218.

Due to her outdated production technology, Russian per capita production of pig-iron was extremely low. In 1871 it was approximately 4 kg per capita, compared to the German figure of on average 35 kg and the figure for Great Britain of 258 kg per capita. During the thirty-year period 1830–60, the Russian share of world pig-iron

1 Finance Minister Reutern to I.P. Varpakhovskii 26.6.1867 РГИА f. 1275, op. 1, d. 72, 4–6; Хромов 1950, 267; Шепелев 1981, 115; Hayward 1973, 443–4.

2 Тимирязев 1881, 13; Туган-Барановский 1907, 309–11, 320, 337; Хромов 1950, 207–8; Шепелев 1981, 70, 92; Portal 1966, 812–13. Рындзюнский 1978, 199–201. During 1873–75 a total of 133 locomotives were built annually, during 1876–78 249 locomotives and during 1879–80 256 locomotives annually. In 1879, the percentage of locomotives built in Russia was 37 %, that of passenger cars 34 % and that of freight cars 58 %. The corresponding figures for 1875 were 20 %, 17 % and 47 %. As of 1869 only nineteen locomotives had been built in Russia; by 1870 the figure was 38, by 1871 63 and by 1872 86 locomotives. Рындзюнский 1978, 201; Филиппов 1965, 244.

3 For measures of the development of the iron industry applied in the study of the Industrial Revolution in England, see Ashton 1961, 65–70 and 1972, 117, 124–5.

4 Рындзюнский 1978, 218–19; Филиппов 1965, 242. In 1862, the total volume of iron produced in Russia (excluding Finland and Poland) was approximately 144 million kg, of which puddled iron accounted for 48.3 %. Рындзюнский 1978, 218.

production had fallen from 10 % to 4 %.[1] The needs of Russia's own market far exceeded the production resources of the Ural region, which were technically undeveloped, and in the 1870's almost 60 % of the domestic demand had to be filled by imports.[2] Peak figures for iron imports were reached in 1880; 1881 was the last year in which imports exceeded domestic production. The technical improvements introduced in coalmining chiefly affected ancillary processes, and did not significantly affect mining productivity. Steam engines were used only in very few mines; in most mines both coal and water were removed from the mine by human labor. In practice steam engines were rare in the mining industry even in the south,[3] and intensive mechanization can be said to have begun in the coal basin of southern Russia only in the 1880's.[4]

Due to the sharp growth in imports, state revenues from import tariffs almost doubled in ten years; the constantly rising level of debt, however, led to economic difficulties. The steady rise in imports had been facilitated by the drop in the value of the paper ruble,[5] which fundamentally lessened the significance of the tariff barrier. To remedy the situation and to reduce imports, in the beginning of 1877 Russia began to levy import tariffs in gold. In practice this meant a rise in the tariff level by some 25 to 30 %, since the difference in actual value between the paper ruble and the gold one was not taken into account. Another purpose of the new policy was to increase the state reserves of precious metals, thus helping the government to pay off its rapidly growing foreign debt. The reform, however, did not entirely live

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1 Гливиц 1911, 10 table 6; Хромов 1950, 452 table 4; Mitchell 1978, 4, 8, 217–18.

2 Гливиц 1911, 93; Филиппов 1965, 242; Шепелев 1981, 70; Яцунский 1952, 62. The harnessing of the southern Donetsk and Don regions was unexpectedly slow. Up to 1875, only two iron production plants had been established in southern Russia, the Hughes and the Pastukhov works, and their production was quite modest due to their primitive technology. John Hughes established his metallurgical works (Новороссийское общество), the New Russia Company in 1871 in the iron ore area of the Donets Basin. The company would probably have gone bankrupt if the high-grade ore deposits of Krivoi Rog had not been discovered. The discoverer of Krivoi Rog, A.N. Pol, succeeded only after several attempts in obtaining the financing needed to start production. It was with French capital that the 'Société Anonyme de Mineral de Fer de Krivoy Rog' was founded in 1880. Лященко 1956, 93; Рындзюнский 1978, 210; Хромов 1950, 196; Crisp 1976, 25, 163; McKay 1970, 117–18.

3 According to figures by the Technical Society, in 1865 only 52 of 100 mechanized plants used steam engines or water wheels; the others used either horsepower or human labor as their source of power. During 1875 78, a total of 241 steam engines and 37 power engines were registered in the 121 iron works of European Russia; of these, 22 steam engines and 5 power engines were in the Donsk oblast. The ratio was similar in the coalmining industry; of the 95 engines, 22 were located in the Don oblast and in Yekaterinoslav. Записка технического общества в С.-Петербурге о необходимости поддержать машиностроение в России 1868, 36; Рындзюнский 1978, 212.

4 Покровский 1947, 322–3; Рындзюнский 1978, 211–15; Хромов 1950, 198–204; Portal 1966, 814. The first power drills were introduced in Russian coalmines only on the eve of the First World War. Хромов 1950, 199.

5 The first Commercial-Industrial Congress already drew attention to the weakened rate of exchange of the ruble. During 1868 79 the rate of exchange of the paper ruble had varied between 85.5 and 76.4 gold kopeks. The rate fell particularly sharply after 1877. In 1876 the paper ruble was still worth 80.6–85 kopeks, but in 1877 it fell to 67 kopeks, and over the next five years it remained at an average level of 63–64 kopeks. Стенографический отчет заседаний 4-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 23.5.1870, 1872, 2–3; Сборник сведений по истории и статистике внешней торговли России 1902, XXXIII; table X, 211; Соболев 1911, 423; Hayward 1973, 447–8.

up to the government's expectations; imports fell only for 1877. The income from import tariffs, on the other hand, did develop as desired. At the same time, the tariff exemptions for locomotives and other railroad equipment were rescinded. In 1878 the government also revoked the duty-free status of raw cotton, and in 1880 the right of the machine-building industry to the duty-free importation of iron. In 1881, all tariffs were raised by 10 %.[1]

The increasing dependence of the country on foreign capital and technology, and the ensuing consequences, were something government circles were aware of towards the end of the 1870's. This is apparent from the 'financial testament' bequeathed by Reutern to his successor, S.A. Greig,[2] in which he warns the latter regarding measures which might lead to economic 'overheating' and a rise in imports. In the future, the government should use all possible means to hold down payments of money out of the country. The tariffs on certain industrial products should be raised in order to protect domestic production.[3]

Reutern's 'financial testament' outlined the basic principles of Russian economic policy for a long time to come. The heavy boom in railroad construction and the increasing proportion of foreigners in Russian industry and business, had led to economic overheating and to undesirable side-effects such as stock-market speculation. The government's desire to increase and intensify its control over industry should be understood in part as a means of solving these problems. The sharp increase since the late 1860's in speculation, in corruption and bribery of government officials and in other abuses tended to confirm the traditionally distrustful government attitude towards businessmen. The paternalistic attitude towards industry kept entrepreneurs dependent on the arbitrary power of officials and on personal self-interest. This was clearly seen in the fate of the long-planned legislative reform concerning joint-stock companies. Reutern did not ratify the new bill, completed in 1874, which would have made it possible to establish a new company merely by means of the formal registration of an *ustav* instead of the earlier awkward and rigid licensing process. Reutern justified his negative attitude by reference to the contemporary Western European stock market crisis.[4]

In the 1870's, joint-stock companies were affected, de facto if not officially, by various discriminatory statutes concerning the ownership of land and the practice of

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1 Finance Minister Vyshnegradskii to State Council 23.3.1891 "Об общем пересмотре таможенного тарифа" РГИА f. 20, op. 15, d. 398, 1–2; Менделеев 1892, 226; Отчет по Государственному совету за 1891г., 1892, 234; Сборник сведений по истории и статистике внешней торговли России 1902, XXXIII; Соболев 1911, 422–3, 427–31, 557–61, 652–4; Хромов 1950, 267–8, 270; Шепелев 1981, 115–16; Bairoch 1989, 52; Hayward 1973, 446–50.

2 There was a severe struggle for the position of Reutern's successor; the compromise appointment which was finally made was S.A. Greig, representative of an old Scottish noble family. Greig had received a military training. Because of Greig's lack of preparedness for the new job, Reutern bequeathed him detailed instructions in his 'testament'. Шепелев 1981, 75–7.

3 Рейтерн (1877) 1910, 139–42, 149–50, 156–7.

4 Рейтерн (1877) 1910, 156; Гиндин 1960, 37–8, 46–7; Шепелев 1973, 115–16 and 1981, 109–10; Owen 1991, 75–6, 81–2, 210–11.

business by Jews and Poles.[1] In 1872, restrictions were imposed for the first time which made it difficult for Jewish and Polish stockholders to circumvent through joint-stock companies the prohibition on land ownership. The activities of foreign corporations[2] was itself regulated by bilateral agreements between Russia and European countries, whereby foreign companies had a juridical status as 'legal persons'. Before they could begin practicing business in Russia, however, government consent was always needed; such consent could be withheld, and the government could require changes in the company bylaws or terms of activity.[3]

There have been various interpretations of Reutern's economic policy, its character and its aims. The earlier historical tradition, emphasizing fiscal motivation alone, has been increasingly replaced by a stress on industrial policy.[4] At the same time, the older Soviet conception as to the liberal character of Reutern's economic policy has also begun to be reconsidered.[5] In practice, the government intervened in private industry and other business activity both directly, by means of requisitions, subsidies and loans, and indirectly, through legislative and administrative measures. A particular object of government concern was the construction of railways and the industry which supported this construction. Although in his 1866 program Reutern had stressed the private construction of railways, the government nevertheless played a central role for instance in attracting foreign investors, guaranteeing dividends and handing out production awards. There was likewise little sign under Reutern of any significant freeing of private business from the difficulties caused by obsolete statutes and controls.[6] As late as the end of the 1860's, Reutern saw privileges primarily as

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1 The statutes of 1864 and 1865 prohibited Jews and Poles from owning agricultural land in the Vilna and Kiev regions and in nine western provinces. In 1880, Jews were prohibited from living on, owning or leasing land in the Don military region, and a couple of years later the prohibition was extended to all localities except for the Jewish homelands outside the Pale. Likewise foreigners were not allowed after 1887 to own or lease farmland in Russian Poland, and in eight of the nine western Russian provinces. In Bessarabia, Courland and Lithuania the prohibition was also extended to foreign joint-stock companies. The rights of foreigners to acquire shares in important transportation, mining or insurance companies were also restricted Шепелев 1973, 122–4; Owen 1991, 119–20, 122–3.

2 The term 'foreign corporation' here means a joint-stock company established abroad under foreign legislation, practicing business activities in Russia.

3 Ананьич 1991, 47–8; Гиндин 1960, 37; Шепелев 1973, 122–6 and 1981, 233; Owen 1991, 119 20.

4 Hayward 1973, 453. In the now classic 1911 work of Sobolev on Russian tariff policies, the central elements in Reutern's economic policies were seen as fiscal in nature. Hayward has drawn attention to the methodological awkwardness of the causal relationship between changes in tariff policy and subsequent industrial development. Changes in the latter following temporally after the former do not necessarily prove a causal relationship between the two events. Hayward claims that Reutern's tariff policy was successful in particular in fields related to railroad construction, in the metal industry and in certain areas of light industry. Due to the favorable tariff policy, these fields began to flourish during Reutern's time. Hayward 1973, 460.

5 According to Lyashchenko, the liberalism of Russian economic policy led to a system of free competition, which continued up to the appointment of Bunge as Minister of Finance in 1882. Lyashchenko's interpretation of the character of Reutern's era was based on inadequate source criticism, due to which he too overemphasized the influence of liberalistic economic theory. Гиндин 1959a, 70 and 1960, 16–17, 47–9; Лященко 1956, 174–6.

6 Гиндин 1959a, 68 70 and 1960, 37–49, 52–3; Шепелев 1981, 110 13; Geyer 1987, 42–3; Owen 1991, 65, 81–2. For details see Reutern's 'financial testament' from 1877. Рейтерн (1877) 1910, 138–57.

a form of monopoly which led to increased prices. Once the government realized the consequences of a dependence on foreign capital and technology, it became necessary to take a stand regarding the privileging of foreign inventors in Russia and international cooperation in patent matters.

2. Russia, the European anti-patent debate and the quantitative development of privileges during 1860–75

In Western Europe, periods of a general anti-monopoly stance occurred during which the patent institution was viewed with suspicion. The most serious attack in the public debate occurred in the mid-19th century, spurred on by the anti-patent movement. In many countries, this criticism led to a tightening up of legislative controls.

The European debate over the patent question can be seen as a reflection of the firm faith in the importance of technology, further strengthened by the English Industrial Revolution. The question now was, what were the most effective means whereby the new technology could be developed and exploited. Both the increasing international division of labor and the free trade ideology[1] which had spread from England to the continent tended to further emphasize the monopolistic and restrictive aspects of the patent system. The opponents of patents saw them as related on the ideological plane to tariff protectionism and to other monopoly privileges. In responding to these accusations, the advocates of the patent system based their defense on concepts of natural law and private property: the right of the individual to earn a living from his own work, and the obligation of society to ensure that he receives his fair share. At the same time, it is in the interest of society to achieve industrial progress at the lowest possible cost.[2]

Up to the 1850's, the attitudes of British economists towards the patent system had been relatively positive. In the view of Adam Smith, John Stuart Mill and Jeremy Bentham, for instance, the monopoly granted to an inventor for a specified period was justified as compensation for the risk and expenses incurred; they considered that the condemnation of monopolies in general need not be extended to include invention patents. The harshest opposition of patents in Britain came from the proponents of the

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1 The leading supporters of free trade on the continent were Holland, Switzerland, Denmark, Norway, Portugal and the German free towns. Belgium, which formerly had enthusiastically advocated a protectionist policy, switched during 1849–53 to a one of almost total free trade; the same was true of Italy after unification. In France, signs of a slight lowering of the tariff barrier became evident only under Napoleon III, when there was a sharp increase in domestic industry and French foreign investment was activated. The view of the protectionist nature of French economic policy, vs. the liberalism prevalent in England, has recently been criticized heavily by Nye, who at the same time has questioned to some extent the concept of free trade up to now applied in the literature. If the economy is viewed as a whole, rather than merely from the point of view of the leading sectors such as textiles, machinery, iron and steel, our conceptions as to the character of French and English economic policy may change radically. Historians have confused that which is politically important and that which is economically relevant. Nye's views have triggered an interesting debate on the concept of free trade. Condliffe 1951, 222–4; Irwin 1993, *passim*; Nye 1991 and 1993, *passim*; Pollard 1981, 255–7.

2 Machlup & Penrose 1950, 9; Penrose 1951, 13–14.

theory of the social origin of inventions,[1] according to which useful inventions and discoveries were based above all on the general development of society. It was thus senseless to reward the particular individual who happened to be the first to develop a useful device, process or substance for that discovery.[2]

The work of the numerous Committees appointed in Britain to consider the future of the patent system culminated in the passing of the Patent Act of 1852, which made the process of obtaining a patent considerably easier. Patent affairs were now separated from other administration, with a separate office, and the process of taking out a patent was simplified by introducing the concept of the 'single patent'.[3] At the same time, the application and patenting fees were reduced. Under pressure of public opinion, in 1862 a Government Committee was appointed, whose subsequent report signalled a partial victory for the opponents of the patent system. In the view of the Committee, the enormous growth in the number of patents after the Act of 1852 had brought development in some industries to a total standstill. The Committee proposed a number of measures aimed at tightening up the patent system, although it doubted whether these measures would be successful in eliminating the drawbacks arising from the system.[4]

Within the German tariff area, patents had initially led to the restoration of the former tariff borders for patented products, since each state had at first the right to prohibit the importation of commodities for which it had itself issued a patent. The situation changed in 1842, when a patent granted in any one member state carried with it a monopoly only on the manufacture of that product in that state, but no longer on its sale. This restriction considerably reduced the effectiveness of the patent, and aroused opposition among German engineers.[5] The most vocal advocates of patents in Germany were the representatives of industry and technology. The loudest opponents, on the other hand, came from among economists who supported a policy of free trade, and who saw the protection given by a patent as a harmful relic

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1 Among the advocates of this theory was John Lewis Ricardo, nephew of the economist David Ricardo. President of the Bank of England and a Member of the House of Commons, John Lewis Ricardo persisted up to his death in 1862 in demanding in Parliament the reform or total abolishment of the patent system. Machlup & Penrose 1950, 18.

2 Dutton 1984, 18 20; Machlup & Penrose 1950, 7, 17–18, 20; van Zyl Smit 1980, 104–7.

3 Up to 1852, patents were issued independently in England, Scotland and Ireland; to obtain complete protection, the inventor therefore had to pay three separate patent fees. In practice only the most important inventions had such triple protection; a majority were taken out only for England. Dutton 1984, 35.

4 Boehm 1967, 27–9; Dutton 1984, 35, 63; Machlup 1958, 4; van Zyl Smit 1980, 177–85, 197 200. For more detailed information on the anti-patent movement see van Zyl Smit 1980, 189–97.

5 Пиленко 1902, 211–13; Beier 1979, 199; Heggen 1975, 47; Machlup & Penrose 1950, 4; Penrose 1951, 14. Various views have been proposed regarding the extent and scope of patent legislation in the member states of the German Tariff Union. What can be said with certainty is that there were some states which had no patent legislation at all; this, however, by no means implies that no patents were granted in those states. The example of Baden shows that, in the absence of actual patent laws, patents were granted in the form of a royal prerogative. In Hessen, on the other hand, patents were regulated according to a system modelled on that of Prussia; there was an explicit attempt to avoid issuing patents. Some form of patent legislation existed at least in Prussia (1815), Bavaria (1825), Saxony (1853), Hannover (1847), Würtenberg (1828) and Hessen (1858). Пиленко 1902, 211; Beier 1979, 194; Heggen 1975, 43–4.

of an obsolete institution of privilege. The economic congress which met at Dresden in 1862 demanded the complete abolishment of the patent system. Bismarck, who had become increasingly inclined towards this same negative view, proposed in late 1868 at the Federal Council of the North German Union the general overhaul of patent legislation.[1]

In France, criticism of the patent system took the form more of an academic dispute than of actual activity, aiming at changes in practical life or legislation. Jean Baptiste Say restricted himself to the views of Smith and Bentham, but the so-called *majorats* went further in their support for the patent system, demanding for the inventor, on grounds of natural property rights, a lifetime monopoly on his invention, which could also be transferred to his heirs. The other extreme in the debate was represented by Simonde de Sismondi and Michel Chevalier. The former demanded that all inventions be immediately made public and available for copying. According to Chevalier, who was known as a strict supporter of free trade, protectionist tariff barriers and patents were derived from the same doctrine and gave rise to the same abuses.[2]

News of this debate in the leading European industrial nations over the advantages and drawbacks of patents spread surprisingly quickly to Russia. The first reaction in the press to the question of invention privileges came in 1861, when F.V. Chizhov (1811-1877), editor of *Vestnik Promyshlennosti*[3] wrote an article entitled *The recently raised question of the abolishing of privileges* (Новоподнятый вопрос об уничтожении привилегий). Chizhov, known as an ardent Slavophile and protectionist, reported for his Russian readers the main points of the English debate of that same year.[4] Chizhov's interest in patents was understandable; his educational background included the study of mechanics, and in 1838 he had published the first Russian work on the steam engine.[5]

At the end of the article, a severe critique of the Russian system of invention privileges was appended. The writer accused the administration of extreme bureaucracy, which by its inefficiency and indifference undermined all attempts to develop Russian industry. The inventor applying for a privilege was entirely at the mercy of the department in question. Official indifference was shown by the difficulty

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1 Beier 1979, 200–1; Heggen 1975, 102–3; Machlup & Penrose 1950, 13–15; Penrose 1951, 14.

2 Heggen 1975, 72; Machlup & Penrose 1950, 8–9, 11–14.

3 The periodical, 'The Messenger of Industry', appeared monthly from 1858 to 1861. It finally folded due to lack of subscribers. Русская периодическая печать 1959, 357–8; Энциклопедический словарь 1892, vol. 7, 650.

4 Chizhov's article gave his readers a thorough picture of the anti-patent speech of the British engineer Armstrong and of its reception in the British press. Чижов 1861, 59–87.

5 Энциклопедический словарь 1903, vol. 38, 821–2; Owen 1981, 39, 41–2; Rieber 1982, 158–9. Chizhov was a representative of an impoverished aristocratic family; he obtained a degree in the Faculty of Mathematics and the Natural Sciences at the University, but soon left academic circles for journalistic and business ones. Chizhov had considerable and diversified experience of business life; he had first-hand knowledge, for instance, of railroad construction and banking. In Italy he became acquainted with the silk industry, and in the mid-19th century he founded his own silk mill in Russia, in connection with which a vocational school also operated. He also published works dealing with the silk industry. *Ibid.*

even of obtaining the lists of privileges, even though only slightly over twenty privileges were granted annually.[1]

The writer demanded in no uncertain terms the vesting of greater power in manufacturers, placing control over invention privilege matters in their hands. The Department would then be a mere clerical office, without administrative, much less legislative powers. It would merely collect and transmit the relevant statements and decisions, for further handling by the Ministry. Russia, according to Chizhov, should go her own way and revise her own privilege system, without regard for European opinion.[2]

The *Vestnik promyshlennosti*, which acted as a mouthpiece for industrialists and business interests, advocated a strictly protectionist economic policy. The editor's negative attitude towards foreign models in privilege questions should be attributed to his Slavophile sympathies.[3] These same sympathies also account for his defiant attitude towards westernized bureaucrats. His Greater Russian nationalism was a compound of the Pan-Slavism of the impoverished aristocracy, the repugnance felt by the Old Believers towards the bureaucratized state and the apprehensive attitude on the part of old Russian merchant families towards foreign competition.[4] In addition to protectionism, Chizhov also demanded the general development of industry and banking, the building of railroads and the expansion of corporate activity by Russian businessmen and engineers, without the aid of foreign capital.[5]

In the background of the article can also be detected the sluggishness of Russia's technological development and the manufacturers' exaggerated demands for protection. This zealous protection of domestic industry no longer served the interests of development and renewal, but on the contrary led to technological stagnation. It is evident that Chizhov wanted to draw the attention both of the government and of manufacturers to the importance of modern technology in the building of Russian economic independence. The antagonism towards foreign influence which is so apparent in the article was motivated above all by a desire to protect the country from

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1 Чижов 1861, 94–5. On the basis of an article in *Moskovskie Vedomosti*, Chizhov describes the Russian bureaucracy as follows: "..., что такое наша бюрократия, эта равнодушная, жестокая к страданиям человеческим, пишущая армия, не привыкшая ни мыслить, ни думать, что делаеть, а только исполнять одну форму и отписывать" ("what is this thing, our bureaucracy: a cruel 'writing army', indifferent to human suffering, unaccustomed to think about what it is doing; merely to filling in one form and writing a formal answer." *Ibid.*

2 Чижов 1861, 96–8.

3 In 1847, upon returning from an extended journey abroad, Chizhov was interrogated by Section III (the notorious *Okhrana*). The authorities were particularly interested in his Slavophile contacts in Russia and abroad. For Chizhov's frank answers, see Чижов (1847) 1883, 242–62.

4 The Slavophile entrepreneurs and the Old Believers found common ground in Old Russian mythology and reality. Both the merchants and the Old Believers were passionately attached to the paternalistic social norms of the 'Domostroi', which the Slavophiles idealized even though they did not imitate them. The Slavophiles also admired the humanitarian help that the Old Believers gave, without thought of reward, to poor members of the community; this made even more flagrant the spiritual poverty and social inertia of the official Church. Rieber 1982, 143–5.

5 Owen 1981, 34, 41 2, 44–5, 56–8, 67; Rieber 1982, 143–5, 148, 165–6. On the program of economic policy promulgated by Chizhov in his journal, see Русская периодическая печать 1959, 357–8.

foreign domination.[1]

Despite the opening offered by Chizhov, the Russian press remained entirely silent on the subject of invention privileges throughout the 1860's. Neither manufacturers nor inventors expressed their views in public. The next article on the subject appeared only in 1870, nor did it represent the view of either manufacturers or inventors. Written by Veshnyakov,[2] the article was entitled *On the present state of the question concerning the abolishment of invention privileges* (О настоящем положении вопроса относительно уничтожения привилегий на изобретения и усовершенствования), and it constituted a direct continuation of Chizhov's article of nine years earlier. The article was actually a paper delivered by Veshnyakov at a meeting of the Technical Society, in which he reported extensively the European debate of the late 1860's over the patent question, and the theoretical arguments brought to bear in that debate. At the end of his paper, Veshnyakov briefly discussed the scantity of Russian privileges, and the importance of privileges for Russian industry.

During the 1860's, an average of 57 invention privileges were issued annually; this was almost double the number of a decade earlier. The time it took to process the application had also risen by the end of the 1860's to a year and a half.[3] Of the 70 privileges granted in 1860, 37 were to foreigners. In 1869 a total of 81 privileges were granted, of which 69 were to foreigners.[4] The proportion of foreigners among privilege recipients had risen to more than 85 %. There were no abrupt changes in the distribution of privileges among different branches of industry; inventions related in one way or another to railroad construction, which had become more prominent in the statistics in the late 1850's, preserved their relative proportion throughout the decade.[5]

In spite of this rise, the numbers of privileges were still low in Russia compared to the USA, Britain or Belgium. In the United States, despite the stringent examination, almost 12 500 patents were issued annually during the years 1866–74. The

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1 Owen 1981, 43–5, 117–18; Rieber 1982, 148.

2 Veshnyakov (1830–1906) was by training a lawyer. He held various posts in the Ministry of State Properties and took part in the drafting of the 1868 Tariff Act. In 1874 he was appointed Director of the Department of Agriculture and Rural Industries of the Ministry of State Properties (директор Департамента земледелия и сельской промышленности) and during 1883 93 he acted as aide to the Minister (товарищ министра государственных имуществ). In 1893 he became a member of the State Council. Альманах современных русских государственных деятелей 1897, 130–2; Amburger 1966, 247, 576.

3 According to the annual report of the Department of Trade and Manufactures, in 1867 the Manufacturing Council handled 97 applications and granted a total of fifty privileges. РГИА f. 560, op. 38, d. 841, 15.

4 The latter figure includes four privileges in which the application was submitted jointly by a Russian and a foreigner.

5 Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 120–8. In 1868 a total of 44 privileges were granted, of which ten were related to steam engines, railroads and iron manufacturing; the recipients of these ten were all foreigners. Of the privileges granted in 1869, 18 had to do with steam engines, locomotives, railroad carriages, rails and other inventions related to railroad construction. Five privileges were related to various furnaces and ovens. Due to the lack of classification, these figures are somewhat uncertain. *Ibid.*

figures for Prussia, on the other hand, were considerably closer to the Russian ones.[1]

Table 5. Development of patent numbers in Russia, Prussia, Britain, the USA and Belgium during 1860–75

Year	Russia	Prussia	USA	Belgium	UK
1860	70	79	4819	1719	2063
1861	44	101	3340	1774	2047
1862	62	72	3521	1724	2191
1863	75	71	4170	1857	2094
1864	55	69	5020	1548	2024
1865	46	64	6616	1655	2186
1866	45	66	9450	1767	2124
1867	50	102	13015	2012	2284
1868	44	81	13378	2026	2490
1869	81	49	13986	2048	2407
1870	85	73	13321	1516	2180
1871	95	32	13033	1484	2376 (2370)
1872	74	53	12200	1921	2771
1873	74	129	11616	1924	2974
1874	85	187	12230	2264	3162
1875	107	26	13291	2453	3135

Sources: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 84–176; Boehm 1967, 33; Dutton 1984, 209; Heggen 1975, 78.

The insignificant figures for Russia were not due merely to the high cost of obtaining a privilege; the costs were high in Britain and Belgium as well. Veshnyakov suspected that the low number of Russian invention privileges was due chiefly to the smallness of the industrial sector and the passivity of manufacturers; the same suggestion was made in 1868 by the Technical Society, in their report on the effect of tariff policy on the development of the machine-building industry. In addition to the backwardness of Russian industry, inventors suffered from the severity of the examination of privilege applications; Veshnyakov, however, did not consider this as of great importance, since in his view a majority of applications were accepted. He likewise did not discuss the relevance of different patent-granting systems for the difference in numbers. The information available seems to suggest that the number of applications for which no decision was made increased heavily. During 1866–74, the average proportion of applications in which a decision was issued was only

1 Вестник финансов, промышленности и торговли 23.12.1885 no. 52; Вешняков 1870, 77–8 and 1874, 306; Катков 1902, 40–1; Boehm 1967, 33; Dutton 1984, 209; Heggen 1975, 78.

38.5 %. In 1871 it exceeded 51 %, but the following year it fell again.[1]

Table 6. Quantitative development of invention privilege applications and privileges granted in Russia, 1866–74

Year	Applications	Privileges
1866	105	45
1867	121	50
1868	138	44
1869	172	81
1870	172	85
1871	185	95
1872	256	74
1873	241	74
1874	254	85

Source: Finance Minister Reutern to Imperial Secretary 16.2.1876 "Об учреждении при Совете торговли и мануфактур двух должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 4.

The privileging of inventions in Russia was dominated by foreigners; more than half of privileges were granted to non-Russians, and only very few inventions remained in Russia and contributed to the enrichment of Russian industry. Many even of those privileges which remained in force for their full period never had any significant practical application.[2] In addition, many privileges were revoked when only one fourth of the time had elapsed, due to failure to be worked. Judging from his comments, Veshnyakov's faith in the usefulness of invention privileges was not particularly strong. In connection with the drafting of the 1833 statute, Klark, a member of the Manufacturing Council, had presented the same argument against the privilege system, citing the British patent statistics. In Britain only one third of all patents were ever applied in practice in any way; thus in Russia too patents could be of benefit to the state only by way of the income from fees paid by recipients.

1 Finance Minister Reutern to State Council 16.2.1876 "Об учреждении при Совете торговли и мануфактур двух должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 4; Записка технического общества в С.-Петербурге о необходимости поддержать машиностроение в России 1868, 35; Вешняков 1870, 77–8 and 1874, 305–6. Belgium too had a registration system similar to those of France, Britain and the USA. Канторович 1900, 194 5.

2 Вешняков 1870, 78–9 and 1874, 307. According to Veshnyakov, during the years 1855–69 a total of 825 privileges were granted in Russia; this was 50 % more than during the preceding forty years. Of these 825 privileges, 769 came under the Ministry of Finance and 55 under the Ministry of State Properties. Either there is an error of one privilege in Veshnyakov's calculations, or his total figure includes one privilege issued in the field of pharmacology. Department of Agriculture and Rural Industries of the Ministry of State Properties to the Scientific Committee of the Ministry, 10.2.1886 "Об указателе выданных привилегий в России по сельскохозяйственной части с 1843 по 1885" РГИА f. 382, op. 1, d. 705; 7–10; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 56–128. Cf. Вешняков 1870, 78.

At the first general, Russian Commercial-Industrial Congress in 1870,[1] Veshnyakov tried to draw manufacturers to join in the debate over the economic repercussions of the patent institution. In his opening speech at the meeting, Veshnyakov noted that in Britain, Parliamentary Commissions had been used successfully for instance in monitoring the economic effects of the patent institution. The Commissions enjoyed a high prestige in commercial and industrial circles. More recently, various industrial-technical and commercial societies and conferences had also entered the arena.[2] Judging from the speeches given at the Congress, the greatest concern of Russian manufacturers had to do with the dangers of foreign competition and ways of warding it off. Manufacturers seemed to be interested only in the most comprehensive protection of their own field from foreign competition, and in the government as a source of both subsidies and production orders. The state was again seen as the chief guarantee of the well-being of manufacturers and industrialists. A few speeches referred to the publication and active dissemination of technical plans showing the design of new imported machinery, but these did not lead to any discussion.[3] The 'barbaric' proverbial expression phrase (моя изба с краю, ничего не знаю)[4] was cited by the mining engineer Poletika, according to whom it accurately reflected a trait typical of the Russian national character; an Oblomovian idleness was often seen as more respectable or dignified than an energetic spirit of commercial or industrial enterprise.[5]

Veshnyakov's rhetoric, according to which foreign privilege-holders were able to eliminate Russian competition, may have been exaggerated; nevertheless it reflected in its own way certain phenomena which had accompanied the period of economic growth, and which tended to arouse apprehensions: speculation, abuses,

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1 Шепелев 1981, 128. The meeting was organized by the Society for the Encouragement of Russian Industry and Trade, jointly with the Technical Society. Participating in the sessions were more than four hundred representatives of various branches of industry, along with a few government officials. *Ibid.*

2 Протокол заседания Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 18.5.1870г., 1872, 4–6.

3 Стенографический отчет заседаний 2-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 27.5.1870, 1872, 17–19, 21 30, 45–8, 75–6; Rieber 1982, 19. G. Velikhov referred to the industrial policy adopted in France in the 1840's, whereby in addition to the use of tariff barriers for the protection of domestic industry, technical aspects were taken into account as well. After the rise in tariffs, a large number of English manufacturers, with their own masters and workers, at first appeared in France, but within six to eight years the English workers had already been replaced by French ones. The manufacturers also had to immediately submit to the authorities detailed plans of the machinery they had brought with them; these plans were made available to all manufacturers, who were thus able to examine them and make free use of the machine in question. Стенографический отчет заседаний 2-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 27.5.1870, 1872, 17, 19.

4 Rough equivalent: "Beyond the threshold of my hut I know nothing." In other words, "It's none of my business, I don't care". Cf. the British expression "I'm all right Jack". The same phrase was cited by Shipov at the annual meeting of the Society for the Encouragement of Russian Industry and Trade, 7.4.1871. Rieber 1982, 202.

5 Протокол заседания Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 18.5.1870г., 1872, 7–11. Rieber too stresses the narrow *sosłevie* mentality typical of Russian merchants. Rieber 1982, 19, 111, 115–16.

corruption and bad investments, particularly in the field of railroad construction.[1] Contributing to this distrustful attitude towards foreigners and their intentions was the sovereign dominance of non-Russians among privilege beneficiaries. Fear was also stimulated by uncertainty over the importance of privileges for industry; this question would have benefitted from fundamental debate in Russia too.

Veshnyakov proposed two alternative solutions to the problem. If the system of privileges was found to have a positive effect on invention activity and the development of Russian industry, something would have to be done fairly quickly to improve the system. If on the other hand the system was found in general to have a detrimental effect, it should be abolished. Due to the small number of privileges, the detrimental effects on industry were slight, and the abandoning of the whole system would not create any major problems. In Veshnyakov's view, Russian industry would probably benefit from the abolishment of privilege legislation.[2]

3. Separation of invention privileges from other 'acts of favor' by the monarch

One target of severe criticism was the bureaucratic and inefficient system for processing invention privilege applications. The views of Chizhov and Veshnyakov probably reflected the interests of Russian industrial circles more generally.[3] The complicated process of dealing with applications had become a more serious problem with the increase in the volume of applications. While in the 1830's there had been only ten to twenty applications per year, by the late 1860's the number of applications submitted annually to the Ministry of Finance alone at its highest exceeded 170.[4] The system had become even more complicated after 1840, when applications concerning agricultural inventions were transferred to the Ministry of State Properties for processing. The applicant often did not know whether he should apply to the Ministry of Finance or of State Properties; in fact, the respective authorities themselves were sometimes unable to decide, moving the papers back and forth from one Ministry to the other.[5]

In Russia there was no one office responsible for invention privilege matters, as there was in Britain; there were a number of different ministerial departments and experts involved in the processing of applications. Normally, before being submitted

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1 Cf. Вешняков 1870, 78–9; Рейтерн (1877) 1910, 152, 155–7.

2 Вешняков 1870, 78–9.

3 Finance Minister Reutern to State Council 4.11.1868 "Об изменении порядка делопроизводства по выдаче привилегий на новые открытия и изобретения" РГИА f. 1152, op. 7, 1870g., d. 70, 2.

4 Finance Minister Reutern to State Council 16.2.1876 "Об учреждении при Совете торговли и мануфактур двух новых должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 4; Чижов 1861, 95; Пиленко 1902, 185.

5 Высочайше утвержденное мнение Государственного совета, распубликованное 19 декабря – О порядке выдачи привилегий по части сельского хозяйства 23.10.1840, ПСЗ 1841, vol. 15, no. 13888; Пиленко 1902, 184–5.

to the Manufacturing Council for a decision, a majority of applications circulated among the various advisory offices under the auspices of the Ministries; these offices would then issue an opinion as to the originality of the invention. After this process was completed, and if the description of the invention was found to be sufficiently clear and the invention itself both non-injurious to health and not earlier privileged, the Manufacturing Council would draft a statement to this effect, which it sent to the Ministry of Finance. The application was sent from the Manufacturing Council, by way of the Council of the Minister of Finance, to the State Council for a final decision and signing by the tsar.[1]

The processing of agricultural applications was no simpler. To begin with, the Third Department of the Ministry of State Properties sent an inquiry to the Economic Department of the Ministry of Internal Affairs and to other potential authorities, as to whether a privilege had earlier been granted for a similar agricultural invention. The matter was then investigated in the Scientific Committee of the Ministry of State Properties; the outcome was reported back to the Third Department, which then forwarded the papers to the State Council.[2]

To deal with a very small number of applications compared with Western European countries, Russia thus needed at least three different offices and a large number of experts. This did not fit in with the economic goals postulated in Reutern's program of 1866. Both Russian inventors and Russian industry, which sorely needed new and more sophisticated production technology, suffered financially and juridically from the slowness of the bureaucratic privilege administration. The slowness and rigidity of the system did not encourage the individual inventor to apply for an invention privilege, and often forced him to relinquish a privilege granted after years of investigation. The situation could not be beneficial either to the state economy or to industry, especially considering the loss of privilege fees and the difficulty of introducing in practical use an invention for which there was no privilege.[3]

Attempts to improve the efficiency of the privilege administration were evidently decisive; the proposal for administrative reform drawn up at the Ministry of Finance was presented to the Secretary of State at a time when the European anti-patent movement was still in full force. Under Reutern's proposal of 1868, the granting of privileges would be speeded up by simplifying the processing of applications. According to the Ministry, the issuing of invention privileges through the regular legislative procedure could not be justified, and privileges should thenceforth be granted directly by signing at the Ministry of Finance, following discussion in the Manufacturing Council. Similarly, agricultural inventions, falling under the auspices

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1 Finance Minister Reutern to State Council 4.11.1868 РГИА f. 1152, op. 7, 1870g., d. 70, 2; Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8, no. 6588. In 1864 the Departments of Manufactures and Domestic Trade and of Foreign Trade were combined in a single Department of Trade and Manufactures. Ерошкин 1960, 274.

2 Высочайше утвержденное мнение Государственного совета, распубликованное 19. декабря – О порядке выдачи привилегий по части сельского хозяйства 23.10.1840, ПСЗ 1841, vol.15, no. 13888.

3 Finance Minister Reutern to State Council 4.11.1868 РГИА f. 1152, op. 7, 1870g., d. 70, 2; Чижов 1861, 92–3, 95–6.

of the Ministry of State Properties, would no longer need discussion in the State Council. Differences of opinion over privilege issues between the Ministries and other offices would be dealt with by the Committee of Ministers rather than by the State Council.[1]

The Department of State Economy of the State Council did not accept Reutern's proposal as such, but sent it back for further revision. In the view of the Council, the proposal would have required the amendment or repeal of a number of laws, and it would therefore be appropriate to request the opinion of Section II of the Emperor's Own Personal Chancellery.[2] This was nothing unusual; the importance of the Personal Chancellery in the Russian administrative system had grown with the Statute of 1862, according to which all laws proposed by any Ministry had to be submitted to Section II before being sent to the State Council for further debate. In October 1869, Reutern submitted to Solski a new version of the proposal, now including a statement by Section II of the Emperor's Own Personal Chancellery.[3]

The approach of the Personal Chancellery to the reform of the invention privilege system was considerably more radical than had been that of the Ministry of Finance. The Ministry had demanded the shortening and simplification of the processing of applications, but had not taken any stand with regard to the basic principles of the system. In the view of the Personal Chancellery, there would have been cause to consider the adoption for instance of a system on the French or British model, in which the patent was granted without examination of the originality or usefulness of the invention, or even relinquishing the system of invention privileges altogether.[4]

In its statement, the Chancellery mentioned the suspicions expressed by the Western European anti-patent movement, as to the possible drawbacks of the patent institution. The Chancellery did not undertake any discussion of the advantages and disadvantages of invention privileges, since the Ministry had not asked for any such

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1 Most loyal proposal of Finance Minister Reutern to Emperor concerning presentation of the Ministry's proposal to the State Council 1.11.1868 РГИА f. 40, op. 1, d. 20, 131; Minister of Finance to State Council 4.11.1868 РГИА f. 1152, op. 7, 1870g., d. 70, 2–3.

2 Department of State Economy of State Council to Finance Minister Reutern 28.11.1868 РГИА f. 1152, op. 7, 1870g., d. 70, 5; Minister of Finance to Section II of the Emperor's Own Personal Chancellery 5.12.1868 РГИА f. 1261, op. 2, d. 122, 1.

3 Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 8–9. See also memorandum from Section II of the Emperor's Own Personal Chancellery to the Minister of Finance 4.4.1869 РГИА f. 1261, op. 2, d. 122, 36 52. The Emperor's Own Personal Chancellery (Собственная его императорского величества канцелярия), consisting of four sections, had been established in 1812. The activity of the Chancellery was at its highest during the 1860's and 70's. The Second Section was abolished by a law enacted in 1882, and its functions were transferred to the State Council. Ерошкин 1960, 256; Amburger 1966, 89.

4 Meeting of Committee on Invention Privileges 21.2.1869 РГИА f. 1261 op. 2, d. 122, 23; Head of Section II of the Emperor's Own Personal Chancellery Urusov to the Minister of Finance 4.4.1869 РГИА f. 1261 op. 2, d. 122, 36 7; Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 8.

opinion. Another reason was the as yet unresolved European patent dispute;[1] the Chancellery was evidently still awaiting comments and opinions from Western Europe.

The Chancellery recognized that the process whereby invention privileges were granted needed to be simplified and speeded up in one way or another to relieve the pressure of work on the highest administrative organs and to avoid unnecessary correspondence; in practice, however, it seemed difficult to agree on how these ends should be achieved. The difficulty arose from the demand of the Ministry of Finance that privileges be granted in the Ministry's own name, without the need for confirmation by a higher authority.[2] To resolve this issue, it first had to be decided whether invention privileges were comparable to other special rights and privileges granted by the tsar; and if not, what exactly was the basic nature of the invention privileges.

There were two reports presented to the Chancellery, starting from completely opposite points of view, on the question of whether final authority in questions of invention privileges could be vested in the Ministry of Finance as proposed by Reutern.[3] After this, the issue was sent to a special Committee of the Chancellery.[4] Of the Committee members, A.A. Tideböhl and N.F. D'yachkov would have accepted the relinquishing of discussion in the Council of the Minister of Finance and in the State Council; they nevertheless interpreted foreign practices with respect to the granting of patents as indicating that in general the ultimate authority was vested, in one way or another, in the highest level of the state. If this authority was delegated to the administration, the patent was nevertheless granted on behalf of the highest

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1 Brevern's statement on invention privileges in 1869, РГИА f. 1261, op. 2, d. 122, 2, 4. The Personal Chancellery hinted to the Minister of Finance as to the need for a more basic consideration of the principles of invention privileges as follows: "Scholars have not yet determined whether the legislative principle referred to above is better than that adopted in Russia or for instance in Prussia, and in general invention property rights for a specific period, which at present are granted under all legislative systems, should also be canceled." Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 36–7.

2 See in particular the minutes of the meeting of the Committee on Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 28–9, 32 3; memorandum from Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261 op. 2, d. 122, 37–8, 51–2.

3 Behind one of the proposals were A.A. Tideböhl and N.F. D'yachkov, behind the other E.N. Brevern. Meeting of the Commission on invention privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 22. See Brevern's detailed undated paper, in which he rejects the concept of the invention privilege as a separate law. If invention privileges were the separate and independent laws assumed by the Constitution, the courts dealing with disputes over privileges would have to revoke such a law (i.e. the privilege). The courts, however, were not given such powers by any law. РГИА f. 1261, op. 2, d. 122, 17–19.

4 The Committee, headed by E.N. Brevern, consisted of F.A. Brune, A.A. Tideböhl, A.F. Tyurin, N.F. D'yachkov and N.D. Myachkov. Meeting of Invention Privilege Committee 21.2.1869 РГИА f. 1261, op. 2, d. 122, 23.

power, with its knowledge and its confirmation.[1]

The Russian system of granting invention privileges was in the Committee's view comparable to practices in other countries, even though in Russia each privilege clearly constituted its own legislative act, authorized by the Sovereign. The Committee also did not see any cause for change for the further reason that Article 71[2] of the 'Constitution'[3] would have had to have been amended if the authority for granting privileges were to be delegated to the administrative branch. Tideböhl and D'yachkov admitted that the invention privilege was merely the recognition of the recipient's restricted right for a specific period of time, rather than an actual exception to the normal law. In spite of this, Article 71 still applied to invention privileges, since the privilege gave a private individual the exclusive right to a form of activity not permitted by the general laws. Only the Emperor had the power to authorize invention privileges, since the recipient was entitled to prohibit others from manufacturing the commodity protected by the privilege.[4]

The intention of Tideböhl and D'yachkov was to protect private individuals from administrative arbitrariness, as indicated by the following quotation: "Assigning an attribute of the Supreme Power to a Minister would mean subjecting the private individual to the arbitrary power of the administration, which is in contradiction to the spirit of our legislation and our system of government. The granting of a privilege

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1 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 29–30. Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 38–9; Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 8–9. In France, for instance, the granting of patents was delegated to the Minister, but the list of patents granted was announced every three months by special proclamation by the head of state. In Britain, patents were granted by the Lord Chancellor, who signed them with the Great Seal of State and officially announced them. Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 8–9.

2 "A privilege granted by the Supreme Ruler to private individuals and to associations exempts the recipient from the force of the general law with regard to those matters covered by the privilege." Устав о правах верховной власти, Article 71. Свод Законов, vol. 1, 1893.

3 The term 'constitution' (основный закон) did not have quite the same meaning in Russia as in Western Europe. The constitutional laws consisted of those laws which regulated the 'force and scope' of the Supreme Power, the order of succession, legislative procedure and the forms of supreme executive and administrative power. The basic difference compared to Western Europe was that in Russia the constitutional laws did not in any way transcend or supersede other laws, statutes and regulations issued by the Sovereing. These laws form the first part of the Russian legal code; thus they do not form an exception in this respect either, i.e. they do not constitute an actual constitution in the Western sense, distinct from other legislation. Jussila 1969, 48 9.

4 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 31–2. Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 44–5; Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 8–10. The minority members of the Committee stated as follows: "As long as invention privileges are termed 'privileges' by the law, and are granted by the Supreme Ruler, there are no grounds for assuming that Article 71 of the Constitution does not concern them; thus if it is considered possible to grant invention privileges (whose name would also have to be changed) as an administrative matter, then Article 71 would also have to be modified. Invention privileges (even if not dealt with as a legislative procedure) must be submitted to the authority of Supreme Power, for in any given case the confirmation of the privilege can depend only on the Supreme Power; in other words, the recognition of the privilege in the case of an individual applicant is based not only on the desires of that individual, but also on the discretion and consideration of the government." Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 44–5.

for a period specified in advance, and depending on the applicant alone, without governmental discretion, would be likely in many cases to be inconsistent with the interests of the state and the society."[1] According to this way of thinking, the tsar acted in a way to safeguard both the private individual and the interests of society against an arbitrary administration. Tideböhl and D'yachkov were in fact afraid of such arbitrary powers, particularly with respect to the term of the invention privilege.

Dissenting from this view were the Chairman of the Committee and three of its members,[2] who considered that Article 71 of the Constitution did not extend to invention privileges, since the exclusive rights granted to the inventor did not involve privileges of such importance as were implied by the constitutional law. The system did not in any sense create a property right over the invention by government decree; this property right was based on Article 1 of the Statute on Invention Privileges, according to which the invention was the property of its inventor.[3] In this sense, industrial rights greatly resembled the author's or artist's copyright.[4] By means of the invention privilege, the government merely protected the inventor's rights on his own request. The reserving to the Emperor of the power to confirm invention privileges could not be justified on grounds of protecting the individual from administrative arbitrariness.[5]

Urusov, the head of Section II of the Personal Chancellery, also disagreed with the views of Tideböhl and D'yachkov. Citing the reasons adduced by the majority of the Committee, he found that there were no grounds for the Ministry to deviate arbitrarily from the wishes expressed in the inventor's application with regard to the duration of the invention privilege. Reducing the term of the privilege would mean a reduction in state revenue from privilege fees; if, on the other hand, the inventor were forced for the sake of maximizing state revenue to accept a longer privilege than he had intended, he could petition the Minister of Finance for a change. There was also nothing to prevent him from petitioning against the decision of the Minister himself.[6]

In the opinion of the Committee members who sided with Reutern, there was no

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1 Meeting of Invention Privilege Committee 21.2.1869 РГИА f. 1261, op. 2, d. 122, 32 3.

2 Tyurin, Brune and Myachkov.

3 Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8, no. 6588.

4 At the same time, the Chancellery admitted that the interpretation of the invention privilege as the inventor's property was still a controversial issue: "Scholars, as we know, have not yet been able to decide whether an industrial invention creates an object of property belonging to the inventor, which is recognized by the granting of the so-called privilege (*brêvet d'invention, Erfindungs-Patent*), or whether the exclusive right granted to the inventor for the exploitation of the invention is to be seen merely as a reward, with the purpose of encouraging invention activity." Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 45.

5 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 24, 26–7, 34. Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 50; Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 10–11.

6 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 34. Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 РГИА f. 1261, op. 2, d. 122, 50–1.

need for the decision as to the term of the privilege to be ratified by the tsar. In making the decision, however, the needs of Russian industry at the time should be taken into account, since every monopoly, no matter how short, hampered the work of subsequent inventors. On the other hand, it was in the nature of the dynamics of industry that every new invention gave rise to others. For this reason, invention privileges should be granted only with caution and for the shortest terms possible. Improvements were also needed which would make the simpler reporting and registration of inventions possible.[1]

Section II of the Emperor's Own Personal Chancellery continued to debate the basic nature of the invention privilege, without reaching any decision as to whether invention privileges were or were not comparable to other exclusive rights granted by the Emperor. The Director of the Chancellery, S.N. Urusov, accepted Reutern's demands, but suggested that the term 'privilege' be replaced by 'patent' or some other term. This is to be interpreted as an attempt to distinguish, at the terminological level, between invention privileges and other privileges referred to in the Constitution. In such case, the difference in connotation would have been officially written into the law in connection with the change in the order of processing. Faced with opposition, Urusov gave up his demand for terminological reform, but he demanded an amendment to Section 71 of the Constitution, to the effect that the section did not apply to invention privileges.[2]

In the opinion of Tideböhl and D'yachkov, the term 'privilege' could be replaced for instance by 'patent', but such a change was not essential; in Austria and Portugal, for instance, the term 'privilege' was used to refer to the exclusive rights of inventors in both scientific and popular periodical writing. It would hardly be possible to change the term in Russia without stirring up the general issue of the regulations concerning invention privileges, which was not the point here.[3]

Reutern picked out of the Chancellery's statement a few suggestions which could be easily added to the Ministry's proposal. Among these was the suggestion of an amendment to the Constitution; Reutern, however, was opposed to the change in terminology. He considered that the term 'privilege' was already widely established in Russia, both in practical life and in scientific and scholarly publications, and that it would be difficult to find another term which better described the exclusive rights granted to an inventor for a specific, limited period of time.[4]

The Minister of Finance was evidently unwilling to combine a profound terminological change with a relatively minor revision in the application procedure.

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1 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 33–5. Head of Section II of the Emperor's Own Personal Chancellery Urusov to the Minister of Finance 4.4.1869 РГИА f. 1261, op. 2, d. 122, 47; Finance Minister Reutern to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 11–12.

2 Head of Section II of the Emperor's Own Personal Chancellery Urusov to Finance Minister Reutern 4.4.1869 and 3.6.1869 РГИА f. 1261, op. 2, d. 122, 52, 63–4; Minister of Finance to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 11–12.

3 Meeting of Committee for Invention Privileges 21.2.1869 РГИА f. 1261, op. 2, d. 122, 29.

4 Finance Minister Reutern to Urusov 8.5.1869 РГИА f. 1261 op. 2, d. 122, 56–7; Minister of Finance to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 12–14.

Judging from the disagreement in the Personal Chancellery and from Urusov's proposal, the difference between the exclusive rights granted for a specified time to inventors and the privileges referred to in the Constitution was by no means clear.[1] This was an issue which had plagued the Russian institution of invention privileges throughout the 19th century, nor was a successful solution achieved now either.

Added to the proposed revision in the procedure for handling privilege applications was the proposal that the privilege certificate should be headed "On the order of his Imperial Majesty" (По указу его императорского величества), and that new invention privileges would be announced in the periodical *Senatskie Vedomosti*. Despite the delegation of executive power, invention privileges continued to be granted on the order of the tsar, but no longer had to be dealt with by the State Council.[2]

The new proposal, revised by Reutern, was discussed in January 1870 in the joint session of the Departments of State Economy and of Laws of the State Council. The fact that the Second Section of the Personal Chancellery had presented two totally opposite views of the nature of invention privileges, and the proposed additions to the Constitution, forced the Departments to take a stand with regard to this question. In the view of the State Council, the invention privilege was not by nature a monopoly, such as was granted as an exception to the general order of the law. The Departments stood on a strict interpretation of Article 1 of the Statute on Privileges, in which the invention privilege was defined as a document certifying that the invention therein described had been presented in due course to the government, and that the holder of the privilege was legally entitled to make use of the invention, within the time specified, in the same way as of other property. The inventor's property right in his own invention was thus based on the general law.[3]

After discussion in the State Council to fix precise details, the Departments were prepared to delegate the power to grant invention privileges to the Ministers. The addition to Article 71 of the Constitution was considered unnecessary, since two totally separate issues were involved. A few minor legal technicalities were modified in Reutern's proposal. The proposal was approved by the State Council in March, and

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1 In France, this lack of conceptual clarity in the distinction between the two kinds of privileges had led almost seventy years earlier to a separate decree, stating explicitly that the invention privilege (*brêvet d'invention*) was not a favor conferred by the state, but a recognition of the inventor's property right. Hilaire-Pérez 1991, 930–1.

2 Finance Minister Reutern to Urusov 8.5.1869 РГИА f. 1261, op. 2, d. 122, 57–8; Minister of Finance to State Council 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 12–14.

3 Minutes of Joint Session of Departments of State Economy and of Laws of the State Council 3.1.1870 and 24.1.1870 "Об изменении порядка делопроизводства по выдаче привилегий на новые открытия и изобретения" РГИА f. 1160, op. 2, d. 240, 360; Minutes of General Meeting of State Council 9.3.1870 РГИА f. 1160, op. 2, d. 240, 362; Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8, no. 6588.

was ratified by the tsar on March 30th.[1]

This change in the official procedure for the granting of invention privileges in Russia has been interpreted in various ways. According to Pilenko, the Statute of 1870 meant a clear turning point in the history of the Russian patent institution, in that it marked the transformation from the patent conceived of as a special act of favor bestowed upon the recipient (привилегия-милость) to the patent as a right to which the inventor was entitled (патент–право). After this change, every inventor was entitled to receive a privilege for his invention, as long as the invention fulfilled certain conditions specified by law. The obtaining of a privilege was no longer dependent on an arbitrary supreme power, on the tsar's wish to show special favor to some particular private subject, since the granting of privileges was now the legally regulated activity of the administrative authorities. The history of Russian patent law actually begins with the new law of 1870.[2]

The responsibility and the authority for the granting of invention privileges was now vested in the Ministries of Finance and of State Properties, as a result of which they lost their character as special legislative acts. The separation between legislative, executive and judicial powers in the granting of invention privileges was an issue that was evidently not clear even to all jurists, since according to Skorodinskii certain legal circles were prepared to view the change merely as an attempt to simplify the application procedures. The fact that the government adhered to the term 'privilege', with its sense of a special law conferring an exclusive right, made it even more difficult to perceive the true meaning of the change.[3]

Pluzhnik agrees with the interpretation of Pilenko and Skorodinskii, although he sees certain shortcomings in it, due to the viewing of the 'bourgeois reform' of 1870 in isolation, outside the context of the development of production forces and relations. The abolishing of serfdom established the objective conditions for the change, since after the reform of 1861 Russian subjects became, if not *de facto*, at least *de jure* equal before the law. After emancipation, Russian industry began to develop more rapidly than before. Pluzhnik agrees with the view that the Statute of 1870 was in fact the first general Russian patent law.[4]

The above interpretations all have certain theoretical limitations, due to which the essential nature of the reform of 1870, and its significance for the development of the Russian system of invention privileges, does not emerge in its true picture. Pilenko's analysis represents the approach typical of legal scholarship at the turn of the century, influenced by German theory, in which legal concepts express the timeless and

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1 Minutes of Joint Session of Departments of State Economy and of Laws of the State Council 3.1.1870 and 24.1.1870 РГИА f. 1160, op. 2, d. 240, 360–1; Minutes of General Assembly of State Council 9.3.1870 РГИА f. 1160, op. 2, d. 240, 362; Отчет по Государственному совету за 1870г., 1871, 116; Высочайше утвержденное мнение Государственного совета об изменении порядка делопроизводства по выдаче привилегий на новые открытия и изобретения 30.3.1870, ПСЗ 1874, vol. 45 no. 48202.

2 Пиленко 1902, 138, 171.

3 Плужник 1971, 21; Скородинский 1904, 8, 14. Austria, for instance, discarded the term 'privilege' in connection with the legal reform of 1897. Скородинский 1904, 8.

4 Плужник 1969, 359–60 and 1971, 21.

'essential' character of juridical phenomena. Pilenko evaluated the change of 1870 in terms of a timeless, immutable concept of 'patent law' as he defined it; the question for the scholar then was, when was such a law first implemented in Russia.

In Pluzhnik's Marxist analysis, the primary explanatory factor is the relationship between production forces and relations. The effect of the emancipation of the serfs on Russian social and economic development cannot of course be disregarded; it is, however, of so general a nature that it cannot completely account for what turned out to be a relatively minor change. At a general level, the reform of 1861 formed the objective conditions for many other changes as well. One factor which is relevant in explaining the change in the privilege institution is the volume of industrial production during the ten-year period following 1861; measured in absolute terms, however, this grew very little and in some sectors actually fell. In the iron industry, for instance, the pre-emancipation level of production was reached once more only in 1870.

The revision of 1870 did not bring with it any dramatic change in the position of the inventor, since there was no change in the grounds for an invention privilege. The abolishment of serfdom in 1861 did not have direct consequences for the change in the privilege system, but there were certain indirect repercussions. After emancipation, there were a series of changes in the state administration, which are connected at least indirectly with the change in the invention privilege administration. The emancipation of the serfs meant a considerable reduction in the functions of the Ministry of State Properties, which in turn aroused in other Ministries aspirations to expand their own activities. In connection with the reorganization of the Ministry of State Properties, one suggestion which was made was the complete separation of trade and industry from the Ministry of Finance. Reutern, however, refused to even consider this, planning on the contrary to expand his Ministry's sphere of activities.[1]

Concentrating the processing of invention privileges, which were connected with industry, completely in the hands of the Ministry of Finance fitted in well with Reutern's other administrative plans, whereby he intended to concentrate all affairs related to the development of trade and industry and to state finance under his own Ministry.[2] At almost the same time the Ministry of Finance was empowered to make decisions as to the acceptance of the founding bylaws of banks and corporations of moderate size, without the State Council or the Committee of Ministers. This revision was intended to reduce unnecessary formalities due to the obsolete laws concerning corporations.[3]

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1 On changes in administration see Горфейн 1964, 163–4; Шепелев 1981, 120–5.

2 The same ambitions also underlay Reutern's actions to prevent the formation in 1864 of an independent Ministry of Trade and Industry. Reutern succeeded in concentrating the administration of foreign and domestic trade and industry in the hands of his own Ministry. Ерошкин 1960, 274–5; Шепелев 1981, 82 3.

3 Шепелев 1973, 117–19 and 1981, 112–13; Owen 1991, 107–8. In the beginning of the 1870's the corporate bylaws of every new corporation were ratified by the Committee of Ministers and those of new banks by the State Council, after being introduced by the Ministry of Finance. In 1871–72, the Minister of Finance was empowered to independently ratify the bylaws of corporations and joint-stock banks if they did not deviate from others previously ratified. The act of delegation occurred without

There had been prolonged debates in the Second Section of the Personal Chancellery and in the State Council, over the change in the procedure for granting invention privileges; these debates ended in the defeat of the traditional view, which defended the preservation of the status quo, leaving the final sanction in the hands of the Sovereign. The distinction between invention privileges and other privileges granted by the tsar was not by any means seen as straightforward and clear, as indicated by the various proposals to replace the term 'privilege' by some other term, or to amend Article 71 of the Constitution by adding a note that it did not concern invention privileges. The issue of arbitrary administrative power was also seen as problematic.

At least some contemporaries saw the change as merely the legal recognition of actual practice, as the formal acknowledgment of a delegation of power which in fact had long since taken place. The formal nature of the processing of applications in the highest bureaucracy is also attested by the statement issued by the State Council itself. The change reduced the workload of the Office of the State Council, but did not affect the character of its activity as such.[1] Although invention privileges were no longer confirmed by the tsar, inventors continued to feel that they were applying for a special favor rather than for a safeguard of their natural property rights.

The wish to reduce unnecessary bureaucracy cannot be excluded from among the motives leading up to the change; the supremely bureaucratic character of the privilege administration had been criticized from the 1860's onward. The same motive is indicated in the memorandum drawn up by the Minister of Finance and in the statements by the State Council itself. The change, however, did not decisively reduce the rigidity or slowness of the system. The examination continued to be slow, the privilege fees high and the privileging of foreign inventions too easy.

The government was not yet prepared for major procedural changes in respect either to the founding of corporations or to invention privileges. Russia followed closely the viewpoints emerging in the Western European patent debate and heard the opinions of Russian manufacturers and inventors, as had been urged by Chizhov and Veshnyakov. At the same time, Russian industrial circles were gathering experience of the invention privilege system. The mood was expectant, as indicated by Veshnyakov's statement after the reform, according to which the government should undertake the preparation of extensive legislative reforms only if the system of invention privileges turned out to be useful to industry. At the same time, Russia was observing Western European experience with a system of the simple registration of companies.

Reutern's initiative; Shepelev concludes that underlying this change may have been the hope of a rapid adoption of a procedure based on simple registration. It should be noted, however, that the proposal to transfer the ratification of all corporate bylaws to the Ministry of Finance took place only after the turn of the century. Шепелев 1973, 118–19 and 1981, 112–13.

1 Finance Minister Reutern to State Council 4.11.1868 and 16.10.1869 РГИА f. 1152, op. 7, 1870g., d. 70, 2–3, 8; Minutes of Joint Meeting of Departments of State Economy and of Laws of the State Council 3.1.1870 and 24.1.1870 РГИА f. 1160, op. 2, d. 240, 360; Minutes of General Assembly of the State Council 9.3.1870 РГИА f. 1160, op. 2, d. 240, 362; Finance Minister Witte to State Council 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 5; Вешняков 1870, 79; Отчет по Государственному совету за 1870г., 1871, 2; Пиленко 1902, 170 1.

In both Chizhov's and Veshnyakov's comments, a typically Russian trait was the objective of developing Russian industry as far as possible by means of her own technology. The new legislation should make it easier to obtain an invention privilege and should protect useful Russian inventions. The purpose of the law should not be to make it easier for foreigners to monopolize the exploitation of their inventions in Russia, but to encourage Russian inventors in their work.

The reform of 1870 was more in the nature of a post-emancipation power struggle between Ministries, rather than the improvement of the system or a serious attempt to clarify its character. The government wished to defer the final decision partly because of the dispute over patents still continuing in Western Europe, partly because of the lack of clarity in the government's own position and point of view. The partial reform gave the government more time, with the hope of seeing the resolution of the European debate and clarifying the role of invention privileges for Russian industry. Further reasons for this temporizing stance were the small number of invention privileges granted in Russia and the almost total lack of literature on the subject in Russian.

In Reutern's economic policy, invention privileges seem to have played a role purely in terms of tariff policy. The effect of the privilege system on the development of industry continued to be an open question. The idea of privileges as a device for the pricing and marketing of new technical knowledge was alien to Russians. One sign of increased government interest in technology can be seen in the attempts made during the reign of Alexander II to reactivate former contacts with Western-European technical circles.

In 1866 the Russian Technical Society was founded, among whose main functions was the dissemination of technical information and the encouragement and promotion of technical development.[1] The Society, which expanded rapidly both geographically and in membership, had close links with the government. Despite its name, the work of the Technical Society was not restricted to narrowly technical matters; it had a considerable interest in economic issues. The Society came to play an important and influential role, and offered an excellent forum for the debate over the economic and social significance of invention privileges.

1 Высочайше утвержденный устав Русского технического общества в С.-Петербурге 22.4.1866, IIC3 1868, vol. 41, no. 43219.

IV. Activity of the Russian Imperial Technical Society towards the reform of the invention privilege system in the 1870's and 1880's

1. Collapse of the anti-patent front in Western Europe and criticism of the Russian system of privileges during the 1870's

The anti-patent front collapsed rapidly in the 1870's. This development has generally been linked, in one way or another, with the concurrent changes in world trade and their consequences in Europe. For contemporaries, the economic crisis of the 1870's was a more or less direct consequence of the free trade movement. Some historians have in fact attempted to find a common denominator for the weakening of the free trade ideology and the growing acceptance of the patent system. In the changing climate of economic policy, it no longer seemed so self-evident that patents were comparable to monopolies and special privileges. This change in the general climate of opinion is considered one of the central factors in the defeat of the anti-patent movement.[1]

The 'Great Victorian Boom' was followed by a period of considerably slower development, which shook the faith of contemporaries in the possibility of steady economic growth. The classic deflationary spiral and the instability which had afflicted European economies for some twenty years turned many eyes toward protectionist policies, which now seemed once more to be worth trying. The world economy had expanded rapidly; together with industrialization and the development of transport and communications, this made possible the increasingly efficient exploitation of resources, and the expansion of markets and business enterprise. In this situation, applied research and product development serving the needs of production grew increasingly central; it was important to gain a technological edge over one's competitors. The patent system gradually also overcame the opposition of manufacturers; significant amounts of capital had to be invested in the generation of new technology.[2]

In 1873, an international patent congress met in Vienna;[3] this was the first of a

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1 Пиленко 1902, 126; Beier 1979, 202–3; Heggen 1975, 98–9; Machlup 1958, 5; Machlup & Penrose 1950, 5–6; Penrose 1951, 15.

2 Pollard 1981, 254; Saul 1972, 9–11, 53–5; van Zyl Smit 1980, 222–5. For the change in mentality during the 1870's, see Hobsbawm 1988, 61–3.

3 The actual impetus for the Vienna Congress was provided by the International Exposition at Vienna, held under the protection of Austria-Hungary; the exposition was expected to stimulate the ailing economy of the Habsburg empire. At the Vienna Exposition, one issue which had to be dealt with was the protection of the inventions on display. In particular the Americans were concerned about the protection of their exhibits; they demanded a special law protecting the exhibited inventions, and such a law was in fact enacted by the host country. It was also the Americans who put pressure on the Austro-Hungarian hosts to arrange an international patent congress. Зарецкая 1983, 41–2; Остеррит 1910, 456; Penrose 1951, 45–6.

series of congresses dealing with the development of the patent system and the creation of a Convention for the Protection of Industrial Property. The first congress, with representatives from thirteen countries, took a stand in its final resolutions in favor of the preservation of patents; it also recommended that all states should take steps, with all due expediency, to bring about an international agreement for the protection of inventions, on the model of the *Zollverein*. For the still powerful anti-patent movement, the Vienna Congress was a serious blow.[1]

In Great Britain the anti-patent movement rapidly collapsed; after 1872, the discussion no longer suggested the possibility of abolishing the system but merely its development.[2] The change in the *laissez-faire* policy associated with the free trade ideology made it easier for the government to make the idea of control over technology acceptable.[3] During the same period, the public frame of mind was changing in Germany too. Political unification and the Vienna Patent Congress gave the impetus to the drawing up of German patent laws.[4] The drafting of the German law, which was passed in 1877, was guided by the view that a comprehensive patent system was essential for the development of German industrial efficiency and export capacity, and in general to relieve the economic backwardness of the country.[5]

According to Beier, the collapse of the anti-patent attitude in Germany cannot be understood as a consequence of the giving up of free trade. The justification of the institution was constructed in Germany in terms of nationalist argumentation; the purpose of the patent laws was to prevent the drain of German inventions abroad and to protect industrial investment in the development of immaterial ideas, embodied in products. The primary theoretical foundation for patent laws in Germany was linked with the manufacturer's capital investment in research and development activity, as the overall context within which inventions occurred.[6]

The news of the beginning of international patent cooperation, and the process of reform of patent legislation initiated in various European countries, immediately

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1 Пиленко 1902, 216–17; Heggen 1975, 111–16; Penrose 1951, 46–8; van Zyl Smit 1980, 226–8.

2 Machlup 1958, 4–5; Machlup & Penrose 1950, 3–4, 6; van Zyl Smit 1980, 216–20, 230–2.

3 van Zyl Smit 1980, 222, 224–6. In connection with the preparation of the German patent law of 1877, reference was made to the serious economic crisis, which had brought about a shift in public opinion away from free competition and free trade theories. Heggen 1975, 125–8.

4 In 1874 the *Patentschutz Verein*, founded by Werner von Siemens, focused its energies on the preparation of a national patent law; the draft was completed in 1876. Beier 1979, 204; Heggen 1975, 117 20.

5 Beier 1979, 204; Heggen 1975, 128–9; Penrose 1951, 15. The anti-patent movement had achieved its ultimate aims only in the Netherlands and Japan. The Netherlands had given up its patent system completely in the late 1860's, while in 1873 Japan revoked the country's first patent law, passed only the previous year. In Switzerland, the movement succeeded in delaying the introduction of a patent system up to the 1880's. The first Swiss patent law was passed in 1887 by a referendum. Machlup 1958, 4–5.

6 Beier 1979, 202–3; Heggen 1975, 128–9; Gispen 1989, 265. In the case of Germany, free trade advocates had in a way prepared the ground for a comprehensive and unified patent legislation, by the enactment in 1868 of freedom of enterprise, the giving up of internal tariffs and the creation in Germany of a single economic entity. Patents did not conflict in any way with free trade or freedom of enterprise. According to Beier, no link should be seen between the patent system or industry on the one hand and the protectionist tariff policy on the other, since the shift in tariff policy was based primarily on issues of agrarian policy. Beier 1979, 202–3.

reached Russia. The earlier uncertainty as to how the patent issue would be resolved in the leading industrial nations seemed to recede. In Russia, invention privileges had not aroused the same opposition as for instance in Germany or in England, which would have compelled the fundamental revision of the system and a rethinking of its objectives. On the eve of the International Patent Congress at Vienna, Russians did not seem to attach much importance to invention privileges. As a great power, however, Russia could not avoid sending delegates to the Congress. The strengthening of faith in the importance of patents which was so obvious at the Congress was also reflected in Russia; the article by Veshnyakov, written soon after the Congress in 1874, indicated an increased belief in the importance of patents and in the possibilities of successful international cooperation in patent issues.[1] This change in attitude also appeared from the fact that the Grand Duchy of Finland received its first patent statute in 1876.[2]

The issue of invention privileges resurfaced in Russia in the public debate at the end of 1876, when the first series of articles by N.N. Salov appeared in the political and literary weekly *Grazhdanin*,[3] under the title 'Some Comments on Inventions' (Нечто об изобретениях). The articles had obviously been triggered by the debate over a more rational patent system which had arisen in Germany. According to Salov, in Russia too the protection of the rights of inventors needed to be placed on a more rational foundation. The article was also published at the beginning of the following year in the form of a separate pamphlet, entitled *Inventions, how we see them and how we should see them* (Изобретения, как мы смотрим на изобретения и как должны бы на них смотреть). Later in 1878 an article appeared in the newspaper *Peterburgskii listok*,[4] by the well-known self-taught inventor P.A. Zarubin,[5] entitled

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1 Вешняков 1870, *passim* and 1874, 296–307. Details can be seen from the debate particularly in the Second Section of the Emperor's own Personal Chancellery in 1870, in connection with the reform of the order of procedure for invention privilege applications.

2 Aro 1977, 26 7 and 1978, 603–6. The statute was in some respects outdated from the very beginning; its models were the Swedish statute of 1856 and the Russian one of 1833, which were already perceived as in need of revision. Aro 1978, 606; Lang 1880, 173–4, 180.

3 Гражданин 6.12.1876 no. 45 and 13.12.1876 no. 46. The Гражданин appeared from 1872 to 1914, with the exception of 1878–1881. Initially the weekly was moderately conservative, and during the 1870's and 1880's it enjoyed the special protection of the authorities. During the 1890's the publication shifted closer to extreme conservative views, and column space was given to extremist opponents of progressive tendencies. The weekly reflected the interests of the reactionary nobility and of the highest commercial and industrial circles more openly than did official organs. Антонова 1976, 50; Русская периодическая печать 1959, 546–7; Энциклопедический словарь 1893, vol. 9, 501.

4 The "Петербургский листок" appeared during 1864–1917. The newspaper did not have any distinct ideology; it shifted according to the views of the editor at any one time between conservative and democratic views. The publication was included among the so-called 'small newspapers'. Русская периодическая печать 1959, 453–4; Энциклопедический словарь 1898, vol. 23, 435.

5 P.A. Zarubin (1816–1886) worked for most of his life in surveying; he was employed by the Ministry of State Properties during 1864–83. On several occasions he received recognition from various scientific and commercial bodies and from the Academy of Sciences. Due to lack of funds, many of his inventions were never practically implemented. Заседание II-го и III-го отделов 9.1.1867 Русского технического общества под председательством И.А. Вышнеградского, сообщение г. Черняева о водоподъемнике г. Зарубина, 1867, 336 9; Энциклопедический словарь 1894, vol. 12, 308.

A matter deserving general attention (Предмет, заслуживающий всеобщего внимания). These polemical writings described, in a satirical tone, the thorny path of the Russian inventor in the wilderness of the ignorant and at best indifferent Russian bureaucracy.

Nikolai Nikolayevich Salov, who contributed actively to the debate over invention privileges during the 1870's and 80's, was a member of the nobility and an inventor,[1] living in St. Petersburg; his theory in defence of the privilege system was an eclectic combination of the views of the Belgian writer J.-B.-A.-M. Jobard with those of Adam Smith. Like Jobard, Salov compared ownership of the products of intellectual labor (*de génie*) to that of land, with the same rights; thus the property rights over the products of intellectual labor, whether inventions or works of art, should be protected like any other property. The inventor, as the creator of the collective intellectual wealth of a society, was of the greatest importance in the national struggle for existence. Zarubin's basic assumption was a similar principle of the inviolability of individual property right: anyone who had made a socially useful invention had the right to be sure that the fruit of his labor would be to his own profit.[2]

According to Salov, the patent rights of the inventor and the copyright of the creative artist were entirely analogous; inventors too should be entitled to lifetime protection. In principle, Salov advocated perpetual patent protection, since there was no difference between material and immaterial property. This, however, was not realistic as an immediate objective; initially, a protection period of fifty years, like that in copyright matters, should be adopted. If the inventor died before the lapse of this period, his patent rights would go to his heirs. In advocating this kind of invention privilege, Salov also appealed to special features of the Russian mentality. Due to economic factors and to deeply ingrained customs, innovations were only slowly adopted, and the old and familiar way was retained as long as it was at all feasible. The ten-year maximum term of invention privileges was in practice too short, since many inventions began to spread only some fifteen to twenty years after the granting of the privilege.[3]

The concept of the perpetual privilege, in Salov's theory, did not strictly speaking imply protection for all time; the theory assumed that the quantitative increase in inventions would generate new and better inventions at an increasing pace, and that these would replace earlier ones on the market. Only the best and most useful inventions would in general survive. Zarubin too criticized harshly the granting of invention protection for a relatively brief term only, claiming that this was one reason why many Russians did not bother to take out a privilege for their inventions. Zarubin

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1 The Collection of the Commission for Technical Affairs contains a document showing the design and explanations of an invention by Salov from 1872–75, concerning the manufacture of petrol gas and applications of a kerosine lamp. In 1881, Salov presented his invention of a new type of weapon. РГИА f. 24, op. 27, d. 895, 1–23. Salov to the Tsarevich 22.1.1881 РГИА f. 1339, op. 1, d. 11, 17 27.

2 Петербургский листок 15.4.1878 no. 75; Салов 1877, 3–6. Cf. Smith 1976, 754. Salov claimed to have learnt about Jobard's theory of 'perpetual patent protection', the so–called 'monautopoly', i.e. a monopoly of oneself, on the basis of Veshnyakov's article of 1870. Салов 1882, 64–5.

3 Салов 1877, 28–9, 34, 36 and 1882, 30, 41–4, 64–5.

commented sarcastically that protection for a limited term was merely "the artificial disguise of a sad fact, known in all other cases as the seizure of another person's property", i.e. stealing. Those who devoted themselves to making inventions did not own the fruit of their work.[1]

What inventors expected from the privilege institution was not enormous monopoly profits but merely a just reward, which would be in accordance with the sacrifices they had made. In practice, the price of the patented product was in accordance with its usefulness; undue profits generally led to vigorous competition, in which the original invention tended to be replaced by a newer one. A patented product was only rarely a success on the market. In general the financial enrichment of the inventor depended on the social usefulness of his invention, even if because of speculation some important inventors had died poor.[2] Due to the short terms for which privileges were granted, the inventor was generally forced to sell his invention to the manufacturer at a cut price if he was to gain any profit from it at all. According to Salov, the manufacturers wanted to abolish the system of privileges so as to be able to exploit the inventions of others freely and without paying compensation. For the manufacturer, the invention privilege was an irritating additional cost, which reduced his profit margin.[3]

The harshest criticism of both Salov and Zarubin was targeted at the Russian privilege administration, whose inefficiency and ignorance made of the Russian system a grotesque parody of its Western models. Above all they were dissatisfied with the slowness of the examination, which weakened the chances specifically of Russian inventors to obtain compensation for their sacrifices.[4] By the time the inventor had succeeded in obtaining a privilege in Russia, foreigners had already carried out the same invention in practice and had perhaps developed it further. The generally accepted procedures of the Russian bureaucracy, the ways in which decisions were arrived at and the personal connections involved meant that decisions and statements were unanimous. The fate of a privilege was decided in the final analysis by a few experts, in the worst case by a single one.[5]

The applications circulated from one expert to another; sometimes they acquired a few comments, but in general they were merely signed. After this process the

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1 Петербургский листок 15.4.1878 no. 75; Салов 1882, 30, 41–3.

2 Салов 1877, 11–15. Zarubin too mentions speculators. According to him, privileges are applied for in Russia only by persons in the following categories: firstly, 'fools', who know nothing about the field and whose 'inventions' are mere trash; secondly, those who have never had the courage to try out their invention in practice; and thirdly, those who calculated that they might profit from possible speculation. Петербургский листок 15.4.1878 no. 75.

3 Салов 1877, 9–11, 19–20.

4 The time taken to process applications had been increasing steadily. In 1858 it had been slightly under a year, by 1869 a year and a half. Санкт-Петербургские сенатские ведомости 7.3., 18.3., 21.3., 18.4., 16.5., 15.7., 22.7., 29.7., 5.12., 9.12., 23.12., 26.12.1858 nos. 19, 22–3, 31, 39, 56, 58, 60, 97–8, 102–3 and 6.1., 9.1., 25.1., 27.1., 10.2., 13.2.1859 nos. 2–3, 7–8, 12–13; Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1869 nos. 3–6, 9, 10–12 and 1870 no. 1.

5 Петербургский листок 15.4.1878 no. 75; Салов 1877, 20–1, 23, 27. Cf. Вешняков 1874, 295, 304–8.

applications were sent from the Department of Trade and Manufactures to the Manufacturing Council, for their consideration and approval. According to Salov's information, the Council met at most twice a month; at the 1870 Commercial-Industrial Congress, which criticized the activities of the Council, it was claimed that the latter met only two or three times a year. The sessions lasted four to five hours, and had time to deal with 25 to 30 cases. Due to the lack of time and expert knowledge, the Council merely confirmed the decisions of the experts. The actual task of the Council, the advancement of industry, remained secondary.[1]

According to Salov, the secrecy of the decision-making process meant that two or three officials were able to do anything they liked; no one could interfere in either intentional or inadvertent errors and delays. Complaints and appeals by inventors generally did not lead to any results. Letters of appeal were rarely read to the Manufacturing Council in their entirety, but were cited in brief extracts. The decision handed down on an appeal often left the appellant even worse off than before. In the worst cases, the appellant suffered for having caused 'extra' trouble, and received an even more adverse decision. On the other hand, if the appellant succeeded in getting one of the officials to manage his affair, the appeal might be successful. Taking the matter to the governing Senate simply meant an additional waste of time, since chances of success were tiny. The issue was once more decided in secrecy and on the basis of the same expert testimony. As evidence of the general lack of understanding of technical matters, Salov pointed out that while in many matters considered 'more important' the public courts, with a varying jury, were used, in invention privileges matters the decision was left to the corporate bureaucracy alone.[2]

Inventors' views regarding privilege fees were also predictable. Already Veshnyakov had considered the fees in Russia unduly high, and this point of view now received further confirmation. According to Zarubin, the high fees played a decisive role in the lack of enthusiasm on the part of inventors to apply for privileges. Slightly ironically, he noted that he himself had more than thirty inventions for which he could have applied for a privilege.[3] In practice, this would have meant a gift to the state of 12 000 rubles. The true inventor, according to Zarubin, did not apply for a privilege for his invention but made use of it in secret. Salov, on the other hand, compared invention privileges to the exclusive rights conferred by copyright, which did not cost anything. The same would not be possible with inventions, but the fee, Salov considered, should be fixed according to the value of the invention rather than the term of the privilege. The simplest solution would have been the adoption of a

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1 Стенографический отчет заседаний 3-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 22.5.1870, 1872, 16; Салов 1877, 20–1.

2 Салов 1877, 22–7.

3 Zarubin does not seem to have been interested in seeking privileges for his inventions; the list compiled by the Ministry of Finance contains only one privilege under his name, a five-year privilege granted in 1867 for a pumping device. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 116.

fee similar to an excise tax on manufactured goods.[1]

For Salov, the system of invention privileges meant a specific, legally ratified system for the protection and fostering of inventions, somewhat parallel to the system of protecting domestic production by means of import duties. Privileges, however, he considered to be more useful than duties on imported goods. Judging from the debate at the Commercial-Industrial Congress of 1870, manufacturers saw protectionist barriers and subsidies as the primary means of encouraging the development of Russian industry. Salov, however, considered that the main emphasis should be on the encouragement of inventions, and on rapidly improving the protection of the inventor's rights.[2]

In the view of contemporaries, it was difficult for the inventor to succeed in the commercial working of his invention due to the lack of a spirit of enterprise and risk-taking in Russia. Salov was presumably right in claiming that Russian manufacturers and officials often did not understand the significance of an invention. Due to this lack of interest, and of funding, many invention privileges were revoked within a short period due to failure to satisfy the working requirement. This was what happened to N.D. Bulygin, who had obtained a ten-year privilege in 1875 for a new device for the drying of wood. The invention had been considered meritorious. The inventor, who was in financial distress, tried to interest manufacturers in his device, finally turning several times, without success, to the Ministry of Finance to obtain funding for the working of the invention. In the end the privilege was revoked due to non-working. Ultimately, only the most persistent — and luckiest — inventors succeeded in their efforts.[3] The problem was perhaps not merely one of failure to understand the invention, but rather of an either indifferent or actively anti-technological attitude on the part of the government, shown by the unwillingness to grant funds. Refusal to grant credit to inventors, as a form of non-competitive market behavior, was a widely used means of preventing technological change. Other means were the use of various safety regulations, import duties, and the manipulation of various educational and research services.[4]

Either lack of understanding or perhaps a deliberate resistance to technological change had been apparent already earlier in Russia, especially in power mechanics, electromechanics and the chemical industry. In these fields, numerous inventions had

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1 Петербургский листок 15.4.1878 no. 75; Салов 1877, 20, 31. Cf. Вешняков 1874, 305–6. Salov considered that the adoption of a system of excise taxes would have increased the pace of invention activity in Russia and would thus have increased the collective intellectual wealth of the state. Such an increase in technological creativity would have increased the production power of the state and given Russia a chance of rising above other nations. Салов 1877, 20, 31–2.

2 Салов 1877, 38. The same connection between tariff policy and the privilege system had been briefly touched upon by Chizhov in 1861. The theme became particularly prominent, however, only in the debate over economic policy in the mid–1890's.

3 Булыгин 1898, 7–28; Новое время 15.4.1899 no. 8309; Соломка 1900, 82–4; Конфедаретов 1978, 238; Рюмин 1883, 30; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 171, 385.

4 Mokyr 1992, 329–30. Another alternative was the use of extralegal means, such as strikes and demonstrations. *Ibid.*

been made beginning in the first half of the century, of which only few had received recognition or practical application. The invention of the electric arc, for instance, is attributed to Volta, although the same invention was made simultaneously by V.V. Petrov (1761–1834). Petrov also investigated possible applications of electricity in lighting and in metallurgy. If his inventions had become more widely known, and if the inventor had received sufficient understanding and financial support in his home country for the further development of his ideas, his work might have contributed significantly to technological development in the early 19th century. E.K. Lenz (1804–1865), on the other hand, belonged to the international scientific community of his time. His work in physics, carried out during the early 1830's, played a significant role in subsequent European basic research, leading ultimately to the development of the electric motor.[1]

Lenz's research into possible practical applications of electricity were continued by B.S. Jacobi (1801–1874), whose first electromagnetic motor was completed in 1834. In 1838, he demonstrated an electric-powered boat, built with government support. Later he also constructed a small-scale model of an electric locomotive. Jacobi's inventions received well-earned attention both in Russia and in Europe. In particular the possible military applications of electricity were noted. The electric motor, however, was not developed any further, since the Russian government rejected the existing model as impractical.[2]

Russian inventions in the field of electrical technology[3] were in a way too far ahead of their time in an economically backward country like Russia. The practical importance and possibilities offered by the work of Russian inventors seemed to be better understood abroad. Pavel Jablochkov (1847–1894) was an example of a talented engineer who was more or less forced to move abroad, where the necessary resources and equipment were available to carry out his inventions in practice. In 1875 Jablochkov moved permanently to Paris, where he made all his subsequent inventions related to storage batteries and electric lighting. In 1878, Jablochkov was granted a privilege in Russia for his electric light-bulb, with a new way of distributing electricity, in 1879 for new galvanic batteries and in 1880 for a system of channeling the electric current. Both the 1879 and the 1880 privileges were later revoked because of not being worked. In 1881 he was granted a privilege for the structural development of the magnetic and electric dynamo, and in 1892 for an automatic storage battery. The illumination of the Paris International Industrial Exhibition of 1889, for

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1 Соломка 1900, 81–3; Виргинский 1962, 166–7, 174–5; Зарецкая 1983, 132–4; Энциклопедический словарь 1898, vol. 23, 460 1; Blackwell 1968, 399; Vucinich 1963, 198, 301–3.

2 Виргинский 1962, 296–306, 312–13; Энциклопедический словарь 1904, vol. 41, 592; Blackwell 1968, 400–1; Vucinich 1963, 302.

3 Of these inventors, only Petrov was a native Russian. Lenz was a member of the Baltic German aristocracy and Jacobi the son of a Prussian banker; he had studied at the universities of Berlin and Göttingen. Their main scientific research and teaching activity, however, took place at the St. Petersburg Academy of Sciences. Виргинский 1962, 166, 296; Blackwell 1968, 398–9.

instance, made use of the lighting system developed by Jablochkov.[1]

Sometimes an originally Russian invention returned to Russia in a form developed abroad; in a few cases, a Russian privilege was then taken out for this more advanced form by the foreigner.[2] At the Paris Industrial Exhibition in 1867, the Western European dye industry was flourishing due to the invention of the Russian N.N. Zinin in mid-century. Zinin had invented a way of reducing aniline from nitrobenzene; the invention, however, was not more widely applied in Russia, despite the fact that it would have made possible the industrial production of aniline dye. Elsewhere, the practical value of the invention was better understood.[3] In such cases, the Russians were according to Solomka ready to sing the praises of the foreign inventor. Contemporaries accounted for the fact that Russian inventions so often ended up abroad by the speculative Russian character and by the poor working conditions for inventors in the home country. Because of the higher level of technical development abroad, it was easier for the inventor to find someone to finance his invention, who would also arrange the necessary working facilities and provide engineers to work out the details of practical implementation of the invention. In Russia, financing was difficult to obtain, workshops were poorly equipped and there were few practical engineers and technicians. The production conservatism of Russian manufacturers certainly did not make the rough path of the Russian inventor any smoother.[4]

Various highly complex models can be constructed to describe the factors affecting technical and industrial development; Solomka's account, however, is interesting in that the fact that the Industrial Revolution began specifically in England, rather than for instance in France, has been attributed to the practical orientation of English engineers. At the time of the Industrial Revolution, English science and economic life were in considerably closer contact than in France, and the social involvement and consequences of science were much broader. In England, the Scientific Revolution did not exclude the middle and working class to the same extent as for instance in France, Germany or Russia. The British tradition was based on the activity of free, independent technical experts, operating in an economic setting based

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1 Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 201, 218, 231, 254, 390; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1892 по 1.7.1896 год, 1897, 22; Козлов 1898, 126; Рюмин 1883, 28–9; Дякин 1971, 18–19; Зарецкая 1983, 132–4; Филиппов 1965, 259; Чеканов 1975, 371; Энциклопедический словарь 1904, vol. 41, 476–7.

2 In 1871, for instance, a certain foreigner obtained two privileges, one for a mobile telegraph and the other for an ink printer for a Russian telegraph, for ten years. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 139.

3 Зарецкая 1983, 132–4; Лукьянов 1948, 264, 271; Филиппов 1965, 259; Энциклопедический словарь 1894, vol. 12, 593–4, Vucinich 1963, 333 4. Zinin's invention does not occur in the lists of privileges of the Department of Trade and Manufactures.

4 Булыгин 1898, 27–8; Рюмин 1883, 30; Соломка 1900, 82–3; Седельников 1929, 10–12.

on market capitalism.[1]

The Russian inventor had multiple difficulties to face compared to his counterpart in an industrially more advanced country. The basic assumption of the engineering profession in Russia, both ethically and organizationally, was that the liberal professions offered a way of life which was morally superior to that of the world of business and trade. Engineers felt suspicious of the particularistic and heavily materialistic goals of the private sector, and tried to control the consequences of competition, even if we cannot speak of an anticapitalist spirit in any absolute sense. Against this background, the view of the Russian engineering profession, that it was the state which should carry the responsibility for the development and planning of industry, natural resources and communications, seems a logical one. The most powerful values of the Russian engineering profession were internationalism and technocracy: the belief that technology would offer solutions to all social evils.[2] The Russian belief especially in foreign technology was powerful; this is reflected in the professional engineering journals, almost 90 % of whose content was foreign. In part this phenomenon can be explained by the lack of technical knowledge and education in Russia.[3]

The importance of cooperation between engineers and the centralized state had been recognized already at the time of Peter the Great, but the sensible development and organization of technical education had been prevented again and again, by war, internal political tensions and cultural factors.[4] The indifferent or even negative attitude toward technical innovations in Russia began to change only when the government realized that the technological backwardness of the country constituted a serious threat to its own existence. The defeat suffered in the Crimean War brought the government to realize the importance of international scientific and technological contacts. At the same time, the Technical Institutes were reorganized as 'civilian ministerial institutes', to serve the needs of the so-called civilian ministries, and new institutes were founded, to serve the needs of industry rather than administration and government. It was a long way, however, from a realization of the importance of professional engineers to any practical measures with genuine significance for the broadening of technical knowledge among manufacturers.[5]

There was a great difference in the belief of Russian and British inventors in the functioning of the patent systems of their respective countries. The faith of British inventors in the system is shown by the fact that so many inventors applied for patents in spite of the high fees involved. The system actually worked very poorly, but inventors were evidently unaware of this. In Russia the faith of inventors in the

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1 Jacob 1988, 137, 139–40, 205–6; Kuhn 1977, 137; Mokyr 1985, 10–11 and 1990, 242–4, 263; Rieber 1990, 539; Thompson 1973, 86–91.

2 Rieber 1990, 539, 563.

3 Булыгин 1898, 27–8; Каупе 1882a, 26; Соломка 1900, 83–5; Седельников 1929, 11–12.

4 Of the cultural factors involved, we might mention the persistent indifference of the nobility towards technical education, and the fear, aroused and revived by the French Revolution, of secular Western teachings and of the alien ideologies which would be carried to Russia along with the importation of technology. Rieber 1990, 564.

5 Balzer 1980, 18; Mokyr 1990, 180–1; Rieber 1990, 563–4; Vucinich 1963, 366.

system was poor, since a privilege application was submitted for less than ten percent of inventions. The figure is of course merely an estimate; it does, however, indicate the profound lack of confidence in the system, which does not seem to have lessened even in the 1890's. Applying for a privilege in Russia involved great financial sacrifice on the part of the inventor, and might merely make it easier for the invention to be stolen, rather than protecting the inventor's property right.[1]

If an English inventor patented his invention in all good faith, believing in the system, his Russian counterpart did so entirely without illusions. In England the gap between expectations and reality had a positive effect on economic development; the positive governmental attitude towards technological change succeeded in weakening initial opposition to change.[2] The views and behavior of Russian inventors reflected what may have been a more general lack of confidence in legality and justice. In England, the long tradition of Common Law had created a general faith in justice. The inventor could trust in the ultimate fulfillment of justice for instance in cases of dispute or appeal. In Russian society, on the other hand, this confidence in the ultimate fulfillment of justice was considerably weaker.[3] Russian inventors also did not expect to benefit financially from an invention privilege to the same extent as inventors in England or North America.[4]

Actually what was involved was a much larger issue than the privilege legislation as such; it was a matter of confidence in the ability of the legal system to protect the individual's property rights. The emphasis on property rights was closely linked with the effort to clarify and simplify the concept of the invention privilege. The specifically Russian connotations attached to the concept of the property rights, together with the absence of an anti-patent movement, hampered the conceptualization of the invention privilege and its breakthrough into the general consciousness. What was lacking in Russia was a public debate, such as had played such a great role in Western Europe in the evolution of the patent system and the emergence of a clearly defined concept of the patent. In Russia, the vagueness and indefiniteness of the concepts of invention privilege and property rights made the whole issue semiotically ambivalent.

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1 Булыгин 1898, 27–8; Соломка 1900, 82–3; Петербургский листок 15.4.1878 no. 75; Dutton 1984, 203–5; Mokyr 1990, 248, 252.

2 Mokyr 1992, 331. According to Dutton, it was beneficial from the point of view of technological development that the British system, which served as the model for patent institutions worldwide, functioned so poorly and inefficiently. Dutton 1984, 203–5.

3 According to the interpretation of Pipes, the Russian peasant was familiar with the concept of 'law' (*lex*), but not with that of 'justice' (*ius*). Pipes supports the view according to which the peasants' 'customary law' lacked the characteristics of a genuine legal system, such as cohesion and general applicability. Pipes 1991, 114. Cf. Aer 1992, 40–2 and Wortman 1976, 288.

4 Khan and Sokoloff studied 160 prominent American inventors living during the years 1790–1865; their findings support the hypothesis that invention activity and technological development were stimulated by the expansion of the markets. Important inventors were even more powerfully influenced by market forces than were less prominent ones. The former were highly business-oriented and sought constant economic benefit from their inventions. Khan and Sokoloff 1993, 289–90, 292, 301, 305.

2. The initiative of the Technical Society and the establishment of a commission for the reform of the invention privilege system, 1879

Salov's critical articles had evidently aroused interest; in 1879, he was invited to give an address on the subject at the Technical Society. His three-hour address, *On the importance of privileges granted by the government for discoveries, inventions and applications* (О важном значении привилегий, выдаваемых правительством на открытия, применения, изобретения и усовершенствования) was published three years later both in the Technical Society's own journal and as a separate monograph, under the title *Theory of Privileges* (Теория привилегий). The basic principles of his theory were also published in 1881 in popularized form, in the magazine *Otgoloski* (Отголоски), under the title, *Social and political importance of intellectual and creative production* (Общественное и государственное значение привилегирования умственно-творческих произведений).

Salov's theory of privileges was based on his idea, which he had presented already earlier, of the inviolable property rights of the inventor. His purpose was to create a theoretical foundation for the Russian system of invention privileges; its cornerstone would be respect for and protection of the inventor's property rights. This would ensure the flourishing of invention activity and the maximum growth of intellectual wealth, thus in the long run benefitting the entire society, by leading to a steady increase in creative intellectual capacity and an increase in the country's intellectual capital.[1] In order for individuals to be spurred on towards ever greater sacrifices, what was needed was absolute freedom of enterprise and a belief in unlimited rewards. Underlying this social model were the doctrines of social Darwinism and the survival of the fittest, together with Salov's concept of the need to increase the scientific and material wealth of the nation; this concept he derived from Adam Smith's *Wealth of Nations*, which he greatly admired.[2]

For Salov, it was skill — know-how — that was the most genuine and most important source of added value and of wealth. Work, including industrial work, was often unproductive, but skill led to the creation of wealth. The process of natural selection and the constant struggle for survival among individuals could be transferred directly to the international level. In the international struggle for survival, that nation had the best chances which possessed the greatest scientific and material reserves. To secure their national interests, states should aim constantly at increasing the resources which formed the foundation of their true wealth.[3]

Inventors were of the greatest possible value to the state, since it was by means of their creativity that the state could increase the quantity of knowledge and skill

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1 Underlying the theory was the concept of natural property right, whereby the inventor's immaterial property rights were entirely comparable, in terms of their legal consequences, to other and material property rights. According to Salov, the inventor's property rights also extended to the new and previously unknown concrete, material wealth brought into existence by the inventor's idea. Салов 1877, 4–5 and 1882, 6–7.

2 Салов 1877, 13 and 1881b, 390–4 and 1882, i–v.

3 Салов 1877, 37 and 1881b, 391–3 and 1882, 4–5, 7.

available. It was thus in the interest of the state to endeavor, by means of a just invention privilege legislation, to provide inventors with the best possible working conditions and with adequate material encouragement. Only then could the inventors' creativity be fully harnessed for the furthering of the economic and military development of the country. A state with just privilege laws would have a supreme advantage in the international struggle for survival. Due to the nationalistic interests of states, Salov considered the 'internationalist' point of view impracticable and unrealizable. Projects involving international cooperation and solidarity would inevitably founder because of national self-interest.[1]

Salov had become convinced, on the grounds of Veshnyakov's comparative survey, that Russia should not adopt Western models of patent legislation. To protect her national interests, Russia should go her own way, disregarding the coordination projects proposed by the international patent conferences. A common European patent legislation would have meant for instance a uniform patent period. In that case, Russia would have been at a disadvantage; she would have to compete on the same terms as other countries, but starting from a handicapped position. Inventors would presumably seek out technically more developed countries, where their inventions could be applied and worked more quickly. A standardized international practice would lead, for Russia, to a hopeless impasse in terms of competition. Due to the industrial backwardness of the country, the terms of invention privileges in Russia needed to be considerably longer than in the developed industrial nations.[2]

The examples of Great Britain, France and the United States showed, according to Salov, that invention privileges actually created industrial progress. In Russia, neither invention activity nor industry had been able to develop in a desirable fashion despite the existence of a system of invention privileges, since the system was built upon the wrong foundation. What was involved was not the backwardness of Russia industry, as Veshnyakov had suggested, but of the poor functioning and lack of credibility of the privilege system. The system suffered in particular from the overly strict privilege criteria, the presence of foreigners, the bureaucratic structure of the system and the general lack of any common understanding in privilege matters. This did not mean, however, that the entire system should be jettisoned because in its Russian form it had been unable to generate economic growth; according to Salov, the abandonment of the institution of invention privileges would be fatal, leading automatically to the drain of Russian creative potential out of the country.[3]

The discussion following Salov's address was unanimous on the point that in the United States and in the European industrial nations, the patent laws were one of the most important means used by the government to support invention activity. The negative aspects of the system in these countries, however, should not be ignored.

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1 Салов 1882, ii–iv, 7, 4–5, 14, 61.

2 Салов 1882, 4–5, 61, 64–5. This had also been the opinion of Chizhov, known for his strong Slavophile leanings, when in the early 1860's he warned Russians of the dangers of an uncritical admiration of foreign models. Cf. Чижов 1861, 98.

3 Салов 1881b, 400 and 1882, 18–20. Cf. Вешняков 1870, 78–9 and 1874, 305.

From the reports of the British Parliamentary Patent Commissions[1] and the address given by the delegate of the American Patent Office at the Vienna Congress, Veshnyakov had concluded that the large-scale patenting of minor inventions and the endless lawsuits concerning infringements of the rights of inventors had often hampered industrial development. Other side-effects of the system had had a similar effect. In Veshnyakov's opinion, making invention privileges more easily available would not automatically give rise to a flood of inventions, as Salov had suggested. In practice, the number of genuinely significant inventions was small. The majority were trivial, and their privileging for an unrestricted period of time would thus not be to the advantage of society.[2]

At the conclusion of his address, Veshnyakov encouraged those present at the meeting to raise the question of invention privileges in Russia. The Technical Society, like the German *Patent-Schutzverein*, should play an active role in drafting patent laws which would better fulfill the needs of industry. Finance Minister Greigh, according to Veshnyakov, would probably have taken a positive attitude towards a proposal by the Society. Veshnyakov proposed that the Society should establish a separate Commission, along with a special Commission for invention privilege legislation, to draft a Russian 'position paper' with regard to international patent cooperation. This was a highly topical issue, in that a permanent Commission had been established at the international patent congress in Paris in 1878 (Commission permanente internationale du Congrès de Paris pour la propriété industrielle), which currently was planning an international organization for industrial rights, on the pattern of the International Postal Association.[3]

The international patent congresses had strengthened the confidence of the Technical Society in the usefulness of patents in creating economic wellbeing. In particular the German turnabout on the patent issue at the end of the 1870's increased the pressure in Russia for the reform of the obsolete patent laws. In a world changed radically by new and rapid forms of transport and communication, inventors had to protect their inventions as quickly as possible in all the more important market areas.[4] The Society did not procrastinate any further; in 1879 a Commission was established to draft the revision of the statute of 1833. The Technical Society was also exceptionally well qualified to draft the preliminary statement regarding the

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1 Veshnyakov was referring to the Parliamentary Commissions of 1851 and 1862. Some of the members of the 1850 Commission had considered the disadvantages of patents to outweigh the advantages. The Commission established in 1862 to study the implementation of the 1852 Patent Act demanded the considerable tightening up of the patent system, but this demand did not lead to any legislative changes. Вешняков 1874, 296–7. For more detailed discussion of the many British Patent Commissions during the 1850's and 60's, see Dutton 1984, 58–65 and van Zyl Smit 1980, 177–83, 197–214.

2 Салов 1882, 82; С.-Петербургские ведомости 29.1.1881 no. 28. In Great Britain and the United States, for instance, a special group of professional inventors had arisen, whose aim was to modify and take advantage of stolen ideas. Салов 1882, 82.

3 Салов 1882, 4, 82–3; Казанский 1897, 31 2; Остеррит 1910, 456; Пиленко 1902, 216–17; Penrose 1951, 48–9, 53–5. The Technical Society constantly received requests that it bring about a more rational system of legislation for invention privileges. Letter from President of Technical Society P.A. Kochubei to Finance Minister N.H. Bunge 10.3.1882 РГИА f. 20, op. 3, d. 1997, 1–2.

4 Вешняков 1878, 113–15; Beier 1979, 203–4; Penrose 1951, 15.

Russian position on international cooperation in patent matters, since A.G. Nebolsin, an honorary member of the Society, had been at the Paris Congress as the official Russian delegate. Nebolsin also acted as Vice-President of the Congress, and was given the task of forming the Russian section of the permanent Commission established to continue the work of the congress. Another member of the Society, F.F. Kaupe, who together with Chekalov had operated a technical and international patent office since 1867, had taken part in the Paris Congress as secretary of the Association for the Reform and Codification of the Law of Nations.[1]

Judging from Salov's address and from the debate following it, Russian participation in international cooperation in patent affairs was by no means taken for granted in Russia. Although the country sent official delegates to both of the Paris congresses (1878, 1880), this did not constitute a declaration or commitment that Russia would join in any international patent agreement possibly arising from the congress. This was made clear by the Minister of Finance in petitioning for the Emperor's consent to sending Nebolsin to Paris. The Minister pointed out that, while the purpose of the congress was to achieve some consensus as to the basic principles which might serve as the foundation of an acceptable international convention, decisions made at the congress were by no means binding on the Russian government. Nebolsin informed the congress that he had not received any specific instructions from the government, but that he considered that Russia would view the idea of an alliance positively.[2]

The material in Nebolsin's personal collection[3] supports the view according to which the Ministry of Finance in principle considered the aims of the convention, i.e. the protection of industrial property, to be beneficial and worthy of support. The prevention of some fairly common abuses, such as the forging of factory and commercial marks and labels (фабричное клеймо и торговое клеймо) and the misuse of the names of reputable companies, would be beneficial in a moral sense as

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1 Most loyal proposal of Finance Minister Reutern to Emperor 11.8.1878 "О командировании статского советника Неболсина в Париж на конференцию о промышленной собственности" РГИА f. 40, op. 1, d. 30, 79 and 10.9.1880 f. 40, op. 1, d. 32, 134–5. Memorandum from President of Technical Society P.A. Kochubei to Finance Minister N.H. Bunge 10.3.1882 "О выдаче инженер-технологу Каупе 2000 руб. в возмещение издержек по печатанию составленного им обзора под названием "Законодательство и практика по выдаче привилегий во всех странах света." РГИА f. 20, op. 3, d. 1997, 2 3; Вешняков 1874, 301; Личный состав императорского Русского технического общества 1890, 3, 18; Каупе 1882c, title page and back cover; Салов 1881b, 397ff and 1882, 4, 82–3; Пиленко 1902, 220-4, 273; Penrose 1951, 55.

2 Most loyal proposal of Finance Minister Reutern to Emperor 10.9.1880 РГИА f. 40, op. 1, d. 32, 134–5; Пиленко 1902, 273; Салов 1882, 7, 61, 65, 83.

3 Nebolsin's personal collection includes a valuable undated draft of a letter, intended as a supplement to the report on the Paris Convention sent to the Ministry of Finance on 8.12.1880. Judging from the content, the draft was written either during the early spring or the summer of 1881. No original communications sent to the Department of Trade and Manufactures of the Ministry of Finance have been found.

well.[1] All efforts towards greater honesty were consistent with the common interest. Russia, however, should not be overly hasty in joining the convention, but should await the responses of the leading European industrial powers to the preliminary version of the Paris Convention. There were two reasons for this attitude: on the one hand Russia was less interested than other states in joining, on the other the Russian invention privilege laws and in particular the laws concerning factory marks did not adequately represent the demands of modern industry. The revision of the legislation was well under way, and the preparatory material would probably soon be available to the government. Similarly, joining the Convention would be undesirable before the revision of the outdated laws on factory marks and labels, since the present laws made it possible to sue for violations only in cases of exact copying.[2]

Nebolsin stressed the point that foreigners were far more interested in Russia's joining the Convention than was Russia herself. Due to her industrial backwardness, Russia would benefit relatively little from the convention, since the dominant position with respect to Russian invention privileges was held by foreigners. A foreign applicant for an invention privilege was a familiar occurrence in Russia; a Russian applicant in another country a rare one. It was also much more common to find foreign labels, stamps and trademarks in Russia than vice versa. Furthermore, the most important objective of the convention, to secure the equal status of citizens of the signatory countries with regard to industrial property, was already fulfilled either directly through Russia legislation or by means of separate treaties between states. Russia, in Nebolsin's view, should ratify the Convention only after a majority of the industrially important European nations had done so.[3] The most extreme negative view of international cooperation was taken by nationalists such as Salov, who considered that Russia had no need, like other countries, to cover up her pursuit of her national interests by means of sophistical internationalist rhetoric. If Russia was to succeed in achieving her goals as a nation, she had to trust in her own resources and let development be guided by purely nationalist self-interest.

International influences played an important role in the initiation of legislative reform; another impulse, however, came from the development of invention privileges themselves. The numbers of applications and of privileges granted rose fairly steadily throughout the 1870's. In the early 1870's there was a general increase in economic activity, brought about by the first boom in railroad construction; this evidently led

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1 At the Commercial-Industrial Congress of 1870, a separate section was organized to deal with the widespread problem of forged trademarks and labels and the misuse of reputable company names. Judging from the speeches and comments by merchants, such abuses were very common. This conclusion is supported by the lawsuits brought against violators of the exclusive Singer trademark, and warnings against 'fakes' contained in advertisements in the 1880's. Carstensen 1984, 31. See Стенографический отчет заседаний 5-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 5.6.1870, 1872, 15–29.

2 РГИА f. 1001, op. 1, d. 156, 170 2. In 1888, Nebolsin pointed out in the Council of the Technical Society that only after the fundamental revision of the Russian system of invention privileges could the country even consider joining the Convention. Session of the Council of the Imperial Russian Technical Society 24.2.1888 РГИА f. 90, op. 1, d. 137, 20.

3 РГИА f. 1001, op. 1, d. 156, 168–71, 173.

to positive expectations and to a belief in industrial growth.[1] It should, however, be kept in mind that the numbers of invention privileges in Russia during the 1870's were still minor compared for instance to the numbers of patents granted in England. A rate of one hundred privileges annually, which in England had been bypassed already in the 1810's, was achieved in Russia only in the 1870's.[2]

Table 7. Distribution of invention privileges by country of applicant, 1880

Country	Number	Percent
Austria-Hungary	11	6.7
Britain	7	4.2
France	14	8.5
Germany	52	31.5
Russia	43	26.1
USA	12	7.3
Others	13	7.9
Foreigners living in Russia	13	7.8
Total	165	100

Note: The category 'Russia' includes one case in which one of the applicants was German.
Sources: Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1881 nos. 1–6 and 1883 nos. 1–3.

The distribution of invention privileges by country of applicant indicates that the proportion of Germans was considerably higher than that of other foreigners. Germany also occupied a dominant position in Russian imports (approx. 44-45 %).[3] In 1880, the shares of France and Austria-Hungary out of Russian imports were some 3.5 % each, that of the United States a modest 1.6 %. In the same year, Britain accounted for slightly over 24 %.[4] With the exception of Germany, the distribution of invention privilege recipients does not seem to correspond to the relative proportion of imports of the respective countries. The difference is clearest in the case

1 Larger numbers of invention privileges than previously are now entered under such headings as railroads, railroad tracks, railroad wagons and wagon wheels, railroad locomotives, their brakes and wheels, various steam engine constructions, boilers, valves and pressure measurement devices. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 128–228.

2 Cf. Boehm 1967, 23.

3 The bills of freight mention only the most recent place of consignment or the immediate place of destination. The reliability of the information depended entirely on the good will and the knowledgeability of the forwarding agent. For details on the utilization of Russian foreign trade statistics, see Дворецкий 1979, 346–81.

4 Гулишамбаров 1911, 26 7; Покровский 1947, 301. The German share of Russian imports in 1880, at 44–45 %, was exceptionally high. This proportion gradually began to decline; by 1886 it was down to 31 %. Покровский 1947, 299, 301.

of the United States and Britain.

The British share in Russian imports and exports had been falling since the 1850's, although the country kept her position as Russia's chief trading partner up to the 1890's. This decline in Britain's importance in Russian foreign trade was a consequence of the general change in the structure of the international economy. Russian grain was now at a disadvantage in the competition for British markets with grain from North America. Similarly, Russian timber and timber products had to compete for the British market with imports from Canada and the Scandinavian countries, resulting in increased price competition. The economic competition between Germany and Great Britain was clearly reflected in Russian foreign trade; in the 1880's, the German machine-building and iron industry threatened British dominance on the Russian market. Germany also became an important market for Russian grain.[1]

The figures and correlations presented here should not be taken as implying any far-reaching conclusions; in 1880 the total number of invention privileges was only 165. Germany, however, seems to have had sovereign dominance over Russian imports and over the privileging of inventions in the country. Germany was also Russia's most important creditor; during 1865–76 she invested 900 million German marks (417 million rubles) in Russian railroad construction. Investments in Russian corporations, on the other hand, were divided fairly evenly between German, British and French capital.[2] German investments in Russian railroads evidently helped to increase German exports to Russia. In particular German machinery and technical know-how penetrated powerfully into Russia. For German industry, which had missed out in the competition for colonial markets, Russia appeared to be a natural direction for economic expansion; correspondingly, due to the changes in the world grain market, Germany had become an increasingly important export target for Russian grain.[3]

The large proportion of foreign inventors among the recipients of Russian invention privileges was an awkward problem in the light of the country's increasingly nationalistic economic policy. The importance of foreign capital in the Russian economy had increased rapidly during the 1860's and 70's, and was now according to some estimates greater than ever.[4] The fears voiced in Russia during the 1870's and 1880's as to the invention privileges taken out by foreigners purely for purpose of acquiring a monopoly in the field may have been quite realistic. With the increase in the number of privileges, the role of foreigners became even more obvious, and aroused reactions at least in nationalists like Salov and Zarubin. At the same time, an

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1 Покровский 1947, 303–6; Geyer 1987, 46.

2 Foreign capital invested in Russian corporations in 1880 was divided as follows: 29.8 million rubles from Germany, 29 million from Britain, 26.8 million from France and 1.7 million from Belgium. McKay 1970, 32.

3 Geyer 1987, 46, 150. Up to 1894, the preponderance of machine imports came from Great Britain, while Germany was the main source of agricultural machinery and tools. Покровский 1947, 325; Сборник сведений по истории и статистике внешней торговли России 1902, 269.

4 Cf. Geyer 1987, 46. For problems with sources for German capital investment in Russian industry prior to the Revolution, see Абрамова 1983 *passim*.

increasingly powerful impetus towards change was arising in the international arena. All these factors led ultimately to the beginning of the process of legislative reform.

3. The reform proposal of the Veshnyakov Commission: new rules and the informal constraints of Russian business culture

The so-called Veshnyakov Commission, established by the Technical Society in 1879,[1] followed actively the European patent debate and the development of international cooperation in patent affairs. The men responsible for drafting the new law had at their disposal a Russian version of such documents as the German patent program, which had served as the point of departure for the Commission convened in August 1876 by the German Federal Council,[2] and the French program drawn up for the international Patent Congress held in Paris in 1878. The Russian Commission did not want to commit itself blindly to any particular foreign model; Timiryazev's working group[3] thus drew up, partly on the basis of the French and German programs, a Russian version, consisting of a 42-item questionnaire. In addition, the Commission probably had at its disposal Russian translations of at least the most important European patent laws. Also of great help to the Commission was Kaupe's comparative survey of the development and current state of Western patent legislation.[4]

Kaupe's work, *A Comparative Survey of the Laws and Practices concerning the granting of privileges or patents for new discoveries, inventions and applications in Austria-Hungary* . . . (Сравнительный обзор узаконений и практики по выдаче

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1 The members of the Commission were M.I. Alisov, an inventor specializing in hectographs and polygraphs; N.F. Egershtrom, Chairman of the Naval Warfare section of the Technical Society; N.A. Yermakov, Director of the Department of Trade and Manufactures of the Ministry of Finance; I.I. Kozlov, head of the Office for Privilege Matters at the Department of Trade and Manufactures; K.I. Lisenko, Professor at the Institute of Mines; A.N. Martynov, an engineer and inventor; A.G. Nebolsin, Section Head at the Department of Trade and Manufactures and Vice-Director of the Commission on Privileges; D.A. Timiryazev, also Section Head at the same Department; N.F. Yagn, inventor and engineer; N.N. Salov, inventor, Secretary to the Commission on Privileges; V.I. Veshnyakov, Director of the Department of Agriculture and Rural Industries of the Ministry of State Properties; and F.F. Kaupe, engineer and owner of a patent office. Салов 1881a, 1 and 1881b, 396–7 and 1882, 87; С.-Петербургские ведомости 29.1.1881 no. 28.

2 This was the preliminary program prepared by the Patent Commission convened on the initiative of the *Patentschutz-Verein*; the draft was submitted to the Federal Council for consideration in 1876. The program stressed the backwardness of German industry and the importance of patents in increasing the productivity of labor and improving German export capacity. Beier 1979, 204; Heggen 1975, 116 21.

3 Timiryazev entered the service of the Department of Manufactures and Domestic Trade after graduating from the University of Kiev. In 1888 he was appointed to the Council of Trade and Manufactures, and in 1890 to the Council of the Minister of Finance. He became known as an advocate of the interests of agriculture and home industry, and as an opponent of extreme protectionism. Альманах современных русских государственных деятелей 1897, 1221–2; Энциклопедический словарь 1901 vol. 33, 182.

4 Memorandum from President of Technical Society P.A. Kochubei to Finance Minister N.H. Bunge 10.3.1882 РГИА f. 20, op. 3, d. 1997, 2–3; Белов 1895, 55; Салов 1881a, 2–4 and 1882, 94–106; С.-Петербургские ведомости 29.1.1881 no. 28.

привилегий или патентов на новые открытия, изобретения и усовершенствования в Австро-Венгрии ...) also served Russian inventors, who according to Kaupe were increasingly interested in patenting their inventions abroad.[1] The countries included in the survey were mainly those where Russian inventors tended to take out patents. In his book, Kaupe presented in concise form the main differences in practical patenting procedures embodied in the patent legislation of these countries.[2]

For the work of preparing the actual text of the law proposal, in January 1882 the Commission elected from among its own members a smaller Executive Committee.[3] When the second Commercial-Industrial Congress met in Moscow in 1882,[4] the work of the Commission was evidently quite far advanced. The address given by M.I. Alisov, a member of the Commission, entitled *On the shortcomings of the legislation concerning invention privileges and on measures which might protect the interests of inventors* (О недостатках законодательства по привилегиям на изобретения и о тех мерах, которые могли бы служит для ограждения интересов изобретателя) represented the interim report of the Commission, consisting of a 24-item proposal for the amendment of the invention privilege system. In practice the Commission had gone through almost all the items of Timiryazev's 42-point questionnaire, but had not yet formulated its proposal as an actual legislative draft.[5]

Judging from Alisov's presentation, the Technical Society was convinced that with international patent cooperation the importance of invention privileges had become self-evident.[6] A similar tendency can be seen in the leading Western European industrial powers, such as England and Germany, where the anti-patent movement had been most powerful. The question of the desirability and usefulness of invention privileges was not touched upon by Alisov at all. In the late 1870's and early 1880's, the Russian public debate over patent issues had been conducted mainly by inventors and engineers, who were often members of the Technical Society. The debate had not questioned the relevance of the system as such, but had aimed at its

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1 According to Kochubei, Kaupe had succeeded in obtaining several hundred foreign patents for Russian inventors. Memorandum from President of Technical Society P.A. Kochubei to Finance Minister N.H. Bunge 10.3.1882 РГИА f. 20, op. 3, d. 1997, 2.

2 Memorandum from President of Technical Society P.A. Kochubei to Finance Minister N.H. Bunge 10.3.1882 РГИА f. 20, op. 3, d. 1997, 2–3; Каупе 1882c, Introduction.

3 The Executive Committee, headed by Veshnyakov, consisted of Kaupe, Kozlov, Nebolsin, Salov and Alisov. It was decided that only a shorthand record would be kept of the meetings, since because of the great extent of material it could no longer be published in the Transactions of the Technical Society. Салов 1882, 107–8.

4 The All-Russian Commercial-Industrial Congress, which met in Moscow in 1882 in connection with the All-Russian Industrial Exhibition, actually consisted of two consecutive assemblies. The meeting of the Russian Industrial Society was held in July, the meeting of the Technical Society on 23.8.–14.9.1882. Шепелев 1981, 129, 164.

5 Алисов 1883, *passim*. Following Alisov's presentation, doubts were expressed in the Assembly by A.S. Cherekov concerning Alisov's competence in invention privilege matters. Kaupe denied these allegations, pointing out that Alisov's presentation had represented the decisions arrived at by the Commission, which had gone deeply into these issues. Алисов 1883, 372 (380). [The page numbering of Alisov's speech is erroneous from page 371 onward; page 372 has been numbered 364. In the page references, I first give the page number in the source, followed by the correct number.]

6 Алисов 1883, 366 (374).

improvement and development; even the most radical advocacy of the rights of inventors had aroused no opposition.

Although the necessity of protecting inventors' rights was self-evident to the members of the Technical Society, it might have been expected that the Society would take advantage of the Commercial-Industrial Congress to convince the members of the Assembly of the usefulness of the privilege system. It is of course possible that the Society did not consider it necessary to go once more into the issue of the justification of invention privileges, since for instance the address given by Kaupe at the meeting of the Commission of the Technical Society in January 1882 had been published the same year in pamphlet form. Kaupe's lecture, entitled *Is it just and useful to grant the inventor exclusive rights to his invention?* (Обеспечение за изобретателем исключительного права собственности на сделанное им изобретение представляется ли справедливым и полезным?) constitutes in fact a well-grounded positive answer to the most important question in Timiryazev's questionnaire.[1]

A system of legislation which effectively protected the property rights of inventors was necessary for the creation of national greatness, although it was not alone sufficient for this purpose. The most important factor was an increase in the general spirit of enterprise; such a spirit would maintain competition and would stimulate the effort to liberate oneself from the restrictions of old, already privileged inventions by the development of new ones. The inventor could obtain an exclusive privilege only through the mediation of the state, which by this means made possible either the utilization of the invention or its transfer to others, at its exchange value, by juridical transfer.[2]

An invention always involved the creation of something new, previously nonexistent. In general an invention was the result of a long process, becoming more and more perfect by means of small but cumulative improvements. The protection of the property rights of inventors was particularly important, because inventions were assessed exclusively on the grounds of their usefulness; thus, unlike for instance in the case of a work of art, a good imitation or reproduction had the same value as the original. The inventor's property right was his reward, which stimulated him to make sacrifices; it also attracted foreign capital and induced talented inventors to remain in Russia. According to the principle accepted at the Vienna patent congress, the protection of the fruits of intellectual labor was demanded if only by the sense of justice in civilized nations. For Kaupe and Salov, the invention privilege was

1 Голос 20.1.1882 no. 15; Каупе 1882a, 3–4. That same year, another pamphlet by Kaupe appeared, entitled *Invention Privileges* (Привилегии на изобретения); it discussed the importance of privileges and the various alternatives suggested for the rewarding of inventors. Kaupe, however, concludes that the system of invention privileges is the most advantageous both for inventors and for society. Каупе 1882b, *passim*.

2 Каупе 1882a, 19 and 1882b, 4–8; Салов 1881a, 5 and 1882, 94. Kaupe points out in a footnote that for instance many of the clever constructions and forms of production in the sewing-machine industry had arisen from the need to circumvent the restrictions of existing patents. Каупе 1882b, 4–5.

synonymous with the protection of property rights.[1]

The possibility cannot be excluded that the Technical Society considered it better not to emphasize the usefulness of the privileging of inventions at the Commercial-Industrial Congress so as to avoid a possible negative response. This conclusion is supported by Salov's claim as to the negative attitude of manufacturers towards invention privileges. Alisov's speech likewise did not problematize the issue of foreigners, which had been touched upon in the journalistic debate in the 1870's and 80's and in Nebolsin's memorandum. In 1881 Nebolsin, a member of the Commission, had recommended to the Minister of Finance not to be overly hasty in joining the Paris Convention, although in principle he was in sympathy with the Convention's aims. The Russian government awaited the ratification of the Convention, and requested an official statement of the Technical Society's position only in the autumn of 1883. Judging from Alisov's speech, the view presented by such men as Salov, that it was foreigners together with the unwieldy bureaucracy that were responsible for the slow development of Russian industry, was not accepted by the Commission.[2]

The inadequate protection of inventors' rights could be improved, according to the Commission, by the following legislative changes: extending the term of privileges to twenty years, adopting low and progressively increasing annual fees, limiting the time of processing of applications to one year, defining an upper time limit for the filing of protests against privilege applications and already granted privileges, eliminating the compulsory working requirement, and granting the privilege to the first applicant to file his application.[3] Justification for these pragmatic demands, and for the system of invention privileges as a whole, came from the theory of natural property rights, emphasized in particular by Salov[4] and Kaupe, which focused on the individual and his rights. The individual inventor was considered to have an inalienable property right over the fruit of his creative intellectual labor. In

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1 Каупе 1882a, 5–7, 10–11, 13–15, 18; Салов 1881a, 5 and 1882, 94. As examples of ideas which had required a prolonged process of gradual development, Kaupe mentioned gaslight and the steam engine. The original 'idea' of gaslight arose from the discovery of the property of hydrogen, when combined with carbon in certain gaseous compounds, of forming an illuminating flame. The development from this idea to a concrete, working invention took half a century, the development of the steam engine a century and a half. Каупе 1882a, 6–7, 10–11.

2 Most loyal proposal by Finance Minister Reutern to Emperor РГИА f. 40, op. 1, d. 32, 134–5; Журнал заседания Совета императорского Русского технического общества 6.9.1883г., 1883, 407 and 24.9.1883г., 1883, 414 and 23.11.1883г., 1883, 447; Салов 1877, 11, 21–7 and 1881b, 400. The statement of the Technical Society with regard to the international convention for the protection of industrial rights was drawn up by the Executive Committee, consisting of Nebolsin, Veshnyakov, Kozlov, Alisov and Kaupe. Журнал заседания Совета императорского Русского технического общества 24.9.1883, 1883, 414.

3 Алисов 1883, 368–72.

4 Report from Salov to the Tsarevich (Литературный отчет о современном движении в России вопроса о привилегиях на открытия, изобретения, усовершенствования и обсуждение вопросных пунктов разосланных членам комиссии, вырабатывающей проект нового устава о привилегиях на продукты умственнового творчества при императорском Русском техническом обществе). This report was discovered in the office of His Imperial Highness Tsarevich Alexander Alexandrovich, among the papers dealing mainly with literature, music, painting and sculpture, and with the purchasing and donating of rare works of art. The Tsarevich did not comment on Salov's report in any way. Salov to the Tsarevich, 22.1.1881 РГИА f. 1339, op. 1, d. 11, 17 27.

the eyes of the Technical Society, invention privileges were part of civil law, not of economic policy.

Salov, with his Slavophile way of thinking, did not wish to grant foreign privilege holders equal rights with Russian inventors. Because of international competition, invention privileges should be granted to foreigners only for a limited time, while Russian inventors would not have any such time limits. It was Salov's hope that foreign inventors would take Russian citizenship merely to avoid such discriminatory statutes.[1] Salov's point of view can only be understood in the light of his theory of invention privileges, according to which inventors play an important role in international competition as the creators of new intellectual wealth. For Salov, an invention always had a fatherland.

In the interim report of the Commission of the Technical Society, the first thing that needed remedying was the long time taken by the examination of privilege applications; the slowness and lack of expertise characteristic of this process had been criticized ever since the 1860's. In the contemporary view, the investigation of the novelty and usefulness of the invention took from two to seven years, even though the government did not actually guarantee the novelty of the privileged invention. This slowness might involve a considerable risk to the inventor; in cases where the invention was only of short-term importance, inventors had often withdrawn their applications. The changes introduced in 1870 did not bring about any significant improvement in the processing of applications.[2] In the light of the statistics, this slowness seems to have been exaggerated by contemporary observers; the average time in 1880, about a year and a half, was no longer than in 1869. The longest times were under five years. The change of 1870, however, did not succeed in shortening this time as had been hoped.[3]

The harshest criticism of the processing of applications had come from Salov, who may have been speaking of his own experience with the labyrinthine bureaucracy. The process, which in many cases took years, did not necessarily ensure a just outcome, since the experts consulted often did not have the time to deal with the applications as thoroughly as necessary. The expert, who did the job in his free time, often actually delegated the work to someone else. The views of Kaupe and Alisov support Salov's claims as to the arbitrariness of the Russian invention privilege administration and the unprotected legal status of the inventor. The inventors' lack of confidence in the system was increased by the fact that privileges were not granted in Russia for so-called 'trivial' inventions, although cases had been known in the history of technology in which highly knowledgeable scientific councils had considered an invention trivial and ridiculous which had later turned out to represent an

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1 Салов 1882, 7, 14, 61, 99. Cf. Степанов 1882, 89.

2 Алисов 1883, 364, 366–7, 369; Салов 1881b, 400 and 1882, 86–7; С.-Петербургские ведомости 29.1.1881 no. 28 and 25.2.1881 no. 54.

3 Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1869 nos. 3–6, 9–12 and 1870 no. 1 and 1881 nos. 1–6 and 1883 nos. 1–3.

important advance; examples were inventions by Fulton and Bessemer.[1]

The rigid bureaucratic system of processing privilege applications also did not suit the needs of the rapidly developing economy. The end of the Crimean War, and the subsequent activation of Russia's foreign relations and the extension of the railroad network to the western border of the country, had had a positive effect on the development of Russian industry. This was reflected, according to Alisov, in the increase in the number of privilege applications especially after 1871.[2]

Table 8. Invention privilege applications submitted and granted in Russia, 1870–85

Year	Applications	Privileges
1870	172	85
1871	185	95
1872	256	74
1873	241	74
1874	254	85
1875	276	107
1876	251	121
1877	270	128
1878	364	138
1879	414	154
1880	468	165
1881	478	173
1882	486	178
1883	524	188
1884	579	201
1885	583	188

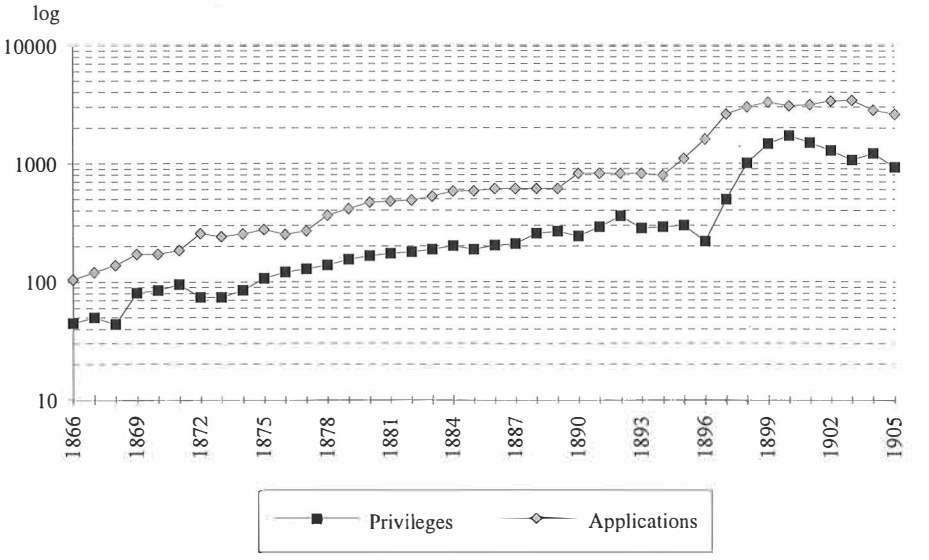
Sources: Finance Minister Reutern to Imperial Secretary 16.2.1876 "Об учреджении при Совете торговли и мануфактур двух новых должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 4; undated draft of application by Head of the Department of Trade and Manufactures Baehr "О выдаче надворному советнику Козлову 300 р." РГИА f. 20, op. 3, d. 2202, 127.

On a logarithmic scale, the relative changes in the number of applications are relatively small, after the minor upswing of 1871, until 1878. After this, the numbers increase steadily, though accelerating slightly, up to 1890. The increase in the number of privileges granted is very steady up to the end of the 1880's.

1 Алисов 1883, 366 7, 370–1, 365 (373); Каупе 1882a, 16; Салов 1881b, 400 and 1882, 85–6. Cf. the law from 1833, paragraph 13, Высочайше утвержденное положение о привилегиях 22.11.1833, ПСЗ 1834, vol. 8, no. 6588. The English engineer Sir Henry Bessemer (1813–1898) had invented a new way of manufacturing steel, by means of what later became known as Bessemer puddling; the American engineer Robert Fulton (1765–1815) built what became the first steamboat to operate in regular traffic for an extended period of time. On the privileging of Fulton's invention in Russia, see Виргинский, 1962, 197–8; Плужник 1969, 241–6.

2 Алисов 1883, 364–5. During 1814–33, the total number of privileges granted had been 72, i.e. an average of 3.6 annually. This annual figure rose during 1834–38 to fifteen and during 1860–65 to sixty. By 1870–74, the mean number of invention privileges granted annually was already 83.

Figure 2. Privileges applied for and granted in Russia, 1866–1905



Sources: Finance Minister Reutern to Imperial Secretary 16.2.1876 "Об учреждении при Совете торговли и мануфактур двух должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 4; undated draft of application by Head of the Department of Trade and Manufactures Baehr РГИА f. 20, op. 3, d. 2202, 127; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1884 по 1887 год, 1888, *passim* and с 1888 по 1891 год, 1892, *passim* and с 1.1.1892 по 1.7.1896 год, 1897, *passim*; Линген (1900) 1969, 439; Розенцвейг (1917) 1920, iv; Штейнингер 1908, 172.

Despite this increase, the Department of Trade and Manufactures had not received significantly increased resources. In practice it was this Department which carried the main responsibility in privilege affairs, since it dealt with 97 % of all applications. Despite the increase in numbers of applications, the Department had succeeded in keeping the processing times at their original level; this, however, took place at the expense of the Department's other tasks with respect to the monitoring and development of business and economic activities in the country. Despite everything, the numbers of both applications and patents granted continued to be modest, and according to Alisov did not correspond to the level of development of the country.[1]

To ensure the rapid and expert processing of applications, the Commission

1 Finance Minister Reutern to Imperial Secretary 16.2.1876, "Об учреждении при Совете торговли и мануфактур двух должностей механика и технолога" РГИА f. 1152, op. 8, 1876g., d. 94, 3–4; Алисов 1883, 364–6; Салов 1877, 21–3. The more detailed analysis of the applications was concentrated in one section of the Department of Trade and Manufactures, operating under the Ministry. Manufacturers had expressed their dissatisfaction with the operating of the Manufacturing Council and had proposed certain changes in it. These problems in the functioning of the Council were again raised by Nisselovich and Kraevsky at the Commercial-Industrial Congress, organized by the Society for the Encouragement of Russian Industry and Trade in Moscow in 1882. In practice, the activities of the Council continued to be restricted to the processing of invention privilege applications. Стенографический отчет заседаний 3-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 22.5.1870, 1872, 16, 20; Краевский 1883, 4–6; Нисселович 1883, 12.

proposed the creation of a separate Patent Office, modeled on the German *Patent-Amt*. The Office would consist of several parallel departments, each with its own specialization, and of at least two levels; if necessary, a decision made at one level could be appealed at the next. The Office, according to Alisov, might include a special judicial section, operating on a collegial basis, for deciding cases of conflict in privilege matters.[1] The final level of appeal would continue to be the Governing Senate. Protests against the granting of a privilege would have to be filed within three years; after this, they would be dealt with under the Criminal Code.[2] Under the Statute of 1833, conflicts over privilege matters were dealt with by the Manufacturing Council and its Moscow section or by Manufacturing Committees; where these did not exist, by the local commercial and district courts (уездный суд). Cases were decided by arbitration. In the judicial reform of 1864 both the arbitration system and the district courts were abolished, and the processing of disputes over invention privileges thus demanded a new solution. On the basis of the new Code of Civil Procedure, the Ministers of Finance and Justice proposed concentrating all privilege conflicts under the new district courts (окружный суд). This proposal was accepted by the State Council.[3]

To improve the legal safeguards protecting the inventor's rights, the Technical Society proposed the introduction of a 'protective certificate' (охранительное свидетельство), which would be given to the inventor after he had filed his application for examination and had paid the fee for the first year. In practice this involved an American, 'caveat' type of application system. To obtain such a certificate, the inventor had to submit a precise though not necessarily complete description of the invention in question. The Patent Office would immediately publish information on protection certificates granted, after which a protest against the application could be filed within six months. If no justified protests were filed within this time limit, a decision would have to be made within six months. In practice this would mean restricting the duration of the processing of applications to one year. A change which the Society considered particularly important was the inventor's right to receive a

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1 The existing system confronted judges with an impossible task, since they lacked the necessary technical knowledge for making appropriate decisions. Alisov in fact proposed the formation of a special court, consisting of technical experts but also including legal consultants. Алисов 1883, 366 (374).

2 Алисов 1883, 368–9 (376–7), 371–2 (379–80). Protests filed within three years which were found to be valid would lead to immediate annulment of the privilege. An appeal could then be entered against this annulment decision.

3 Finance Minister Reutern to Imperial Secretary 28.11.1870 "Об изменении правил до судебного разбирательства по делам о нарушении привилегий относящихся"; Minister of Justice Pahlen 30.3.1874 "О порядке производства дел о нарушении привилегий в местах, где введены судебные уставы"; Excerpts from the Minutes of the Joint Session of Departments of Laws and of Civil and Spiritual Affairs of the State Council, and of the General Session of the State Council, 27.4.1874 and 30.9.1874 "О порядке производства дел о нарушении привилегий в местах, где введены судебные уставы" РГИА f. 1149 op. 7, 1870g., d. 109, 2–16, 24–8; Высочайше утвержденное мнение Государственного совета (распубликованное 13.11.) о порядке разрешения споров о привилегиях 20.10.1874 ПСЗ 1876, vol. 49, no. 53966.

detailed account of the grounds for rejection of his application.[1]

The 1833 Statute had established the maximum term of an invention privilege as ten years; the actual duration was at the discretion of the Manufacturing Council. The Technical Society considered this to be too short, even compared only to the developed industrial nations. In the opinion of the Commission, under the special conditions prevailing in Russia a term of twenty years would be more appropriate. The debate in the Commission sessions, however, also included dissenting opinions. According to Ryumin, the proposed term of twenty years was too long; the maximum term could remain the same as before, if the privilege fees were reduced. Kaupe spoke in favor of the Society's proposal, adding that the industrially backward Russia had nothing to fear from a twenty-year privilege term, especially since in England the extension of patent protection from fourteen to twenty years was being seriously considered.[2]

The proposed privilege fees, adjusted on a progressive sliding scale, were intended to cover only the actual costs of the Patent Office. It was calculated that during the first year a fee of ten rubles would be sufficient. The session accepted Alisov's demand; only M.S. Borisov would have been prepared to accept an extension of time for payment unless the present high fees could be reduced.[3] Neither Alisov's presentation nor the following debate touched upon the proposals presented to the Commission by Salov and by S. Stepanov, concerning the replacement of privilege fees by an excise tax; this solution had also been advocated by Zarubin.[4]

The Commission of the Technical Society proposed that the obligatory working requirement be abolished altogether. The original purpose of this regulation, according to which the invention had to be worked within one fourth of the term of the privilege, had evidently been to prevent situations in which the holder of the privilege merely imported the item in question. If the holder wanted to continue in possession of his privilege, he had to obtain from the local police authorities a certificate that his invention was in fact being worked. Due to the indifference and conservatism of manufacturers, the adoption of new inventions was generally very slow. Even the few active manufacturers seemed merely to wait for the privilege to lapse or to be revoked, refusing to enter into cooperation with inventors. According to the Commis-

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1 Алисов 1883, 368–71 (377–9). The protective certificate conferred on its holder the following rights: to publish information regarding the invention, to carry out public tests and experiments, to publish the invention in all its details, to transfer the right to the privilege to another person, to bring legal charges against imitators, and to change or add to the original description of the invention, without however changing it in any essential aspect. Алисов 1883, 369 (377).

2 Алисов 1883, 371–64 (371–2), 368 (376). The disagreement over the appropriate term of duration, according to Salov, became irrelevant if the Commission were prepared to abandon the conception of the privilege as a 'reward' or 'favor' granted to the recipient. Salov's view was obviously not accepted by the Commission. Алисов 1883, 373–4 (381–2); Салов 1882, 100–2.

3 Алисов 1883, 364 (372), 368 (376), 373 (381).

4 Петербургский листок 15.4.1878 no. 75; Салов 1877, 30 2 and 1881b, 509 and 1882, 91, 103; Степанов 1882, 89, 91. These two independent proposals were made almost simultaneously. The Veshnyakov Commission held its first meeting in April 1879; at this meeting, the Secretary of the Technical Society F.N. Lvov introduced the proposal made by Stepanov, who was an engineer, for amending the privilege statute. Stepanov's proposal had been completed one week after the address given by Salov at the meeting of the Society.

sion the regulation did not work in practice, but merely made the position and work of inventors even more difficult.[1] Government intervention for the sake of the common good might be possible on the basis of special laws, if the inventor did not take steps for the working of his invention and refused to transfer the rights to those who were willing to do so, at a reasonable price. This principle of 'compulsory transfer' the Commission would have been prepared to apply only when this was necessary for the common good of the state.[2]

The primary interests of the Commission became evident in connection with the importation of privileged products. The Society was prepared to allow the privilege-holder the right to freely import his invention; if importation were prohibited, the inventor could simply grant the sales rights of a product patented in Russia to a third person, thus bypassing the prohibition.[3] The revocation of the compulsory working requirement, and the attitude adopted by the Commission towards the importation of a privileged product, were signs of the Society's liberal attitude towards inventions and inventors.

On the other hand, the Commission did not favor the taking out of an invention privilege for purely speculative motives; for this reason, it proposed the abolition of privileges for imported inventions. These were viewed as a survival of an old practice, which might attract speculators to apply for privileges in Russia. In the view of the Commission, this form of privilege had nothing to do with the protection of the rights of inventors; the importation privilege did not protect the fruit of the inventor's intellectual labor, but the importing of a foreign invention thus far unknown in Russia. In such cases, it was difficult to justify the possible profit derived by the inventor from the monopoly position conferred by the privilege.[4]

One part of the current statute which had led to serious problems in practice was the section according to which an invention was considered to be generally known if other similar applications were filed while the application was being dealt with. Such cases, according to Alisov, should normally be decided in favor of the first applicant. The Commission was unanimous as to the need to speed up the processing of applications, although V.I. Rebikov warned of the dangers of excessive speed, which could be just as detrimental to the inventor's interests as the earlier slowness. A privilege could be granted quickly for an unimportant toy; but in the case of inventions which might significantly affect future industrial development, caution was essential.[5]

The Commercial-Industrial Congress adopted unanimously the resolution drawn up by its chairman, according to which the amendments proposed by Alisov to the

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1 Алисов 1883, 364–5 (372–3); Салов 1877, 11.

2 Каупе 1882b, 19 20.

3 Голос 20.1.1882 no. 15. The excerpt from the minutes of the meeting of the Commission of the Technical Society, published in this newspaper, shows that the Society had sharply rejected the idea of the regulation adopted in France, according to which the importation of even a single product patented in France led automatically to the revoking of the patent. *Ibid.*

4 Алисов 1883, 369.

5 Алисов 1883, 367, 369 (377), 375 (383).

invention privilege legislation were consistent with the state of Russian industry, and fulfilled the interests of both society and the individual inventor. The Congress wanted reductions in privilege fees and the introduction of progressive annual payments, the quicker processing of applications, the establishment of special courts and the extension of the term of privileges. The resolution was submitted to the joint session of the twelve sections of the Congress, which gave its final approval. The Congress did not pass a resolution concerning the submission of the matter to the Minister of Finance, since the work of the Commission of the Technical Society was still incomplete.[1]

At the core of the Technical Society's proposal was the idea that the protection of the inventor's property rights, and its further development, was one of the cornerstones of industrialization. Russian inventors, according to Kaupe, were paralyzed by their lack of confidence in the equity of the patent system; Russian technical journals thus had to lean almost exclusively on foreign inventions. Kaupe in fact doubted whether the necessity and usefulness of protecting inventors' rights was understood at all in Russia.[2] Kaupe and Veshnyakov had of course stressed that even a good system of legislation alone would not automatically lead to more rapid industrial development. What was involved was a much wider whole, including cultural factors, which would have to be taken into account in planning industrial policy. At the time, Russia lacked unconditional respect for the property rights of inventors; she also lacked active entrepreneurs, interested in new technology.

In order to gain a full understanding of the basic features of the economic behavior of the Russian business world and the Russian businessman, it is essential to keep in mind the role of the 'estate' system in Russian society. The rights and obligations of the urban population were defined in terms of their social position; here wealth and occupation meant more than origin. In practice only a small proportion of those engaged in trade (торговец/trader) belonged to the merchant estate (купечество) in the strictly legal sense. This estate, on the other hand, included the most varied assortment of merchants, manufacturers and financiers.[3]

Membership in the merchant estate was particularly desirable because it meant release from the poll-tax, from military service and from corporal punishment; this

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1 Третье соединенное заседание всех отделений съезда гг. членов императорского Русского технического общества в Москве 7.9.1882г., 1883, 550; Торжественное закрытие съезда гг. членов императорского Русского технического общества в Москве 14.9.1882г., 1883, 575.

2 Каупе 1882a, 16; Also see Козлов 1898, 93–137. Some of the foreign technical publications Kaupe mentions by name are *Scientific American*, *American Artizan*, *Engineer*, *Engineering*, *Mechanics Magazine* and *Génie industriel*. Kaupe justified the importance of protecting inventors' rights by referring to the examples of Switzerland and Holland. The lack of a patent institution in these countries was generally considered to account for the small number of inventions made there. The rate of inventions was highest, according to Kaupe, in those countries where the rights of inventors were carefully protected. Thus the interests of society at large also favored the protection of inventors. Каупе 1882a, 16–17.

3 Owen 1981, 2 3; Ruckman 1984, xi. After the guild reform of 1824 the merchant guilds began to include members of the nobility, who now no longer had to give up their noble status in order to belong to a guild. The reform also opened up membership in the merchant guilds to peasants. Rieber 1982, 32, 78 9, 136.

freedom pertained to all members of the merchant's family. The guild reform of 1863[1] brought full-scale merchant rights within the scope of any Russian citizen or even foreigner who possessed the necessary capital.[2] The social status of the merchant and his entire family depended on his possessing sufficient funds to purchase the guild certificate each year. A poor business year might entail a social drop to the estate of the 'petite bourgeoisie' (мещанство), unless for instance he sold off some of his property to obtain liquid funds for the certificate. The merchant who wished to safeguard his uncertain social position had two alternatives; to rise to the nobility or to struggle within the merchant class for sufficient wealth and influence to achieve the status of 'honorary citizen' (почтенный гражданин). The purpose of the title was to restrain the 'rank mania' of wealthy merchants and their efforts to enter the nobility. This category of the bourgeoisie ensured an economic security for a few leading merchants and manufacturers, who were freed for life from the necessity of the annual renewal of guild certificates, as well as a hereditary freedom from military service, corporal punishment and the poll tax. The merchant estate long preserved its traditional character, in spite of some degree of social mobility. Those members of the nobility who did belong to the guilds did not have any effect on merchants' attitudes, since they did not perceive their membership as a sign of higher status.[3]

The majority of the merchants and tradesmen often took a rather distrustful view of Western secular culture; their activity was based not so much on a rational understanding of world markets as on intuition and on the support of loyal family and friends. The Russian merchant, furthermore, did not perceive the importance of a satisfied clientele; this had been noted, with regret, by the first Commercial-Industrial Congress. Commercial activity was governed by a 'bazaar mentality', which aimed above all at selling as quickly as possible to chance customers. According to Rieber, this 'bazaar mentality' was especially dominant among the small traders belonging

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1 Under the Statute of 1863 "положения о пошлинах за право торговли и других промыслов" (with some additions in 1865), the former first and second guild were combined in the new first guild; the former third was replaced by the second. Membership in the first guild required a reported capital of at least 15 000 rubles, that in the second guild 5000 to 7000 rubles. In addition to these requirements concerning wealth, gaining and retaining membership required the obtaining and annual renewal of a guild certificate (up to 1865 a patent). After the reform, the prices of guild certificates fell to less than half of their pre-1862 level. A merchant in the first guild paid 265 rubles annually for his certificate (instead of the former 600 rubles), and had the right to carry on wholesale trade in Russian and foreign goods. A merchant in the second guild paid 25-65 rubles in place of the earlier 150-300; he had the right to carry on retail trade and manufacturing. In addition to the certificate, the merchant had to purchase a first- or second-guild ticket (билет) for an individual commercial or industrial enterprise. Under the new statute the bulk of small traders was excluded from the guilds, but every year they nevertheless had to buy the cheapest-class patent (8-20 rubles) in order to be able to carry on business activity. Under the next guild reform in 1880, the prices of certificates rose by almost fifty percent. Шепелев 1981, 96 100; Rieber 1982, 85.

2 Шепелев 1981, 96 9; Owen 1981, 3–4, 240–1 and 1991, 60–3; Rieber 1982, 13, 85, 90.

3 Гиндин 1963, 75; Лаверычев 1974, 64–5, 67; Шепелев 1981, 96–9; Owen 1981, 5 and 1991, 60–3; Rieber 1982, 31–7, 78 9, 85–90; Ruckman 1984, 31–3, 36–7.

to the third guild, who succeeded in blackening the reputation of the entire estate.[1]

A minority of businessmen were those who were interested in the development of production technology and who travelled outside Russia. These individuals placed a higher value on academic education — the gymnasium and the university — than on formal commercial or other practical training,[2] since education could offer a path towards upward social mobility, leading in a few cases to a personal grant of nobility. The business interests of this group often included wholesale and foreign trade, light industry and commercial banking. The small group which was best adapted to the demands of modern capitalism consisted chiefly of Moscow merchants, bankers and manufacturers. These men had taken advantage of modern production technology and business methods; they had also founded technical schools and museums. When universal military service was instituted in 1874, the interest of the sons of merchants in higher education was further increased, since it offered some privileges with respect to military service.[3]

Inventors and progressive entrepreneurs found themselves constantly colliding with older, culturally determined models of economic activity. These older models hindered for instance the introduction of new technology in Russia, the spreading of commercial and technical education and the adoption of the corporate model. Even in those cases where the family business was reorganized as a joint-stock company, the new firm often remained under the sole control of the family since almost all shares were held by family members.[4] While the joint-stock model became increasingly popular at the turn of the century, leading Moscow businessmen were unable to overcome their skeptical attitude towards this new form, which operated by means of bank capital, whose shares were widely distributed in ownership and whose management was conducted by professionals. The amazing persistence of the family-business tradition in Russia has been accounted for, in addition to bureaucratic and legal restrictions, by various cultural models of behavior. In Klyuchevsky's view, the

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1 Стенографический отчет заседаний 5-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 5.6.1870, 1872, 26; Гиндин 1963, 65–6; Owen 1991, xi, 2, 126 7, 219; Rieber 1982, 12, 24–6, 113, 418–19; Ruckman 1984, 53–4, 60.

2 By 1896 there were a total of ten commercial colleges (коммерческое училище) in Russia, the oldest of which were located in St. Petersburg and Moscow (С.-Петербургское коммерческое училище, founded in 1772 and the Московское коммерческое училище, founded in 1804). In addition, some degree of commercial training was also given in the commercial sections of the 'modern' or 'real' schools. Such education, however, suffered constantly from a lack of trained teachers. The only school which enjoyed some prestige among the merchants was the Moscow Commercial School. The school produced some 25–27 graduates annually, a majority of whom were the orphaned sons of merchants and the small bourgeoisie. Successful merchants did not send their sons to the school. Дерюжинский (1900) 1969, 494–6; Rieber 1982, 36, 124–5.

3 Лаверычев 1974, 76; Шепелев 1981, 97–8; Owen 1983, 65–6; Rieber 1982, 419–20; Ruckman 1984, 77–82, 128–9, 159–61.

4 A great majority of the powerful Moscow business dynasties were reorganized towards the end of the 19th century on a joint-stock model by distributing the shares of the new company among the family members. In 1887, for instance, the Ryabushinsky family firm was reorganized as a joint-stock company, with one thousand shares at 2000 marks each; of these, 787 were held by P.M. Ryabushinsky and 200 by his wife. The other thirteen shares were soon sold by their owners to the sons of the Ryabushinsky family. Ruckman 1984, 53.

only possible form of collective economic activity was the 'trading firm' (торговый дом), based on family ties, because of the low level of mutual trust prevailing in society at large.[1]

This general atmosphere of distrust, and the remoteness of business ethics from the traditional Christian virtues, was also deplored by businessmen themselves. In the early 1860's, F.V. Chizhov vividly described two entrepreneurs, N.I. Putilov and V.A. Kokorev, with whom he was closely acquainted: "For both of them, any means of achieving their ends were permitted . . . in a word, neither one had any moral sense at all . . . one could not trust the word of either one worth a single kopek." A similar profound comtempt is reflected in the diary entry by P.P. Shipanov, an Old Believer, towards the end of 1886: "I see around myself not ideals, in only the rarest instances even mediocrity . . . the Silins, Shestakovs, Bol'shakovs are pitiable . . . one, forgetting conscience and shame, tries to gain as much money as possible without understanding that he is driving others to destitution . . . another is a thief."[2]

The accusations leveled at Russian businessmen in connection with the reform of the invention privilege laws were certainly not unfounded; such deep-rooted attitudes presented considerable obstacles to the adoption of new technology and a modern business ethic. Where, asked the unfortunate inventor Bulygin, was the Russian inventor's way out of the general lack of education and civilization, and the Russian official's love for his bureaucratic routine? What was lacking in Russia was not inventiveness, not great ideas, but a spirit of enterprise which would start Russian capital moving. Bulygin's devout wish was to see a change in the general attitude towards inventors, which perceived them either as an enemy trying to steal state property, or merely as an irritating nuisance.[3]

The idea of the inventor as a threat to tradition and to the established social order is an interesting one. This notion, presented by an unfortunate inventor, is consistent with the general view suggested by Morison, according to which inventions are perceived as socially harmful or frightening. Morison suggests that inventions may have meant a threat to the status quo and a way of disturbing comfortable bourgeois routine. The rapid changes in science and technology do not merely turn normal ways

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1 Ключевский 1956, 27–8; Owen 1981, 151; Ruckman 1984, 53–5, 60. There were two types of such firms: the 'full partnership' (полное товарищество) and the 'limited partnership' (товарищество на вере). In both, the partner was responsible for the firm's debts with all his property. There were also two types of shareholding, limited-responsibility companies: the 'joint-stock company' (акционерное общество or акционерная компания) and the 'share partnership' (товарищество на паях or товарищество по участкам). The terms акционерное общество, акционерная компания and акция, were derived from the French expressions *société*, *compagnie* ('company') and *action* ('share'), either by translation (общество for *société*) or by direct loan (компания for *compagnie*, акция for *action*). The Russian word товарищество, derived from the Old Russian term for 'partner' or 'comrade', has fairly intimate connotations. The term паи is a Tatar loanword. In cultural terms, there is a relatively clear distinction in forms of company between St. Petersburg and Moscow: in the former the "общества" were dominant, in the latter the "товарищества". Here the number of shares was few and they were expensive. Owen 1983, 67–70 and 1991, 12–13.

2 Both cited in Лаверычев 1974, 74, 84. This attitude is deeply rooted in the Russian folk tradition, in which traders and merchants were frequently compared to thieves. One example of the many such proverbs is "Кто торгует, тот ворует" ("Trader - robber").

3 Булыгин 1898, 27–8.

of life upside down, but also have a profound effect on the psychological structure of the time. According to Lotman, major scientific and technological innovations often also involve a semiotic revolution, bringing about a fundamental change in the entire sociocultural system. For instance the effect of new forms of transportation and communication on the concept of space. Technological development demands above all a tolerance for that which is eccentric and unconventional, a readiness to accept new ideas. Periods of religious and intellectual intolerance in European history have often also meant a slowing down of technological development. In Jacob's view, England has been fortunate, compared to continental Europe, in that English Enlightenment philosophers did not generally have to face a powerful antagonism towards innovations, or an educational system in the hands of the Church and outside control. The representatives of the new English science were thus able to stress the close relationship between scientific knowledge and its industrial applications.[1]

Russian law contained numerous discriminatory statutes, based on religion or nationality; these hampered the activity of inventors and entrepreneurs. Jews and Old Believers were prohibited altogether from entering certain occupations and professions. Russian society was not particularly tolerant of nonconformists, as was also evident in the case of inventors. Inventors were often quite unconventional individuals, who might in one way or another defy the social status quo. The history of technology makes it difficult to avoid the conclusion that every invention is born in a way into a hostile environment, in which only the most fortunate survive. The technological system, like all cultural systems, has a built-in mechanism for resisting change and preventing the system from degenerating into disorder. Only a small minority of new technical ideas are actually viable, but only experiment can in fact show whether the idea is viable or not. The difference between the Russian and the English cultural environment is revealed by the fact that the problems of the Russian inventor began with the difficulty of arousing manufacturers' interest, while those of his English counterpart were more often related to the protection of his exclusive property rights. The growing number of patents in England had also led to increased pressure towards making inventions which would help in circumventing existing patents without breaking the law.[2]

What the Technical Society wanted for Russia was a body of legislation which would serve the interests of inventors in a rational and effective manner, thus encouraging Russian invention activity. A working system of invention privileges — of patents — was considered to be a necessary if not a sufficient condition for industrialization. The significance of privileges for the development of new inventions was seen as self-evident. An industrializing Russia could not go on relying on foreign technology; she had to begin as quickly as possible to construct an industry based on domestic inventions. Such an industry could not go on merely copying foreign products.

The central idea of the Technical Society's proposal conflicted clearly with many

1 Лотман 1988, 111–13; Jacob 1988, 138-40; Mokyr 1990, 182–3; Morison 1966, 9.

2 Blackwell 1968, 228, 230, 236–7; Mokyr 1990, 182–3, 248 9 and 1992, 326–32; Owen 1991, 125; Rieber 1991, 352; Thompson 1973, 109.

of the traditional values of the Russian entrepreneurial culture. In the world of most Russian manufacturers, there was no space either for inventors or for invention privileges. Some of those manufacturers who understood at least to some extent the importance of privileges actually took a negative view of the idea of improving the protection of inventors' property rights. The assimilation of the invention privilege system was hampered by the various informal constraints which helped to shape Russian business activity. The privilege system may also have lost some of its importance in the eyes of manufacturers as a sign of 'favor', along with other forms of state encouragement for business. In any case, the institution of invention privileges quite evidently did not play a particularly important or independent role for Russian manufacturers.

4. Reasons for the lack of progress of the Commission's proposals under Bunge and Vyshnegradskii

In 1882 the Executive Committee, headed by Veshnyakov, evidently entrusted the final textual revision of the statute proposal to Kaupe, along with the writing of the commentary. The work, however, became protracted, and the next information concerning the progress of the work of the Commission itself dates from the beginning of 1888, when the Technical Society discussed the sending of a memorandum to the Ministry of Finance to urge the faster processing of invention privilege applications. In practice this meant seeking the retroactive approval of the Council of the Society; the memorandum had already been sent by the President of the Society to the Minister of Finance. No unanimous approval, however, was forthcoming. Nebolsin would have considered it much more sensible to put pressure on Kaupe to complete the final version of the Society's proposal, after which the Commission could have started drafting its proposal for the organization of the office for invention privilege affairs.[1]

Kaupe may have been prevented from finishing the job, as Belov claimed, by pressure of work and by his poor health, although no comment or other indication of his poor health has been found in other sources. No detailed information is available as to the commissions received by Kaupe's agency, but judging from the invention privileges granted in Russia alone Kaupe's agency accounted for a considerable share of commissions leading to the granting of a privilege. No distinct 'peaks', on the other hand, are observable in the volume either of applications or of privileges during 1882-90. With regard to commissions from Russian inventors for patent applications outside Russia, no information is available except for the comment by the Technical Society concerning the increased interest among Russian inventors in patenting their inventions abroad. The same argument was used by the Society in 1888 to justify

1 Letter from President of Imperial Russian Technical Society P.F. Kochubei to Finance Minister Vyshnegradskii 25.1.1888 "О мерах к улучшению делопроизводства о выдаче привилегий" РГИА f. 20, op. 15, d. 791, 3–4; Session of the Council of the Imperial Russian Technical Society 24.2.1888 РГИА f. 90, op. 1, d. 137, 14, 20–1.

their addressing the Minister of Finance to urge the speedy implementation of a partial reform of the invention privilege legislation.[1]

There may also have been other factors underlying the delay, since the Technical Society decided to recommend to the Minister of Finance the carrying out of the partial reform even though the drafting of the new statute was still incomplete. The importance of the matter to the Society cannot be doubted; the delay thus seems all the more inexplicable. Both the Technical Society and the government were also aware of the obsolete nature of the existing legislation.[2] Causes of the delay stemming from outside the Society are presumably related to the Ministry of Finance and the general state of the Russian economy.

After the Berlin conference, the long-term Finance Minister Reutern was finally allowed to resign; he did not, however, drop out of the sphere of economic policy-making altogether, continuing to act as Chairman of the Committee of Ministers during 1881–86. The appointment in 1878 as Reutern's follower of A.S. Greigh, representative of an old Scottish noble family, turned out to be an unfortunate choice. Following him, there were two evenly balanced candidates for the position: the economist N.H. Bunge[3] and A.A. Abaza, owner of a large estate and sugar manufacturer in southern Russia. It was evidently the activity of M.T. Loris-Melikov, leader of the liberal tendency among the highest officialdom, which turned the choice decisively in Abaza's favor; he was appointed in 1880. After the assassination of Alexander II in 1881, Abaza had to resign as Minister of Finance, but he continued to hold a highly influential position as Director of the Department of State Economy from 1884 to 1892. Abaza was followed as Minister by Bunge, who held the position up to 1887.[4]

The Technical Society might have been expected to turn to Bunge with its proposal; his appointment had been greeted with optimism, and he was expected to bring about a rapid improvement in the state of the economy. In the early 1880's, economic conditions had deteriorated rapidly; struggling with both an industrial and an agricultural crisis, Russia's international credit standing had dropped.The change in the political atmosphere, and the consequently weakened position of the supporters of a liberal economic policy, meant that Bunge would have greater difficulty in carrying through the proposed economic reforms. Opposed to Bunge was the plan for

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1 Letter from President of Imperial Russian Technical Society P.F. Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 1–4; Session of Council of Imperial Russian Technical Society 24.2.1888 РГИА f. 90, op. 1, d. 137, 20–1; Белов 1895, 55–6. The growth in the number of applications during the 1880's was by no means exceptionally high. During 1885–89, an average of 612 applications was filed annually. Лукьянов 1948, 486.

2 Letter from P.F. Kochubei, President of the Imperial Russian Technical Society, to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 1–4; Белов 1895, 55–6.

3 N.H. Bunge had a high reputation as an economist and academic, with a profound knowledge of his field; he had acted for thirty years as Professor of economics and financial law. Погребинский 1960, 130; Степанов 1991, 122, 126; Шепелев 1971, 242 and 1981, 135–7.

4 Степанов 1991, 126–7; Шепелев 1981, 76, 78–80, 135–6, 149; Amburger 1966, 125, 208. Abaza's support for the legislative reform was of the utmost importance, due to his great authority among the highest officials and at court. Витте 1960, vol. 1, 231; Степанов 1991, 126; Шепелев 1981, 78–80, 135–6, 149.

the development of the national economy; the advocates of this plan demanded with increasing stridency the introduction of high customs barriers and opposed the fiscal reform. The basic ideas of the 'national economy' were shared by influential individuals close to Alexander III, such as Chief Procurator of the Synod K.P. Pobedonostsev and Minister of Internal Affairs D.A. Tolstoi.[1]

For the ideological supporters of the 'national economy', Bunge was too liberal, even though his enthusiasm for an extreme liberal stance in economic policy had been somewhat diluted in the late 1860's.[2] Economic facts, such as the backwardness of the Russian economy, the restrictedness of the domestic market and poor transportation facilities, necessitated state intervention in economic affairs and the creation of a tariff wall for the protection of young and poorly developed branches of industry. Despite his concessions to the policy of the 'national economy', Bunge continued to see private enterprise as the energizing force in economic development; a dominant role of the state in industry would create a foundation for unlimited administrative arbitrariness in the pricing of products. Bunge was prepared to accept direct state intervention and subsidies for business only under exceptional circumstances.[3]

The reform of the patent legislation would have been consistent with the program proposed by Bunge in the 1860's for the improvement of the general conditions of trade and industry; it would also have fitted in with the Finance Minister's plans for the revision of the obsolete laws regulating commerce and industry. Russian business legislation, according to the Minister, was almost half a century behind Western European legislation. This did not necessarily mean that Bunge's planned reforms would have liberated entrepreneurs from close government control down to the most minor details. Reutern's warnings in his 'financial testament', and the deepened distrust felt towards business circles among the highest bureaucracy following the difficult Stock Exchange crisis in the 1870's, were still in fresh memory. Due to the general economic backwardness, the development of industry necessitated the continuation of state subsidies and a legislation designed to prevent economic abuses and speculation.[4]

It should be noted, however, that despite his admirable plans, Bunge's actual achievements during his term as Minister were fairly meager; this has been accounted

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1 Ковалевский (1919) 1991, 36; Ананьич 1984, 32, 71 2; Зайончковский 1970, 88–9; Степанов 1991, 126; Шепелев 1981, 143.

2 The views of historians with regard to the liberalism of Bunge's plans and of his actual measures have varied widely. Soviet historiography during the 1950's and 60's stressed the bourgeois character of Bunge's reforms and contradicted the liberalism perceived in them by pre-Revolutionary historians. Bunge was seen as conservative and reactionary, a faithful friend of the autocratic ruler and the nobility. In the historical writing of the next fifteen years, Bunge was seen as a 'bourgeois reformer', who, however, was unable to completely accept the general political stance of the government. His political views were seen as alien to the arch-conservative government of Alexander III. In Western historiography, Bunge is seen as an important reformer. Ананьич 1984, 31–2; Гиндин 1960, 56–7; Зайончковский 1970, 88, 91; Погребинский 1960, 130; Степанов 1991, 121; Шепелев 1981, 137–42; Von Laue 1963, 4–5, 19–23; Hildermeier 1983, 116–17.

3 Бунге (1880) 1960, 134, 136; Гиндин 1960, 56–9, 61; Зайончковский 1970, 88–91; Степанов 1991, 125; Шепелев 1971, 243 and 1981, 138–42, 146 7; Anan'ich 1983, 129–31.

4 Бунге (1880) 1960, 134, 136 and 1886, 13, 19, 45; Гиндин 1960, 60 1; Степанов 1991, 124–5; Шепелев 1981, 140, 142–3.

for at least in part by his 'soft' personality. He was unable to fight with sufficient force on behalf of his ideas against the highest bureaucracy. In practice, since individual norms and regulations were closely tied to the legal system as a whole, the reform of business legislation would have led ultimately to a change in the entire system. Bunge was unable to achieve even the reform of the law controlling corporations, considered so vital for general legislative reform and to the entire plan for the development of industry.[1]

A similar lack of decisiveness is also apparent in the reform of the patent laws. In the autumn of 1883 the government had heard the Technical Society in respect to Russia's possible joining the recently created international convention for the protection of industrial property, the so-called Paris Convention. The Convention was based on the principle of equal rights for foreigners and the country's own citizens; the inventor was entitled to half a year's priority for his invention.[2] The Executive Committee which dealt with the legislative reform decided unanimously, after seeing the text of the Paris Convention, that joining would be advantageous for Russia. This decision was reported, via the Department of Trade and Manufactures, to the Minister of Finance, but it did not lead to any concrete steps.[3] Russia, along with Germany, remained outside the Convention, which had been signed by eleven other countries.[4]

Bunge's free-trade ideas also had to give way to the protectionist demands of the 'national economy' program. During his not quite six years as Minister of Finance, three broad increases in import tariffs were introduced. In the case of some commodity categories, tariffs were raised during the 1880's almost every year. The first major increase was in 1882, at which time the number of commodities which could be imported free of duty was also reduced considerably. There were sizeable increases during 1884–86 in the duties on coal, iron industry products and machinery.[5]

There was nothing strange about these frequent increases in import tariffs; during the 1880's many European governments, faced with an economic depression, were following a more protectionist economic policy, similar to that adopted by Russia at the end of the 1870's. Germany, which had achieved some sort of leadership in European trade policy, had raised her import tariffs in 1879. Agricultural protection-

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1 Степанов 1991, 125, 127, 129; Шепелев 1971, 242 and 1981, 136–7, 142–3, 149–50; Anan'ich 1983, 130. Among Bunge's achievements in improving the conditions of business life, the most important are probably the abolishment of the poll tax, the initiation of factory laws, the reform of taxation on trade and industry and the establishment of an Inspection Office (фабрично-заводская инспекция) to oversee the fulfillment of regulations. Ковалевский (1919) 1991, 35–6; Степанов 1991, 128; Шепелев 1981, 171–4, 188–90; Bowman 1993, *passim*.

2 Казанский 1897, 34–5, 73–5; Остеррит 1910, 456; Penrose 1951, 56. The half year's priority meant that an inventor in a country which belonged to the convention had the right during six months to apply for a patent in all those member nations in which he wished to do so.

3 Журнал заседания Совета императорского Русского технического общества 6.9.1883г., 1883, 407 and 24.9.1883г., 1883, 414 and 23.11.1883г., 1883, 447.

4 Казанский 1897, 34–5, 73–5; Остеррит 1910, 456; Penrose 1951, 58–9.

5 Proposal of the Minister of Finance to the State Council 23.3.1891 "Об общем пересмотре таможенного тарифа" РГИА f. 20, op. 15, d. 398, 2; Отчет по Государственному совету за 1891г., 1892, 234–7; Торгово-промышленные съезды в России 1896, 24, 27; Соболев 1911, 431–4, 471–2, 477–9, 488, 575–6, 584–6; Хромов 1950, 268; Шепелев 1981, 166.

ism was an obvious feature in the customs tariffs of 1885 and 1887; the tariff rates on industrial goods remained relatively low. Underlying the customs increases were also motives purely of fiscal policy. France raised her tariff barrier against agricultural products in 1885 and again two years later. Austria-Hungary adopted a protectionist policy with her tariffs of 1882 and 1887, Italy in 1887. The new European trend aimed at increased economic self-sufficiency and security. Commercial policy took second place to the needs of diplomacy and power politics. Great Britain continued to follow a policy of free trade, along with certain European small states which restricted themselves to moderate, chiefly fiscally motivated import tariffs on industrial products.[1]

The return to protectionism in continental Europe has often been seen as linked with the upsetting of the balance in European trade policy; this in turn was a consequence of the uniting of Germany and her rapid economic growth, along with the development of the world market in agricultural products. The rise of nationalism also made it easier to accept a protectionist policy and the goal of a self-sufficiency economy. The penetration of the European market by transatlantic grain and meat 'softened up' the large European agricultural producers, already disappointed in the slow growth of the British market, and made them more receptive to a protectionist policy. In the coalition between farmers and manufacturers, the interests of the former had greater weight, since in the final analysis European industry had not suffered very seriously from the absence of a tariff barrier.[2]

In the literature, the view has been widely accepted of a prolonged economic regression in Russia in the 1880's, spreading rapidly from heavy industry into all branches of manufacturing.[3] No such regression, however, is apparent in the patent statistics. The numbers of applications both submitted and granted grew steadily throughout the 1870's and 1880's, even though in relative terms this increase was not particularly sharp. In Western Europe, on the other hand, during periods of economic crisis and downturn the numbers of patents did not increase, but fell or at best remained steady. The explanation which has been suggested for this is that the development of patenting is linked with economic conditions, since a patent always involves the holder's expectation of profit.[4]

During the early 1880's, the annual figures for invention privileges remained around a level of 165 to 188; by the end of the decade, however, they had risen as high as 265. The number of applications increased similarly, although more moderately than in the 1870's. One very likely explanation has to do with the government's economic policy, which during the severe over-production crisis aimed at sustaining the confidence of manufacturers despite the fall in prices by continuing to purchase goods and storing them. On the other hand, the claims of the 'great depression' in Russia may have been equally exaggerated as in the case of Western

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1 Bairoch 1989, 52, 58–68; Condliffe 1951, 228–33; Pollard 1981, 254, 257–9.

2 Bairoch 1989, 53; Condliffe 1951, 229, 232–3; Pollard 1981, 260.

3 Гиндин 1959a, 71, 73–4; Лященко 1956, 109–11; Хромов 1950, 215–16; Шепелев 1981, 70–1, 134–5; Geyer 1987, 45; Portal 1966, 814, 821–3.

4 Griliches 1990, 1663; Khan and Sokoloff 1993, 291–2.

Europe. With the exception of rails, figures for heavy industry continued to grow relatively steadily throughout the 1870's and 80's.[1] A new category in the patent lists from the beginning of the 1880's consists of inventions related to electric lighting. At roughly the same time, the first privileges relating to the oil industry were also granted.[2]

The frequent increases in import tariffs, and the positive balance of foreign trade from 1884 onward, did not rescue Bunge from growing criticism. He had to pay quite a high price for the support of Abaza, chief of the Department of State Economy; this support was essential in order to bring about legislative reform. In connection with the reform of the poll tax, Bunge obtained Abaza's support by promising the latter — who was a sugar manufacturer — a system of production norms which would maintain the existing price level for sugar.[3] The government maintained an artificial level of demand particularly in heavy industry, even though the state's own railroad construction had fallen drastically. The poor condition of the state finances forced Bunge to categorically forbid any exceeding of their budget by government offices; this led to the further deterioration of relationships between the Ministry of Finance and other ministries.[4]

The condition of the state finances was not likely to stimulate activity towards legislative reform, whether in the question of patents or any other, not to mention the advancement of technical education. The legislative principles presented at the Commercial-Industrial Congress of the Technical Society were based on a liberalistic economic policy and were favorable to inventors. The proclamation issued in the name of the Society, with regard to joining in the Paris Convention, had been unreservedly positive. The Society evidently was in no hurry to present its legislative proposal. Its views would have fitted in quite well with the economic ideals of the Minister of Finance, but only poorly with the views of conservative bureaucrats.

The opposition to Bunge was led by the conservative Katkov, whose purpose was

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1 Compare production figures for Russian heavy industry and agricultural exports in the following works: Гливиц 1911, 7–8 Table 5, 10–11 Table 6, 16–17 Table 10, 18 Table 11; Хромов 1950, 452 Table 4; Mitchell 1978, 165 C7, 188 D2, 218 D7.

2 Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 339. A Russian privilege for Ludvig Nobel's invention related to oil distillation, for instance, was granted in 1882. In 1886, the Nobel brothers were granted a ten-year privilege in Russia for their continuous distillation system for treating crude oil and kerosine, invented in 1883; the invention is included in Schmookler's list of significant inventions in the oil-refining industry. Altogether five of the inventions listed by Schmookler for the years 1870–89 were made in Russia. Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 278; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1884 по 1887 год, 1888, 55; Schmookler 1966, 295–6.

3 Ковалевский (1919) 1991, 35–6; Погребинский 1960, 130–1; Степанов 1991, 126–7; Шепелев 1981, 149.

4 Бунге (1884) 1960, 143–4; Соловьева 1975, 219–20.

to replace Bunge — who was of German origin — by the Russian Vyshnegradskii.[1] With the growing opposition, further exacerbated by industrial circles, Bunge yielded his place to Vyshnegradskii.[2] Due evidently in part to pressure from these same circles, an increasingly protectionist attitude was adopted in Russian economic policy. Under Vyshnegradskii, import tariffs were raised on such commodities as iron ore, pig-iron, iron, steel and steel products, coal, machinery and locomotives. The interests of nationalists and industrialists coincided in the matter of import tariffs, and during the 1880's a protectionist policy received increased support from the government and from Pan-Slavist circles.[3]

There are various possible explanations for the fact that the Technical Society turned to Vyshnegradskii with their demands for partial reform. Because of the delay in the completion of the draft proposal by the Commission on Invention Privileges, it could not be submitted to Vyshnegradskii's predecessor Bunge, who might have been expected to take a positive attitude in the matter of patent legislation and its reform. According to estimates by Nebolsin and Alisov during 1881-82, the preparation process was almost complete and the document would soon be available to the government for consideration. It was clear that the matter was being delayed by the Society, probably because of Bunge's weakened position. It was presumably considered that the new power policies and configurations which were then emerging might endanger the acceptance of the proposal. The partial reform of 1888 included links between invention privileges and the economy, and the rationale adduced in support of the reform was based primarily on the need to develop Russian industry.

The partial reform proposed by the Technical Society in 1888 may have been of an exploratory nature, to ascertain the attitude of the Ministry of Finance in the matter of patent reform under the new Minister. An overall reform was still lacking, although the need for fundamental changes was realized by the end of the 1870's even in government circles. The Commission's work, according to Kochubei, would have been completed quite soon; the Society nevertheless considered it advisable to intervene in the most serious evils of the system immediately, since there would probably be a long interval between the completion of the draft proposal and the enactment of the actual new statute.[4] Judging from this somewhat contradictory statement and from the doubts expressed by Nebolsin in the Society's Council in 1888, the Society's proposals assumed an entirely different way of thinking than that prevalent up to then. Such a change required time; time, however, was what inventors were lacking.

One of the evils of the system most sorely needing remedy was the slowness with

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1 I.A. Vyshnegradskii (1831–1895) acted as Professor and Director of the St. Petersburg Technological Institute. He had also written several textbooks of mechanics. Шепелев 1981, 151; Энциклопедический словарь 1892, vol. 7, 595–6.

2 Гиндин 1963, 74; Зайончковский 1970, 88 9, 142; Погребинский 1960, 130–1.

3 Соболев 1911, 491–2; Хромов 1950, 268; Шепелев 1981, 166–7; Шульце-Геверниц 1901, 216–17.

4 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 4; Session of Council of Imperial Russian Technical Society, 24.2.1888 РГИА f. 90, op. 1, d. 137, 21.

which patent applications were examined. The applicant often had to wait years for an answer. The statistics too show that processing times increased considerably during the 1880's, indicating the increasing accumulation of cases and the resulting bottleneck in processing in the Department of Trade and Manufactures. The standard deviation of the processing times also increased. The mean time of processing in 1880 had been 1.5 years; by 1884 it was more than two years and three months, in 1885 2.5 years and in 1886 more than three years. In one case, it had taken seven years to obtain an invention privilege.[1]

This tardiness in the processing of patent applications, according to the Society, held back industrial development and paralyzed the development of Russian technology. It was especially detrimental because no-one would invest in an invention the patenting of which was uncertain. In practice, the inventor was condemned to a position of inactivity up to the granting of the privilege, since it was only the privilege which was seen as some guarantee of the usefulness of the invention. The inventor might also lose his chance if another inventor bypassed him with another, more highly developed version of the idea.[2]

One example of the problems arising for inventors out of the unduly prolonged processing of applications is offered by the dispute between Shiller and Getler. Shiller had applied in 1889 for an invention privilege for a method of producing reinforced concrete; the processing of the application, however, took five years, during which time the invention became publicly known. When at last he obtained a privilege, Shiller found that his method was in common use. The dispute arose because Shiller's imitators claimed that they were using the invention of Monet, the patent for which had already lapsed. The dispute ended with Shiller's victory, but in the interim he had lost large sums of money.[3]

The inadequacy with which the inventor's rights were protected was concretely evident in cases where two or more applications were filed 'simultaneously'. Because of the peculiarity of Russian legislation, the inventor consciously took a serious risk if he began exploiting his invention before the privilege was granted, even if this was often essential in order to demonstrate the usefulness of the invention. The privilege might also be refused if some member of the Council of Trade and Manufactures had seen the invention in use in some factory or even offered for sale. The Council was not legally obligated to investigate whether this application or sales offer had

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1 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 1, 16–17; Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1881 nos. 1–6 and 1883, nos. 1–3; Свод привилегий выданных в России в 1885 году по Департаменту торговли и мануфактур, 1885. In 1884 a total of 201 privileges were granted; in 81 cases the time of processing had lasted over four years, in 42 cases more than three years and in 79 cases more than two years. In 1886, the total number of privileges granted was 203, of which one had taken more than seven years, one more than six years, five more than five years, 24 more than four years, 75 more than three years and 61 more than two years. РГИА f. 20, op. 15, d. 791, 16–17.

2 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 1–5.

3 Шиллер 1898, 5 20.

occurred before or after the filing of the application.[1]

There were also problems if the inventor was applying for a patent simultaneously in Russia and abroad. The foreign patent would probably be granted before the Russian privilege; in this connection, the invention would be made public, after which in principle any outside person could prevent the granting of a privilege in Russia by applying for it in his own name. In such cases, the invention was considered to be known, and no privilege was granted. With the growth in the number of Russian inventors applying for foreign patents, this outcome became increasingly common. In order to avoid such situations, the Technical Society considered it essential that a decision should be handed down within a few months after the time of the application.[2]

The inventor's legal rights during the processing of the application needed improvement in other respects as well. Problems had arisen due to the extensive opportunities for outsiders to interfere in the process by means of protests, up to the actual signing of the invention privilege. If the Council denied a privilege on the grounds of such a protest, the inventor could not appeal the decision, since protests were secret. In the view of the Society, a privilege should henceforth be granted in spite of protests, if no other obstacle existed, since anyone could apply for the revocation of the privilege even after it had been granted. In the case of either conditional or unconditional rejection of an application, the reasons for such rejection were to be stated in detail.[3]

A good example of a dispute between a Russian and a foreign applicant,involving a series of protests, is the case of M.I. Alisov and the Prussian inventor E. Harte in 1881. In 1875, Alisov, a member of the Technical Society's Commission for Invention Privileges, had invented a new way of producing copies of either handwritten or printed texts. He presented his invention in public at the Paris World Fair of 1878; in November of the same year, he applied for a ten-year Russian privilege for his invention, which was granted in June of the following year. In 1879, Alisov tried to patent his invention in Germany, but the application was denied because Hussak and Kvaiser had patented the same invention in Germany in April 1879.[4]

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1 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 5–9. The report commented that it was extremely difficult for an inventor to demonstrate in court that one of his closest colleagues had stolen his invention or transmitted information to someone else, who was attempting deliberately to infringe the original inventor's rights by filing an application in his own name. *Ibid.*

2 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 7–9.

3 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 9–11. The Technical Society drew attention to the practice prevailing in such countries as Great Britain, Germany, Norway and Sweden, where the public could participate in the examination of the new invention. Protests were not kept secret; the applicant was informed about them, so that he could present a defense. Protests were taken much more seriously abroad than in Russia, where the truthfulness of a protest did not have to be proven. *Ibid.*

4 Правительственный вестник 10.7.1881 no. 151 and 18.10.1881 no. 232 and 17.2.1882 no. 36 and 18.2.1882 no. 37; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 216. Hussak and Kvaiser had filed their application in August 1878.

Alisov had heard that in August 1879 Hussak and Kvaiser had also applied for a Russian privilege for their invention, and that they had immediately begun to market their invention, through their Russian agent, under the name of the 'hectogram'. The sale of the device in Russia had been placed in the hands of a firm by the name of 'Levitus', whose agent was E. Harte. Alisov sent a protest to the Department, claiming priority as inventor of the method, on the grounds that it had been unknown prior to his public trial of it at the Paris Exhibition. In practice, Alisov suspected Hussak and Kvaiser of copying his method at the Exhibition, since they had applied for their patent at the conclusion of the Exhibition (30.8.1878). The Council of Trade and Manufactures examined Alisov's protest and rejected the privilege application of Hussak and Kvaiser, since the device was found to be identical with that of Alisov. The rejection of the foreign application was further justified on the grounds that an application for the same method had also been filed by Ungern and Bazan.[1]

Alisov demanded that the court prohibit the sale of the hectogram by Harte, since it constituted an infringement of his privilege and caused him financial loss. The court did not investigate whether or not the invention in fact belonged to Alisov, although claims had been presented that the device had been in common use in Europe long before Alisov's application for a privilege. The defendant had also voiced his suspicions that in fact Alisov had actually copied the device from Kvaiser and Hussak. The St. Petersburg District Court handed down a decision prohibiting Harte from marketing the device of Hussak and Kvaiser, and ordered him to pay the plaintiff's legal costs as well as a penalty in rubles.[2]

The practice of granting of invention privileges without any accompanying 'inventory of novelty'[3] meant that the courts were often faced with an impossible task, and was disadvantageous both to the inventor himself and to society. To remedy this problem, the Technical Society demanded that for each privilege granted, the document should contain a detailed description of the invention and an analysis of what in it was new.[4] The full description, including plans, should be published immediately, rather than after a delay of several years as had been the case. The only forum which published inventions with all the relevant details was the journal of the

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1 Правительственный вестник 10.7.1881 no. 151 and 18.10.1881 no. 232 and 17.2.1882 no. 36 and 18.2.1882 no. 37.

2 Правительственный вестник 10.7.1881 no. 151 and 18.10.1881 no. 232 and 17.2.1882 no. 36 and 18.2.1882 no. 37. Alisov's agent Mazaraki denied the opposition's accusation of plagiarism, claiming that Alisov could not have known of Hussak's and Kvaiser's invention at the time of filing his own application, since the former's application had been submitted to the Austro-Hungarian government on 12.5.1878; the design had been submitted on 16.7.1878, but had been made public only on 7.3.1879. Правительственный вестник 18.2.1882 no. 37.

3 The 'inventory of novelty' referred to a list, attached to the document of the privilege, of the new features of the invention.

4 In the contention between Harte and Alisov, the dispute concerned in particular the extent of the privilege. The defendant claimed that Alisov had interpreted the privilege as a monopoly on all copying methods; he asked whether the copying of text or picture could be imagined without the ink and paper mentioned in the privilege document as forming part of Alisov's 'polygraph'. Правительственный вестник 17.2.1882 no. 36 and 18.2.1882 no. 37; Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, 216.

Society itself, and even here there was generally a time lag of one to two years. In practice, the publication of inventions took an unduly long time, since the processing of the application took two to three years and there was a further delay of a year or two before publication. The publication policy for instance of the *Senatskie vedomosti* with regard to invention privileges was quite arbitrary and random. For years the journal had not published a single patent. In general a new invention came to public knowledge only shortly before the lapse of the privilege. In practice, a person who infringed the inventor's patent rights only rarely had to pay compensation.[1]

In March 1888, the President of the Technical Society Kochubei requested the Director of the Department of Trade and Manufactures of the Ministry of Finance, A.B. Baehr, to present the Society's proposal to the Minister and to inform the Society of its reception. In January 1889, the Director of the Department informed the Technical Society that steps were already being taken by the Ministry to accelerate the processing of applications. On the other hand, with regard to the Society's demand for legislative changes, Baehr stated, as Nebolsin had anticipated, that such matters could be taken up only in connection with the overall reform.[2] A similar response had been given to the Burgesses of the Grand Duchy of Finland, who had introduced an initiative in 1888 for the revision of the patent laws, since a proposal was at the same time being debated in the Senate which was to be submitted to the following session of the Diet.[3]

The overall reform, however, was not implemented in Russia under Vyshnegradskii, during whose term in office one of the main objectives of economic policy was the elimination of the perpetual budget deficit; the reform of the customs tariffs which began in 1887 formed part of this project. The high tariff barrier, combined with a system of subsidies, was expected to encourage Russia's own industry, at the same time influencing the strategies of foreign entrepreneurs active in Russia. It was in some cases more profitable for a foreign company to invest their capital directly in Russian industry or transfer their production to Russia, rather than submit to the high import tariffs.[4]

In an address given in October 1888 in the Committee of Ministers, Vyshnegradskii stressed the importance of foreign capital and especially of the activity of foreign companies for the development of Russian industry. This of course also meant that profits were forfeited to foreign countries; without foreign capital, however, the

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1 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 11–17.

2 President of Imperial Russian Technical Society Kochubei to Finance Minister Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 22; Session of Council of Imperial Russian Technical Society, 24.2.1888 РГИА f. 90, op. 1, d. 137, 14, 20–1; Director of Department of Trade and Manufactures of Ministry of Finance, A.B. Baehr to P.A. Kochubei 13.1.1889 РГИА f. 20, op. 15, d. 791, 23; Session of Council of Imperial Russian Technical Society, 25.1.1889 РГИА f. 90, op. 1, d. 138, 37; Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 54–5.

3 Tuominen 1964, 296. The initiative introduced in 1882 by the nobility, to extend the term of patents and the time for payment of fees, had come to a standstill in the Committee for Law and Finance. *Ibid.*

4 Погребинский 1954, 76; Шепелев 1973, 127–8 and 1981, 154 5; Crisp 1976, 100–3; Geyer 1987, 134–5.

industrialization of the country would be impossible. Foreign capital was also essential for the dissemination of technical knowledge, since the Russian entrepreneurial culture was still undeveloped. The increasing flow of foreign industrial capital into Russia was an important additional resource for the development of Russian industry. During 1881–92, foreign corporate capital increased by 138 million rubles, compared to only 88 million rubles during the preceding twenty years.[1]

Attempts had been made to anticipate and control the effect of this growth in foreign investment, by means of stricter controls over foreign companies and new legal restrictions on foreign investors' activity and their ownership of real estate. In 1887, foreign individuals and corporations were prohibited altogether from either purchasing or renting land in certain parts of the country. The restrictions imposed by the government on the activities of foreign companies had also increased considerably since the early 1870's. A foreign company was completely subject to Russian law, both general and in particular the laws regulating corporate activity; these laws placed certain limitations on foreigners' possibilities to carry out business and to hold real estate. In addition, the government had the right to rescind the company's concession and order it to close down, without having to give any reason for the demand. In the 1880's, additional restrictions were imposed on foreign involvement in Russian joint-stock companies. In particular it was considered important to restrict foreign access to company ownership and management in such fields as railroads, steamships, insurance and mining, regardless of whether or not the company possessed real property.[2]

A belief in the importance of technology now seems to have become prevalent also in governing circles. The government played an active role in exploiting the newest Western technology and in bringing it to Russia. The number of persons sent abroad, especially to international technological exhibitions, increased steadily. Traveling abroad at government expense, in addition to ministerial officials, were economic experts, scientists, engineers and army officers; they were sent abroad to become familiar with Western industrial technology and organization. In some circles, the copying of foreign production technology was even seen as the only way to develop Russian industry. The ministries, furthermore, were not niggardly in allocating funds for purchases made on such trips.[3]

In the basic reform of the invention privilege legislation, some decision would

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1 Гиндин 1960, 65–6; Зайончковский 1970, 144; Шепелев 1973, 126–8 and 1981, 154–5.

2 Именной, данный Сенату – Об установлении особых правил относительно приобретения иностранцами в собственность или в срочное владение и пользование недвижимых имуществ в некоторых губерниях западной полосы России 14.3.1887 ПСЗ 1889, vol. 7, no. 4286; Шепелев 1973, 122–8 and 1981, 154 5. According to Gindin, the importation of foreign industrial without the foreign investor moving to Russia began only in the 1880's and 1890's. Гиндин 1960, 65.

3 Зарецкая 1983, 135–9, 146. The Russian military officials sent to the Krupp arms factories, for instance, not only supervised Russian orders but also practiced industrial espionage. The exposure of this copying of production methods and constructions led to various restrictions on factory visits by Russians. According to Kirchner, on the other hand, the benefit of such visits at least in some cases was mutual, in that the increasing demands of the Russians, and their advice, helped Krupp in the further development of their products. In their fear of illicit copying, Krupp actually refused to sell their field artillery to Alexander II. Kirchner 1982(a), 82, 84, 106.

have to have been made in the matter of Russia's position vis-à-vis the Paris Convention. Joining the Convention would have brought obligations of greater respect for the rights of inventors, and improvements in their legal safeguards. The proposal of the Technical Society to remedy the situation by modifying protest and appeal practices, shortening application processing times, improving the dissemination of information and raising the standard of expertise in the decision-making process, would have increased the load of work on the bureaucracy. At the same time, decisions would have been brought under stricter control. Russia was in no hurry to ratify the Paris Convention, since in the government's view both the Convention and the whole legislative reform would have been of benefit to foreigners eager to enter the Russian market. Foreigners in fact accounted for some 80 % of all applicants.

Table 9. Percentage of Russians out of all recipients of invention privileges in 1880, 1885 and 1890

Year	1880	1885	1890
Russians	26	22	21

Sources: Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1881 nos. 1–6 and 1883 nos. 1–3 and 1891 nos. 1–10; Свод привилегий выданных в России в 1885 году по Департаменту торговли и мануфактур, 1885.

The government had an obviously positive attitude towards foreign investors and entrepreneurs, and believed strongly in the benefits of Western technology. The Russian authorities, however, saw the institution of the invention privilege primarily as a means of disseminating new technical information, and only secondarily if at all as a means of protecting the inventor's exclusive rights. This attitude was also consistent with the implementation of a national economic policy, and aim of creating an autonomous overall economy which ultimately would be independent of the West. The policy adopted by the Ministry of Finance would have demanded a reform proposal which placed a heavy emphasis on the point of view of economic policy; that presented by the Technical Society, on the contrary, starting from the premises of the theory of the natural rights, emphasized the need to improve the inventor's legal safeguards. Due to the dominant position of foreign inventors in Russia, this way of thinking was difficult to reconcile with Vyshnegradskii's economic policy, the aim of which was to create an autonomous economy, economically and technologically independent of the West.

The underlying assumptions of the Technical Society were in a way out of date; in Western Europe in the second half of the 1880's the perspective of natural right had begun to give way to the economic point of view and to national economic policies.[1] In this sense, the traditional point of view of the Russian government with

1 Silberstein 1961, 283–5.

regard to invention privileges, based on industrial policy, was more up to date. The government was also concerned with the political side-effects of the new technology. The large proportion of foreigners and foreign inventions among the recipients of invention privileges brought political aspects into the picture. Technological change was often associated with foreign domination; this placed certain obstacles in the path of legislative reform and Russia's joining in the Paris Convention.

V. Foreign entrepreneurs and inventors under Witte's national economy policy

1. Protectionism and invention privileges in Witte's economic policy program of 1893

In the national economic policy shaped during Vyshnegradskii's term in office, the basic principle was one of protectionism. One of the chief objectives of the customs tariffs introduced in 1891 was the creation of an economically independent industrial state. Towards this end, Russia was to make use of the same means that had been used by nations which now were considerably further developed, at a time when the process of industrialization was in its early stages. According to the main ideologist of the overall reform, D.I. Mendeleev,[1] Russia could no longer base her economy on agriculture alone; such a policy would lead merely to the growth of poverty and dependence.[2]

The purpose of the overall revision of customs tariffs was to make the system as a whole more consistent, and to ensure that foreign products would in no case be cheaper than domestic ones. The encouragement and protection of domestic industry began to be seen as part of a more global process, not restricted to a few important areas. At the same time, customs policy took a new, qualitative dimension.[3] The sizeable increases in the tariffs on raw materials and semi-finished goods were intended to encourage new domestic production, for instance of raw cotton, and to create favorable conditions for new industries, such as the chemical industry. On the other hand, customs tariffs were also used to support for instance Russian cotton thread manufacturers and the metal industry against foreign competition.[4]

Russia's dependence on foreign technology and capital made it difficult to arrive at a consensus in particular with respect to customs duties on machinery imports. The steadily increasing importation had placed the domestic Russian machine industry in a situation of hopeless competition, which the government tried to alleviate by raising import tariffs on machinery and instruments. In the case of agricultural machinery and devices, arriving at a consensus was even more difficult. Opposed to the tariffs were

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1 D.I. Mendeleev (1834–1907) was a well-known chemist and economist. He was a member of a number of foreign scientific societies and academies, an honorary member of the Council of Trade and Manufactures, and from 1890 onward a member of the Committee on customs tariffs. In his theoretical studies in economics, Mendeleev dealt with such questions as the exploitation of Russia's natural resources, economic resources and customs policy. Mendeleev was a member of several economic commissions and participated actively in industrial conventions. Менделеев (1897) 1952, 281; Гиндин 1976, 210; Хромов 1950, 265, 267; Owen 1991, 111–12.

2 Менделеев (1882) 1950, 72–3 and (1892) 1952, 98–9 and (1897) 1952, 270–2, 277; Гиндин 1976, 210; Соболев 1911, 702–3; Geyer 1987, 159; Portal 1966, 824.

3 Соболев 1911, 698; Шепелев 1981, 167–9.

4 Proposal of the Minister of Finance to State Council 23.3.1891 РГИА f. 20, op. 15, d. 398, 2–4; Соболев 1911, 721–5, 739–41, 743–6.

estate-owners and certain members of the Technical Society and officials at the Ministry of Finance; they based their opposition on the capacity of foreign companies to deliver goods of high quality, on time and at a favorable price. The State Council retained tariffs on agricultural machinery and implements temporarily at their previous level, on the grounds of the currently difficult economic position of Russian agriculture.[1]

The proposal of the Ministry of Finance was accepted with surprising ease by the State Council, which Shepelev attributed to the fact that Vyshnegradskii, the Minister of Finance, was acting on the direct instructions of the Emperor. In the tariffs of 1891, almost half of all product categories kept the high tariff rate of the previous year; in almost an equal number the tariff was increased. In only 2 % of cases was there a decrease. The customs duty accounted for approximately 27–32 % of the total price of the product. In the case of the most important industrial products, the import tariff was higher in Russia than in Germany, France or the United States. Compared to the level for 1890, on the other hand, the increase was not significant. In addition to its goals with respect to industrial policy, the tariff reform also had certain fiscal objectives, which were in fact achieved beyond expectation.[2]

Those who stressed the importance of developing a strong national economy found their support in Listian economic theory, the effect of which on the government's economic policies during the 1880's and 90's was considerable.[3] Friedrich List (1789–1846) was a German economist, whose unfinished main work, *Das nationale System der politischen Oekonomie*, outlined a program for the achievement of industrial prosperity, based on the example of Great Britain. England had begun to dismantle her protective customs barriers only when her own industry was competitive with foreign industry. Along with a successful protectionist policy and wide markets, List emphasized the importance of the patent system for England's rapid economic growth.[4]

Sergei Witte, appointed Minister of Finance as Vyshnegradskii's successor, remained in office for more than ten years; he continued and further elaborated the economic policy and ideology begun by his predecessors.[5] Witte presented his first basic economic platform in 1893, in his proposal to the State Council for the increase of staff for the Ministry of Finance. In connection with the demand for more staff, the Council was confronted with an extensive program of economic policy, in which invention privileges were linked for the first time with the government's economic

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1 Proposal of Finance Minister Vyshnegradskii to State Council 23.3.1891 РГИА f. 20, op. 15, d. 398, 2–4; Отчет по Государственному совету за 1891г., 1892, 253–4, 290 2; Соболев 1911, 700 2, 784–6; Шепелев 1981, 168–9; Kirchner 1982a, 102–3; Von Laue 1963, 28–9.

2 Proposal of Finance Minister Vyshnegradskii to State Council 23.3.1891 РГИА f. 20, op. 15, d. 398, 4–6; Витте 1960 vol. 1, 231; Ляшенко 1956, 190; Соболев 1911, 787–90; Шепелев 1981, 167–9.

3 Витте (1900) 1935, 131–4; Ананьич 1970, 19–20; Граве 1956, *passim*; Шепелев 1981, 193–4, 198; Blackwell 1970, 23–4, 26; Von Laue 1963, 56–63.

4 List (1841) 1922, 128 9.

5 Ананьич & Ганелин 1990, 36 7; Ковалевский (1919) 1991, 36, 38–9; Степанов 1991, 126, 128–9, 131. In the later 1880's, Witte had approached the group led by Katkov, Pobedonostsev and Tolstoi, men who were opposed to Bunge's policies and aimed at replacing him by the Russian Vyshnegradskii. Ананьич & Ганелин 1990, 36–7; Степанов 1991, 126, 128–9, 131.

ideology, based on Listian economic principles, of national industrial development.[1] Witte's interest in Listian theory was evidently profound; in 1889 he had presented List's main ideas in a work in Russian, entitled *With regard to Nationalism. National Economy and Friedrich List* (По поводу национализма: национальная экономия и Фридрих Лист). Among other Russian economists supporting List's ideas were A. Antonovich, I. Tarasov and I. Kaufman. Mendeleev's ideas too fit in well with those of Witte and List.[2]

List had developed his own version of classic economic theory, the national system of political economy. Underlying the national system was a purely practical goal: the increasing of Germany's economic independence. In this effort, List placed the greatest stress on a protectionist tariff policy. In List's view, an agricultural nation could develop into an industrial one only if well protected by a high tariff barrier. Unless the nation's own industry was isolated from foreign competition, no agricultural state could achieve the highest level of economic development.[3]

Witte's economic mentor List saw protectionism as in a way a justified reward to the entrepreneur and as a means of encouraging industrial activity. He wrote on the subject as follows:

> Protective tariffs have a stimulating effect on all branches of domestic industry which are superior in other countries but which one's own country can do equally well. They secure a reward for entrepreneurs and workers, allowing them to acquire new knowledge and skills, as well as for both domestic and foreign capitalists, offering them a profitable opportunity to invest their capital for a certain time.[4]

On the question of patents and their function in the industrialization of the agricultural state, List took a positive attitude. In *Das nationale System der politischen Oekonomie*, he comment on patents in the following terms:

> The patent is granted, in a way, as a reward for inventiveness. The hope of obtaining a reward stimulates the mental capacities and impels them to invent improvements in industry. The patent brings honor to inventiveness in society, and does away with that prejudice

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1 No information has survived concerning the preparation and drafting process of this important document; it was probably drawn up, however, by V.I. Kovalevsky and D.I. Mendeleev. The former was at the time the head of the Department of Trade and Manufactures; the latter was also known as an economist. According to Shepelev, the expansion plan concerning the Department of Trade and Manufactures may have been merely a means of achieving the passage of the program of economic policy by the State Council without attracting unnecessary attention. Witte wanted to obtain indirect acceptance for his economic policy without exposing himself to possible criticism. Шепелев 1981, 204–5, 208–9.

2 Трубников 1891, vii. Tarasov acted from 1889 onward as Professor of Administrative Law at the University of Moscow. In his writings during the 1880's, he strongly opposed the economic policies followed by Abaza and Bunge. Kaufman was a professor at the University of St. Petersburg, whose special field was monetary transactions and state credit. Professor Antonovich had likewise written his dissertation on monetary transactions; during 1893-95 he acted as a ministerial assistant at the Ministry of Finance. Witte's work on List went into a second printing in 1912. Новый энциклопедический словарь (s.a.) vol. 3, 71; Трубников 1891, vii; Энциклопедический словарь 1892, vol. 6, 579 and 1895, vol. 14, 774 and 1901, vol. 32, 629.

3 List (1841) 1922, 1–46, 414–15.

4 List (1841) 1922, 414–15.

which is so injurious among uncivilized peoples, favoring old customs and procedures. On those who possess only the intellectual talent necessary for making new inventions, it confers also the necessary material resources, when the owners of capital are induced to support inventors by guaranteeing them a share of the expected profits.[1]

In the Listian economic policy, economic protectionism and the protection of inventions played an important role in encouraging economic activity, by creating optimally favorable conditions for the development of domestic industry. A patent aroused in the inventor the expectation of profit; this in turn reinforced the general technological development of industry. In the drafting of the German statute of 1877, another objective of the patent system had also been brought to the fore: the desire to prevent the draining of German intellectual potential abroad. In the Listian ideology, both patents and protective customs tariffs constituted a justified reward for the inventor and the manufacturer.

Bismarck's Germany, which adopted a Listian economic policy, had rapidly begun to flourish economically, breaking the British powerhold in world trade. According to Witte, the European nations, including Russia, would themselves have to follow List's doctrines if they were to avoid German economic dominance, if anything even stronger than that of Britain.[2] The 1893 economic program was based on a policy of strict protectionism and a central role played by the government in regulating and supporting economic life. This has been seen by Anan'ich as an expression of the conservative political atmosphere prevalent under Alexander III.[3] Witte was a faithful supporter of the traditional Russian values; according to Kovalevskii, the Slavophile traits in Witte's political thinking were a legacy from Fadeyev, the famous slavophile general and Witte's maternal uncle. It was under such powerful influences that Witte's strongly monarchical thinking had taken shape.[4]

The dependence of Russian industry on foreign sources of production technology and of certain raw materials hampered the application of protectionism in industrial policy. The strict protection of domestic production of raw materials and technology was expensive. In the view of the Minister of Finance, the costs arising from a protectionist policy could be effectively reduced if the government actively followed the development of industry and by adjusting the customs tariffs on individual products.[5]

Tariff barriers were used in Russia chiefly to protect domestic industry; the government, however, soon realized that they also affected the strategies of foreign

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1 *Ibid.*

2 Витте 1912, 22; Von Laue 1963, 56–63; Trebilcock 1986, 231–2.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 "Об изменении штатов Департамента торговли и мануфактур" РГИА f. 1152, op. 11, 1893g., d. 447, 13–16, 23-4; Ананьич 1984, 33; Шепелев 1981, 193–4, 197, 204–5.

4 Ковалевский (1919) 1991, 61 2; Шепелев 1981, 197; Anan'ich 1983, 139; Kahan 1989, 106–7; Owen 1991, 200–5. Cf. McKay 1970, 10–12.

5 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–15, 23–4; Шепелев 1981, 206–8, 217–18, 225.

enterprises in Russia.[1] One way of circumventing import duties was by setting up an assembly plant, since importing machine parts was less expensive than that of the complete machine. This was not a new idea; it had been discussed by manufacturers already in the 1870 Commercial-Industrial Congress. The increases in import duties merely gave the matter even greater relevance. Importing in separate parts for assembly, however, was not always worthwhile; in the case of certain types of dynamo, for instance, importing in parts and assembly in Russia was more expensive than importing the finished dynamo.[2] An example of the effect of the new tariff policy on the establishment of foreign companies in Russia is the American Singer Sewing Machine Company;[3] when import duties began to be calculated in terms of weight, the company transferred the production of the heaviest parts of the sewing machine, such as the table, to Russia. The growth in the demand for sewing machines and the expansion of the market, left room for others too to increase their sales somewhat. Foreign companies penetrated with increasing force into the Russian domestic market, and Russian industry, with very little preparation, had to face severe foreign competition.[4]

High tariffs, on the other hand, were offset by the high internal freight charges within Russia; imported goods could be shipped at low cost either overland via Berlin to Warsaw or by sea to Odessa. Lower prices, however, were not the only means of competition. Russians particularly valued the reliability of foreign suppliers and the quality of the goods supplied. The economic revival reinforced the faith of foreign entrepreneurs in the expansion of the Russian market, and the establishment of one's worst competitor in Russia forced others in the same field to consider either moving their production at least in part to Russia or changing to another commodity for

1 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 14, 23–4; Соболев 1911, 760–1; Шепелев 1981, 220; Kirchner 1981b, 374–6. In the Committee drawing up the 1891 customs tariffs, Witte had pursued a policy of moderation in the protection of the Russian machine industry, and had been able to win over Vyshnegradskii, then Minister of Finance. Even some of the representatives of the machine industry aligned themselves with Witte and his moderate tariffs, since they feared that a high tariff barrier would attract foreign manufacturers themselves to Russia; this might have meant a death blow to the fledgling Russian machine industry. Соболев 1911, 760.

2 Стенографический отчет заседаний 2-го отделения Первого всероссийского съезда фабрикантов, заводчиков и лиц, интересующихся отечественной промышленностью 27.5.1870, 1872, 17–24; Kirchner 1981b, 368.

3 In 1897, a Russian subsidiary, *Kompaniya Singer*, was established, which was completely owned by the Singer Manufacturing Company, "for acquisition and maintenance of the trade in sewing machines which is owned by St. Petersburg first guild merchant G. Neidlinger". In 1900 a factory was built, which was sold to the Russian subsidiary. Like other foreign Singer factories, it was an assembly plant, which itself produced only the heavy tables for the sewing machines. Five years later, the factory also began manufacturing the first machineheads. The subsidiary naturally paid royalties to the Singer Manufacturing Company for every table and machinehead it produced. Carstensen 1984, 39–40, 46–7.

4 Carstensen 1984, 37–40, 46–7, 99; Crisp 1976, 160; Kirchner 1981b, 362, 367–8. Government encouragement of Russian domestic industry resulted according to Kirchner in an expansion of the market. The growth in the production of locomotives and railroad cars led for instance to the increased importing of Knorr and Westinghouse brakes, wheels, pipes, pistons, cables, greasing apparatus and of cast iron. The beginning of the chemical industry increased the consumption of chemicals, some of which, such as medicines, were ones not manufactured in Russia. Kirchner 1981b, 368.

export to Russia.[1]

In his economic policy program of 1893, Witte was actually repeating what Reutern had said already in connection with the 1868 customs tariffs. Complicated machines were often protected either completely or in part by foreign patents; their protection by high import tariffs was thus useless from the point of view of the development of Russian industry, and would merely raise the price of the machine unduly high. Foreign patents made it difficult to start the manufacture of a machine in Russia, and in practice it was only in rare cases that a machine could be produced from start to finish in the country. In some instances the import tariffs on machines were of fiscal significance only.[2]

The breaching of the tariff barriers by foreign competition caused fears above all in Russians, but to some extent also in foreign entrepreneurs who had already achieved a good competitive position in Russia. Manufacturers who had come to rely on high import duties were not particularly active in adopting new production technology. Foreigners who arrived in Russia with their own capital, their own workers and their own equipment often placed Russian entrepreneurs in a position where they were unable to compete on the domestic market. The government had to do more than merely protect Russian entrepreneurs from superior foreign competition; it also had to undertake internal measures which would eliminate all obstacles in the way of natural industrial growth and would more actively encourage Russian entrepreneurs. The same objectives also guided the revision of industrial legislation. It was in the interests of industry that all unnecessary obstacles and requirements which hampered the founding of new business enterprises should be removed.[3]

Witte's program embodied an ambitious scenario for the industrialization of the country; it was conveyed from the Ministry of Finance to the State Council under cover of the proposal for an increase in personnel. An increase in resources was essential if the project of revising the commercial and industrial legislation, dating from the beginning of the century, was not to be stymied by a shortage of the necessary number of government officials. In addition to a shortage of the necessary resources, the project was also hampered by a lack of a body of customary law, which might offer a set of norms on which the new commercial-industrial legislation could conveniently be based. On the other hand, it had been considered unnecessary to regulate commercial transactions by special laws, since in cases of infringement of the rights of a private person, the authorities had extensive possibilities of intervention. One purpose of the revision was to give the Ministry better possibilities of enforcing in particular compliance with the statutes controlling the founding of companies, and their activity, in particular their executive management.[4]

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1 Kirchner 1981b, 366, 369, 374–6.

2 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–15, 23–5; Шепелев 1981, 218–20; Kirchner 1981b, 362, 367–8, 371.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–16, 23–5; Шульце-Геверниц 1901, 226–7.

4 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 16, 19, 22–3, 39.

The Departments of State Economy and of Laws dealt with the proposal of the Ministry of Finance in a joint session held at the end of November 1893. The Departments added a few insignificant modifications concerning official titles, but did not take any stand with regard to the section dealing with economic policy. The Emperor confirmed the addition to the staff of the Ministry of Finance in January 1894. Witte's broad program of economic policy constituted the first statement of principle on the part of the Ministry of Finance with regard to the issue of invention privileges and the proposals of legislative revision which had been submitted to the Ministry.[1]

In Witte's program, the patent laws were seen a part of business legislation, which was seriously obsolescent and urgently needed to be revised. In this project, according to Witte, the requirements of the national economic policy had in particular to be taken into account. As he expressed it, giving Russian and foreign inventors completely equal rights was not reconcilable with the general principles of national economic policy. The dissatisfaction caused by the existing invention privilege laws had been entirely justified, since they neither encouraged Russian inventors nor protected their rights. It was above all Russian industry which suffered from the system. The greatest problem was caused by the government office which was responsible for the granting of invention privileges, which because of its shortage of manpower failed to process some five hundred applications annually; this of course led to a constantly worsening bottleneck. The standard of competence of the staff also left something to be desired.[2]

The Minister of Finance summed up the worst problems in the following seven points, the last of which clearly expresses the position of the Ministry with regard to foreign inventors:

1. The slowness with which applications were processed.
2. The disproportionately high privilege fees and form of payment.
3. Importation privileges.
4. Deficient safeguards for the rights of inventors in cases of privilege infringement, as a result of inadequate legislation.
5. The practice followed in cases of two or more applicants.
6. The impossibility of patenting insignificant or useless inventions, despite the fact that the potential importance of an invention cannot be fairly assessed at the time of application.
7. The irreconcilability of the entirely equal treatment of foreign and Russian inventors, on grounds of the general principles of national economic policy.[3]

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1 Excerpt from the Minutes of the Joint Session of the Departments of State Economy and of Laws of the State Council 27.11.1893 and of the General Session of the State Council 28.12.1893 "Об изменении штатов Департамента торговли и мануфактур" РГИА f. 1152, op. 11, 1893g., d. 447, 49–56. Following this change, the staff of the Departments rose from 58 officials to 87, and the budget from 128 159 rubles to 237 600 rubles.

2 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25; Торгово-промышленная программа Министерства финансов 1893, 334.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25.

The position of the Minister of Finance was clearly negative in particular with regard to the line taken by the Technical Society, which was based on the assumption of the equal treatment of Russian and foreign inventors. In his program, Witte deliberately remained silent on the issue of foreign capital. According to Shepelev, he did not want to commit his Ministry to one side or another in the question of capital; this showed considerable political wisdom, in a situation in which the Emperor inclined now to one side now to the other in the matter.[1] In Witte's view, Russia needed, in addition to the protection of a tariff barrier, also a sort of protectionism with regard to inventions, aimed at preventing Russian inventions from draining out of the country.

If the legislation had been revised by improving inventors' rights in general, the primary beneficiaries of the change would have been foreigners, who had shown amazing adaptability and inventiveness despite the strict protectionist policy. The government was faced with a difficult problem; they were expected to find a solution which would on the one hand encourage Russian invention activity and stimulate the interest of entrepreneurs in improving their production technology, on the other prevent foreign inventors from monopolizing the technology which was important for the development of Russian industry.

2. Reform proposals by the Commercial and Technical Societies in 1893, and Gur'ev's alternative program based on the principles of a national economic policy

Almost simultaneously with Witte's program of economic policy, the Society for the Encouragement of Russian Industry and Trade and the Technical Society also completed their proposals for the reform of the invention privilege system. In December of 1892, E.I. Ragozin[2] had presented a paper before the Society for the Encouragement of Russian Industry and Trade, *On the influence of privileges on the development of industry* (О влиянии привилегирования изобретений на развитие промышленности). The proposal for the revision of the laws on invention privileges contained in Ragozin's paper served in turn as the basis for the memorandum from the Society to the Ministry of Finance, submitted to the Ministry

1 Витте 1960, vol. 2, 501; Шепелев 1981, 208, 220–1.

2 E.I. Ragozin, the brother of the oil producer B.I. Ragozin, was a well-known iron manufacturer and economist, who had written numerous articles on various aspects of the Russian economy. Ragozin played an active role in the drafting of the new statute on invention privileges at the Ministry of Finance during 1893–94. He was also a member of the new Commission on privileges of the Technical Society, established in 1895. Finance Minister Witte to Imperial Secretary 11.1.1896 "К представлению министра финансов в Государственный совет от 14.3.1895" РГИА f. 1152, op. 12, 1896g., d. 110, 98; Белов 1895, 63; Энциклопедический словарь 1899, vol. 26, 64; Owen 1991, 73.

by Count Ignat'ev, President of the Society.[1] The proposal of the Veshnyakov Commission for a new statute was completed a couple of months later, and was presented to Witte in April.[2] It is evident that it was the change of Ministers that was the main cause of this active involvement on the part of the two societies in the matter of invention privileges. The obsolescence of the legislation concerning both corporations and invention privileges had long been recognized; Witte dealt with these in his program of economic policy, and he was expected to carry through the necessary legislative reforms.

The proposal of the Technical Society was immediately faced with surprisingly severe criticism, presented from a nationalistic perspective. The first expression of this polemic came from A.N. Gur'ev, Secretary of the Scientific Committee of the Ministry of Finance. Gur'ev was known to be Witte's agent, often undertaking writing commissions on behalf of the Minister.[3] In the October issue of *Novoye Vremya*, Gur'ev published an article entitled *A plan for the enslavement of Russian industry* (Проект закабаления русской промышленности),[4] based very clearly on the principles of Witte's program of economic policy. The article appeared a couple of weeks before Witte presented his program to the State Council, under cover of his proposal for increasing the number of staff of the Ministry of Finance. In 1894, Gur'ev published a monograph on invention privileges (О привилегиях на изобретения), which was an expanded version of the *Novoye Vremya* article. In 1895, Belov responded on behalf of the Technical Society to the main points of Gur'ev's criticism, the equal status of foreigners and Russians and the connection between invention privileges and customs policy.[5]

The criticism of the proposal by the Technical Society was also directed against that made by the Society for the Encouragement of Russian Industry and Trade, since the basic principles were the same in both. Neither group had anticipated this type of criticism or prepared for it in any way in their presentations or in the grounds given for their position. They tended to be more concerned about the too slight interest of foreigners in taking out invention privileges in Russia than vice versa. In particular E.I. Ragozin was concerned that despite the revitalization of business activity there was little interest among foreign inventors' in applying for Russian privileges. Like

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 "Об изменении действующих у нас постановлений по выдаче привилегий на изобретения и усовершенствования и об учреждении при Департаменте торговли и мануфактур Комитета по техническим делам" РГИА f. 1152, op. 12, 1896g., d. 110, 18; Белов 1895, 63–5; Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий, 1893, 31–3; Пиленко 1902, 197.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 1–4; Белов 1895, 56; Журнал заседания Совета императорского Русского технического общества 17.3.1893г., 96.

3 Шепелев 1973, 202; Von Laue 1963, 141, 159ff. Gur'ev was a lawyer by training. He contributed actively to such periodicals as *Novoye Vremya* and *S. Peterburgskie Vedomosti*. In addition to his work on invention privileges, he also published several works on monetary reform and on Russian monetary transactions. Новый энциклопедический словарь (s.a.) vol. 15, 306.

4 Новое время 3.10.1893 no. 6321 and 4.10.1893 no. 6322 and 5.10.1893 no. 6323.

5 Белов 1895, 65–70; Гурьев 1894, 3.

Veshnyakov, Ragozin considered one reason for the low number of privileges to lie in the state of Russian industry. They also reflected a lack of interest in invention activity among Russians, and the inability of the state to adopt new inventions. It was evident that foreign inventors did not consider it worthwhile to apply for Russian privileges for their idea; in 1891 the total number of privileges taken out by foreigners was 238. The number was low despite the fact that, unlike many other countries, Russian legislation also allowed importation privileges.[1]

What Ragozin did not realize was that in those cases where the national interest was involved, even the bribes so characteristic of Russian administrative practice were of no avail. They might speed up the processing of the application, but they rarely affected the actual decision.[2] In the light of the figures for invention privileges and imports, at least the Germans appeared to be concerned about the possible copying of their products in Russia. This conclusion is supported by Kirchner's observation that foreign export companies at least were concerned about the possible illegal copying of products which turned out to be important for Russia.[3] Ragozin seems to have forgotten that some 80 % of all invention privileges went in any case to foreigners. The number of privileges can actually be considered astonishingly high, taking into account the arbitrariness of the system, the high cost of taking out a privilege, the weak safeguards of the inventor's rights, and the low level of development of Russian industry.

The attractiveness of Russia for foreign inventors was not increased even by the unique advantages conferred by the obsolescent legislation. Under the Paris Convention, for instance, an inventor in a country which belonged to the Convention had six months time to apply for a patent in another country, counting from the date of the patent granted in his own country. In Germany, which like Russia was not a member of the Convention, this 'priority time' was only three months. If the inventor applied for a patent in Germany within three months of the issuing of a patent in his home country, the German authorities considered the invention as a new one if the inventor's country treated German inventors in the same way. In Russia, on the other hand, the holder of a foreign patent could apply for a privilege even years later. In addition, the inventor would retain his Russian privilege even if his original patent had been revoked and the invention thus in public use. In France, in comparison, the

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 18; Белов 1895, 63–5; Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий, 1893, 31–3; Рагозин 1893, 481 2. Пиленко 1902, 197.

2 Kirchner 1981b, 371. Carstensen, who studied the operations of the Singer and International Harvester companies in Russia, found no indication in the files of these companies of the use of bribes or other means of persuasion to deal with problems with the bureaucracy. Possibly bribery may have been so universal that it was not even noted; Carstensen, however, expresses some surprise that foreigners, not accustomed to Russian practices, did not comment on this in any way. Carstensen 1984, 101–2.

3 Kirchner 1981b, 366, 369, 374–6 and 1982a, 84–5, 98, 103. In some cases, structural modifications in machines or their components were made with the assistance of foreigners. Swedish engineers were involved in the development of the diesel engine manufactured by the Nobel factory. Foreigners were also involved in the development of a locomotive factory in Libau. The German engineer Meinecke, who had lived for some time in Russia, developed a naphtha (Mazut) -fired engine. Kirchner 1981b, 367.

inventor might lose his patent merely by importing a single exemplar of an item patented in France.[1]

The statutes of 1833 and 1870 had not significantly improved the legal or economic position of the inventor or speeded up the processing of applications. Ragozin would seem to have been right in his claim that the Ministry of Finance had refused any changes which would have simplified the process of obtaining a privilege, since any such changes would have benefitted above all foreign applicants. The commercial and technical societies did not accept this odd form of patriotism. If the legislation were not soon revised, it was to be expected that Russian inventors would increasingly patent their inventions abroad, where their rights were safeguarded considerably better than at home. Such safeguards, according to Ragozin, not only gave rise to new inventions but also had a beneficial effect on their adoption and spread.[2]

The favorable effects of the privilege institution, according to Ragozin, would appear only when the law offered inventors sufficient protection of their rights, similar to Western Europe. Russian inventors still lacked the legal safeguard, otherwise adopted in Russian civil law, that a decision made in a lower court could normally be appealed in a higher one. In Ragozin's view, the fact that a decision arrived at by the Council of Trade and Manufactures could not be appealed, together with the high privilege fees, indicated that in Russia the invention privilege was not perceived as a legal safeguard for the inventor's property but as a special favor, a form of charity.[3]

Inventors were dependent on bureaucratic arbitrariness, and were still seen as applying for a special 'privilege' in the strict sense of the word, which the official machinery could either grant or withhold, without having to give reasons for either. Although some attempt had been made to clarify the concept of the invention privilege in the debate surrounding the 1870 amendment, the connotation of the term as a special favor or act of magnanimity had never disappeared. Ragozin's view confirms the interpretation presented earlier in this thesis, according to which the significance of the 1870 amendment has been exaggerated. His comments also lend support to the veracity of complaints by inventors as to the arbitrary and bureaucratic nature of the system and the passivity of Russian entrepreneurs.

Inventors' problems were further exacerbated by the obsolescent laws regulating business activity, which were still in force at the end of the 19th century, and by the attitudes of the authorities. A particular problem was the legislation regulating the activity of corporations, which dated back to the early 19th century, and which despite numerous attempts had never been revised, not to mention the founding of a

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1 Борзенко 1893, 18–19; Канторович 1900, 68–9; Patentgesetz vom 7. April 1891 (Article 2). Sammlung der wichtigeren Patentgesetze, 1895.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 3, 5–6; Рагозин 1893, 482–3, 492–3, 499 500, 505. In the 1890's, the Ministry was concerned about the complaints which had arrived, according to which the shortcomings of the existing laws actually forced Russian inventors to patent their inventions abroad. Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 3, 5–6.

3 Рагозин 1893, 483, 486, 495–7.

separate Ministry of Industry. The authorities tended to take a suspicious attitude towards Russian entrepreneurs, and tried to regulate development by means of strict controls, requiring official permits for all forms of business activity. Long after the emancipation of the serfs, the highest aristocratic officials were unable to cast off their paternalistically condescending attitudes towards the merchant community.[1] The low level of Russian entrepreneurial spirit and initiative, in the opinion of some officials, was almost a psychological characteristic of the Russian bourgeoisie. The stock market crises which shook the Russian business world in the 1830's and especially the 1870's, and the hunger for quick profits, merely served to reinforce official prejudices.[2]

Underlying this mutual lack of confidence between businessmen and officials, there was outright corruption and abuse of an official position, as well as the traditional prejudices and mistrust felt by the nobility towards practical businessmen. This, however, did not necessarily concern company activity, the history of which shows several cases in which a high official has abused his position by granting speculative loans and other benefits to companies, to his own personal profit. It was typical of at least the largest Russian business corporations that their board of directors included a certain number of high officials, sometimes on the basis of a purely nominal number of shares held.[3] By this means officials were able to take bribes and reap other advantages as well, since they participated in the official state machinery which decided as to subsidies, government procurements and special loans. Without bribery, the founding of a business company was in practice impossible. Ruckman in fact sees the resentment and antagonism felt towards the authorities as an important feature of the mentality of the 19th century Moscow business community.[4]

On the other hand, wealthy merchants and manufacturers who had risen into the nobility to some extent helped to reduce this traditional aristocratic mistrust towards trade and industry. In particular in the second half of the 19th century, ennobled representatives of the business world rarely shared the antipathy felt in general by their new estate for direct, personal involvement in commercial activity or its preference for more traditional sources of income, such as usury or rental income

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1 Among those who felt contempt for merchants and tradesmen were also members of the Emperor's family, such as the Grand Duke Konstantin Nikolaevich and the Alexander II himself. Rieber 1982, 45.

2 Гиндин 1960, 66ff; Шепелев 1973, 98–121; Bowman 1993, 258; Owen 1991, 48–9, 81–6, 112–13, 144–5, 206–8; Rieber 1982, 45, 111–12.

3 The middle-level group of officials merely speculated on the stock market, although not with any significant number of shares. The highest authorities, on the other hand, had been actively involved in the founding of stock companies already in the 1860's and 70's, and they held part-time positions in them as directors and members of the executive board. With the growth of such activity, the government tried in 1868 to limit the involvement of officials in railroad companies, and again in 1884, when officials were prohibited altogether from holding part-time positions aside from their actual official post. This measure lessened the legal holding of part-time positions in business companies, but did not eliminate it altogether. Боханов 1992, 53–5; Корелин 1979, 102–3; Шепелев 1973, 129–33. Owen 1991, 94 7.

4 Боханов 1992, 53–7; Корелин 1979, 102, 115–18, 121; Шепелев 1973, 131; McKay 1970, 269–73; Owen 1991, 82 92; Ruckman 1984, 131. Cf. Carstensen 1984, 101 2.

derived from the ownership of land. At the same time, peasants who rose into the merchant guilds continued to reinforce patriarchal attitudes, a low business morale and close ties with the countryside. Entrepreneurs and businessmen lacked social acceptance in Russia, as shown by the contempt for them expressed by both the nobility and the intellectuals. The prevailing order of social values, in other words, hampered the industrialization of the country and the growth of the domestic business community.[1]

The existence of these traditional social obstacles, and of powerful regional and ethnic population groups, prevented the formation of a stable and politically active middle class. Russian society was overly segmented, and the traditional 'estate mentality' (сословность) effectively blocked, even after the beginning of the 20th century, the political changes which would have been necessary for the creation of a modern civil society.[2] In order for a business company to succeed, it had to have good relations with the administrative bureaucracy; these were often reinforced by bribes.

Despite the corruption and arbitrariness of the authorities, Russian inventors seem to have had confidence that all their problems would be solved by legislative reform. The Society for the Encouragement of Russian Industry and Trade was at this stage willing to be content with the prompt removal of the worst obstacles standing in the way of a quantitative increase in inventions and the adoption of foreign innovations. The complete overhauling of the existing legislation could wait for eight or ten years, at which time the numbers of invention privileges in Russia would be at the same level as in Austria-Hungary. The Society demanded only three reforms: 1) a single twenty-year term for privileges instead of the current three different absolute terms; 2) the replacement of one-time fees by annual fees together with a reduction in the amount of the fees; and 3) in cases where two or more applications were submitted simultaneously, the awarding of the privilege to the first application submitted.[3]

One of the most glaring signs of the obsolescence of the Russian invention privilege laws, in the view of the Society, was the shortness of the term covered by the privilege. In 1812 the whole question of patents or invention privileges was quite new even in European terms; the Russian lawgivers had thus considered it advisable to grant inventors only brief monopolies on their inventions, with high one-time fees. Despite the rapid development of Russian industry, no change had taken place in either the duration of privileges or in the fees. Because of the high fees, the inventor generally had to be contented with a three-year term, although often even ten years

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1 Корелин 1979, 106–7, 117–19; Gerschenkron 1962, 60–2 and 1968, 136–8; Kenwood & Lougheed 1982, 141; Owen 1991, 207–10; Rieber 1982, 52, 78–9 and 1984, 241; Ruckman 1984, 46 7, 104, 149, 167–71.

2 Freeze 1986, 35–6; Owen 1991, 209, 215–16; Rieber 1984, 238–43 and 1991, 346, 353–4, 356; Thompson 1973, 104–7. On the *sosłovie* paradigm see more closely Freeze 1985, 11–36; Ruckman 1984, xi, Ch. 1, 208–10.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 18–19; Белов 1895, 64–5; Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий, 1893, 31–3; Рагозин 1893, 501 9; Пиленко 1902, 197.

would not have been sufficient. In Russia, because of all the formalities and the scarcity of capital, the implementation of even the simplest idea took considerably longer than in the more developed industrial nations. The prevalent privilege fees were disproportionate to the general European scale; only in Germany were patent fees higher than in Russia.[1]

The proposed changes would according to Ragozin's calculations have increased the annual number of applications by at least one half, which in the view of the Society would have been a highly positive development. The proposed changes would have benefitted above all foreign inventors, but this in Ragozin's opinion was not a cause for fear; it was important for the development of Russian industry that foreign inventions should be patented in Russia more often than previously. It had been shown by common experience that the patenting of new inventions contributed to their spread and utilization.[2]

It is of course possible, though not very likely, that the Society believed that the increases in the resources of the Department of Trade and Manufactures in 1885 and 1892 had relieved the pressure of work in the Department and had fundamentally improved the working of the privilege system. The increase in the number of personnel, however, was irrelevant to the improvement of the inventor's right of appeal, which the Society considered so crucial.[3] The proposal presented by the Society for the Encouragement of Russian Industry and Trade was actually intended to test the ground and to provide support for the 1893 proposal of the Technical Society; the latter contained almost all the demands presented by the Society for the Encouragement of Russian Industry and Trade, in more or less the same form. Ragozin ended by proposing the same partial reform as the Technical Society under Vyshnegradskii.

The proposal for a new law on invention privileges submitted to the Ministry of Finance by the Technical Society in 1893 went into considerable detail. As in Ignat'ev's proposal, the Technical Society repeated the demands it had presented already in 1882: extending the term of privileges to twenty years, discontinuing the current practice in the case of two simultaneous applicants, reducing privilege fees and replacing one-time fees by a system of progressively increasing annual fees. The Technical Society also presented concrete means for speeding up the processing of applications and improving the legal safeguards for inventors' rights, which the Society for the Encouragement of Russian Industry and Trade had not done in their

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1 Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий, 1893, 32–3; Рагозин 1893, 501–7.

2 Рагозин 1893, 505, 508–9. For an opposite view, see Гурьев 1894, 10, 14–15, 17–20; Новое время 3.10.1893 no. 6321.

3 In the administrative reorganization of 1864, the Department of Trade and Manufactures had suffered a loss of resources. Its personnel fell from 51 officials to 37, and its annual budget from slightly over 157 000 rubles to slightly over 60 000 rubles. After 1885, the financial and manpower resources of the Department began to increase. By 1893 the number of staff was 58, working in six sections. Despite these increases, however, the Department was the smallest unit in the Ministry of Finance in terms of personnel numbers and only the fourth largest in terms of its budget. Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 2–4. On plans for the development of the scope of operations of the Department, see Шепелев 1981, 211–15.

own proposal.[1]

The draft presented by the Technical Society proposed the establishment of an independent patent office on the German model, which would concentrate all affairs relating to invention privileges: the processing of applications and granting of privileges, investigating complaints and acting as a court of law in disputes. The processing of an application would take place within at most one year; other persons would have the right to protest against an application submitted within six months of its submission, in order to provide inventors at least some guarantee of their property rights. A privilege could be revoked only under the following circumstances: if the annual fee was not paid, the twenty-year term had elapsed, or a protest was entered during the first three years of the term of the privilege, showing that the invention in question had been produced, used or sold openly prior to the granting of the privilege; or, finally, if it could be shown that the applicant had presented someone's else's invention in his own name, or in general if the account of the invention did not correspond to reality. After the first three years, disputes over the ownership of a privilege could be resolved only under the criminal code.[2]

The Society renewed its demand, first presented some ten years earlier, for a 'protective certificate' (охранительное свидетельство), modeled on the British and American practice of the 'caveat'. Counting from the date of the issuing of the privilege, the inventor had one year's priority for the further development of his invention. Other inventors than the original one had the right to obtain an independent privilege, but the original holder's consent was required for their working.[3]

The Society would have continued to permit the privileging of inventions which involved for instance a health risk, such as toxic substances, explosives and drugs.[4] What was completely new, on the other hand, was the granting of privileges for inventions which only the state was entitled to use, such as weapons,[5] or for trivial and useless inventions, which under the existing laws could not be privileged. The

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 26–8; Алисов 1883, 368 70 (376–8). The Technical Society expressed its hope that privilege fees could be set as low as possible; for the first year, for instance, the inventor might pay ten rubles plus 25 rubles handling charge. In some cases, the Ministry could exempt the inventor from the payment of annual fees for up to three years. Alisov, in his speech in 1882, proposed a progressive fee rising by five-ruble annual increments; in the 1893 proposal by the Society, the five-ruble increments had been replaced by ten-ruble ones. *Ibid.*

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 24–31. President of Imperial Russian Technical Society P.F. Kochubei to Finance Minister A.I. Vyshnegradskii 25.1.1888 РГИА f. 20, op. 15, d. 791, 19–20; Алисов 1883, 368 72 (376–80).

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 26 9; Алисов 1883, 369 (377), 371 (379).

4 The Russian jurist A.A. Borzenko considered it unjust that a foreign inventor could obtain a privilege in Russia for a product which he could not patent in his own country. Such products were for instance medical drugs, for which most countries did not issue patents. Борзенко 1893, 9, 13, 20.

5 Russian law prohibited the privileging of military equipment and materiel and of inventions related to national defense, such as artillery, ammunition, underwater mines and armored ships. A privilege could on the other be granted for such inventions as guns, metal cartridges and bullets, which could also be used by private persons. Even in such cases, however, the inventor's monopoly did not extend to the War Ministry. Устав о промышленности, Article 176, Свод Законов 1893, vol. 11, part 2.

government, however, could still intervene in the owner's activity in the interest of national defense or of public health. In such cases of compulsory expropriation in the name of the public interest, the inventor was entitled to special compensation.[1]

The proposal was based on the assumption that the Russian economic system functioned rationally, in a state of full competition, without discrimination on national, ethnic or religious grounds. Privileges would be granted to foreigners on the same terms as to Russians, since this would enable Russians to continue studying foreign inventions in detail. There was no danger of a monopoly which would threaten the development of Russian industry. Furthermore, the same principle of equality before the law had been universally adopted.[2]

At least as radical an innovation as the proposal to abolish the prohibition on the privileging of weapons was the relinquishing of the compulsory working of inventions. This clause had become a mere formality, which did not achieve the desired end either in Russia or elsewhere. The obligation was awkward for the inventor, since working the invention often demanded both time and money. Inventors themselves were rarely wealthy; they therefore had to attempt to obtain the cooperation of the manufacturer. The latter, however, might deliberately refuse such cooperation, so that the inventor quickly lost his monopoly control over his invention due to lack of working. In addition, some inventions could only be worked by the state. In the view of the Society, the privilege fees and the inventor's wish to retain control over the invention ensured the working of the invention.[3]

In France an attempt had been made to prevent the evasion of the compulsory working rule by prohibiting the import of any patented device; the Technical Society, however, did not consider such a practice appropriate for Russia. Only the manufacture and sale of privileged products without the owner's permission should be prohibited, since it infringed the owner's rights. No-one was to be able to get rich in Russia by importing or selling a privileged invention without the inventor's consent.[4] For the Society, the abolishing of the compulsory working rule was a matter of principle. For the government, on the other hand, retaining the rule was important despite the difficulty of enforcing it, since it allowed the authorities to intervene at will.

These two demands — the elimination of compulsory working and the strengthening of the property rights of inventors — offered a fertile ground for Gur'ev's nationalist criticism. The former he found totally incomprehensible, since

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 19 20, 28; Алисов 1883, 370, 370 (378).

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 22–3, 30; Алисов 1883, 369, 372 (380).

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 25–6, 30–1; Алисов 1883, 364–5 (372–3). In Austria, foreign patent holders had discovered a convenient way of obtaining the certificate of working. After patenting a machine in Austria, they imported parts of the machine and began its assembly, at the same time applying for a certificate that the machine had been built in Austria. This device made it possible to retain the patent, even though the machine had not actually been manufactured in the country. Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 25.

4 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 31.

a similar rule occurred in the patent laws of all industrialized countries and was thus obviously necessary. Its elimination would allow foreigners to bring the development of Russian industry to a standstill for the next twenty years. In support of his claim he pointed to the spinning machine industry in Britain, to protect which the export of spinning machines had been forbidden on pain of death up to 1842. The desire to monopolize the use of inventions had hardly disappeared; there was thus the danger that Russia would lose not only foreign inventions but also her own, since foreigners might buy up Russian inventions so as to prevent their use in Russia.[1]

The basic principles of the system of invention privileges outlined by the Technical Society were irreconcilable with the policy of 'national industry', since the proposal would lead Russia into increasing dependence on foreign technology and technical expertise. According to Gur'ev, the dominant position of foreigners in Russia meant that the continuation of equal standing for Russian and foreign inventors would make it impossible to strengthen inventors' rights. The development of Russian technology would fall for perpetuity under the yoke. Gur'ev was repeating in slightly different form the ideas of Witte, expressed in his program in 1893, concerning the aims and objectives of invention privilege legislation in Russia. Legislation was one part of the chain of government interventions and means used to promote the development of Russian industry. The invention privilege legislation should stimulate invention activity in the realm and create new possibilities for the exploitation of inventions from the entire civilized world.[2]

The Technical Society had failed completely to take into account the special conditions prevailing in Russia and the reality these conditions dictated. The result was merely a 'standard' law on invention privileges, the basic components of which could be found in any good textbook. There was nothing to show that it was specifically a Russian Technical Society which had drawn it up. The drafting committee had failed to take into account three factors of the utmost importance for the basic character of the law: 1) the steady increase in the numbers of both privilege applications and privileges granted, 2) the large proportion of foreign inventions among privileges granted, varying during 1888-92 between 76.5 and 81 %, and 3) the fact that some 66 % of privileges granted were revoked due to not being worked.[3]

The right of foreigners to patent their inventions in Russia did not in any way serve the dissemination of technical innovations. According to Gur'ev's figures, because of their invention privileges on average 78 % of foreign inventors did not allow Russians a chance to become acquainted with their inventions. In practice, for every foreign invention adopted in Russia there were four which were not worked; this, in Gur'ev's view, indicated the 'ill will' of foreigners. If foreigners began to privilege their inventions merely to gain a monopoly on the right to use them in Russia, and refused to license their use by Russian manufacturers, the authorities

1 Гурьев 1894, 42 5, 48–9, 51–2.

2 Гурьев 1894, 8, 10; Новое время 3.10.1893 no. 6321.

3 Гурьев 1894, 11–15; Новое время 3.10.1893 no. 6321. Gur'ev's figures agreed with those presented in the statement issued by the Ministry of Finance in the beginning of the 1890's. Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 14–15.

would be powerless. The development of Russian industry likewise did not benefit from invention privileges in a case when the inventor entered into a contract with the importer of the product. On these grounds, Gur'ev considered the granting of invention privileges to foreigners of highly questionable value.[1]

A response to Gur'ev on behalf of the Technical Society came from Belov. Belov pointed out that the figures presented by Gur'ev to indicate the governing position of foreign privilege holders in Russia merely demonstrated the inadequate management of the general conditions for industrial development. Inventors had difficulty in quickly finding the necessary capital and manufacturers willing to collaborate with them; for this reason, many Russian inventions returned to Russia by way of another country. Only the most important, leading inventions traveled this long route. A majority of inventions which were not worked had been protected by three-year or five-year privileges, which merely indicated poor judgment.[2]

Belov was unable fully to refute Gur'ev's suspicions as to the sordid motives and 'ill will' both of individual foreigners and of entire states, such as Germany. In his view, however, where there was serious cause to suspect such nefarious intentions the government had been given sufficient powers of intervention. What was crucial was not the 'nationality' of the invention, but its character as the product of intellectual activity. From the point of view of industrial development, the domestic vs. foreign origin of the invention was totally irrelevant. If it was believed that inventions had a beneficial effect on industry, the granting of privileges only for Russian inventions was totally irrational.[3]

Belov's text contained an indirect reference to the recent polemic between the Ministry of State Properties and the Ministry of Finance, over the correct interpretation of the importation privilege regulations. According to the interpretation adopted by the Ministry of State Properties, an inventor who had previously patented his invention abroad could obtain a privilege in Russia for a maximum of six years, since the invention was no longer actually new. By this means the Ministry of State Properties had deliberately tried to prevent foreigners from using invention privileges to establish long-term monopolies in Russia. A complaint entered by Kaupe and Chekalov was given to the Scientific Committee of the Ministry for investigation, but the members of the Committee were in considerable dissent. After this, the Ministry inquired as to the practice followed by the Ministry of Finance with regard to foreign privilege applicants. The prolonged correspondence over this matter ended in 1893, when the Ministry of State Properties abandoned its misleading interpretation of the

1 Гурьев 1894, 18–21.

2 Белов 1895, 70. According to the figures of the Ministry of Finance, the relative proportion of privileges revoked for not being worked out of all privileges issued had remained during 1880–94 at an average level of 70 %. During 1892–94, the rate for ten-year privileges had been 54 %, that for five-year privileges 64 % and that for three-year privileges as high as 88 %. Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 15.

3 Белов 1895, 70–1. Also see Козлов 1898, 131.

law.[1]

The references by Belov and Gur'ev in particular to German intentions to undermine Russian economic and political development evidently reflected the disagreement over issues of commercial and financial policy in Germany and Russia, which reached a peak in the early 1890's. At least in some periodicals (in particular the newspapers "Свет", "Гражданин " and "Биржевые ведомости") this involved incitement towards virulent anti-German attitudes. The accord between Russia and Germany in the sphere of financial policy began to splinter after the so-called *Lombardverbot* declared by Bismarck in 1887. The *Lombardverbot* prohibited the issuing of loans by the German Reichsbank and the Seehandlungbank against Russian securities. As a result, Russian securities moved to France, but their temporary fall in value could not be prevented. The discord between the countries was further worsened by the failure of Russian-German negotiations over a commercial treaty in 1890-91, by the 20 % general increase in import duties imposed by Russia in 1890 and by the new customs tariff statute of 1891; this statute dealt particularly harshly with the products of heavy industry, which were so important for German exports. In the summer of 1893, Russia adopted the double tariff system, followed by sharp mutual increases in import duties in both Germany and Russia. The dispute was ended by the Caprivi agreement of 1894 and by the revoking of the *Lombardverbot*; after this, Germany regained her former position in Russian trade.[2]

The fears behind Gur'ev's views were understandable; in spite of high import duties, with the powerful economic upswing Russia's technological dependence on Germany soon reached a high level. Public opinion began to turn against foreign entrepreneurs and foreign capital.[3] Instead of granting invention privileges for foreign inventions, as a means of gaining access to patented foreign technology, a considerably cheaper and better method than the issuing of privileges, according to Gur'ev, would be copying. There was no sense in granting invention privileges for inventions already patented elsewhere; it would be better to publish the patents issued annually in all the more important industrial countries in a special periodical, including detailed technical drawings and explanations in Russian. This publication would at the same time function as a convenient source of information as to inventions for which no Russian privilege was granted. In addition a special technical office was to be established in connection with the Department of Trade and Manufactures, whose function would be assisting those interested in working an invention. The additional expense accruing from the new system, and the loss of

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1 Department of Agriculture and Agricultural Industries of the Ministry of State Properties to Scientific Committee 23.6.1890, draft of Minutes of Session of Scientific Committee 15.6.1891, copy of Minutes of Session of Scientific Committee 30.1.1893 and copy of Memorandum from Scientific Committee to Department of Agriculture and Agricultural Industries 3.3.1893 РГИА f. 382, op. 1, d. 937, 1, 15–24, 37–8, 41–3; Minutes of Session of Council of Trade and Manufactures 31.10.1892 РГИА f. 20, op. 3, d. 2293, 10–15.

2 Витчевский 1909, 141–4, 146, 150, 152; Geyer 1987, 155, 159–60, 169. The percentual tariff reductions under the new agreement compared to the tariffs of 1891 were as follows: unworked iron 10–17 %, iron products 18 %, copper products and machines 10 %, wool products 12 30 %. Витчевский 1909, 148.

3 Рагозин 1895, 17–18; Geyer 1987, 144–6.

privilege fees, was not a problem for Gur'ev, since the funds invested in the system would be among the most profitable in the budget.[1]

Gur'ev was aware that the proposed arrangement conflicted with the principles of the Paris Convention, but this was irrelevant. Adherence to international laws would in the case of Russia merely mean working for the profit of others. Various international claims would become relevant only after Russia had risen to the level of the 'civilized' nations of Western Europe; at such a time, it might be in Russia's own interest to adhere to international recommendations and regulations. As long as Russia was content to export agricultural products and unrefined industrial raw materials instead of finished industrial goods, she had no cause to grant invention privileges to foreigners.[2]

The government's objective was the rapid industrialization of the country, after which tariff policy and the invention privilege system would be in a state of equilibrium. Russian industry, protected by a high tariff barrier, was developing according to Gur'ev in an unnatural, 'hothouse' atmosphere. Due to the absence of competition, manufacturers were not sufficiently motivated to improve their production technology and the quality of their output; this retarded the spread of new technology. Manufacturers were generally satisfied with old methods and were not interested in investing in anything new, the ultimate profitability of which was uncertain. Witte too had demanded measures to make Russian manufacturers interested in developing their production technology. The costs of the high tariff barriers which were so essential to the development of Russian industry could according to Gur'ev be reduced significantly by eliminating obstacles to the free Russian utilization of the inventions of the 'civilized' world. At the same time Russia could develop the export of products patented in other countries. Since in such cases Russia did not recognize the rights of foreign patent-holders, the products could be sold at the cost of production alone.[3]

In the light of the views presented at the Commercial-Industrial Congress of 1870, the idea of the copying and sale by Russians of products patented abroad is not at all difficult to believe. Russian manufacturers and merchants had become aware of the profits that could be achieved by copying and selling various foreign products. The same observation had also been made by foreign export firms. Gur'ev, however, went considerably further in proposing systematic copying, with the support of the state, and selling the copies not only within Russia but also through export abroad. Gur'ev was aware of the unwillingness of Russian manufacturers to invest in the

1 Гурьев 1894, 26–31.

2 Гурьев 1894, 22–5; Новое Время 3.10.1893 no. 6321.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–14, 23–4; Гурьев 1894, 32–7. Gur'ev noted that Prussia had systematically encouraged the distilling of liquor in regions close to the Russian border; the liquor was then smuggled into Russia. *Ibid.*

working and further improvement of inventions,[1] since this would involve both risk and sustained effort, but evidently he was banking on the Russian entrepreneur's interest in quick profits.

Not all the blame, however, could be placed on the manufacturer; too many of them believed with Engelmeier that once a good idea was discovered everything else would happen automatically. The Russian inventor often lacked not only expertise but also business sense and the necessary skills.[2] The Russian businessman was troubled by an inability to exploit ideas, and a distaste for all kinds of marketing and advertising practices. Despite all the activity of the Council of Trade and Manufactures, all the industrial exhibitions and commercial schools, Russian manufacturers preferred staying with the old and familiar rather than learning something new. In the view of contemporaries, this poorly developed sense of enlightened self-interest opened the gates to foreigners, who showed the extent to which merely for instance establishing a rational sales network was enough to increase sales. The derisive attitude of the Russian press towards Kokorev's discovery of oil in Baku[3] is symptomatic. Despite the general hilarity with which Russians viewed the matter, the Swedish entrepreneur Robert Nobel began drilling in the area, soon becoming an important oil producer.[4]

The government policy of support and encouragement for industry did not seem to lead to quite the desired result, and the second half of the 19th century brought an increase in the proportion of foreign firms in the Russian sections of international industrial exhibitions. At the Paris World Fair of 1889 foreign companies were significantly represented among the exhibitors of the Russian industrial sections; this was seen as one indication of the danger of the penetration of foreign capital into the country. Because of the political significance of the exhibitions, the situation was embarrassing for the government. In connection with the Paris World Fair, *Novoe Vremya* commented on the foreign peril in an offended tone: "The 'friends' of Russia

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1 It should be noted, however, that in the traditional family business the willingness to take risks was lessened by the fact that in the guild system the social position of the entire family depended on the outcome of the business. An entrepreneur who failed in the economic struggle for survival did not receive much sympathy. False announcements of bankruptcy by unscrupulous small shopkeepers were not uncommon, nor did the law do anything very much to protect investors from such abuses. Owen 1981, 151–2.

2 Энгельмейер 1897, 4–5, 56–60, 70–80.

3 The self-taught Old Believer Kokorev, who had made millions as a collector of the liquor tax, invested in various railroad and shipping companies. It was Kokorev who discovered the value of oil in lighting long before anyone else in Russia. On the advice of the German chemist Justus von Liebig, Kokorev established a plant near Baku for the production of kerosine. Rieber 1982, 160–1.

4 Булыгин 1898, 27–8; Соломка 1900, 83; Owen 1981, 14–15. The lack of risk-taking ability on the part of Russian entrepreneurs left room for Robert Nobel, who soon succeeded in enticing his brothers Ludvig and Alfred to join him in the project to exploit the Baku oil fields. In 1879 the enterprise was incorporated into a shareholding company, under the name of "Товарищество нефтяного производство бр. Нобел". The Nobel brothers' company made use of the latest achievements of American technology, which they further refined and adapted to local conditions. The company also practiced active 'research and development' of new production technology in their own laboratories. Ludvig's son Emil Nobel succeeded in expanding the business into an important international cartel. The original capital of three million rubles with which the company was founded had grown by 1884 to 26.7 million rubles. Брандт 1901, part 3–4, 269–72; Лаверычев 1974, 72; Rieber 1982, 250. For details on the Nobel company see e.g. Дьяконова 1980; Tolf 1976.

'teach' us how to exploit our riches, and show clearly that Russians surrender them to foreigners."[1]

From the point of view of the Technical Society, the two systems — invention privileges and protective tariffs — had a common objective, i.e. the development of Russian industry. The means they used to achieve this objective, however, were entirely different. The purpose of invention privileges was to make invention activity more attractive, while the aim of tariff policy was to encourage the spirit of enterprise. In Belov's view these two things were quite separate and could develop independently of each other, each on their own terms. The 'hothouse' conditions of Russian industry were an illusion. The profits made by the earliest entrepreneurs by means of the protectionist policy were a justified reward for their willingness to take risks. High import tariffs would also attract foreign entrepreneurs, thus increasing Russia's material and intellectual resources. The cost to consumers would be small, since stricter competition would automatically lead to a drop in prices. A protective policy would ultimately lead to an ideal state of free competition.[2] The positions of Belov and Ragozin were actually very close to Listian economic doctrine.

On this point the views of the Technical Society and the Ministry of Finance were close to each other; Witte too considered import tariffs as a temporary measure. Foreign capital, entrepreneurs and technology would act as a catalyst in the development of Russian industry and would ease the difficult stage of protectionism.[3] Gur'ev and the Ministry were not opposed to the growth of foreign investment in Russia or to foreign technology; in order to protect Russia's national interests, however, business activity and especially business activity by foreigners had to be carefully controlled by the government. Protectionism had eliminated foreign competition, after which, as Witte had noted in his program of economic policy, the government was supposed to encourage manufacturers by means of other, more active measures.[4] The new system of invention privileges, fitted into the government's objectives with respect to economic policy, represented one such internal measure referred to by Witte, the purpose of which was to eliminate the obstacles hampering the growth of Russian business and to better the position of Russian entrepreneurs.

The paternalistic government mentality and the goals of her economic policy required that privileges be granted for a relatively short time and that the Council of Trade and Manufactures retain its discretionary powers in this respect. In practice the Council was to continue to make sure that no individual branch of industry suffered unduly because of invention privileges.[5] The frequently presented demand for a

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1 Новое время 3.8.1889 no. 4823; Зарецкая 1983, 112. An example of the rational and successful exploitation of Russian natural resources by foreigners was the exhibit of the Russian oil industry at the Paris World Fair in 1889. This new industry was not represented by a Russian enterprise but by a branch of the Rothschild bank; many Russians considered this highly deplorable. Зарецкая 1983, 112.

2 Белов 1895, 69–70; Рагозин 1895, 17.

3 Витте (1899a) 1959, 179, 184 and (1899b) 1959, 197–8.

4 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–14, 23–4.

5 Гурьев 1894, 38–41.

change, in cases of two or more applicants, in favor of the first to apply, was rejected by Gur'ev, since the invention could be seen as having been 'in the air'. The earlier practice in such cases was to reject all the applications; for the sake of technological development, this practice should be preserved. The slowness of the processing of applications was actually desirable, since the first applicant was often a foreigner. Gur'ev also rejected the notion of the 'protective certificate', suggested by the Technical Society, to secure the inventor's priority on the Anglo-Saxon model.[1]

The changes demanded by the societies in relation to privilege fees would have given foreigners a highly advantageous opportunity to monopolize the use of all important inventions in Russia; Gur'ev estimated that the proportion of foreign privilege applications would rise in the future to 99 %. To speed up technological development, the rights of the original inventor should not be protected against anyone who wanted to develop a patented invention further. Everyone should have full freedom to develop and perfect a privileged invention, without permission by the holder of the privilege.[2]

Gur'ev's article expressed skepticism on all the points presented by the Technical Society to improve the position of the inventor and preserve the equal standing of Russian and foreign inventors. Poorly controlled, the institution of the invention privilege could do irreparable damage to Russian industry. Foreigners could be given rights only to the extent considered desirable by the government. Tariff policy formed merely one important means of encouraging domestic industry, as had been pointed out by Witte in his 1893 program. Skillfully exploited, the institution of the privilege, like the protectionist policy, offered the government an opportunity to stimulate the interest of Russian manufacturers in the modernization of their production technology and to improve their competitive position on the domestic market, which was being increasingly penetrated by foreigners. Behind all this was the large-scale program for the industrialization of the country, which was impossible to carry out without foreign capital and technology. It is worth noting that, even though Russia was an agricultural country, the number of privileges granted for agricultural inventions had remained extremely low, numbering on average five privileges annually.[3]

The government's tariff and privilege policies, adapted to the program of the 'national economy', were derived from the special conditions prevailing in Russia. Russian industry was still undeveloped; therefore it needed a protectionist policy, together with the flexible exploitation of the best foreign technology, until it was able to compete with the other developed industrial nations on equal terms. The institution of the invention privilege was an important instrument of industrial policy; in a country like Russia, technologically backward but aiming at rapid industrialization, invention privileges legislation could not come under civil law. This was indicated, according to Gur'ev, by the very fact that the invention privilege laws were part of industrial legislation, in the domain of the Ministry of Finance, rather than for

1 Гурьев 1894, 54–60, 62–3.

2 Гурьев 1894, 63–5.

3 Привилегии по Департаменту земледелия и сельской промышленности, выданные на изобретения по сельскохозяйственной части в 1885–1891 годах, 1892, *passim*.

instance the Ministry of Justice or of Foreign Affairs.[1] To the Commission of the Technical Society, which had actively kept up with international cooperation in patent affairs, the government position was bewildering. The Technical Society had from the very beginning advocated the concept of the inventor's natural right; to them, the government's perspective of pragmatic expediency was incomprehensible. To the Society, an invention privilege institution which was drawn up on the best West European models, and which respected the rights of the inventor, could be transferred as such to Russia.

In his analysis of the Russian concept of the contract, Lotman has noted that the basic legal categories are closely bound up with the type of cultural consciousness. The concept of the contract as a model of the Russian cultural archetype shows clearly how the cultural consciousness defines the conditions for the character of juridical activity. The example given by Lotman is that of N. Shipov, a serf, an entrepreneur and a millionaire, who lived in the first half of the 19th century. Shipov's business transactions were not based on the security provided by the law but on trust. In practice, the lord of the estate could confiscate Shipov's property whenever he chose. In Russian popular thinking, the concept of the 'contract' was closely associated with that of 'deception'. The other party to a contract was assumed to be the devil or his substitute, in which case an oath was not binding. Due to this cultural consciousness, Russian merchants considered the 'contract as such' as a means of swindling foreigners. Business transactions normally did not require any contract; its place was taken by trust.[2]

The mutual suspicion which governed economic behavior was a concrete expression of the changed function of Russian legislation. Inventors and entrepreneurs did not understand that in the early 18th century the law had ceased to be an institution regulating collisions between individual interests; at the same time, the common judicial ground shared by different groups disappeared. A form of action which in one group was perceived as consistent with regulations and socially accepted customs was perceived in another as a breaking of the law. The concept of the crime was limited to a particular social group; only if an act was directed against a member of one's own group was it perceived as criminal. Acts directed against persons outside the group were not assigned any juridical status at all.[3] In business activities, the rules of 'fair play' did not hold, since mutual trust and the Christian values were generally attached to the family.[4]

The Technical Society's proposal was more or less identical with the outline attached to Alisov's address; thus the main points of the proposal had in practice been complete since 1882. The proposals of both the societies projected an unshakable faith in the power of West European patent legislation to protect the rights of Russian inventors. They were aware of the ambiguous nature of the Russian concept of property rights especially in the case of inventors, and of the connotations attached to it

1 Гурьев 1894, 8–9.

2 Живов 1988, 46; Лотман 1981, 6–8, 11–13; Lotman 1990, 266–7.

3 Живов 1988, 82.

4 Лаверычев 1974, 74, 84; Owen 1981, 151; Rieber 1982, 24–31, 113.

which were alien to Western Europe, but they did not realize that the entire conception of legal categories was different from the European one. They did not understand that perhaps even more important than an individual law was the development of a body of impersonal law protecting and enforcing contracts in which property rights are specified.[1]

This idiosyncratic perception of juridical categories hampered the economic development of the country and increased transaction costs. The protection and strengthening of property rights, which would have been so important for economic activity and technological development, was badly neglected. The Technical and the Commercial Society were advocating a program of invention privilege legislation based on the concept of natural property rights, but such a program was inconsistent with the views of the government, which were based on a perspective of nationalist self-interest of pragmatic expediency. The inventor's property right was thus not something belonging to him by nature, but a special favor, granted as an act of magnanimity: literally a privilege.

1 North 1981, 164–5. North among others has emphasized the way in which the lack of systematic protection for the inventor's property rights slowed down technological development in Western Europe before the modern period.

VI. Foreign invention privilege applicants as a problem of legislative policy

1. Witte's proposal for the reform of the privilege system and its background in economic policy

In November of 1893 the Ministry of Finance received the Emperor's permission to present its draft for a new invention privilege law to the State Council. The first draft was completed in the autumn of the following year, and was immediately sent out to various instances for comment. In March 1895, Witte presented to the State Council a proposal for a statute on invention privileges and for the founding of a committee for technical affairs. The first, second and third version drafted by the Ministry did not differ in any major ways. The unequal status of Russian and foreign inventors with regard to the working of the invention, for instance, did not arouse comment or protest in other ministries. What did give rise to considerable debate was the proposal to revoke the prohibition on the privileging of weapons and military equipment.[1]

The general preamble explaining the grounds for the proposal started from the point that patents had become a general means of encouraging inventions, both in the industrialized nations and in such states as Turkey and Japan. The protection of inventions was particularly important for a country like Russia, whose enormous natural riches were to a great extent either not exploited at all or exported abroad without further processing. A partial reason for this, according to Witte, was the lack of knowledge of new production techniques which would be suitable for the special conditions prevailing in Russia.[2] Russian industry could not yet compete with the technologically more developed West, nor could Russia expect any major increase in her share of the European market. The exception was the oil industry, which was able to compete on equal terms with the United States for the European market. Production was slanted towards lubrication oil; in the late 1890's, 48 % of the world's lubrication oil was produced in Russia.[3]

The rate of growth of Russian industry, according to the figures of the Ministry of Finance, was considerably higher than that of the developed industrial nations of Western Europe; nevertheless Russia was still far behind the others. According to optimistic estimates, industrial production had more than doubled during the decade

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1 Most loyal proposal of Finance Minister Witte to Emperor "Об изменении действующего положения о привилегиях на изобретения и усовершенствования" 12.11.1893 РГИА f. 40, op. 1, d. 45, 160; Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 151 74; Пиленко 1902, 198–208, 384–91; Плужник & Филиппов 1971, 22–3.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 6.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 16–19; Витте (1900) 1935, 133–4; Торгово-промышленные съезды в России 1896, 86, 91–3; Исторический обзор деятельности Комитета министров, 1902, 388–92; Ананьич 1970, 25; Ляшенко 1956, 126, 159; Хромов 1950, 204–5, 459; Шепелев 1981, 206 7, 218–19.

of 1891–1900, from 1 493 million rubles to 3 038 million.[1] The government tried to attract foreign capital and entrepreneurs by means of high dividends and discount rates. In the 1890's it began an active campaign to persuade foreign investors of the profitability of investment in Russian business. In the early 1890's, French capital in particular was invested in the heavy industry of southern Russia; this trend was strengthened by rumors of the extensive deposits of natural resources, by the protectionist tariff policy, and by the increased warmth of political relations between Russia and France.[2]

The rich deposits and the spread of more advanced technology in iron and steel production were reflected in the production figures for heavy industry, even though Russia was still behind the leading industrial nations in production volume and in productivity.[3] Iron production increased during 1886–99 almost five-fold, but Russia's share of the total world output of pig-iron remained at a modest level of 3 to 7 %. This is understandable; the adaptation of new methods to local conditions was only just beginning. At the beginning of the 1890's, two thirds of pig-iron was still being produced by means of charcoal. There were only 105 Martin furnaces in use and only fifteen Bessemer furnaces. Martin furnaces began to spread to the Ural area only at the turn of the century. In 1895, Russia had to import almost 30 % of the iron products needed to satisfy even her relatively modest demand. A similar situation prevailed in coal production.[4]

Russian exports were still dominated by agricultural products, whose share of the total value of exports during 1891–95 was around 75–80 %; grain alone accounted for approximately one half of all exports. The share of industrial products out of exports was some 30–35 %. A significant proportion of the machines needed by industry and transportation were still foreign, even though the number of factories producing machinery had increased more than six-fold during the four decades since the emancipation of the serfs. The number of machine-producing factories increased during 1865–97 from 126 to 682. During the 1890's there was a sharp increase in the volume of machinery imports, in spite of the high tariffs. In 1897 more than half of imported machines, excluding agricultural machinery, came from Germany, the rest mainly from England.[5]

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1 Витте (1900) 1935, 131–2; Шепелев 1981, 191. Falkus gives the following figures for the growth of Russian industry, in rubles: textile industry 7.8 %, mining 11.2 %, chemical industry 10.7 %, metallurgy 8.4 %. According to Witte, manufacturing production increased four times more in value during 1893–97 than during 1888–92. Витте (1900) 1935, 131–2; Falkus 1989, 66. These very high levels are accounted for in part by the low starting figures.

2 Гиндин 1963, 65–6; Киняпина 1974, 214; Хромов 1950, 196; Crisp 1976, 159–67; Falkus 1989, 71–3; McKay 1970, 10, 78–83; Portal 1966, 825; Rieber 1982, 223.

3 On the technological development of steel production in Western Europe see Landes 1969, 251–62.

4 Бугаева 1979, 34; Гливиц 1911, 34, tables 6 and 27; Лященко 1956, 34, 111, 125, 159–60, 288; Хромов 1950, 196–8; Филиппов 1965, 242.

5 Лященко 1956, 137–8, 212; Сборник сведений по истории и статистике внешней торговли России 1902, 267 9; Хромов 1950, 257, 261–3, 476–9. The value of machines and instruments imported during 1881–85 was approximately 22.4 million rubles, during 1886–90 approximately 18.5 million rubles, during 1891 95 approximately 33.7 million rubles. Лященко 1956, 137, 212; Сборник сведений по истории и статистике внешней торговли России 1902, 268.

It is evident that the government began to fear seriously that, without an explicit and consistent policy for economic development and invention privileges, Russia's dependence on foreign capital and technology would endanger the development of national industry. Earlier, according to the Minister of Finance, the government had been less interested in the question of invention privileges than had been the case in Western European countries, since privileges had been few in number and had been granted mainly to foreigners. The detrimental effects of the obsolescence of the laws had become apparent only in the 1890's, when complaints began to reach the Ministry from the Technical Society and from individual inventors, to the effect that the Russian system forced inventors either to give up the idea of applying for a privilege or to go abroad. In recent times the Ministry had received various inquiries from the courts relating to matters of invention privileges, indicating that even the courts could not make sense of the laws.[1]

What were the forces that impelled the government to set the process of reform under way in the 1890's? In searching for an answer to this question, Borzenko's claim, that foreigners benefitted unduly from the obsolescence of the Russian laws, cannot be excluded. The same was implied by Ragozin's claim that the government's unwillingness to make efforts to improve the position of inventors was due to the dominance of foreigners among privilege applicants — a dominance which became all the more marked with the increasing number of applications. The average number of invention privileges granted annually during 1890–96 (up to 1.7.1896) was approximately 280; a peak figure of 359 was reached in 1892. The peak year in terms of number of applications, absolutely and relatively, occurred in 1895, with 499 more applications than the preceding year. The proportion of foreigners out of privilege recipients was high, on average 76 %.[2]

A comparison of the distributions for the two years (table 10.) shows that Germany continued to lead in the number of recipients, although her percentage of the total had declined slightly. Correspondingly, Germany's share of Russian imports in 1891 was 25.5 %. The proportion of recipients living in Britain had risen between 1885 and 1891, but Britain's share of Russian imports had remained almost the same as in 1880.[3] In 1885 the relative number of foreigners living in Russia was exceptionally high compared to 1880 and 1891. In the mid-1880's, many foreign citizens applying for a Russian invention privilege evidently spent at least some time in Russia.

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 3, 6.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 14.

3 Гулишамбаров 1911, 63. The shares of France and Austria-Hungary out of Russian imports in 1891 were approximately 5 % each, that of the United States somewhat over 8 %. *Ibid.*

Table 10. Distribution of invention privilege recipients by country, 1885 and 1891

Country	Number		Percent	
	1885	1891	1885	1891
Austria-Hungary	5	18	2.7	6.2
Belgium	6	8	3.2	2.8
Britain	16	42	8.6	14.5
France	21	36	11.2	12.4
Germany	41	60	21.9	20.7
Russia	42	55	22.3	19.0
USA	16	36	8.6	12.4
Others	11	21	5.8	7.2
Foreigners living in Russia	28	14	14.9	4.8
Not known	2	-	1.1	-
Total	188	290	100	100

Notes: The category 'Austria-Hungary' includes two cases in which one of the applicants was a German national living in Russia. In the category 'Foreigners living in Russia', the largest single group consists of German nationals and those from Austria-Hungary, accounting for six cases each.
Sources: Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1891 nos. 10–12 and 1892 nos. 1–12 and 1893 nos. 1–6; Свод привилегий выданных в России в 1885 году по Департаменту торговли и мануфактур 1885.

Among the companies operating in Russia in the 1890's, the ones that stand out are the French, the Belgian and the German; of these, the French and the Belgian companies were especially interested in the newly discovered south Russian coal and iron deposits; the Ural, however, also attracted interest, as did Congress Poland, traditionally of interest to the Germans.[1] In the Don district alone, twelve Franco-Belgian coalmining companies were founded during the boom of the 1890's. Of the 17 large iron-smelting works operating in southern Russia in 1898, only one was entirely Russian. In the light of the figures on invention privileges, the French and the Belgians seem to have been considerably less interested than the Germans in safeguarding their production technology in Russia.[2] This lack of interest in the protection of technology may have been due to the fact that the modernization of production technology, even in southern Russia, was only just beginning. Not even

1 Of the 41 foreign shareholding companies operating in Russia in 1891, sixteen were French, eleven German, seven Belgian and only three British. Massive French investment in Russian industry began after 1894. This increased interest in investment is consistent with political aspects and with the industrial boom occurring in France during 1896–99. Because of the more liberal company law and lighter taxation in Belgium, French investors often masked their investments as Belgian. Much of French and German capital was masked as Russian, since companies were established according to the Russian law; it was then possible to evade discriminatory laws against foreign companies. Киняпина 1974, 209, 213–4; Шепелев 1973, 95; Crisp 1976, 159, 161–2, 248.

2 According to the figures collected by the Technical Society, which classified invention privileges into 22 categories, the greatest numbers of privileges granted during 1885–87 were in the fields of chemical technology (total 70), various instruments and tools (59), inventions directly applied in labor-saving household devices (55) and electrical devices (54). Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1889, nos. 1–3, 156–7.

all foreign entrepreneurs were interested in the newest technology, but preserved the traditional methods used in the region. One obstacle to the introduction of more advanced technology was the lack of skill among Russian workers. The largest actual technical improvements in the quarries and mines focused primarily on the pumping of water and on various hoisting devices,[1] the foreign patents for which might already have lapsed. At least the most important inventions in the field of metallurgy were freely available, since their patent times had already lapsed.

The dominant position of foreigners in the invention privilege statistics was undeniable; probably, however, Gur'ev's claims as to the effect of foreign privilege-holders on the overall development of Russian industry were exaggerated. First of all, far fewer privileges were granted in Russia than in many more developed industrial states, both in absolute terms and per capita. In 1895, only three invention privileges were granted in Russia per one million inhabitants, compared to more than 100 patents per one million inhabitants in Germany and Austria-Hungary; even a country like Portugal had 23 patents per one million inhabitants. In the case of Russia this per capita figure is somewhat problematic, since a majority of invention privileges were granted to foreigners. Secondly, Russian manufacturers showed only little interest in new, unworked inventions, despite their privileging.[2]

There were a number of reasons for this lack of interest, but certainly not the least important was the more or less non-existent technical education of the factory directors and managers. Russian manufacturers also often lacked the ability and the willingness to take risks, the general 'spirit of enterprise'; according to Mendeleev, this lack was actually a greater obstacle to industrialization than the lack of capital. The development of this spirit of enterprise had been hampered by the structure of economic life, which Mendeleev called 'agricultural-patriarchal', and by the focus in the educational system chiefly on the training of officials for the bureaucracy. Russian businessmen were not interested in new and often risky fields of business, since the old ones offered large profits. This had been an obstacle to the development for instance of a Russian commercial fleet.[3] Under these conditions, the influence of patented inventions on the general industrial development would have been slow even if the effect of invention privileges had been positive. The influence of the system was further reduced by the expensiveness and slowness of the system from the point of view of the inventor.

The fact that the Ministry of Finance refrained from a overall reform of the privilege system did not mean, according to Witte, that they did not realize the importance of the system. Up to then, the Ministry had tried to patch up the existing system by speeding up the processing of applications. In 1876 the Council had obtained additional posts for mechanics and technicians, and beginning in the 1880's salaried experts. The expertise of the Council itself had not improved; in 1890, of the

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1 Задера 1963, 314, 317; Crisp 1976, 162–4; McKay 1970, 144–52, 154–5.

2 Скородинский 1905, 33. With regard to the number of patents per one million inhabitants, it can be mentioned that in 1895 this ratio for instance in the USA, Britain and Norway was more than 300, in France 270, in Sweden and Denmark about 170. *Ibid.*

3 Толпыгин 1895, 3; Менделеев (1896) 1991, 50, 53; Гиндин 1960, 66.

24 members of the Council[1] at most only one fifth had sufficient technical knowledge to make meaningful decisions in invention privilege affairs. This lack was to be filled by five experts attached permanently to the Council. The experts generally had many other responsibilities of a technical nature, in addition to those related to invention privilege applications; the Ministry of Finance thus suffered from a chronic lack of technical expertise.[2]

With the increase in numbers of applications, the burden on the experts serving the Council had become intolerable. There was a serious backlog of work, with some cases left hanging for years. The Council of Trade and Manufactures was so overburdened by invention privileges matters that some members refused to take part in the sessions of the Council. Even if a quorum was present, participation was slack; in 1894, for instance, only at one session had eight persons been present and at ten sessions there had actually been only the minimum number of three persons needed for a quorum. Due to this slackness of participation, of the 29 sessions planned four were canceled. In general the Council met at most 25 times a year.[3]

The Council was supposed to deal with some 800 invention privilege cases annually; of these, it succeeded in dealing with 600, even then only by limiting the discussion to the simplest matters. In practice the average time of processing an application in the early 1890's was two and a half years; this could not be considered reasonable, since it led to frequent infringement of the inventor's rights. The times, however, varied considerably; in 1891, for instance, ten applicants had received a privilege the same year, while other applications had been hanging for more than eight years. The frustrated inventors more and more frequently abandoned the whole process and withdrew their application. The Ministry, however, was even more concerned about the increasing number of inventors — now, according to Witte, some 10 % — who rejected an invention privilege already granted. Compared to 1886, the processing of applications was in any case somewhat quicker, due perhaps to the increase in staff in 1894. The backlog of cases was also relieved by the increase in the number of withdrawals.[4]

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1 The Council of Trade and Manufactures consisted of the following members: four professors or other university graduates, seven manufacturers, four merchants and eight other persons not belonging to any of the preceding categories, together with the chairman. Altogether, the Council had at its disposal, counting from the beginning of 1895, the following experts: electrical technology 1, machines, power machinery and railroads 4, fiber processing (dying, bleaching, printing etc.) 3, dyes, chemical preparations, nutrients and animal products 4, and ceramics 1. Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 15–16, 62.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 5–6, 16, 54–5, 62–3; Киняшина 1968, 209; Owen 1981, 7.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d.110, 15–16, 62–3.

4 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 15, 62–3; Записки императорского Русского технического общества и свод привилегий выдаваемых по Департаменту торговли и мануфактур 1891, nos. 10–12, 1892 nos. 1–12, 1893 nos. 1–6. The Minister had evidently exaggerated in his 1893 program with regard to the pressure of work on the Department, when he spoke of a thousand applications a year, of which perhaps half could be decided in time. Cf. Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25.

For an industrially backward country like Russia, it might have been better to give up the system of invention privileges altogether; it was considered, however, that such a decision might have a harmful effect on domestic industry and the development of invention activity, as had been the case for instance in Holland. In Witte's opinion there was no point talking about whether the rights of foreign inventors should be protected in Russia, since Russian manufacturers had to buy a lot of machinery from abroad and rewarded foreign inventors in any case, regardless of whether or not the machine in question had been privileged in Russia. If an invention fit the needs of industrial development, it would spread relatively quickly.[1] Because of the backwardness of the machine industry in Russia, the country would not benefit significantly from being able to exploit foreign inventions freely.

The advent of foreign entrepreneurs and of patented technology in Russia had not always had the hoped-for side-effects, since the adoption of new technology often necessitated the importing of staff as well. Foreign enterprises employed exclusively foreigners in supervisory positions, often for the ordinary work force as well. In some cases, the application of patented technology required considerable structural modification to fit local conditions. This was true in particular of the steel industry. Despite the good grounding in theory that Russian engineers received in the course of their training, foreign entrepreneurs had no confidence in their professional skills. A technique or process with which the staff was familiar was not often rejected, even if a considerably more sophisticated technique was available.[2]

There was increasing awareness in Russia of the country's dependence on foreign technological skill; even in the early 1880's, however, there were only six secondary or college-level schools of civil engineering in the whole country. The state had not shown any particular interest in the development of technical education, and Vyshnegradskii's demands for an increase in the student intake and the development of the curriculum of the technical universities had borne no fruit.[3] It was only under Witte that higher technical education expanded both geographically and quantitatively.[4] In the curricula and teaching of these new schools there was more stress on practical business skills; this helped to reduce the interest of the nobility in technical training.[5] This new approach was closely linked with the program of

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 56,80.

2 Егоров 1900, 2–3, 33–4; Контора Кноп и ее значение 1895, 129–32; Павлов 1953, 74–8; Задера 1963, 317–19; Carstensen 1983, 157–8; Crisp 1976, 166, 169 70; Rieber 1982, 223.

3 Дерюжинский (1900) 1969, 488–91; Филиппов 1976, 185–6.

4 During 1885–1902, a total of eight new technical schools were founded: the Kharkov Technical Institute (1885), the Electrical Institute (Petersburg 1886), the Moscow Transport Institute (1896), the Kiev Polytechnical Institute (1898), the Warsaw Polytechnical Institute (1898), the Ekaterinoslav Higher Mining School (1899), the Tomsk Technical Institute (1900) and the Petersburg Polytechnical Institute (1902). Дерюжинский (1900) 1969, 488 91; Balzer 1980, 371, 376–86, 389–400.

5 Balzer 1980, 10, 90–1, 161, 163–4, 345–6, 367–71 and Appendices I and II. The Institutes of Mining and of Transport had originally been designed for the sons of the highest social classes, but the introduction of a more practically oriented curriculum, the opening of the schools to all social classes and the abandoning of the compulsory wearing of military uniform for students lessened the nobility's interest in them. For the sons of the lower classes, the technical schools offered a channel of upward social mobility. In 1885, 59 % of the students of the Institute of Mines came from the nobility, in

'national industry'. According to Balzer, the views of Witte and the 'technocrats' concerning the development of higher technical education were due to the shortage of expert knowledge and their concern over the role of foreigners in Russian industry.[1] The Russian program of 'national industrialization' sorely needed native engineers, of a high professional caliber and familiar with local conditions, who would be able to quickly assimilate the foreign technology, adapt it to local conditions, and create a new, Russian production technology.

By 1903 the number of technical schools and colleges had risen to fourteen and the number of students had quadrupled. The number of graduates, however, remained low. The new polytechnic colleges had introduced more practically oriented curricula and teaching methods. This increase in education, however, proved to be a rather slow means, as had in fact been anticipated, and the statistics collected by the Ministry of Finance in 1904 showed that the proportion among Russian factory directors of graduates from the technical schools and colleges had risen only very slightly. The effects of increased education began to be felt only after 1907.[2]

The insufficient number of Russian engineers, and possible deficiencies in their professional skill, however, explain only partly the heavy reliance in the Russian technical literature on foreign sources and on the acquisition of obsolete Western technology. Underlying this, we can perceive a special characteristic of Russian culture: the deep-seated susceptibility towards and confidence in foreign models, so deeply ingrained in cosmopolitan educated Russians.[3] For the Russian educated class, who had been taught by foreign governesses and tutors and who had studied and traveled abroad, the eclectic borrowing of foreign models was entirely natural. In practice, there had been in Russia — with the exception of the emancipation of the serfs — no major change or technological innovation not preceded by a detailed study of European and even American experience in the matter.[4] This was also evident in the preparation of the new law on invention privileges.

The Minister of Finance accepted in principle the abandoning of the requirement of compulsory working of the invention, as proposed by the Technical Society. This obligation would presumably have further reduced the privileging of major inventions, since the working of any even slightly more extensive innovation in Russia demanded more time and money than in more highly industrialized countries. Along with this acceptance in principle, however, the Ministry made certain important reservations with regard to the Society's proposal. A foreigner would have automatically lost his privilege if for three years after it was granted he continued merely importing the

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1902 51 %. Even in 1914, one third of the students at the Institute of Transport still came from the privileged classes. Balzer 1980, 21, 30–1.

1 Шепелев 1981, 236–8; Balzer 1980, 367–8, 375; Von Laue 1963, 98.

2 Balzer 1980, 369, 371, 403–4, 407. The Russian polytechnic (политехнический институт) was a combination of the French *École polytechnique* and the German *Polytechnikum*, adapted to local needs. Balzer 1980, 403–4, 436.

3 According to Rieber, Russian culture up to the 19th century had lacked a strong secular tradition in the arts and sciences; when the country began to develop, it was thus forced to borrow Western models, adapting them to its own needs. Rieber 1991, 352.

4 Rieber 1990, 543 and 1991, 352.

item in question, even if it could easily have been manufactured in Russia. This category included many products for personal consumption, the importing of which the Ministry wished to restrain. On the other hand, many of the materials used in industrial production, such as the dyes and tools needed by the textile industry and certain machines important for Russian industry, were not manufactured in Russia. The high annual fees ensured that the inventor would work his invention as quickly as possible.[1]

The Ministry would thus have been completely free to intervene in the privilege rights of foreigners, according to the condition and interests of Russian industry at any given time. The prohibition on the importing of patented products, as adopted by France, would have hampered the spreading and possible copying of the newest technology; this was incompatible with the government's program of industrialization. Throughout the 19th century, Russians had been interested in the copying of foreign inventions, and the government had aimed actively at furthering such activity. In some cases, the starting of production by a Russian subsidiary of a foreign company involved very stringent conditions. The Kompaniya Singer, for instance, was required to build its factory at Podolski immediately, within three years of the signing of the agreement. If the company discontinued production, the factory with all its improvements and its entire area reverted without compensation to the town.[2]

According to Kirchner, German entrepreneurs at least were aware that in a newly industrializing country like Russia, the products so sorely needed by the country would sooner or later be copied and protected by high import duties. For the foreign entrepreneur, privileging the product in Russia was a means of minimizing these duties. Once the privilege was confirmed, customs duties had no effect on sales. A study of Russian archival sources leads to the same conclusion; in the case of important products which had been privileged in Russia, import tariffs could not be raised exorbitantly high.[3]

The idea of the patent as a means of 'testing the market' would seem to have been suitable for 19th century Russia. The government offered foreign enterprises a three-year period to test the Russian market, after which the company either had to give up its privilege or start production in Russia. The idea of 'establishment' was also in harmony with the principles embodied in Witte's 1893 program of economic policy, according to which the equal treatment of Russian and foreign inventors was inconsistent with a program of national industry.[4]

In practice, the government could take away the legal rights of the foreign

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 79–80, 166–7.

2 Carstensen 1984, 45–6; Kirchner 1981b, 366; Rieber 1991, 352; Зарецкая 1983, 135–6.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 56, 80; Соболев 1911, 296; Шепелев 1981, 220; Kirchner 1981b, 366 and 371.

4 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25; Торгово-промышленная программа Министерства финансов 1893, 334. In the Technical Society, the importing of sample specimens of inventions privileged in Russia had been justified on the grounds of testing the market. Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 12 13.

privilege-holder by annulment of the privilege. This way of thinking is inconsistent with the Western concepts of justice, individual freedom and respect for property rights. A similar regulation concerning foreign business companies, incomprehensible to Western legal systems, was enacted in 1887: a foreign company could lose its license at any time, simply by government fiat. Government officials were not obliged to give reasons or account in any way for their decisions. The foreign company was totally dependent on government favor.[1]

For the government, invention privileges were an instrument of economic policy; the furthering and development of the property rights of inventors were always secondary. The Ministry did not even consider — as had been demanded by Salov and Zarubin — placing invention privileges on the same level as the copyright granted for the protection of other forms of intellectual property.[2] It was likewise not considered possible in Russia to adopt a system of simple notification, on the French model, in granting privileges. Such a system had been considered in relation to the founding of shareholding companies, but had been rejected every time. The Ministry did not have confidence in Russian business ethics, while the higher authorities were unwilling to release business activity from control. In justifying the decision to preserve the system of examination of privilege applications, claimed to be rigid, slow and arbitrary, similar arguments were adduced as in the case of companies. The authorities evidently did not trust inventors either, since they believed that the adoption of a system based on notification would lead to abuses and errors. According to the Ministry of Finance, the verification of the originality of inventions could not be handed over to the courts, due to the scarcity of Russian technical literature, the small number of courts and the ignorance of manufacturers.[3]

In Witte's view, the privilege term of twelve years — short in comparison to many Western European countries — was sufficient in Russia, despite the relative backwardness of Russian industry and the shortage of capital. In justification, the Ministry pointed to the figures on patent annulment in other countries, according to which in the twelfth year after the granting of the patent only about 1 % of patents were still in force. The Ministry seems to have deliberately exaggerated the figures for patent annulment in Germany; according to the actual figures, during 1877–94 the average proportion of patents still in force in the twelfth year was more than 20 %.[4]

The views of the Ministry and of the Societies also diverged greatly with respect

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1 Шепелев 1973, 126; McKay 1970, 275–86; Owen 1991, 120. See for instance Высочайше утвержденные условия деятельности в России бельгийского акционерного (анонимного) общества, под наименованием "Электрическое освещение С.-Петербурга" (Éclairage Électrique de Saint-Pétersbourg, Société Anonyme) 8.5.1898 ПСЗ 1901, vol. 18 no. 15358.

2 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 56 7.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 29, 31, 58. On attempts to reform the laws on shareholding companies see for instance Шепелев 1973, 168–78; Owen 1991, 137–50.

4 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 57; Heggen 1975, 138–9. In Belgium and Spain patents were granted for twenty years, in the United States for seventeen, in Germany, France and Italy for fifteen and in Great Britain for fourteen years. In Austria, France, Britain and the USA a patent could be extended to 20-28 years. РГИА f. 1152, op. 12, 1896g., d. 110, 57.

to privilege fees. Witte showed some understanding of the financial distress of inventors and some acceptance of European models, in that he was prepared to adopt a system of progressively rising annual payments in place of the one-time payment so onerous to the inventor. The system of examination was expensive to maintain, and due to the small number of applications the privileging of inventions was thus more expensive in Russia than for instance in Germany. The annulment of privileges due to failure to pay the fees would be more common in Russia than in Germany. Since no sudden or large increase in the numbers of applications was to be expected at least in the immediate future, the fee scheme proposed by the Technical Society would not in the Ministry's view cover the costs accruing from the granting of the privilege.[1] With regard to the practice in cases of two or more applicants, Witte had agreed with the position of the Societies already in his program of 1893.[2]

The Ministry also did not take up the defense of the out-dated regulation concerning importation privileges. Sixty years earlier, the government had considered that it would promote the development of Russian industry by permitting the free privileging of foreign inventions. This view was understandable in terms of the difficulties Russia was facing at the time in relation to Europe, and the lack of knowledge of foreign technological innovations. In the 1890's these special conditions no longer prevailed, and in Witte's view information about useful new inventions now always reached Russia relatively quickly. The system, however, had also not as yet led to any major damage, even though more than half of the recipients of importation privileges had been foreigners, because during the previous thirty years no privilege had been granted for an invention which had long been familiar, down to its smallest details, in other countries. The Ministry's decision was presumably affected by the fact that importation privileges accounted for only about 1 % of all privileges.[3]

The system of importation privileges had not led to any great interest on the part of Russian manufacturers in the importing of new production technology. This lack

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 26–8, 57–60. The scheme proposed by the Ministry of Finance was a fee of 20 rubles for the first year (together with a 'handling charge' of 30 rubles), after which the fees would be incrementally scaled as follows: 2nd year 30 rubles, 3rd year 40 rubles, 4th year 60 rubles, 5th year 80 rubles, 6th year 100 rubles, 7th year 150 rubles, 8th year 200 rubles, 9th year 300 rubles, 10th year 400 rubles, 11th year 500 rubles and 12th year 600 rubles. The proposal of the Technical Society, on the other hand, was a fee for the first year of 10 rubles (plus a handling charge of 20 rubles), after which the fee would increase by annual increments of ten rubles. The progression proposed by the Ministry was thus considerably more steep, especially at the upper end. This steepness was justified by Witte on the grounds of the small number of applications; there was nothing to prevent reducing the fee scale at a later date, if the number of privileges increased to such an extent that the initial payment together with the annual fees covered all the costs of the process. In Germany the owner of the patent paid 30 marks during the first year (plus 30 marks examination fee and fifty marks for each following year. *Ibid.*

2 It was of the utmost urgency to find a solution to this problem which would be satisfactory to inventors. The problem gave rise to much inflammatory rhetoric; examples are the speeches of the inventor I.V. Platonov and of I.S. Korobel'nikov following the address by Engelmeier on 1.3.1893 in the Moscow section of the Technical Society. Энгельмейер 1893, 18–19.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 23, 61; Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25.

of interest in importation privileges is not surprising, when we take into account that in 1846, according to some estimates only 5 % of Moscow manufacturers had any understanding of the technology they used and were interested in its development. Most manufacturers had no understanding of even the simplest mechanical principles, and preferred to delegate the management of the factory to mainly foreign supervisors rather than themselves taking the trouble to familiarize themselves with the technical side of production.[1] Nor had the level of education in industry risen significantly by the 1890's; according to the official statistics of the Ministry of Finance, only some 5-10 % of the personnel responsible for production management had any technical training. The six institutes giving higher technical training in Russia produced some 250 graduate engineers a year, of whom, according to even the most optimistic views, fewer than half entered the service of industry. Other figures in fact suggest that only 25 % of these graduates entered positions requiring expert technical knowledge.[2]

Despite the increase in the number of applications that was to be expected, the Ministry was not prepared to establish an independent patent office, but wanted to keep privilege affairs within the domain of the Department of Trade and Manufactures. The examination of novelty, carried out by the Council with the assistance of expert consultants, had been the subject of constant complaints. In some cases the Council had rejected applications totally or imposed significant restrictions, in cases where the same invention had been patented without any problems even in countries known for their extremely strict process of examination. In Witte's opinion the matter would be remedied by the establishing, in connection with the Department, of a separate Committee for Technical Affairs (Комитет по техническим делам),which would liberate the Department itself of all such affairs. The Committee would include sections at least for mechanical, chemical and miscellaneous inventions, and would have access to sufficient resources of expertise. Complaints would be dealt with in joint sessions of the sections. Witte also wanted to make the process of examination of novelty easier by requiring inclusion in the application of a detailed list of all new parts in which the invention in question differed from other similar inventions; the same had been demanded by the Technical Society on a number of occasions.[3]

The dominant position of foreigners among privilege applicants was a problem for the Minister of Finance, who had to find a way of reconciling privileges with the needs of Russia's own industry and with the aim of creating an 'independent' national economy. The clause concerning imports by foreigners gave the Ministry of Finance a means of regulating the rights of privilege holders according to the needs of Russian industry at any one time. The reservation was analogical to the rule applied

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 61; Козлов 1898, 117, 129–30; Owen 1981, 14.

2 Толпыгин 1895, 3; Филиппов 1976, 179; Balzer 1980, 367, 423. The figures given by the journal 'Technical Education' concerning the level of education among industrial management and executive positions cast a somewhat more optimistic light on the situation. They indicate that the lowest level of education was found in the textile industry, where only 25 % of management had some technical educational background. In the machine industry the figure was over 50 %. Филиппов 1976, 179.

3 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 63–5, 84–5.

to foreign companies. The government also actively monitored the effect of tariff policy and trade agreements on the development of Russian industry, as had been stressed in the 1893 program. The individual tariff policy regulations could be changed at need, according to the development of a given branch of industry.[1]

For the time being discrimination against foreigners was limited to consumer goods for personal consumption; with the development of industry, however, it was within the discretion of the Ministry to decide whether a given product could be manufactured in Russia.[2] Witte's industrial policy made it expedient to do away with the complete equality before the law of Russian and foreign inventors. The rights of the individual were to take second place to the interests of the national economy. Witte shared, to some extent at least, Gur'ev's views with regard to foreigners and tariff protection. Russian industry badly needed both foreign technology and a protectionist policy, but these instruments of economic policy had to be used with caution. Unskillfully applied, they might do more harm than good to the development of the country's own industry and to the Russian consumer. If an invention was protected by a privilege, its manufacture in Russia was impossible unless the inventor himself wanted to begin production. On the other hand, privileged products were often essential to the functioning and development of Russian industry, and tariffs thus had to be moderate. Witte tried to solve the problem by means of making privileges 'contingent', i.e. by giving the Ministry discretionary powers in privilege matters.

2. Dialogue between Witte and the Technical Society concerning the rights of foreign inventors in Russia

The draft submitted by Witte to the State Council did not adequately fulfill the objectives considered important by the Technical Society with regard to the improvement of legal safeguards for the rights of inventors. The Society was dissatisfied with the Ministry's draft, and in 1895 they set up a new four-man Special Commission, which quickly drew up a report to present to Witte.[3] The Society was

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1 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 13–15, 23; Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 79–80, 166–7; Витте (1899a) 1959, 189 90.

2 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 23–5; Торгово-промышленная программа Министерства финансов 1893, 334. Letter from V.I. Veshnyakov, Member of State Council, to M.A. Kahanov 16.2.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 146; Joint Session of Departments of State Economy and of Civil and Spiritual Affairs 17.2.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 189; Minutes of Plenary Session of State Council 29.4.1896 РГИА f. 1160, op. 2, d. 372, 116.

3 The Special Commission consisted of E.I. Ragozin, V.D. Belov, P.D. Kuzminskii and G. Pashin. The report of the Commission was completed, as planned, in the autumn of 1895, and was published in October in the journal of the Society. The general section of the report, written by Ragozin, presented the theoretical basis of the importance of invention privileges for the development of industry. The second and more specific part dealt with certain proposed changes both in the existing legislation and in the draft for a new law currently before the State Council for debate. The general meeting of the Technical Society, which took place in early December, approved the report of the Commission; due

particularly dissatisfied with the way the Ministry had linked invention privileges with the national interests of Russian industry.[1]

The question of the equal status of foreign and Russian privilege applicants had earlier been seen by the Society as not particularly problematic; it now emerged as a central issue. Gur'ev's critical polemic had been taken to some extent seriously within the Technical Society too, and signs of growing xenophobia within the Society were becoming evident in the autumn of 1895, when M.A. Tolpygin, of the Kiev branch of the Society, had harshly criticized the proposal sent by the Society to the Ministry.

The greatest danger, according to Tolpygin, was that the new statute on invention privileges would still clash with the objectives of the whole privilege system. The present system did not attract inventors, but rather hampered their activity through high fees and poor legal safeguards. Privileges granted to foreigners did not in any way promote the development of Russian industry, but rather the opposite. It was generally known that foreigners who privileged an invention in Russia did not begin its manufacture there but merely imported it into the country. Like Gur'ev, Tolpygin argued that foreigners sought Russian invention privileges merely to prevent the manufacture of the item in Russia, and even to deprive those wanting to make use of the invention of the right to do so, in order to hamper the development of Russian industry. In Tolpygin's opinion, the Technical Society should as quickly as possible submit to the Ministry of Finance a special proposal, stating that the inventor, regardless of nationality, should be obligated to work his invention in Russia, and that the importing of the invention either as a whole or in parts would be prohibited and would lead to the revoking of the privilege.[2]

Tolpygin was actually concerned about all privilege-holders who either tried themselves to create a Russian monopoly for their invention or granted an exclusive manufacturing license only to one Russian factory. In such cases, it was the task of the government to intervene in the privilege-holder's property rights in exactly the same way as in the case for instance of the use of land or forest. The monopoly right conferred by the invention privilege was based on the inventor's property right, but this property was valueless without government security. The property rights of inventors should come second to the interests of the state; for this reason, the property rights confirmed by the invention privilege were contingent and time-bound. The theory of natural right, which had been the fundamental starting point of the Technical Society, was to give way to the utilitarian point of view of national expedi-

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to the pressure of time, only a few of the branch sections of the Society had had time to comment on the proposed reform. Finance Minister Witte to Imperial Secretary 11.1.1896 "К представлению министра финансов в Государственный совет от 14.3.1895" РГИА f. 1152, op. 12, 1896g., d. 110, 98; Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 1 2; Записка Комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения 1895, 1; Отчет о заседании комитета Московского отделения императорского Русского технического общества 29.9. and 12.10.1895г., 1896, 4, 16; Рагозин 1895, 67–74.

1 Белов 1895, 71–7; Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895г., 1895, 21–45.

2 Толпыгин 1895, 5–6, 11–12.

ency and the interests of the state.[1]

Tolpygin's views were too remote from those of the Technical Society to be suitable as such as the basis for a new proposal. In its final report, completed in December 1895, the new Special Commission opposed the principle of compulsory working of the invention as proposed by the Ministry, which chiefly concerned foreign inventors; on the other hand, unlike the Technical Society's proposal of 1893 it advocated the compulsory working of foreign inventions, and contained a clause on the French model, prohibiting imports. In addition, a foreigner interested in obtaining a Russian privilege for his invention would have to submit his application within a year from the granting of the foreign patent.[2] The earlier unanimity in the Technical Society as to the desirability of complete equality of status for foreign and Russian privilege-holders thus broke down; following a vote on the matter, discriminatory regulations against foreigners were included in the Society's statement.

The importing of model specimens was permitted, since this would give the inventor a chance to test the demand for his product before starting production in Russia. The work of the Special Commission seems to have been guided by the general principle that the foreign inventor had to either start production in Russia himself or ensure it by some other means. Some members of the Society saw the prohibition on imports as having a positive effect on the development of Russian technology and industry.[3] In the view of the inventor Pashin, the equal treatment of Russian and foreign inventors was unjust because for the former it was almost impossible to find a manufacturer interested in new inventions. 'Russian' manufacturers were interested only in subsidies and in government orders. Another point to the disadvantage of the Russian inventor was the enormous dependence of the country on foreign goods, which meant that there was practically no demand for Russian inventions. There was great interest among foreigners in the Russian market, as indicated — according to Pashin — by the foreign engineering firms and agencies found in major Russian cities. The work of the Russian inventor was yet again impeded by the large number of foreign manufacturers and technicians. After seeing a Russian invention, the technical expert would probably recommend to the manufacturer that he order the item from abroad, since it would probably be of better

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1 Толпыгин 1895, 5–6, 10–13.

2 Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895г., 1895, 25–6, 31, 41–2 and 9.12.1895г., 1896, 9–17, 32–3, 101 2, 109; Записка Комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения 1895, 13; Проект положения о привилегиях на изобретения и усовершенствования, выработанный императорским Русским техническим обществом 1896, 101–2, 112.

3 Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 11–14. In connection with the World Fair of 1878, a meeting had been held with the purpose of achieving some degree of uniformity of patent legislation. The Germans succeeded in putting sufficient pressure on the French so that the latter consented to revoke their strict prohibition of imports. Some of the members of the Technical Society had expressed their satisfaction with this concession by the French. This attempt at reform, however, failed due to powerful opposition in France. Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895г., 1895, 31 and 9.12.1895г., 1896, 11–14.

quality than one manufactured in Russia.[1]

Some of the members of the Technical Society did not accept the prohibition on imports which would have been imposed on foreign privilege-holders under the proposal of the Special Commission, rather than merely the compulsory working of the invention. Altuhov stressed that no-one could be forced, under threat of losing the privilege, to produce the item in Russia, if production costs were lower abroad. The inventor, regardless of nationality, had to be allowed to decide as to the undertaking of production on purely economic grounds of cost and benefit.[2] The chairman of the meeting, M.I. Kazi, disregarded Altuhov's argument and appealed to Russia's general economic policy. According to Kazi, Russia would be able to produce all kinds of goods just as well as other countries. The restrictions on imports by foreigners, and the one-year priority period, were also consistent with the protectionist principle adopted in Russian economic policy. This protectionist policy had been embodied in the invention privilege legislation by giving Russian inventors an advantage over foreigners. Foreigners, however, were at a disadvantage only with respect to the exploitation of the invention, not to the obtaining of the privilege itself.[3]

It was obviously difficult for the Technical Society to understand the connections between the proposal formulated by the Ministry and the program for the development of the national economy. Some of the members thought, logically, that if Russian producers were protected by import tariffs from foreign competitors, Russian inventors should be similarly protected from a flood of foreign inventions. In Troiskii's view, discrimination against foreigners was a reasonable consequence of the development of American and Western European industry and of the harnessing of technology in the service of industry. According to Altuhov, on the other hand, the patriotic protection of Russian inventors and discrimination against foreigners would merely hamper the development of industry and the spreading of technical knowledge. Russia would no longer have access to important new ideas, since no inventor would probably apply for a Russian privilege unless he had some particular desire to start production in the country.[4]

The statement by the Technical Society is interesting in that the prohibition on imports was restricted to foreign inventors alone. If some other person, whether

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1 Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895г., 1895, 33–5. According to Pashin, a majority of so-called 'Russian' manufacturers were actually foreigners.

2 Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 9–10. Of the five branches of the Technical Society which had time to comment on the Society's proposal, only one — that of Ivanovo Voznesensk — was in favor of placing Russians at an advantage compared to foreigners. They proposed an import prohibition on foreigners and a two-year period of compulsory working. Russian inventors who had worked their invention abroad would have a five-year period of compulsory working. The branches of Kiev and Nizhegorod proposed that a foreigner who patented his invention abroad would have to apply for a privilege in Russia within one year. Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 38–9, 41–2.

3 Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 11–12, 15.

4 Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 10–12.

foreigner or Russian, wished to import the invention in question, this was entirely legitimate as long as he paid the high import duties required. A Russian inventor could privilege his invention at home, start manufacturing it abroad, and import it into Russia quite normally. The privilege granted to the foreign inventor was in a way a contingent one; in addition to paying the required annual fees, the invention had to be worked in Russia, and importing was restricted to specimen items. This prohibition on imports, concerning foreign inventors alone, was rejected by Witte; in the form presented by the Technical Society, such a prohibition was unnecessary and served merely to make the work of customs officers more difficult.[1]

Initially, the approach of the Technical Society to the issue of invention privileges had been based on the idea of protecting inventor's property rights. It was only with the powerful economic boom of the 1890's, and the heavily protectionist and nationalistic stance which was prominent in the debate of the time, that the Society began to concern itself with the role played by invention privileges in the government's industrial policy. The revised version of the Society's 1893 proposal, presented to Witte in 1895, reflects a change in the thinking of the Technical Society. In this revised version, the Society was prepared to give up the recommendation of equality contained in the Paris Convention, but not to endorse an increase in the arbitrary powers of the authorities. This concession on the part of the Technical Society can be interpreted as a change in the general climate of opinion, which also affected the issue of invention privileges.

The growing visibility of foreigners in business life had aroused increased distaste among Russians. In particular in the Polish area, some German entrepreneurs had bypassed the discriminatory decree of 1887 by becoming Russian citizens. This issue advanced in the Ministry of Internal Affairs to the stage of a law proposal, presented in the beginning of 1895 to the State Council. The proposed law concerned the granting of Russian citizenship to foreigners, and was directed mainly against German and Austrian 'colonization' in the western border areas of the country. This proposal was opposed by Witte, who considered that it would hamper foreign business activity in Russia even more than previously. The proposal lapsed in 1899; the opposition expressed by the Minister of Finance, however, did not play a major role in this.[2]

For Witte, foreign investment and foreign entrepreneurs were an essential economic catalyst, whose beneficial effects, via stimulated competition, would gradually be seen in an increased volume of production and a fall in the price of goods. It was considerably more advantageous for the country to import foreign capital than to satisfy the growing demand at home by increasing imports of goods. In either case the profits would go to foreigners; but at least the foreign entrepreneur would make use of Russia's own raw materials and labor, both of which were freely available. Despite these arguments, public opinion turned sharply hostile towards

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1 Finance Minister Witte to Imperial Secretary 11.1.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 99–100. In the United States, the restrictions on the rights of foreigners pertained only to the stage of claiming priority (the 'caveat'), at which time foreigners had to submit complete drawings and explanations of the invention.

2 Шепелев 1973, 179–82; Crisp 1976, 162–3, 248.

foreign businessmen, and in 1899 the Minister of Finance had to exert all his authority in the defense of his views. Nicholas II, under the influence of his advisers, had changed his formerly positive attitude towards foreign investors. Witte, however, succeeded in restoring the Emperor's faith in the necessity and advantageousness of foreign capital.[1]

To alleviate the apprehensions felt towards foreign entrepreneurs, Witte, like his predecessor Vyshnegradskii, stressed that foreign companies were subject to Russian law and that the government had full powers to revoke the company's license and request a bankruptcy report.[2] In practice, foreign capital in Russia was under the strictest control of both the central and the local authorities, as indicated by the following quotation from Witte: "It is clear that the entire flow of foreign capital into Russia is under the strictest control of the government, at both the central and the local level. The strengthening, reduction or complete obstruction of this flow is completely within the discretion of these organizations, and depends on the social benefit obtained."[3] Witte wished to give the government a free hand to change its policy with regard to foreigners according to the situation at any given time.

In practice, Witte had outlined already in his program of 1893 the basic principles that would dominate his economic policy throughout his term in office. Foreign technical expertise and foreign capital, combined with the likewise foreign modern methods of business management, were Witte's weapon against the technological ignorance and indifference of Russian manufacturers. The increasing competition would force Russian manufacturers to follow developments more actively. In Witte's thinking, invention privileges were part of the same scenario, aimed at reducing the disadvantages of protectionism and increasing the positive and permanent side-effects of foreign entrepreneurs and investments. It was for this reason that the term of privileges could not be significantly extended.

The Ministry was not at any point prepared to reduce its possibilities of monitoring developments with regard to competition on the domestic market. For this reason, the new statute on privileges was to contain a clause allowing the authorities to intervene in the property rights of inventors in the interests of Russian industry. In the Statute of 1833 this was expressed in more general terms; now the discretionary powers of the Ministry of Finance were to be directed specifically against foreign inventors.

The prohibition on imports by foreign inventors did not fit in with the plans of the Ministry, since in the view of the latter it was important for the newest production technology to reach Russia as extensively and as rapidly as possible. For the Ministry, invention privileges were a means to ensure access to information concerning the most recent achievements of foreign technology. It was left to the Ministry of Finance to carry out an important task: to ensure that foreign entrepreneurs did not succeed

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1 Витте (1899a) 1959, 176–81, 184–9 and (1899b) 1959, 198–9 and (1900) 1935, 134–7 and 1960, vol. 2, 501–2; Ананьич 1984, 36; Гиндин 1959b, 160–1; Шепелев 1981, 220–1.

2 The clause stating the government's right to revoke the license of a foreign company was sometimes omitted. Шепелев 1973, 128.

3 Витте (1899a) 1959, 189–91, 194–5 and (1900) 1935, 137–8.

in forming monopolies which would be harmful to the development of Russian industry. In the Technical Society, however, this emphasis on the Ministry's supervisory function, together with the proposed short privilege term and high fees, were interpreted as a sign that privileges were viewed by the Ministry as at best of dubious value.[1] In the view of the Society, to offset the disadvantageous conditions prevailing in Russia inventions should be protected longer than in the developed industrial nations. In his answer to the State Council, however, Witte uncompromisingly rejected these demands as unnecessary.[2]

The Technical Society had justified its fee scale by reference to the low patent fees in Britain; in Witte's view, however, they had omitted to take into account that patent fees had been high in Britain too up to the 1880's. Only during the last ten years had it been possible to lower them, since the revenue they provided now covered the costs arising from the maintenance of the patent office. This, according to Witte, was due in part to the British patent system, which did not involve examination. Witte considered that reducing privilege fees in Russia could easily lead to a situation in which privileges were increasingly often sought for trivial inventions; already more than half of applications were such.[3]

The demands of the Technical Society for the improved protection of the inventor's rights and for the founding of a special patent office had evoked no response in Witte's proposal. For the Society, the improvement of the legal safeguards for inventors had been and still were one of the main priorities in the reform, for the sake of which they were willing to some extent to meet the Ministry halfway and compromise on some issues. Thus the Special Commission of the Society abandoned the idea of a completely independent office for privilege affairs, and proposed the setting up of an office in connection with the Ministry of Finance, on the model of the American 'Patent Office', consisting exclusively of technical experts. This Commission for Privileges would no longer have to resort to outside help from academic and technical experts, and applications could be decided expertly and in proper time. The head of the Commission would be appointed by the tsar, but neither the chairman nor the vice-chairman of the Department of Trade and Manufactures

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1 Белов 1895, 71–7; Записка Комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения 1895, 10. E.I. Ragozin noted that in its statement the Society should place more emphasis on the importance of invention privileges for the development of industry, since the proposal of the Ministry of Finance merely showed a deficient understanding of the matter. Журнал общего собрания гг. членов императорского Русского технического общества 17.5.1895г., 1895, 44–5.

2 Finance Minister Witte to Imperial Secretary 11.1.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 100–1. In Germany, experience with a patent term of fifteen years had shown that a maximum privilege term of twelve years was sufficient. According to the Ministry's calculations, the term of twelve years proposed for Russia corresponded to the fifteen-year term of German patents, since in Germany the term was counted from the submission of the application, rather than from the granting of the patent as was the case in Russia. When the 1–1.5 year duration of the processing of the application was taken into account, the difference between the two systems was insignificant. *Ibid.*

3 Finance Minister Witte to Imperial Secretary 11.1.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 101; Представление господину управляющему Министерством финансов об изменении некоторых постановлений, относящихся до выдачи привилегий 1893, 32–3; Рагозин 1893, 505–7.

would be eligible for the appointment.[1] In practice the Technical Society was trying to achieve an at least slightly more independent status for the future Commission than had been proposed by Witte.

Witte's reply indicates that the Ministry did not favor splitting off privilege affairs from the Department of Trade and Manufactures, which was closely bound up with the government's economic policy. Witte appealed once more to financing difficulties,[2] and to the more than sixty years of experience that the Council of Trade and Manufactures had in privilege affairs, even though earlier he had accused the Council of a lack of expertise. In Witte's view, it was advantageous to preserve the old connection. The establishment of an independent privilege office would have been premature, since only some 300 privileges were granted in Russia annually. According to Witte, the independent patent offices of Western Europe were a natural solution when the annual numbers of patents were 6 000 to 23 000. After the shortcomings in the present system, due to the obsolete laws, were eliminated, the number of applications could be expected to increase, and a committee for technical affairs was thus essential. In addition to privilege matters, the committee would also take care of other technical matters falling within the Department's sphere of responsibility.[3]

In the process of reform, one approach which was never considered was the adoption of a system of registration, as was the case with the laws concerning companies, which were undergoing revision at the same time. The proposal completed in 1898 lapsed because the government would have lost its control over the activities of companies and would have been unable to impose exceptions to the existing laws. The new law would have made the position of foreign investors even more difficult than before; there was not the least suggestion of revoking the restrictions on their activity or on that of Jewish entrepreneurs. Witte considered it better to let the whole proposal lapse, and to reassure foreign investors by an announcement giving hope of the reform of stock-exchange and company laws in the near future. The Minister of Finance continued his policy of ad hoc pressure in the Committee of Ministers, which considered exceptions to the discriminatory regulations in individual cases.[4]

Despite his autocratic and bureaucratic attitudes, Witte was the Finance Minister who carried through the reform of the privilege statute of 1833. The increasingly visible role of foreigners in Russian business life had aroused mixed feelings, and had introduced an increasingly strong political aspect. This was also reflected in the privilege issue; foreign capital and foreign technology were juxtaposed, and the question was posed as to which was actually a greater threat to Russia. The

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1 Белов 1895, 76–7; Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 105, 112–14; Записка комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения 1895, 10–12.

2 The Veshnyakov Commission had even considered the founding of a completely independent office, but had given up the idea because of the great expense involved. Finance Minister Witte to Imperial Secretary 11.1.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 98–9.

3 Finance Minister Witte to Imperial Secretary 30.10.1893 РГИА f. 1152, op. 11, 1893g., d. 447, 25; Finance Minister Witte to Imperial Secretary 14.3.1895 and 11.1.1896 РГИА f. 1152, op. 12, 1896g., d. 100, 16, 62–3, 98–9.

4 Витте 1960, vol. 2, 504; Шепелев 1973, 168–80 and 1981, 233–4.

government could not help being alarmed by the growing Russian dependence in some industries on foreign technical know-how. At the same time, it was considered that most of the benefit from a reform of the worst evils of the privilege legislation would accrue to foreigners.

The legislative project, heavily ideologically and politically loaded, was finally brought to a conclusion. Witte's gradual withdrawal from his Slavophile background in the mid-1890's helped the progress of the reform in the Ministry. A similar effect came from development of Russian industry, which was growing rapidly even in comparison to Western Europe; this strengthened faith in the government's industrialization program. This program, however, depended on the ability to attract foreign capital and technology, and here the new, more modern system of invention privileges played a role of its own. It seems obvious that it was only in the mid-1890's that the importance of technology and invention privileges for the rapid modernization of the country was truly understood.

The fact that it proved impossible to reform the laws concerning joint-stock corporations, also dating from the 1830's, was evidently related to the ambivalence of government attitudes towards foreign capital. The close connection between the corporation laws and the capital market led the government to have doubts over the consequences that the relinquishing of the concession system might have on the capital market. In the case of the invention privilege system the principles involved were less far-reaching, since in the final analysis it was the government which decided whether or not a privilege was granted.

VII. The Invention Privilege Statute of 1896 and its effect on the subsequent development of privileges

1. Position of the State Council with regard to the reform proposals

Witte's statute draft, submitted to the State Council in March of 1895, was dealt with in the Joint Session of the Council Departments in February 1896, together with the comments and statements regarding it which had reached the Council. In April the Council heard the conclusions of the Departments, on the basis of which it made its decision concerning the revision of the invention privilege statute and the establishment of a committee for technical affairs.[1]

The State Council deviated from Witte's proposal on a number of controversial issues. One of these was the length of the privilege term; on this point, the Council inclined towards the recommendation of Veshnyakov – a member of the Council – of a fifteen-year term, on the grounds of the special conditions prevailing in Russia and of general European practice. In the view of the Departments, Witte had erroneously appealed to the German practice in his call for a twelve-year privilege term. The Council considered that fifteen years was not too long a term, since it was expected that the new law would shorten the gap between the obtaining of the protective certificate and the granting of the privilege; the total time that the invention was protected thus would not be significantly more than fifteen years.[2]

In the view of the Departments, Witte's proposed privilege fees were exaggerated, since they were considerably higher than corresponding fees in other countries.[3] The proposed fees for the first few years were considered particularly exorbitant. According to the most recent forecasts, the number of applications was expected to

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1 Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op.2, d. 372, 111–27; General Assembly of the State Council 29.4.1896 РГИА f. 1160, op. 2, d. 372, 128.

2 Memorandum of the General Assembly of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 317; Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 "Об изменении действующих постановлений о выдаче привилегий на изобретения и усовершенствования и об учреждении при Департаменте торговли и мануфактур Комитета по техническим делам" РГИА f. 1160, op. 2, d. 372, 113; letter from V.I. Veshnyakov, Member of the State Council to M.S. Kahanov 16.2.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 144–5.

3 Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 114; Memorandum of the General Assembly of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 317. According to the fee scale proposed by Witte, a twelve-year privilege would cost a total of 2 510 rubles. The Technical Society calculated that this would have made a Russian privilege 3 600 % more expensive than an American one, 350 % more expensive than in Britain and 520 % more expensive than in France. Записки Комиссии императорского Русского технического общества по рассмотрению проекта закона о привилегиях на изобретения 1895, 16.

increase during the first year after the enactment of the new law to about one thousand, of which an estimated 33–36 % would lead to the granting of a patent. The State Council put its hope in an annual rate of growth in the number of applications of about 6 %, and settled on a fee schedule which was considerably below that proposed by Witte.[1] If for any reason the fees did not cover expenses, the Minister of Finance was to inform the State Council of this in good time.[2]

The State Council did not accept the requirement of compulsory working of the invention, which had been the subject of a dispute between the Ministry and the Technical Society and which would have clearly discriminated against foreigners. To end complaints by inventors, the Ministry of Finance had proposed relinquishing the general requirement, and extending the demand for working within three years only to those inventions whose application in Russia did not cause difficulties. Veshnyakov saw this as an attempt to protect Russia from a flood of foreign inventions, which would seem less frightening than an influx of foreign capital.[3] In his letter to State Secretary Kakhanov, Veshnyakov suspected that Witte's proposed regulation would open the gates to unrestricted arbitrary power.[4]

Veshnyakov's parallel can be interpreted as a reflection of the attitude of the highest government circles towards foreign capital, which was a distrustful one to say the least. This skeptical attitude also increased towards the end of the century. The most zealous opposition to foreign capital tended to be found among the landowning nobility, the Ural mine-owners and the manufacturers of the Central Russian industrial areas. Russian industrialists were afraid of foreign competition, which would reduce the profits made possible by protectionism and state subsidies. The suspicion arose that Witte's industrial policy would fail, in which case the initial dependence on foreign capital and foreign technology would remain a permanent feature of the economy, gradually strangling Russian industry and entrepreneurs. In practice, government attitudes towards foreign capital remained more or less unchanged up to the end of the century.[5] The proportion of foreigners out of all invention privilege recipients was considerably higher than that of foreign capital in

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1 The fee schedule decided on by the State Council was as follows: 15 rubles during the first year, 20 rubles the second, 25 the third, 30 the fourth, 40 the fifth, 50 the sixth, 75 the seventh, 100 the eighth, 125 the ninth, 150 the tenth, 200 the eleventh, 250 the twelfth, 300 the thirteenth, 350 the fourteenth and 400 rubles the fifteenth year. The total cost would thus be 2 130 rubles. Memorandum of the General Assembly of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 319–20.

2 Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 114; Memorandum of the General Assembly of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 319–20; Отчет по делопроизводству Государственного совета за сессию 1895–1896гг. 1896, 437–8.

3 The same idea had been put forward by Troitskii in the General Meeting of the Technical Society in December 1895. Журнал общего собрания гг. членов императорского Русского технического общества 9.12.1895г., 1896, 10–11.

4 Record of the General Meeting of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 317–18; letter from V.I. Veshnyakov, Member of the State Council to M.S. Kakhanov 16.2.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 146; Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 116.

5 Витте (1899a) 1959, 181–4 and (1900) 1935, 135–7 and 1960, vol. 2, 501 2; Ананьич 1984, 36; Гиндин 1959b, 159–62; Соловьев 1959, 373–4, 376, 382; Шепелев 1981, 208, 220–1; McKay 1970, 286–94.

Russian industry. It was also clearly higher than in Germany, the original home of Listian economic policy.

Table 11. Percentage of foreigners out of all patent recipients in Germany, 1890–96

Year	1890	1891	1892	1893	1894	1895	1896
Foreigners	35	34	33	32	33	33	35

Source: Скородинский 1905, 34.

The State Council rejected this discriminatory regulation against foreigners proposed by Witte, since they considered that it was impossible to evaluate beforehand the ease or difficulty of the working of the invention. The regulation would either remain a dead letter or could be applied only in extremely rare instances. The Departments too suspected foreigners of evil designs, but did not want to write discriminatory provisions into the law. The regulation proposed by the Ministry was pointless, in that the Departments considered it to be unwarranted in any case to grant privileges for inventions which were unsuitable for working in Russia. If the invention in question was one which was sorely needed by Russian industry, it would be imported regardless of whether or not it had been privileged in Russia. The Departments retained in its old form the stipulation of compulsory working of the invention, but extended it to five years.[1] This extension was significant, in that under the Statute of 1833 an invention had to be worked within the first quarter of the term of the privilege. Since the old rule was otherwise retained, foreign and Russian inventors continued to have equal status under the law. Inventors were also freed from the restrictions on imports proposed by Witte and the Technical Society.

The Departments did not see as sensible the proposed change in the regulation concerning the privileging of weapons, under which it would have been possible to privilege normally all inventions in the field of arms technology. Where demanded by the public or state interest, however, the government would have been able to acquire such inventions by compulsory expropriation, under special decrees to be ordained later. After prolonged debate and bitter opposition, the proposal enabling the privileging of all weaponry inventions was accepted by the Ministry of War and the Naval Ministry, on condition that the privileges did not extend to these Ministries. The Departments, however, retained the old regulation, prohibiting the privileging of inventions whose use was forbidden to private persons. In justification, the lack of clarity in the conditions of forced expropriation was pointed to; the necessary

1 Record of the General Meeting of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 317–18; letter from V.I. Veshnyakov, Member of the State Council, to M.S. Kakhanov 16.2.1896 РГИА f. 1152, op. 12, 1896g., d. 110, 146; Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 116.

decisions would probably have demanded a considerable amount of time.[1]

The State Council accepted Witte's proposal as to the founding of a Committee for Technical Affairs under the Department of Trade and Manufactures of the Ministry of Finance. In other words, the close link between this Department and the authority in charge of granting invention privileges was preserved.[2] According to Witte's proposal, the Committee was also to deal with other technical issues as instructed by the Ministry of Finance. The examination of privilege applications was delegated to a voluntary expert consultant, appointed by the Chairman of the Committee, on the basis of whose report the permanent members would decide whether the application and the invention fulfilled the demands of the Statute. The founding of the Committee meant the concentration of all invention privilege matters (including agricultural privileges) in the hands of the Ministry of Finance.[3]

In its final form, the Statute approached considerably closer to the program advocated by the Technical Society since the early 1880's. The new law stated unambiguously those conditions under which an invention privilege would be automatically revoked. In the case of foreign joint-stock companies a somewhat similar change took place. Under the old system, a clause had often been attached to the founding charters of foreign companies, stating that the government could at any time revoke the company's license and prohibit its business activity in Russia. In 1898, to placate foreign investors, such clauses were given up.[4]

The State Council evidently did not want to enact any discriminatory laws or regulations which might prevent Russia's joining the Paris Convention. The Paris Convention itself, however, was never mentioned by name in the draft of the new Statute on Privileges; this is interesting, in that in the draft of the Statute on Trademarks, which was being drawn up at the same time, the Ministry had taken into consideration Russia's possible membership in the Convention already in the

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1 Finance Minister Witte to Imperial Secretary 14.3.1895 РГИА f. 1152, op. 12, 1896g., d. 110, 157–8; Record of the General Meeting of the State Council 29.4.1896 РГИА f. 1159, op. 1, d. 441, 316–17; Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 115.

2 The composition of the Committee for Technical Affairs was as follows: the Committee was chaired by the Director of the Council of Trade and Manufactures or by the Vice-Director of the Department. There were nine permanent members, chiefly with a higher degree in technology, appointed by the Ministry of Finance, together with a total of five other persons representing the Ministries of War, Internal Affairs, Transport and the Navy, and one representative each of the Ministries of Agriculture and of Rural Industries. Высочайше утвержденное положение о привилегиях на изобретения и усовершенствования 20.5.1896 ПСЗ 1899, vol. 16, no. 12965.

3 Joint Session of Departments of State Economy, of Laws and of Civil and Spiritual Affairs of the State Council 17.2.1896 РГИА f. 1160, op. 2, d. 372, 119.

4 Шепелев 1973, 128. On the clauses in company charters see for instance Высочайше утвержденные условия деятельности в России бельгийского акционерного (анонимного) общества, под наименованием "Электрическое освещение С.-Петербурга" (Éclairage Électrique de Saint-Pétersbourg, Société Anonyme) 8.5.1898 ПСЗ 1901, vol. 18, no. 15358; Высочайше утвержденные условия деятельности в России германского акционерного общества, под наименованием "Всеобщая Компания электричества, С.-Петербург" (Allgemeine Elektricitäts-Gesellschaft, St. Petersburg) 3.12.1898 ПСЗ 1901, vol. 18, no. 16144.

preparatory stage.[1] It would seem that joining the Convention was considerably more difficult with respect to inventions than to trademarks. The Ministry had inquired as to the views of the Technical Society with respect to membership already in 1883, at which the Special Commission of the Society had recommended joining; the matter, however, made no headway in the Ministry.[2]

In 1895 the Russian government was invited by Switzerland to attend a follow-up conference on the Convention, but refused the invitation on the grounds of the ongoing reform of Russian invention privilege legislation. In 1897, an invitation came for a conference in Brussels, but the government responded that Russia could not joint the Convention because it would be incompatible with the new Statute of 1896. In the view of Pilenko and Katkov, the Russian government deliberately rejected the conditions of reciprocality which the Convention would have entailed. First of all, the Statute of 1896 conferred certain benefits on foreigners which the other countries did not offer to Russian inventors. It also did not sufficiently take into account the possibility of abuse, since the Statute lacked any regulations on import prohibitions or compulsory licensing. If the Russian government signed the Convention, Russian inventors would have shared in those of its clauses which made it easier to obtain patents abroad; this the government evidently did not consider particularly desirable. The statute was perhaps actually too understanding of the problems of inventors, in that the time within which the invention had to be applied was quite long.[3]

Veshnyakov's letter to Kakhanov confirms the view according to which the penetration of foreign technology and capital into Russia was felt during the mid-1890's to be somewhat threatening. Because of the dominant position of foreign privilege applicants, and their possible 'evil intentions' the Minister of Finance wished to preserve maximum control over the situation, just as the Ministries had the possibility of control in situations involving foreign capital and company activity. The share of foreign capital out of all industrial capital was still modest compared to the proportion of foreign inventors among privilege recipients. During the previous decade, the proportion of foreigners had increased further, so that Witte and Gur'ev had no cause to expect any change in the trend. Gur'ev at least anticipated that the share of foreigners would shortly be as high as 99 %.

The easing of the inventor's position of course benefitted all inventors, but due to the overwhelming numerical preponderance of foreign inventors they benefitted the most. By means of its favorable conditions, the Council obviously aimed at encouraging inventors to seek privileges for their inventions. This can be considered

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1 Finance Minister Witte to Imperial Secretary 15.3.1895 "По проекту положения об ограждении товарных знаков" РГИА f. 1152, op. 12, 1895g., d. 510, 4, 28–9.

2 Журнал заседания Совета императорского Русского технического общества 6.9.1883г. and 24.9.1883г. and 23.11.1883г., 1883, 407, 414, 447; Finance Minister Witte to Imperial Secretary 15.3.1895 РГИА f. 1152, op. 12, 1895g., d. 510, 4.

3 Журнал заседания Совета императорского Русского технического общества 6.9.1883г. and 24.9.1883г. and 23.11.1883г., 1883, 407, 414, 447; Катков 1902, 32–3, 222–3; Пиленко 1897, 469–70 and 1902, 274. According to Katkov, joining in the Paris Convention would have to start by a total revocation of the rights of foreigners to obtain patents in Russia, or at least by restricting them to the Western European level. Foreigners interested in the Russian market should be made to pay dearly for the right to patent their inventions. Катков 1902, 222–3.

to correspond to the traditional policy with respect to industrial privileges, the original foundations of which derived in part from the time of Peter the Great. In keeping with the principles of didactic legislation, the message conveyed by the law was that the government considered the privileging of inventions to be desirable. There were now no traces of the doubts and hesitations of the early 19th century.

In the view of the State Council, it was unnecessary to guard against a possible increase in the economic influence of foreign inventors by means of vague regulations allowing discrimination against foreigners. Because of the technological gap between Russia and the industrialized West, the implementation of Witte's precautions might at the same time arouse needless uncertainty in foreign inventors and encourage those who were interested in the Russian market for purely speculative purposes.

The legislative models of the new Russian statute are not easy to discover. In general, the German laws of 1877 and 1891 acted fairly commonly as models for European patent legislation at the end of the 19th century. No one model, however, seems to have served as the basis for the Russian statute of 1896, since it was constructed by eclectically adapting and combining parts of the laws of various countries. Judging by the structure of the statute, the German-influenced legislative system had not completely established itself in Russia.

The model for the Committee for Technical Affairs was probably the American 'Patent Office', acting under the Department of the Interior, and consisting exclusively of technical experts. In the German law, the principle was adopted according to which the patent was granted to the first applicant to file his application rather than to the true inventor as was required by Anglo-American law. In the regulations concerning the subject and object of invention privileges, Russia followed the general European practice. The peculiarities of the Russian Statute of 1833 — importation privileges and the practice followed in the case of two simultaneous applicants — were rescinded in 1896. An attempt was made to compensate for the disadvantageous conditions prevailing in Russia by means of a time for compulsory working which was exceptionally long by European standards.

The new statute did not change the concept of the invention privilege; this partly explains the actions of the State Council. The Council continued to view the invention privilege as just that — a special and exclusive right, an exception to the normal law. This was also apparent in the revision of the patent laws of the Grand Duchy of Finland. The Committee responsible for drafting the new law had emphasized the change in the nature of the patent in Western Europe, from merely a 'special right' conferred by the Sovereign to an object in the law of property; patent law ought therefore to come either under private law or under business law, and should be subject to legislative action by the Diet. The proposal which was submitted to the session of the Diet in 1894, however, was divided — in opposition to the views of the Committee — into the actual 'legislative' statute, i.e. the one enacted by the Diet, which regulated only penalties and legal proceedings, and the patent 'proclamation', issued as an edict in the name of the Emperor, which contained all the actual material patent law. The Estates revised this government proposal into a new form, which the

Grand Duke, however, refused to sign.[1] In 1897 the Diet received a new proposal, in which the code of material patent law remained an edict issued by the Emperor.[2]

2. Some aspects of invention privilege system after 1896

After the new statute the numbers of invention privilege applications began to grow rapidly, and the Committee for Technical Affairs almost immediately lost control over the situation. In the second half of 1896 alone, the Ministry of Finance received 1 006 applications, and the following year 2 602 applications. The numbers grew greater every year; the peak figure of 3 414 was reached in 1903, as appears from the table 12.[3]

The numbers of applications rose fairly steadily until 1903, after which they turned slightly downward. The number of privileges granted rose sharply in 1898, but turned downward after the peak of 1900. At the same time, the economic boom of the last years of the century came to an end in the crisis of 1900–03; the first signs of this had been visible in 1898 for instance in the falling dividends of commercial-industrial companies. The crisis was not equally severe for all branches of industry, and did not imply the stagnation of Russian industry; it merely slowed down the pace of development somewhat.[4] The privileging of inventions was not quite so economically sensitive as the founding of companies. While during the boom years of the 1890's an average of 113 new companies were founded, with a capital investment of 145 million rubles, the average for 1901–03 was only 64 companies with a capital of 61 million rubles. Despite government support and subsidies to industry, it was only in 1910 that Russia began to share in the strong economic revival which began in Western Europe in 1904.[5]

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1 The reform of the laws concerning joint-stock companies took a somewhat different course. In 1891 a proposal was presented to the Diet for a new law, based on a concession system. The Estates rejected the proposed system for the examination of company bylaws, with the exception of banks, insurance companies and railroad companies, and called for a system based on registration. A majority of the Senate accepted the view of the Estates, and the law was passed by the Diet, but it was rejected by the Grand Duke. In 1894 a similar proposal was again presented to the Diet, and was again rejected and reformulated by the Estates. This time the Diet's version was accepted by the Grand Duke. Schybergson 1964, 44–5.

2 Keis. M:tin armollinen esitys n:o 22 ynnä ehdotus asetukseksi patenttioikeuden loukkaamisesta ja muista sitä vastaan rikkomisesta sekä patenttia koskevien juttujen tuomioistuimesta ja oikeudenkäynnistä ja Suomenmaan alamainen vastaus; Keis. M:tin armollinen esitys n:o 18 sisältävä ehdotuksen asetukseksi patenttioikeuden loukkaamisesta sekä patenttia koskevien juttujen oikeudenkäynnistä ja Suomen Säätyjen alamainen vastaus.

3 Finance Minister to Imperial Secretary 29.10.1898 "Об ассигновании сверхсметным кредитом 27 000 р. на расходы по выдаче привилегий в 1898 году" РГИА f. 1152, op. 12, 1898g., d. 415, 2–3; Розенцвейг (1917) 1920, vi; Штейнингер 1908, 172.

4 Ананьич 1991, 28; Шепелев 1973, 143 and 1981, 192–3 and 1987, 15; Gregory 1982, 140–4, 324.

5 Шепелев 1981, 192 3 and 1987, 15, 20; Gregory 1982, 140–4. By means of government purchases, it was possible to stabilize the output of the largest metallurgic plants at a level of 60 % of their normal production. The causes of the crisis were attributed to the backwardness of the agricultural sector, the narrowness of the domestic market and speculation by entrepreneurs. Шепелев 1981, 192 3.

Table 12. Numbers of privilege applications, cases resolved, appeals resolved and privileges granted, 1894–1906

Year	Applications	Resolved Cases	Resolved Appeals	Privileges
1894	793	..	..	290
1895	1098	..	..	300
1896	1597	..	..	219
1897	2602	1985	50	495
1898	2994	2088	119	1004
1899	3287	2401	161	1460
1900	3053	2263	163	1711
1901	3144	2346	269	1495
1902	3369	2367	172	1283
1903	3414	2990	161	1065
1904	2827	2845	175	1217
1905	2608	2744	227	928
1906	2871	2637	179	816
Total	33657	24726	1681	12383
Mean	2804	2472	168	952

Sources: Розенцвейг (1917) 1920, vi; Штейнингер 1908, 172.

The need for the new statute, and for the Committee for Technical Affairs, had been justified in terms of speeding up the processing of applications. The average time under the old statute, two years, had been considered too long; the new law, and even the new Committee, did not bring any change at least in the direction desired. Faced with the unexpected increase in the numbers of applications, the Committee was powerless. The processing of applications took longer and longer, and after waiting for many years the inventor might receive a negative decision, on grounds of a purely formal technicality or even without any explanation at all. The following table 13. clearly shows this prolonging of the processing time.[1]

The number of privileges granted within two years from the time of application fell constantly, and in some cases it took ten years and more to obtain a decision. The mean time during 1896–98 was more than 38 months, in 1898–1902 more than 25–27 months, in 1903–04 over 32 months and in 1905 over 38 months again. If chemical inventions are set aside the mean times are even longer, since in the field of chemistry the mean time was only 1.5 years. The Section for Mechanics of the Committee for Technical Affairs handed down a decision after an average of 4.5 years. Refusal of a privilege by the inventor was also much more common in mechanical engineering than in chemistry. According to Shteininger, the Section for Mechanics served as the tomb of a great number of good ideas.[2]

1 Скородинский 1905, 3 9, 46–7; Штейнингер 1908, 171–2.

2 Скородинский 1905, 5, 46; Штейнингер 1908, 171–2. According to information obtained by Shteininger from K.M. Solov'ev, who was in charge of the Office of the Committee, in more than 40 % of cases, the inventor refused to accept a privilege already granted in the Section for Mechanics. Штейнингер 1908, 172.

Table 13. Number of invention privileges granted during 1900–05, by year of application

Privileges granted	1900	1901	1902	1903	1904	1905
Year of application						
1891	-	1	-	-	-	-
1892	-	-	-	1	-	-
1893	2	-	-	-	-	-
1894	5	4	-	-	-	-
1895	25	7	3	1	1	-
1896	81	55	12	3	1	2
1897	295	130	63	23	9	5
1898	881	244	135	71	26	13
1899	417	652	269	213	55	45
1900	5	397	434	281	166	89
1901	-	1	361	264	365	238
1902	-	-	6	207	368	199
1903	-	-	-	1	226	230
1904	-	-	-	-	-	107
1905	-	-	-	-	-	-
	1711	1491	1283	1065	1217	928

Source: Штейнингер 1908, 171.

Table 14. Distribution of invention privileges by class and mean processing times in 1898 and 1904 (in days)

	Privileges granted		Processing time			
			Mean		Standard deviation	
Year	1898	1904	1898	1904	1898	1904
Class						
1	49	52	861	806	316	349
2	30	80	912	1153	360	343
3	73	177	1027	1267	399	267
4	96	90	888	1210	354	589
5	73	88	920	915	415	386
6	30	76	817	725	216	283
7	8	31	862	894	229	381
8	15	28	906	755	447	270
9	105	137	758	724	177	343
10	108	163	795	751	230	319
11	62	59	842	1525	202	512
12	213	144	788	171	294	313
13	92	57	815	821	253	382
14	39	19	737	832	273	366
15	9	12	643	1242	87	24
Missing	2	4	.	.	.	.
For Entire Population	1004	1217	835	997	305	435

Sources: Свод привилегий выданных в России в 1898 году по Департаменту торговли и мануфактур and Свод привилегий выданных в России в 1904 году по Департаменту торговли и мануфактур.

As the above table 14. shows, the mean processing time grew by some five months. The increase in the standard deviation shows the growing differences between the privilege classes in this respect. The increase in processing time was greatest in classes 11 (electrical technology and lighting) and 15 (military technology, firearms and cold steel). In six classes the times were reduced slightly. Despite this overload and backup of cases, the Technical Committee did not apply for additional funds for the processing of applications, except in 1898, when the number was at its peak. After that year, the numbers did not increase radically. The problem seemed to be that the Committee was simply unable to make decisions. The number of outside experts was not restricted, but the processing times increased steadily, indicating poor organization. Applications for which the reports of the experts were complete and in which a decision could easily have been made were left idly lying for years. The number of unresolved cases increased annually by a mean of 630.[1]

By 1905, the Committee had a backlog of some 4 000 to 5 000 pending cases in which the processing had not progressed at all. In Pilenko's view, the Committee's way of work was totally incomprehensible; in one case, the inventor had to wait for the first paper from the Committee for seven and a half years. After such a long time, the invention was often rejected on general grounds of insufficient originality, without further specification. In some cases, on the other hand, a decision could be handed down within a month and a half. The Committee's meetings lasted from two to five hours, and managed to deal with some forty matters. In addition to invention privilege applications, the Committee also oversaw questions of compulsory working of inventions and the transfer of privileges, matters which actually did not even fall under its authority.[2]

The proportion of foreigners out of privilege recipients rose slightly with the new law, and was considerably higher in Russia than in other countries (see tables 15. and 16.). The dark forebodings of Gur'ev, who anticipated that 99 % of all privileges would go to foreigners, were, however, not fulfilled. It is impossible to define the precise share of foreign inventions out of privileges granted, because foreignness was defined in terms of the applicant's place of domicile or employment. Thus privileges going to the Russian subsidiaries of foreign companies are counted as Russian. Other potential distorting factors are the possible sale or transfer of privileges. In actuality the proportion of foreigners was probably higher than indicated by the figures.

The percentage of foreigners out of all privilege recipients in Russia was in a class of its own, although Belgium, where the absolute figures are of a different order of magnitude than in Russia, did not fall far behind in relative terms. One explanation which has been suggested for this disproportionately high share of foreigners among Belgian patentees is that Belgium, which had a highly developed economy and tech-

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1 Finance Minister to Imperial Secretary 29.10.1898 РГИА f. 1152, op. 12, 1898g., d. 415, 2–3; Штейнингер 1908, 172 3; Скородинский 1905, 5, 46.

2 Скородинский 1905, 109–10. Pilenko tells the entertaining anecdote of the American inventor who received a decision from the Committee four years after he had filed his application. He expressed his surprised appreciation of the Committee's excellent memory; he himself had long since forgotten the whole thing. Скородинский 1905, 110.

nology, was despite its small size an important European gateway for Americans.[1] Belgians were not active in patenting their inventions in Russia either, even though Franco-Belgian capital had penetrated eagerly into Russia.

Table 15. Percentage of foreigners out of all privilege recipients in Russia, 1897-1904

Year	1897	1898	1899	1900	1901	1902	1903	1904
Foreigners	83	83	81	81	82	80	80	77

Source: Свод привилегий выданных в России в 1904 году по Департаменту торговли и мануфактур; Скородинский 1905, 35.

Table 16. Percentage of foreigners out of all patentees in various countries in 1901

Austria-Hungary	70
Great Britain	53
Belgium	78
Germany	37
USA	12
Switzerland	67

Sources: Скородинский 1905, 34–5.

Table 17. Distribution of privilege recipients by country in Russia, 1904

Country	Number	Percent
Austria-Hungary	83	6.8
Belgium	16	1.3
Britain	97	8.0
Denmark	12	1.0
France	114	9.4
Germany	293	24.1
Russia	278	22.8
Sweden	29	2.4
Switzerland	16	1.3
USA	223	18.3
Others	29	2.4
Foreigners living in Russia	27	2.2
Total	1217	100.0

Notes: The distribution is based on the country of domicile of the first applicant. In seven cases, the second applicant was from one of the following countries: Austria 1, Denmark 3, France 2 and Russia 1.
Source: Свод привилегий выданных в России в 1904 году по Департаменту торговли и мануфактур.

In addition to Belgians, the share of French recipients might also have been expected

1 Kero 1987, 128. Another important gateway was Britain. *Ibid.*

to be somewhat higher. The Germans continued to dominate the field, with their proportion actually exceeding that of Russians. The second largest group is that of Americans, whose share has risen enormously since 1891.

In McKays's view, the most important reason for the influx of foreign capital and entrepreneurs into Russia was the technological gap between Russia and the industrialized West. Gould has suggested that foreign capital effectively cleared the way for the diffusion of new technology through international corporations and their subsidiaries. The growing rapidity of technical development and diffusion in the 1890's made this gap increasingly concrete, offering enormous profits to offset the great risks.[1] What, then, is the explanation of the statistically significant change in the late 1890's, following the new legislation? There were no major changes in the institution itself, leading to faster processing of applications or strengthening the confidence of inventors in the system. The changes in the system of privilege fees were more substantial, but they do not by themselves account for the change.

The sharp increase in the number of applications in Russia begins after 1894, as reflected in the increase in the number of patents after 1896. The turning point thus cannot be accounted for by the new statute. The development of patenting in Russia and in the Grand Duchy of Finland seem to correspond quite closely during the 1890's and the first years of the new century. It is particularly interesting to observe the sharp rise in the number of patents after 1896 in Finland too.

Figure 3. Patents in Russia and the Grand Duchy of Finland, 1885–1912

Sources: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1884 по 1887 год, 1888, 1–83; с 1888 по 1891 год, 1892, 1–106; с 1892 по 1.7.1896 год, 1897, 1–154; Розенцвейг (1917) 1920, vi; Kero 1987, 136–7.

1 Gould 1972, 335–56, 434; McKay 1970, 72–5, 106-8.

The turning point in the Grand Duchy of Finland occurs before the new patent statute, passed in 1898. When we take into account the fact that applications had been filed at least a year earlier, the turning point is evidently not due to the new law. In neither case, thus, does legislative reform account for the rise in patenting activity after 1896. A much more probable explanation is the general economic revival, which aroused expectations of profit in both Russian and foreign inventors. The rise in the number of patents can also be understood as a weak reflection of the concurrent patent boom of the more developed industrial nations of the West.

The proportion of foreigners among privilege recipients, however, no longer rises after the late 1890's; it remains steady at slightly over 80 % and declines slightly in the first years of the new century. Despite the sharp quantitative increase, the numbers of invention privileges in Russia remained very modest compared to the industrialized nations.[1] The statistics suggest that foreign capital invested in Russian subsidiary companies was unable to correspondingly increase technological diffusion. Foreign capital and foreign entrepreneurs did not necessarily mean the importation of the top new technology.

The share of German capital in the Russian electrical industry and electrical communications has been studied by Dyakin, who has arrived at similar conclusions. He notes that the German mother companies in the electrical industry carefully guarded the secrecy of their manufacturing methods and the development of new products. Engineers sent from the Russian subsidiary to visit the German mother factory were not even allowed access to all areas of the plant, and the most highly developed product models were not sent to the subsidiary. The Russian subsidiaries of some important German electrical companies possessed no planning departments or laboratories. All designs, drawings and calculations were sent ready-made from Germany. The most important and most responsible positions were occupied in practice by engineers and technicians sent from Germany. As a result of all this, even in 1913 only 10 % of all electric light-bulbs and 74 % of measuring devices were produced in Russia. Almost 60 % of machines and instruments were imported from abroad, and even in those electrical machines stamped with the label of the Russian subsidiary company the most important details had come from Germany ready-made.[2]

Looking at the individual classes separately, we find that as a main rule the proportion of foreign recipients falls between 1898 and 1904; the exceptions are Classes 3, 4, 11 and 15, including such devices as steam engines and their components, motors and engines, pumps, machine parts, sewing machines and the fields of fiber processing, electrical appliances and lighting, and military equipment and arms. These classes are not particularly large, with the exception of Class 3. The relative increase in the number of foreigners in this class, comprising steam engines and their parts and other engines and motors, is not particularly high, since the class as a whole

1 Cf. Boehm 1967, 34; Heggen 1975, 138.

2 Дякин 1971, 257–8; Kirchner 1982b, 400–1, 413, 418–19,

is growing rapidly. The distribution by country in the four largest classes in 1904[1] appears from the following table.

Table 18. Proportion of foreigners in different privilege classes in 1898 and 1904

Class	Patent Classifications		Foreigners of Patentees %	
	1898	1904	1898	1904
1	51	53	78.4	67.9
2	32	84	90.6	86.9
3	73	172	67.1	73.8
4	97	90	89.7	95.6
5	105	89	81.0	65.2
6	33	74	97.0	79.7
7	11	34	90.9	88.2
8	16	26	81.3	73.1
9	107	139	84.1	65.5
10	124	191	91.1	87.4
11	76	92	84.2	90.2
12	230	179	83.0	67.6
13	103	70	80.6	80.0
14	45	27	73.3	55.6
15	10	13	40.0	76.9
Missing	6	31	..	..
Multiclassifications	115	148	..	..

Notes: In 1898, 114 privileges were classified into two different classes simultaneously and one privilege into three classes. In 1904, 141 privileges were classified into two different classes, six privileges into three and one privilege into four classes. These cases are included in the statistics more than once.
Sources: Свод привилегий выданных в России в 1898 году по Департаменту торговли и мануфактур; Свод привилегий выданных в России в 1904 году по Департаменту торговли и мануфактур.

Table 19. Distribution by country of privilege recipients in the four largest privilege classes in 1904

Class	3	9	10	12
Country				
Austria-Hungary	10	12	13	11
Britain	17	8	20	9
France	28	10	22	14
Germany	29	28	77	25
Russia	45	48	24	58
USA	28	17	22	50
Others	15	16	13	12
Total	172	139	191	179

Source: Свод привилегий выданных в России в 1904 году по Департаменту торговли и мануфактур.

1 A similar analysis for 1898 is not possible, since the place of domicile of the applicant is mentioned in only a few cases.

The four largest classes account for almost half of all privileges granted. It is interesting to note the dominance of Germans in Class 10,[1] comprising mainly inventions in the chemical industry.[2] Russian inventors are correspondingly less well represented here, despite the high standard in theoretical chemistry in Russia, than in the other three classes. Russians are nevertheless represented equally with foreigners, with the exception of Germans. The exceptionally great German interest in privileging inventions in the chemical industry was probably related to the desire on the part of this industry, which was developing rapidly in Germany, to secure and expand its position in this important market. The underdevelopment of the chemical industry in Russia, and its dependence on Germany for many important chemicals, was revealed in its full horror in the First World War.[3]

In Class 3, Russians are well represented compared to foreigners. The machine-building industry, which was growing rapidly at the turn of the century, seems also to have been active in patenting the newest technology. The story of the diesel engine in Russia casts an interesting light on the active Russian role in developing a foreign invention into a marketable product. In 1893, Rudolf Diesel took out a German patent for the so-called 'Diesel engine', which, however, was not yet at that time a saleable commodity. He sold the license immediately to a German company, the Maschinen-Fabrik Augsburg-Nürnberg (M.A.N.). In 1898, a separate company was established to manage Russian and Finnish diesel patents, and this company granted a license to Ludvig Nobel. Russian engineers began working on the further development of the device, and within a year they succeeded in producing a saleable version of the engine, something which most Western licensees had not yet achieved. This quick breakthrough was due in part to the fact that from the 1890's onward Russian scientists and inventors had been struggling actively to develop their own versions of the internal combustion engine and had closely followed developments abroad.[4] The diesel engine, however, formed an exception; most inventions arrived in Russia in their final commercial form, as locomotives, sewing machines, electrical devices etc.[5]

The food and condiment industry had traditionally been a strong area in Russia, so that the good Russian representation in Class 9 is not unexpected. Class 12, consisting chiefly of railroad construction and shipbuilding inventions, also has a

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1 This class comprises chemical devices and processes, non-organic preparations, dyes, explosives, fertilizers, and devices used in gas lighting and heating.

2 During 1904–07, the Germans were also active in patenting chemical inventions in the Grand Duchy of Finland. Kero 1987, 158–9, 161, 163.

3 For the Russian chemical industry see Kirchner 1981a, 82–3, 95–6 and Vucinich 1970, 395.

4 Of the leading inventors working in the 1890's on the internal combustion engine at least E.A. Jakovlev, Ja. Kazakov and G. Potvorskii applied for privileges for their work. In the mid-1890's, Russian internal combustion engines were able to compete successfully with corresponding foreign devices. Kpeep 1973, 226–31.

5 Kpeep 1973, 231; Kirchner 1986, 154–7, 159. Rudolf Diesel's statistics, drawn up in 1913, give figures for all the engines either completed or in the process of being completed during the period, a total of 1 719 000 hp. This total was divided as follows: Germany 774 000 hp, Switzerland 220 000 hp, Belgium 162 000 hp and Russia 146 000 hp. The manufacture of diesel engines began at the Nobel factory in St. Petersburg in 1900. In 1913 such motors were also being manufactured by Felzer in Riga, the Kolomna machine factory, the Nikolayevsky shipyard and by V. Stoll in Voronezh. Kpeep 1973, 231, 234; Kirchner 1986, 159.

strong Russian representation. Compared to 1898, the relative importance of this class and at the same time of foreigners within the class is reduced, with the exception of American inventors. This may be the sign of a genuine drop in foreign interest (again with the exception of Americans) in this class, or it may indicate a large increase in privileging by the Russian subsidiaries of foreign companies. The trend, however, can also be interpreted as a sign that Russians had indeed successfully assimilated and developed this technical field.[1]

The quantitatively largest privilege classes are not identical with the main technological fields of the companies active in the beginning of 1901. Foreign companies are heavily concentrated in the fields of mining and metallurgy, the growth of which is considerable compared to that of 1885. In the chemical industry, on the contrary, the proportion of foreign companies is one of the smallest. The chemical industry, for that matter, does not seem to have been of much interest to Russians either.

Table 20. Distribution of companies by field of activity in the beginning of 1901

Field	Russian		Foreign		Total	
	A	B	A	B	A	B
Railroads	22	127.8	-	-	22	127.8
Banking	49	266.0	1	3.7	50	269.7
Insurance	18	30.6	2	2.3	20	32.9
Mining and Metallurgy	219	560.1	111	246.3	330	806.4
coal	15	29.8	16	32.8	31	62.6
oil	33	111.9	18	62.1	51	174.0
metallurgy	59	251.3	34	94.4	93	345.7
processing of metal	96	120.1	31	28.4	127	148.5
Processing of fiber	223	384.0	15	20.0	238	404.0
Food and condiments	222	164.4	2	2.4	224	166.8
Timber and paper	61	52.8	4	2.2	65	55.0
Graphical industry	22	9.3	-	-	22	9.3
Ceramics	44	43.1	27	19.4	71	62.5
Chemicals	58	47.8	10	10.2	68	58.0
Public utilities	48	72.5	31	30.9	79	103.0
Steamships	41	58.0	1	2.0	42	60.0
Commerce	55	60.0	-	-	55	60.0
Others	153	264.1	26	51.6	179	315.7
Total	1235	2140.5	230	391	1465	2531.5

Note: A = number of companies, B = capital (in million rubles)
Source: Шепелев 1973, 143.

1 In Finland, for instance, the largest number of patents granted in 1904–07 to Russian companies or to Russian subsidiaries of foreign companies were for inventions related to railroads and tramways. Kero 1987, 158.

Foreign companies account for almost one half of all companies active in the Russian mining and metallurgy industries. The most important fields of Russian companies continue, as earlier, to be fiber processing and the food and condiment industry. The decline in the number of railroad companies is due in part to mergers in this field, in part to their being taken over by the state.[1]

The distribution of the companies by field of activity is consistent for instance with the heavy Franco-Belgian investment. In the light of the statistics on invention privileges, mining and metallurgy were not by any means leading sectors in technological development, unlike for instance the chemical industry. The patent figures for the Grand Duchy of Finland suggest that German inventors took out an exceptionally large number of patents in this field in Finland too. Chemical patents quite clearly represented the newest and most sophisticated technology, which had to be quickly protected in all the relevant markets and production areas.[2] In the chemical industry, unlike for instance metallurgy, the duration of patents considerably exceeded the diffusion time.

The statistics on invention privileges suggest that the picture drawn by McKay, of the sizeable technological gap between Russia and the West, is too general and too sweeping. In the statistics used here, the Belgians and the French were not particularly active in seeking Russian privileges, suggesting that in heavy industry the newest technology did not come from abroad. On the other hand, patents played a minor role in iron and steel production, since the technique generally had to be adapted to the composition of the available raw material.[3] The technological gap was bridged in Russia by the extensive use of the Bessemer and Martin technology, the rationalization of production processes and the introduction of modern methods of administration and management. The furrowing machines which were introduced in Western Europe at the turn of the century to ease mining work reached Russia only on the eve of the First World War.

Judging from the distribution of privileges by field, it would appear that in Russia at the turn of the century it was the chemical industry that was in the forefront of technological progress. The overwhelming dominance of German inventors in Russian chemical privileges is understandable, in that Germany was one of the world leaders in the field. Transport technology, on the other hand, seems to have lost its leading position in the privilege statistics somewhere between 1898 and 1904. The drop in the proportion of foreigners in this class is due in part to the large number of subsidiaries, classified in the statistics as Russian. The reliability of patent statistics as a measure of technological development has long been the subject of dispute; the figures for turn-of-the-century Russia, however, seem to support Kinyapina's conclusion based on material from the early 19th century, that privilege statistics

1 Шепелев 1973, 142–3; Owen 1993, *passim.*

2 The German dye industry was particularly highly developed; in the 1870's it controlled about half of the world market and at the turn of the century 90 %. Landes 1969, 275. For the German share in Finnish patent statistics, see Kero 1987, 163, 168, 191–8.

3 Landes 1969, 92. On the special difficulties of Russians in this respect see Егоров 1900, *passim.*

reflect the key areas of technological development at any given time.[1] These areas do not necessarily coincide with the focal areas of industry at the same time. The figures do not actually give a reliable picture of the technological innovativeness of Russian inventors themselves, since the proportion of Russians among the privilege recipients was so small.

The new law failed to increase the confidence of Russian inventors in the equity of the system. A decision made by the Technical Committee could be appealed to an independent court only after it had decided to grant the privilege. A negative decision was in practice difficult to appeal, since the Committee's decisions continued quite often to be issued without any explicit grounds.[2] The General Session of the Technical Committee, which dealt with appeals, generally confirmed the original decision by the Department. After this, the inventor could appeal to the relevant department of the Senate for the decision to be quashed; this department, however, was concerned only with the formal, processual aspect of the case, i.e. decisions were based on legal technicalities. Due to this bureaucratic inflexibility, the period of five years stipulated in the new statute for working of the invention remained a dead letter in Russia more than perhaps anywhere else. Overseeing this stipulation would have been important for the development of Russian industry, since because of its backwardness it was difficult to curb importation by means of prohibitions alone.[3]

Cases were decided by the Committee on the basis of reports by experts, who generally dealt with privilege applications in the time left over from their other work. The fate of an invention continued to depend on the expertise — and the conscientiousness — of a single technician. The inventor was entirely at the mercy of the bureaucratic machine; a tiny detail carelessly overlooked by the patent agent could take years to correct.[4] The Committee for Technical Affairs, which including its salaried experts consisted of some one hundred persons, did not have sufficient interest in privilege matters, not to mention the necessary legal expertise. According to Shteininger, neither the technical experts nor the Committee members themselves realized that the concept of the invention had not merely a technical content, but also a juridical one: "... что понятие "изобретения" не есть понятие техническое и что оперировать не столько с техническим субстратам изобретения,

1 For an opposite situation in England during 1781–1850 see Sullivan 1990, 360–1.

2 The Committee might for instance reject an application on the grounds that the invention lacked sufficient novelty, or that the application was in some respect unclear or inexact, rather than stating explicitly in comparison to what the invention was lacking in novelty or the plan was unclear or incomplete. Штейнингер 1908, 171.

3 Скородинский 1905, 6 7, 32–3, 110; Штейнингер 1908, 168–70, 176.

4 Shteininger, who acted as patent agent, describes a case in which the inventor received a formal letter of rejection two years after he had filed his application, because of missing letters in the drawings accompanying the application. The drawings were submitted in duplicate; the copy which remained with the Committee was correctly labeled, but that which went to the outside expert was missing the letters. The expert had rejected the application because of the inadequate plans; this was confirmed by the Committee, which advised the inventor to appeal the decision. The inventor filed an appeal, with the corrected drawings. Two years later he was granted the privilege. The patent agent's services had been useless, since he had not noticed the missing letters. Штейнингер 1908, 170.

сколько с его юридическим содержанием".[1]

In both technical and legal circles the new statute aroused feelings of deep disappointment. At the end of 1903, Skorodinskii presented a paper in the Technical Society on the shortcomings of the 1896 statute, entitled *On the crucial necessity of reviewing the Patent Statute of 1896* (Об необходимости пересмотра патентного закона 1896 года), which led to the establishing of a commission[2] by the Society for the prompt revision of the statute. The Technical Society urged the appointment of a committee to draft revisions to the statute as quickly as possible, due on the one hand to the serious shortcomings of the 1896 law, on the other to the fact that completion of the revisions would probably have taken many years. The Commission was concerned mainly with the lack of an independent patent office and with the ambiguity and defectiveness of the law in certain juridical details. Gur'ev's proposals of 1893, aimed at discrimination against foreign inventors, were once more rejected and condemned; this can be seen as an indication of the heavy weight carried by these ideas. With the outbreak of social unrest in 1905, the Technical Society decided to await the restoration of social order, after which the government would have more time for such minor problems as the revision of the invention privilege laws.[3]

The fact that Russia remained outside the Paris Convention caused problems and gave foreigners an unfair advantage. According to the law, a foreign inventor or his agent could apply for a Russian privilege for an invention patented in another country, even years after the foreign patent had been granted. A Russian privilege would be denied only if the invention was already widely in use in Russia, since otherwise the experts would not be aware of it. According to Shteininger, the reasons why Russia did not join the Convention lay in the Committee for Technical Affairs and the prevailing interpretation of the law. Joining the Convention would have entailed a radical review and change in the juridical status and functions of the Committee. Membership in the Convention would have given Russian inventors access to reciprocal benefits.[4]

Russia had deliberately stayed outside the Paris Convention, even though due to certain shortcomings in Russian legislation this gave foreign privilege applicants in some respects an advantage over Russian ones. This weakness was remedied only in 1912, when a law was passed giving the foreign applicant a priority right to apply for a Russian privilege for an invention patented in his own country if two conditions were satisfied: it was not more than a year since the application for the original patent, and the applicant's country offered Russian inventors a reciprocal right.[5]

After the Revolution, in 1919, Lenin issued a statute on inventions which was

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1 Шнейдер 1903, 35–7; Штейнингер 1908, 169.

2 Represented in the Commission were the various sections of the Technical Society, the Society for the Encouragement of Russian Industry and Trade, the Juridical Society and the Ministries of Finance and Justice. Скородинский 1905, 115.

3 Скородинский 1905, 13–14.

4 Скородинский 1905, 12–13, 26–7; Шнейдер 1903, 24, 39, 46–7; Штейнингер 1908, 180. Of the major states, only Russia and Austria-Hungary remained outside the Paris Convention. Скородинский 1905, 13.

5 Пиленко 1916, 13.

consistent with his general policy of nationalization; its purpose was to destroy 'capitalist monopolies' and to ensure that inventions would be widely available to the Soviet state, for use in the building of socialism. The first paragraph of the statute enabled the practice according to which any invention considered useful by the Committee for Invention Affairs could be declared by the Presidium of the Supreme Council of the National Economy to be the property of the Russian Soviet Federated Socialist Republic (RSFSR). During the period of the New Economic Policy (NEP), a decree was issued with the aim of encouraging inventions, and in 1931 a statute was enacted concerning inventions and technical development and innovations in general.[1]

1 Юридический словарь 1956, vol. 1, 370; Koitel 1990, 686–7. Only 424 patents were granted in the Soviet Union during 1932–75. Koitel 1990, 689.

Conclusions

The system of invention privileges offers an interesting new perspective on Russian concepts of property rights, since the issue of immaterial rights is at the very core of the right of property. The introduction of the patent system into Russia at the beginning of the 19th century is an outstanding example of the way in which foreign institutions were borrowed by Russia and adapted to the local environment.

The basis of the patent system in Western Europe was the concept of 'intellectual property', which had developed within the medieval craft guilds from a corporative into an individualistic concept and had gradually established itself as part of the customary law. The earliest evidence of such patents dates from 13th century Venice, from whence the practice spread to Continental Europe and Britain. Another factor which profoundly affected the rise of the Western European patent system was the decline in the autonomy of the craft guilds and the corresponding strengthening of the power of the tsar. The modern patent system as such originated in England in the early 17th century, when the exclusive rights of the inventor were set apart from other monopoly rights granted by the Crown.

In Russia, these elements, central to the development of the modern patent system, were either absent altogether or were very weak. The Western European institution of craft guilds had never been properly established in Russia. Due to the poorly developed division of labor and the small size of towns, the various crafts were not strongly differentiated and their technical level was generally quite low. As a consequence of this lack of a guild system, there was relatively little sense of professional dignity and pride, and a poorly developed entrepreneurial and work ethic; this turned out to be one of the most persistent and long-lasting obstacles hampering the economic development of the country. Because of the primitive state of the guild system, Russia also lacked one of the most important conditions for the natural evolution of the patent institution, a morally justified concept of authorship firmly established in the customary law.

The eighteenth century brought with it new ideological influences, which also affected the development of the privilege institution. The Westernization of Russian society which began under Peter the Great was one indication of changing Russian attitudes toward Europe. Russians now saw themselves as part of Europe and of European civilization. In order to convince the rest of Europe, Russian rulers, in various proclamations and in new legislation, which had taken on a didactic function, emphasized the view that Russia was an European state, which did not differ in any significant way from other Western European states. Thus Russia was able to apply institutions, ideologies and technologies borrowed from the industrially developed Northern Europe, at least in modified form.

Of the privileges, in the broad sense, granted in Russia in the 17th century, a majority conferred the exclusive right to carry on trade. In the beginning of the 18th century, the College of Manufacturies with increasing lavishness issued various manufacturing privileges, which in addition to the right to establish a factory also entitled

the recipient to various other benefits and advantages. Manufacturies which were established by compulsion often also involved some form of production monopoly. Most manufacturing privileges, however, merely meant a license or an incentive, rather than an actual monopoly. Manufacturing privileges were part of a broader class of industrial privileges, which also included mining privileges and from the end of the 17th century onward monopolies on trade in 'newly discovered goods'.

The next stage in this conceptual development comes in the mid-18th century, with the emergence of the notion of the 'new invention' as a criterion for the granting of a privilege. These privileges clearly displayed the function of prohibition, so central to the invention privilege. The applicants for such privileges also increasingly frequently specified as the grounds for their petition the invention either of a new manufacturing process or of a new product. The primary emphasis, however, was on the exclusive right to a particular process rather than to the invention.

Under Catherine the Great, many old commercial and industrial monopolies were abolished. At the same time, however, privileges of various kinds continued to be granted, and the anti-monopolistic policy was a matter of rhetoric rather than of actual practice. No separate laws or regulations were enacted, in connection with the abolishing of commercial and industrial monopolies, regarding invention privileges or even the encouragement of inventors. The separation of invention privileges from other privileges and special rights granted by the tsar was proposed only at the end of the 18th century, although the matter had been considered important already at the beginning of the century, by Peter the Great's adviser Pososhkov. The proposal made at the time of Catherine the Great did not lead to any concrete measures.

The first Russian manifesto on invention privileges was issued in 1812, i.e. soon after similar enactments in the United States and France. The ideological background and principles of the Russian manifesto, however, differed greatly from those of the latter countries, which were based on the theory of human rights and of natural property rights. In the manifesto, the invention privilege was defined according to the French model as the property of the inventor. The problems arise from the differences between the concept of property rights in Russia and in France. In the latter country, the fundamental transformation had taken place in the concept of property, from the old, feudal concept to a new one, in which property rights were no longer the attribute of a privilege but of a freedom. In Russia this transformation had not occurred, and property rights therefore remained an alien concept. Because of the moral and legal character of the state, property rights never achieved the same prestige in Russia as they did in the West.

The development of the concept of property rights in Russia shows very clearly the way in which the perception and interpretation of juridical categories is determined, or at least affected, by the particular cultural context. In the Russian semiosphere, the concept of property rights, borrowed from the West at the end of the 18th century, took on highly specific connotations of its own. In the Charter to the Nobility in 1785, the term 'right' (право) is used only in connection with property; this tends to relate property to the other rights of the nobility, such as the rights of bondage and serfdom (крепостное право). The term 'right' thus had attached to it

such connotations as 'oppression', 'exploitation' and the illegal deprivation of property. At the beginning of the 19th century, the concept of property rights was still unclear, and its link with the ownership of land gave it negative connotations. In this conceptual setting, the inventor's property right as a juridical category was perceived as a special privilege, whose justification came from an ethos of service to the state, similar to that which justified the nobility's right of land ownership. Invention privileges were associated with other special rights; this further strengthened the practice adopted in the Manifesto, according to which each privilege was a separate law of its own, which had to be separately ratified. In practice the Manifesto constituted a set of instructions to the State Council.

The shortcomings of the Manifesto became clear within the next ten years or so. Difficult disputes over privileges arose during the 1820's particularly in the textile industry, contributing crucially to the recognition of the need for a new statute. The government had actually refused to grant privileges in textile printing, where they had been found to hamper the technological development of the field. Privileges were also restricted in the spinning and weaving industries. In the early 19th century, invention privileges were awarded in Russia particularly for inventions in the textile industry, which in the light of the privilege statistics seems to have been the leader of technical development in Russia at the time.

The guiding principles in the drafting of the new statute on invention privileges, ratified in 1833, seem to have been ones of scepticism and reservations concerning the general usefulness of invention privileges. This attitude was reflected in the brief duration of privileges, the high fees, payable in one lump sum for the whole period, and the non-existent safeguards of the inventor's rights. The privilege continued to be a special favor granted to the inventor, justified in terms of service to the state. The College of Manufacturies, which dealt with invention privilege applications and supervised industrial activity in the country, was to take into account in granting privileges above all the condition and development of Russian industry and its needs at a given time. The activity of the administrative authorities was guided by the view that development should not be subordinated to the personal profit and self-interest of individual manufacturers and inventors.

In the mid-19th century, the usefulness and fairness of the patent system was being questioned in Western Europe. The Free Trade ideology, which had gained ground in the economic policies of many countries, emphasized the monopolistic aspects of patents, the effect of which was to restrict competition. The debate over patents, whether the arguments were in favor or against, played an important role in bringing the institution to the public awareness, and helped to clarify and narrow down the concept of the patent. In many countries, the anti-patent movement provided an important impulse for legislative reform.

Knowledge of this Western European debate spread very rapidly to Russia. Here the discussion was opened by Chizhov, an entrepreneur, chief editor of the *Vestnik promyshlennosti* and Slavophile sympathizer. Chizhov reported the main issues of the European debate, criticizing harshly the inefficiency and lack of expert knowledge of the Russian privilege bureaucracy. In his view, the Russian system urgently needed

to be reformed, so as to better take into account the needs of industry and the special conditions prevailing in the country. Chizhov considered that invention privileges were even more important for Russia than a policy of protectionism.

The press remained silent up to 1870, when an address was published which had been given by the jurist Veshnyakov before the Technical Society, on the state of the anti-patent movement. In the same year, Veshnyakov tried to arouse the interest of Russian industrialists at the first Commercial-Industrial Congress in the issue of invention privileges, but with only poor success. Veshnyakov's wariness towards foreign privilege-holders was understandable, in that at the same time the usefulness of the whole system was being heatedly debated in Europe. Russian fears were further increased by the overwhelming dominance of foreigners in the Russian privilege statistics. In Russia too it was necessary without delay to examine the advantages and disadvantages of the system.

There was pressure from other directions too. The rapid growth in the number of applications during the 1860's made increasingly apparent the complexity and lack of clarity of the system. Sometimes even the office handling the application did not know what authority the case belonged to. Although the number of applications was infinitesimal compared to many Western European countries, at least three different departments and numerous experts were needed to deal with them. The proposal for a revision in the processing order was first brought before the State Council in 1868.

The State Council demanded a statement from the Second Section of the Emperor's own Personal Chancellery, as to whether invention privileges were comparable to "other special rights granted by the Sovereign as referred to in Article 71 of the Constitution." This important statement was issued the next year. Some members of the Second Section considered that invention privileges did fall under the rule of Article 71, since the privilege was an exclusive right and an exception to the general law. According to the opposite view, invention privileges were not of the same type as the privileges denoted by the 'Constitution'. The inventor's property right was not created by government decree, but was based on the Statute on Privileges, in which the invention was defined as the property of the inventor. Thus reserving to the supreme power the right to confirm invention privileges could not be justified on the grounds of protecting the individual subject from arbitrary government rule.

The Personal Chancellery could not reach unanimity as to whether invention privileges were in fact the same as the privileges referred to in the 'Constitution'. The Director of the Chancellery, Urusov, suggested for the sake of clarity that the term 'privilege' be replaced by some other term, or at least that Article 71 of the "Constitution" be amended to include a mention that it did not extend to invention privileges. The Minister of Finance added Urusov's second suggestion to his proposal, but rejected forcefully the suggestion of a change in terminology. The State Council did not consider invention privileges to be comparable to the exclusive rights referred to by the Constitution;` thus invention privileges could be granted without the intercession of the State Council, but were still to be issued in the name of the Emperor. The proposed amendment to the Constitutional law, like the terminological

change, was considered unnecessary. As a consequence of this change, invention privileges lost their character as separate laws.

This uncertainty over the ontology of invention privileges, and of property rights in general, reflects in a very concrete way the conceptual difficulty in understanding these juridical categories in Russia. The purpose of the State Council's decision was to distinguish between invention privileges and other privileges granted by the Sovereign, almost 250 years after this had taken place in England. The attempt to assimilate and clarify concepts originating in an alien tradition did not succeed; inventors continued to perceive themselves as petitioning for a special favor rather than for a right that belonged to them by law. Thus conceptual confusion led to a certain precariousness of the inventor's property right.

The change of 1870 can also be seen as part of the administrative reorganization following the emancipation of the serfs, in which the Ministry of Finance had an opportunity to expand its administrative territory. At more or less the same time as the change in the order of processing of invention privileges, there were analogous changes relating to the founding bylaws of medium-sized banks and joint-stock companies, with the purpose of speeding up these processes. After the reform, the bylaws no longer had to be dealt with by the State Council and the Committee of Ministers, but could be independently decided by the Ministry of Finance.

In Reutern's economic policy, invention privileges seem to have played a role only in relation to tariff policy. It is not likely that any hostility towards technology was involved as such, since under Reutern attempts were made to regain the contacts with Western European technological circles which had been broken off under Nicholas I. Another sign of the more liberal atmosphere of the 1860's can also be seen in the foundation of the Russian Technical Society in the middle of the decade. The Society quickly gained an influential position, and offered an excellent forum for the debate not only on matters of technology and economic policy but also on the issue of invention privileges. The government considered it best to await the views of the leading Western European countries on the importance of patents for industrial development, before undertaking any major innovations.

The differences between the patent systems of various countries hampered the flexible and quick protection of inventions; this had been of special concern to the exhibitors at World Fairs. The first international Patent Congress, held at Vienna in connection with the World Fair of 1873, formed a turning point in the collapse of the anti-patent movement. A crucial factor in the collapse of the opposition was the widespread and severe economic crisis of the early 1870's, which was seen by contemporaries as in one way or another the consequence of the Free-Trade ideology. This change in the general economic-political atmosphere eased the task of the proponents of the patent system. A similar effect also resulted from the tightening up of competition, making it important to develop new and more efficient production technology. The Vienna Congress marked the beginning of a process which culminated in the signing of the international Patent Convention in Paris in 1883. Russia sent delegates to all the major patent congresses, but she never joined the Paris Convention. This was deliberate; Russia wished not to be bound by the obligations

of reciprocity entailed by the Convention.

The process of overall revision of the invention privilege system followed the formula of many other reforms, which generally began with a close study of the experiences of other countries. The actual debate in the periodical press over the reform of the privilege system began in Russia in the mid-1870's, with the first sharp-edged comments by inventors. Tired of bureaucratic procrastination and arbitrariness, as well as of the indifference of manufacturers, inventors were demanding justice and respect for their property rights. Noteworthy was precisely this forceful appeal to the natural property rights of the inventor.

The comments reflect Russian inventors' extreme lack of confidence in the privilege system. Here a clear difference can be seen compared for instance to English inventors, who in fact had a somewhat unjustified faith in the efficiency of the British system. The Russian inventor was faced with an almost insurmountable wall of ignorance and indifference, made worse by financial difficulties. Russian inventors were not lacking in brilliant and original ideas and theories, but their development into practical working inventions would often have entailed moving abroad, to a country where the generally higher level of industrial development would have made it easier to find both financing and a manufacturer interested in applying and developing the invention. Only a tiny proportion of Russian inventions, however, found their way abroad.

The actual reform began in 1879, with the extensive address to the Technical Society by the inventor Salov. The Technical Society set up a Commission, consisting of various high-level officials, engineers and inventors who either out of interest or by way of their work had had to do with invention privileges. The Commission also included the official Russian delegate to the Paris Congress. The main objective of the Commission was to improve the weak legal safeguards of the inventor's rights. Their demands included the change to low and progressively incremental annual fees, the extension of the term of privileges to twenty years, abolishment of the requirement of compulsory working of the invention, and the setting up of an independent patent office completely separate from the Ministry of Finance. Explicit grounds should be given for both negative and positive decisions, and the inventor should have the right of appeal from the decision. The Commission's interim report was sent to the Russian Commercial-Industrial Congress for approval.

More than ten years, however, went by before this proposal was shaped into an actual draft for a general reform. As the work dragged on, the Technical Society turned to the Minister of Finance, in the hope of the more immediate patching up of at least the worst weaknesses in the system. This request, however, was refused on the grounds of the overall reform which was currently in the process of preparation. The Technical Society was probably aware of the precariousness of Bunge's position as Minister of Finance, and therefore did not urgently press for the actual general reform. The 1888 proposal for a partial revision may have been a way of testing the ground after the change of Minister. It can also be interpreted as a desperate attempt to gain some improvement in at least the worst problems. The new Minister of Finance was known to be somewhat reluctant to improve the legal position of

inventors, since the greatest benefit from such a change would go to foreigners.

The Technical Society presented its proposal for the overall revision of the invention privilege system to the Minister of Finance in 1893. The proposal was almost identical with the 1882 version. In the same year, 1893, the Ministry of Finance also received a proposal for partial reform from the Society for the Encouragement of Russian Industry and Trade, which can be interpreted as 'backup' support for the Technical Society in carrying through the most important reforms. The proposal of the Technical Society was immediately exposed to unexpectedly harsh criticism. A.N. Gur'ev, the Secretary of the Scientific Committee of the Ministry of Finance, and known as a spokesman for Witte's views, challenged all of the main objectives of both Societies. Gur'ev's basic idea, that it was undesirable for foreign and Russian privilege applicants to be treated equally, is also found in Witte's program of economic policy, presented to the State Council in October 1893. Such equality was incompatible with the Listian program of 'national industry'.

For the government, protectionism and the privilege system were important instruments of economic policy, which could be used to encourage and protect Russian industry. The proposal of the Technical Society, based on the ideology of natural property rights of the early 1880's and on the best Western models, was inappropriate and unrealizable in Russia, since it totally ignored the special conditions prevailing in the country. In Gur'ev's view, the Society's proposal, if carried out, would have meant the total paralysis of the technological development of Russian industry. The proposal did not contain any safeguards against the 'evil intentions' of foreign privilege recipients. In general, in Gur'ev's opinion, the desirability of granting invention privileges to foreigners was questionable.

In the government's economic policy, tariff policy and invention privileges were more and more closely bound up together. The policy of strict protectionism had created unnatural, 'greenhouse' conditions for domestic industry, thus weakening even further the already slight interest of Russian manufacturers in improving their production technology and the quality of their products. This protectionist policy had cost Russia dear, since she had become highly dependent, especially in production technology, on imported machinery. In Gur'ev's view, these problems could be significantly reduced by developing the illicit copying of the best Western technology, under government protection. Russia would soon have been able to export her own copies of Western models, produced at manufacturing cost alone. Compared to this proposal the industrial espionage practiced by Russian engineers on their business trips abroad seems like an innocent pastime. Based on thinking of this type, such practices as counterfeiting the trademarks of reputable companies, and illegally copying their products, had been rampant for years, to the detriment in particular of foreign enterprises.

The draft for a new statute which was completed by the Ministry of Finance in 1895 had as its mainspring the aim of developing the national industry, and it accepted as such only very few of the demands of the two societies. The draft relinquished one-time privilege fees in favor of annual payments, but the fees continued to be very high; the term of privileges was extended only to twelve years, and instead

of an independent patent office Witte proposed a Committee for Technical Affairs, operating under the Ministry of Finance. In keeping with its 1893 program of economic policy, the Ministry proposed abandoning the principle of full equality of foreign and Russian inventors. A foreign privilege holder would have to start production in Russia within three years, if such production was considered feasible by the Ministry. Ultimately the Ministry had discretionary powers to decide whether the invention was one which could be applied in Russia.

The issue of foreign inventors was a topical one in the 1890's, as part of the ongoing more general debate over the ends and means of economic policy. Witte's industrialization program, based heavily on foreign capital, entrepreneurs and technology, did not have unanimous support. Not everyone was prepared to believe that the plan would work; it was feared that Russian industry would be strangled to death by foreign competition breaking through the tariff barriers. The escalating xenophobic propaganda, and the various restrictions imposed on foreign business activity in the country, led to a growing interest on the part of foreign companies in establishing subsidiaries in Russia. Some individual foreign entrepreneurs even became Russian citizens to avoid the discriminatory regulations. Ad hoc exemptions from these regulations were constantly being made, but they always required the consent of the Ministry of Finance. The increase in the Ministry's discretionary powers proposed by Witte was entirely in accord with his general policy of industrialization.

There was no place for Russian industrial goods on the West European market, with the exception of her oil products. The only possibility of expansion for Russian industry, and at the same time a natural one, was eastward, and here quick action was needed. In addition to foreign capital, modern production technology was urgently needed for the development of industry, and this technology could be obtained most quickly either by simple illegal copying or legally by granting foreigners short-term, 'conditional' invention privileges.

After recovering from the first shock caused by Witte's proposal, the Technical Society promptly set up a new Commission to prepare a new proposal, in which invention privileges would be better assimilated to the ideology of national industry. This new proposal included a discriminatory clause against foreigners, according to which the foreign privilege-holder would lose his privilege after three years from the time it was issued, if he merely imported the item in question rather than manufacturing it in Russia. The Society was prepared to give up the idea of a separate patent office, but it demanded a more independent position for the Committee for Technical Affairs than had been proposed by Witte.

On a few important issues the State Council was prepared to meet the Technical Society halfway, for instance by reducing the privilege fees proposed by the Ministry of Finance and by extending the term of privileges to fifteen years. On the other hand, the State Council did not accept any discriminatory clauses; it confirmed a five-year period for compulsory working of the invention, applying equally to all privilege-holders regardless of nationality. It also retained the close connection between the Committee for Technical Affairs and Council of Trade and Manufactures. In the

view of the State Council, if an invention could not be manufactured in Russia there was not much sense granting it a Russian privilege in any case. The new statute should not be used merely to encourage foreigners interested in the Russian market by offering them a monopoly on their invention. The administrative authorities decided whether a privilege should be granted, and in the final analysis whether an invention was appropriate for production in Russia. No special exclusionary clauses were needed concerning foreigners alone, which would merely have aroused their suspicions. For the State Council, invention privileges continued to be seen as 'special rights'; this also appeared from the proposed patent law of the Grand Duchy of Finland, at the end of the 1890's. The message conveyed to inventors by the new Russian statute was that the government considered the privileging of inventions to be a desirable thing.

The fact that this prolonged preparatory process finally led to a complete revision of the legislation was the end result of many calculations and ideological shifts. Probably not the least important was Witte's gradual disengagement from his Slavophile background and his increasingly positive attitude towards Western capital. In order to be able to carry out the government's program of modernization, foreign capital and technology had to be attracted to Russia, and here the invention privilege system had a role to play. It can be said that it was only in the 1890's that the government came to truly recognize the importance of new technology and of the invention privilege system for the rapid industrialization of the country.

Another project which had long been awaiting fulfillment, and which would have been important for the modernization of the Russian economy, was the reform of laws concerning joint-stock companies, which in their present form dated from the 1830's. This project, however, did not succeed. The introduction of a system of simple registration for the founding of new companies would have meant a radical change; such a change had already been rejected in the 1870's, nor was the time ripe for it now in the 1890's. If it had been carried out, it would have significantly affected decision-making in economic policy. In a way, the failure to change the system of joint-stock companies revealed the limits of the modernization process in Russia. The government was not prepared for any major redistribution of economic and political power. This, however, does not lessen the importance of the reform of the invention privilege system among the social reform projects which began in Russia in the 1860's, and among which it clearly belongs.

One of the chief objectives of the Technical Society, the strengthening of the inventor's property rights and his legal safeguards, was fulfilled in the new law only very imperfectly. The inventor's chances of obtaining justice continued to be poor, since in a majority of cases the decisions of the Committee for Technical Affairs were still issued without any explicit grounds. Hopes for a change were in general slight. The government encouraged private enterprise, but was at no time prepared to give up the centuries-old principle of minute and close bureaucratic control over the slightest details of business activity. The ideology which had been increasingly strong since the end of the 1880's, of a national economy reinforced by foreign technical know-how, was derived, in addition to its Listian sources, also by a powerful national

tradition, going back to the time of Peter the Great.

The quantitative increase in the numbers of both applications and privileges granted immediately after the new law came into force cannot be explained by the reduction in privilege fees alone. The reform did not succeed in doing away with the distrust felt by Russian inventors towards the privilege system, since the most important demands by the Technical Society to improve the inventor's legal standing had been bypassed in the new law. Applications began to increase after 1894, as reflected, after a two-year lag, in the numbers of privileges granted. The beginning of the rise thus falls before the new statute. This statistical increase is more probably related to the economic boom of the late 1890's and the sharp increase in foreign investment, to some extent also to the concurrent patent boom in the developed industrial nations. It is interesting to note that in the Grand Duchy of Finland too the turning point in the patent statistics occurs in 1896; the increase in the volume of applications thus must have begun in 1894–95, i.e. several years prior to the new law. The beginning of the upswing coincides in Russia and in the Grand Duchy of Finland, thus further confirming the parallel development of the two countries. In both, the proportion of foreigners among privilege recipients continued to be almost 80 %; thus the powerful economic boom, which in Russia was accompanied by heavy foreign investment, is a more probable explanation than the new statute.

The distribution of privilege recipients by country for 1880, 1891 and 1904 shows the enormous dominance of German inventors. The figures for 1904 show that Germans were particularly interested in privileging inventions in the chemical industry. Foreign companies, on the other hand, tended to concentrate on the fields of mining and metallurgy. In the light of the statistics, the latter two fields were by no means at the forefront of technological innovation in turn-of-the-century Russia. This finding casts a somewhat new light on the role of foreign entrepreneurs as bringers of the top new technology to Russia, a supposition in which the Ministry of Finance at least seems to have had complete faith. The techniques applied by foreign entrepreneurs in mining and metallurgy were developed by Russian standards, but evidently by no means the most advanced in the field. The patents for the most important inventions, which had revolutionized the iron and steel industries, had long since expired. The spread of the most advanced technology was hampered, along with the factor of expense, by a number of other factors, not least among which was the lack of an adequately trained, skilled and well-paid workforce.

In the light of these findings, the view, according to which foreigners played a crucial role in bringing Russian heavy industry up to the level of the most advanced Western technology, is somewhat exaggerated. The gap in development between Russia and the West was so great that even an older and somewhat less sophisticated technology was sufficient to benefit from it. The inventions of the German chemical industry did involve the most advanced technology; in addition to Russia, these were also often patented in Scandinavia and in the Grand Duchy of Finland. The material does not reveal how great a proportion of invention privileges were ultimately applied in practice in Russia. In many cases, the inventor was simply reserving a monopoly on the Russian market. The backwardness of the Russian chemical industry, and its

dependence on Germany, were revealed in the First World War. The German companies jealously guarded their secret production processes even from their own Russian subsidiaries. Some of these subsidiaries lacked all laboratories or research and planning departments. When we furthermore consider that many positions of leadership and management in the subsidiaries were filled by foreigners sent from the mother company, the positive side effects that the government hoped might be derived from foreign capital and technology were often fewer than anticipated. On the eve of the First World War, Russia was still 60 % dependent on foreign, chiefly German, machines and other equipment. For the Ministry of Finance, the privilege institution was an instrument of industrial policy, the importance of which as a channel for the dissemination of the newest technology was seen as perhaps somewhat too great.

In the Russian privilege system, the transactions costs were high. Under the new law the privilege fees were reduced considerably, but the confidence of inventors in the justice of the system did not increase. The system did not work well in the Russian environment, where the authorities retained their traditionally patronizing and distrustful attitude towards inventors and towards entrepreneurs. The granting of invention privileges continued to be closely tied to the Ministry of Finance, which was at no point willing to relinquish its power to intervene in business activity. The long-standing atmosphere of mutual distrust prevailing between inventors and the authorities was not relieved, nor did the reform succeed in increasing respect for private property rights. The Committee for Technical Affairs found it difficult to understand that the invention had a juridical as well as a technical content. Because of the fundamental difference in the concept of property rights, the rights of the inventor remained an alien element in Russian society.

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Appendix 1.

Number of invention privileges granted in Russia, 1812–1912 (excluding privileges granted by Ministry of State Properties)

Year	Privileges	Year	Privileges
1812	0	1863	75
1813	1	1864	55
1814	3	1865	46
1815	0	1866	45
1816	1	1867	50
1817	4	1868	44
1818	2	1869	81
1819	4	1870	85
1820	3	1871	95
1821	3	1872	74
1822	7	1873	74
1823	2	1874	85
1824	3	1875	107
1825	4	1876	121
1826	2	1877	128
1827	2	1878	138
1828	2	1879	154
1829	9	1880	165
1830	10	1881	173
1831	6	1882	178
1832	3	1883	188
1833	2	1884	201
1834	3	1885	188
1835	12	1886	203
1836	21	1887	210
1837	17	1888	256
1838	21	1889	267
1839	30	1890	242
1840	25	1891	290
1841	29	1892	359
1842	23	1893	283
1843	19	1894	290
1844	23	1895	300
1845	17	1896	219
1846	18	1897	495
1847	20	1898	1004
1848	13	1899	1460
1849	22	1900	1711
1850	7	1901	1495
1851	30	1902	1283
1852	22	1903	1065
1853	23	1904	1217
1854	38	1905	928
1855	21	1906	816
1856	24	1907	1307
1857	35	1908	2184
1858	64	1909	1477
1859	53	1910	1861
1860	70	1911	2400
1861	44	1912	2520
1862	62		

Sources: Указатель хронологический, предметный и алфавитный выданных в России привилегий (за исключением выданных по Министерству государственных имуществ) с 1814 по 1883 год, 1884, *passim*, с 1884 по 1887 год, 1888, *passim*; с 1888 по 1891 год, 1892, *passim*; с 1.1.1892 по 1.7.1896 год, 1897, *passim*; Розенцвейг (1917) 1920, vi.

Appendix 2.

Number of invention privileges granted in Russia by Ministry of State Properties, 1843–1891

Year	Privileges	Year	Privileges
1843	4	1868	3
1844	1	1869	5
1845	1	1870	3
1846	2	1871	1
1847	2	1872	1
1848	8	1873	2
1849	2	1874	9
1850	1	1875	1
1851	6	1876	4
1852	1	1877	2
1853	7	1878	2
1854	4	1879	3
1855	2	1880	3
1856	1	1881	8
1857	1	1882	4
1858	7	1883	4
1859	11	1884	4
1860	1	1885	4
1861	1	1886	4
1862	4	1887	5
1863	5	1888	4
1864	1	1889	6
1865	3	1890	4
1866	6	1891	6
1867	4		

Sources: РГИА f. 382, op. 1, d. 705, 4-14; Привилегии по Департаменту земледелия и сельской промышленности, выданные на изобретения по сельскохозяйственной части в 1885–1891 годах, 1892, *passim*.

Appendix 3.

Number of patents granted in the Grand Duchy of Finland, 1875-1914

Year	Privileges	Year	Privileges
1875	11	1895	63
1876	5	1896	70
1877	7	1897	104
1878	5	1898	147
1879	5	1899	206
1880	5	1900	269
1881	9	1901	247
1882	16	1902	234
1883	14	1903	222
1884	11	1904	207
1885	22	1905	220
1886	16	1906	319
1887	33	1907	354
1888	22	1908	346
1889	25	1909	376
1890	23	1910	352
1891	35	1911	427
1892	39	1912	463
1893	45	1913	436
1894	50	1914	378

Source: Kero 1987, 136 7.

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