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## PETER IN HOLLAND

IN THE SECOND HALF of the seventeenth century, Holland, a term used to describe the seven United Provinces of the Northern Netherlands, was at the peak of its world power and prestige. With its dense, teeming population of two million hard-working Dutchmen crowded into a tiny area, Holland was by far the richest, most urbanized, most cosmopolitan state in Europe. Not surprisingly, the prosperity of this small state was a source of wonder and envy to its neighbors, and often this envy turned to greed. On such occasions, the Dutch drew on certain national characteristics to defend themselves. They were valiant, obstinate and resourceful, and when they fought—first against the Spaniards, then against the English and finally against the French—they fought in a way which was practical and, at the same time, desperately and sublimely heroic. To defend their independence and their democracy, a people of two million maintained an army of 120,000 and the second-largest navy in the world.

Holland's prosperity, like its freedom, rested on ingenuity and hard work. In most European nations of the day, the vast majority of the people were tied to the land, engaged in the simple process of feeding themselves and creating a small surplus to feed the towns and cities. In Holland, one Dutch peasant, by producing larger crop yields per acre, by somehow extracting more milk and butter from his cows and more meat from his pigs, was able to feed two of his non-farming fellow citizens. Thus, in Holland more than half the population was freed for other activities, and they bustled into commerce, industry and shipping.

Commerce and shipping were the source of Holland's enormous wealth. The seventeenth-century Dutch were a trading, sea-faring people. The great sister ports of Amsterdam and Rotterdam, situated at the twin mouths of the Rhine, were at the junction of Europe's canals, its most important rivers and the oceans of the world. Almost everything passing in and out of Europe, up and down Europe's coast and across the sea passed through Holland. English tin, Spanish wool, Swedish iron, French wines, Russian

furs, Indian spices and teas, Norwegian timber and Irish wool flowed into the Netherlands to be graded, finished, woven, blended, sorted and shipped out again on the water highways.

To carry these goods, the Dutch had a near-monopoly on the world's shipping. Four thousand Dutch merchantmen—more merchant ships than those possessed by the rest of the world combined—sailed the world's oceans. The Dutch East India Company, founded in 1602, and the newer West India Company had offices in every major port in the world. Dutch seamen, combining the vigor of the explorer with the calculation of the trader, were always seeking new markets and new ports. As ships sailed ceaselessly to and fro, goods and profits piled up and the Dutch merchant republic became richer and richer. New services were developed in the city of Amsterdam to protect and encourage trade: insurance was devised to spread the risks; banks and the stock exchange found ways to deal in credit and to float public loans on an unprecedented scale to finance great commercial enterprises; printers printed contracts and bills of lading and all the multiple paper forms necessary to organize, advertise and confirm the thousands of business transactions occurring daily. Wealth bred confidence, confidence bred credit, credit bred more wealth, and Holland's power and fame spread farther. Holland was the true model of the rich, successful mercantile state, a commercial paradise to which young men came from all over Protestant Europe, especially England and Scotland, to learn the commercial and financial techniques of Holland's supremacy.

It was to this glittering mecca of commerce, sea power, culture and world empire that an eager young Russian named Peter Mikhailov was hurrying across Germany in the late summer of 1697.

AT PERESLAVL, at Archangel, at Voronezh, talking with Dutch shipwrights and sea captains, Peter had often heard the name of Zaandam. This Dutch town on the banks of the great gulf of the IJ, ten miles north of Amsterdam, was said to build the finest ships in Holland. In the fifty private shipbuilding yards in and around the town, as many as 350 ships a year were constructed, and so rapid and expert were the Zaandamers reputed to be that from the moment a keel was laid until the vessel was ready for sea, not more than five weeks were allowed to pass. Over the years, Peter's desire to visit and learn to build ships in Zaandam had taken firm root. Now, as he traveled across Germany, he told his comrades that he meant to remain in Zaandam through the autumn and winter learning shipbuilding. When he reached the Rhine at Emmerich near the Dutch frontier, he was so impatient that he hired a boat and, leaving most of the Embassy behind, sailed straight down the river, passing through Amsterdam without even stopping to rest.

Early on Sunday morning, August 18, Peter and his six companions were sailing along a canal approaching Zaandam when the Tsar noticed a familiar figure sitting in a rowboat, fishing for eels. It was Gerrit Kist, a Dutch blacksmith who had worked with Peter in Moscow. Overjoyed to see a familiar face, Peter boomed out a greeting. Kist, snatched from his thoughts and raising his eyes to see the Tsar of Russia sailing by, almost fell out of his boat. Steering for the bank and jumping from his boat, Peter hugged Kist excitedly and swore him to secrecy regarding his presence. Then, finding that Kist lived nearby, the Tsar immediately announced that he would stay with the blacksmith. Kist had many objections, arguing that his house was too small and plain for a monarch, and proposing instead the house of a widow who lived just behind his own house. With an offer of seven florins, the widow was persuaded to move in with her father. Thus, within a few hours Peter was happily settled into a tiny wooden house consisting of two small rooms, two windows, a tiled stove and a curtained, airless sleeping closet so small that he could not fully stretch out. Two of his companions stayed with him; the other four found nearby quarters.

Because it was Sunday, the shipyards were closed, but Peter was intensely excited and found it impossible to sit quietly and do nothing. He went out into the streets, which were filled with people strolling on a summer Sunday afternoon. The crowd, attracted by the news that a strange boat had arrived carrying foreigners in exotic costumes, began to notice him. Annoyed, he tried to find refuge at the Otter Inn, but there also people stared at him. It was only the beginning.

Early Monday morning, Peter hurried to a store on the dike and bought carpenter's tools. Then he went to the private shipyard of Lynst Rogge and, under the name Peter Mikhailov, signed himself up as a common workman. He began working happily, shaping timbers with his hatchet and constantly asking the foreman the name of every object he saw. After work, he began visiting the wives and parents of Dutch shipbuilders still in Russia, explaining to them that he worked side by side with their sons and husbands, declaring with pleasure, "I, too, am a carpenter." He called on the widow of a Dutch carpenter who had died in Russia, to whom he had previously sent a gift of 500 florins. The widow told him that she had often prayed for a chance to tell the Tsar how much his gift had meant to her. Touched and pleased, Peter sat down and had supper with her.

On Tuesday, anxious to be out on the water, Peter bought a small rowboat, having haggled over the price in the best Dutch fashion. He obtained it for forty florins, and then he and the seller went to a tavern and shared a pitcher of beer.

Despite Peter's wish that no one learn his identity, the secret quickly began to evaporate. On Monday morning, Peter had ordered his com-

panions to shed their Russian robes for the red jackets and white canvas trousers of Dutch workmen, but, even so, the Russians did not look like Dutchmen. Peter's own great height made real anonymity impossible, and by Tuesday everyone in Zaandam knew that "a person of great importance" was in town. This was confirmed by an incident on Tuesday afternoon when Peter, walking down a street and eating plums from his hat, offered some to a group of boys he encountered. There was not enough fruit to go around, and the boys began to follow him. When he tried to chase them away, they pelted him with stones and mud. Peter took shelter in the Three Swans Inn and sent for help. The Burgomaster himself came and Peter was forced to explain who he was and why he was there. The Burgomaster immediately issued an order forbidding Zaandamers to trouble or insult "distinguished persons who wish to remain unknown."

Soon, the most "distinguished person" was precisely identified. A Zaandam shipwright working in Russia had written home to his father that the Great Embassy was coming to Holland and that the Tsar would probably be with it, traveling incognito. He advised his father that Peter would be easy to recognize because of his great height, the shaking or twitching of his head and left arm, and the small wart on his right cheek. The father had just read this letter aloud on Wednesday to everyone in Pomp's barber shop when a tall man with exactly those distinguishing marks walked in. Like barbers everywhere, Pomp regarded it as part of his calling to pass along all local gossip, and he forthwith broadcast the news that the tallest of the strangers was the Tsar of Muscovy. To verify Pomp's report, people hurried to Kist, who was harboring the stranger and who was known to be familiar with the Tsar from his years in Russia. Kist, faithful to Peter's wish, stoutly denied his guest's identity until his wife said, "Gerrit, I cannot stand it any longer. Stop lying."

Even though Peter's secret was out, he still tried to maintain his incognito. He refused an invitation to dine with the leading merchants of Zaandam and declined to eat fish cooked in the special Zaandam style with the Burgomaster and his councilors. To both these invitations, Peter replied that there was no one of importance present; the Tsar had not yet come. When one leading merchant came to Peter's comrades to offer a larger house with a garden filled with fruit trees which would be more suitable for them and their master, they replied that they were not noblemen but servants; and that their present accommodations were ample.

News of the Tsar's appearance in Zaandam spread rapidly across Holland. Many people flatly refused to believe it, and numerous bets were placed. Two merchants who had met Peter at Archangel hurried to Zaandam. Seeing him at his house on Thursday morning, they came out, pale with emotion, and declared, "Certainly, it is the Tsar, but how and why is

he here?" Another acquaintance from Archangel told Peter of his amazement at seeing him in Holland in workman's clothes. Peter replied simply, "You see it," and refused to say anything else on the subject.

On Thursday, Peter bought a sailboat for 450 florins and installed a new mast and bowsprit with his own hands. When the sun rose on Friday, he was sailing on the Ij, tiller in hand. That afternoon, after dinner, he went sailing again, but as he cruised on the Ij, he saw a large number of boats putting out from Zaandam to join him. To escape, he steered for shore and jumped out, only to find himself in the middle of another curious crowd, pushing to see him and staring at him as if he were an animal in the zoo. In anger, Peter cuffed one spectator on the head, provoking the crowd to shout at the victim, "Bravo! Marsje, now you have been knighted!" By this time, the numbers of people in boats and on the shore had grown so great that Peter secluded himself in an inn and would not return to Zaandam until darkness fell.

The following day, Saturday, Peter had intended to observe the interesting and delicate mechanical operation by which a large, newly constructed ship was dragged across the top of a dike by means of rollers and capstans. To protect him, a space had been enclosed with a fence so that he could watch without being crushed by the crowd. By Saturday morning, however, the news of Peter's anticipated presence had brought even larger crowds of people from as far as Amsterdam; there were so many that the fences were trampled down. Peter, seeing the windows and even the roofs of the surrounding houses jammed with spectators, refused to go, even though the Burgomaster came in person to urge him. In Dutch, Peter replied, "Too many people. Too many people."

On Sunday, crowds came from Amsterdam, boatload after boatload. In desperation, the guards on the Zaandam bridges were doubled, but the crowd merely pushed them aside. Peter did not dare step outside all day. Pent up indoors, his anger and frustration smoldering, he pleaded with the embarrassed town council for help, but it could do nothing with the torrent of strangers which was growing every minute. As a last resort, he decided to leave Zaandam. His boat was brought from its normal mooring to a place near the house. By vigorous use of his knees and elbows, Peter managed to force his way through the crowd and climb on board. Although a high wind which had been blowing since morning had now reached the proportions of a storm, he insisted on leaving. A stay in the rigging parted as he cast off, and for a moment the boat was in danger of foundering. Nevertheless, despite the urging of experienced seamen, Peter sailed away, arriving three hours later in Amsterdam. Here, too, a crowd of Dutchmen pressed against one another to see him. Once again, several of them caught blows from the angry Tsar. Finally, he made his way to an inn which had been reserved for the Great Embassy.

This was the end of Peter's long-dreamed-of visit to Zaandam. Trying to work in an open shipyard or move freely about the town was plainly impossible, and Peter's intended stay of several months was reduced to an actual stay of a single week. Later, he sent Menshikov and two other members of his party back to Zaandam to learn the special technique of making masts, and he himself returned for two brief visits, but the education in Dutch shipbuilding that Peter had planned for himself was to take place not in Zaandam but in Amsterdam.

AMSTERDAM, in Peter's time, was the greatest port in Europe and the wealthiest city in the world. Built where two rivers, the Amstel and the Ij, flowed into the Zuider Zee, the city rose up from the water. Piles had been driven into the marshy ground to give it a footing, and the water flowed through the city in concentric rings of canals—five such rings in Peter's day. Each canal was bisected and trisected by smaller canals, so that the entire city was practically afloat, an archipelago of seventy islands, linked by 500 bridges arching over the canals to allow boats and barges to pass beneath. The city walls were constructed just inside the outermost canal so that the canal itself made a natural moat. Embedded in these ramparts were sturdy, round defensive watchtowers which—typically—the utilitarian Dutch had put to a second use. On top of the towers they set windmills, whose rotating vanes supplied energy to pumps working constantly to drain the water from small patches of dry ground. Standing on the fortifications, a watcher gazed out across a wide expanse of flat, watery countryside studded in every direction with other windmills, great and small, turning ceaselessly to pump out the sea.

The city's buildings proclaimed its wealth. Seen from the harbor, Amsterdam was a panorama of red-brick church towers, symmetrical and practical, designed in the distinctive rounded Dutch style. The city fathers were enormously proud of their City Hall, regarding the building, which rested on 13,659 piles, as the Eighth Wonder of the World. (Today, the building is a royal palace.) Throughout the city, there were breweries, sugar refineries, tobacco warehouses, storehouses for coffee and spices, bakeries, slaughterhouses and ironworks, each contributing by its shape or its pungent smell to a scene of enormous variety and richness. But mostly it was in the stately homes built along the canals by the city's prosperous merchants that Amsterdam's wealth was displayed. Set back from the canals, on streets lined with elms and linden trees, these red-brick mansions remain today Amsterdam's handsomest feature. Very narrow (because the owners were taxed on the basis of the width of their houses), they rose four or five stories to an elegant, pointed gable at the peak. From this peak, a beam usually projected out over the street and was used as an

anchor for block and tackle to haul heavy furniture and other objects up from the street and in through the windows of the upper floors, the stairs being too narrow for this purpose. Through these tall windows the owner could look down on the street, the trees, the elegant iron lampposts and the shaded, rippling water of the canals.

Water and ships were everywhere. Turning every corner, a visitor caught sight of masts and sails. The waterfront was a forest of spars. Along the canals, pedestrians stepped over ropes, iron rings for mooring boats, pieces of timber, barrels, anchors, even cannon. The whole city was a semi-shipyard. And the harbor itself was crowded with ships of every size—the small, gaff-rigged fishing boats just back at midday from an early morning's catch on the Zuider Zee; the big, three-masted East India Company merchantmen and seventy- or eighty-gun ships-of-the-line, all showing the typical Dutch design with round, turned-up bows, broad-beamed hulls and shallow bottoms, looking exactly like outsized Dutch wooden shoes equipped with masts and sails; the elegant state yachts, with bulbous Dutch bows and large, ornate after-cabins with leaded windows opening over the stern. And at the eastern end of the harbor, in a section called Ostenburg, lay the Dutch East India Company dockyards with the great wharves and shipbuilding ramps where the company's ships were constructed. Row on row, the great, round, bulbous hulls of the East Indiamen took shape, up from the keel, rib by rib, plank by plank, deck by deck. Nearby, veteran ships returning from long voyages were overhauled—first, the rigging and masts were removed, then the hulls were dragged into shallow tidal water and rolled on their sides. There they lay like beached whales while carpenters, fitters and other workmen swarmed over them, scraping their bottoms of rich layers of marine growth, replacing their rotten planks and melting fresh tar into the seams to keep out the sea.

It was to this dockyard, a special seamen's paradise within the larger paradise that was all of Amsterdam, that Peter came to spend four months.

PETER'S RETURN to Amsterdam had been forced by the crowds in Zaandam, but he would have returned in any case to greet his own Great Embassy, which was just arriving. The ambassadors had been received in royal style at Cleves near the frontier, and four large yachts and numerous carriages had been placed at their disposal. The city fathers of Amsterdam, understanding the potential significance of this Embassy in terms of future trade with Russia, decided to receive it with extraordinary honors.

The reception included ceremonial visits to the City Hall, the Admiralty and the docks, special performances of opera and ballet, and a major banquet which ended with a display of fireworks set off from a raft in the Amstel. During these festivities, Peter had a chance to talk to the ex-

traordinary man who was Burgomaster of Amsterdam, Nicholas Witsen. Cultured, wealthy, respected for his character as well as his achievements, he was an explorer, a patron of the arts and an amateur scientist, as well as a public official. One of his passions was ships, and he took Peter to see his collections of ship models, navigational instruments and tools used in shipbuilding. Witsen was fascinated by Russia and for a long time, along with his other duties and interests, Witsen had acted as the unofficial minister of Muscovy in Amsterdam.

During the months that Peter was in Amsterdam, the Tsar and the Burgomaster spoke daily and Peter turned to Witsen with the problem of the crowds in Zaandam and Amsterdam. How could he work quietly, learning to build ships, surrounded by curious, staring strangers? Witsen had an immediate suggestion. If Peter remained in Amsterdam, he could work in the shipyards and docks of the East India Company, which were enclosed by walls and barred to the public. Peter was delighted by the idea, and Witsen, a director of the company, undertook to arrange it. The following day, the board of directors of the East India Company resolved to invite "a high personage present here incognito" to work in its shipyard and, for his convenience, to set aside for him the house of the master ropemaker so that he could live and work undisturbed inside the shipyard. In addition, to assist him in learning shipbuilding, the board ordered the laying of the keel of a new frigate, 100 feet or 130 feet long, whichever the Tsar preferred, so that he and his comrades could work on it and observe Dutch methods from the very beginning.

That night, at the formal state banquet given the Embassy by the city of Amsterdam, Witsen told Peter of the decision reached by the directors earlier in the day. Peter was enthusiastic and, although he loved fireworks, he could scarcely restrain himself through the rest of the meal. When the last skyrocket had burst, the Tsar jumped to his feet and announced that he was leaving for Zaandam right then, in the middle of the night, to fetch his tools so that he could start work in the morning. Attempts by both Russians and Dutchmen to stop him were useless, and at eleven p.m. he boarded his yacht and sailed away. The following morning, he was back and went straight to the East India Company shipyard in the Ostenburg section. Ten Russian "volunteers" including Menshikov went with him, while the rest of the "volunteers" were scattered by Peter's command around the harbor, learning the trades of sailmaker, ropemaker, mast turning, the use of block and tackle, and seamanship. Prince Alexander of Imeritia was dispatched to The Hague to study artillery. Peter himself enrolled as a carpenter under the master shipwright, Gerrit Claes Pool.

The first three weeks were spent in collecting and preparing the necessary timbers and other materials. So that the Tsar could see exactly what was being done, the Dutch gathered and laid out all the pieces before

even laying the keel. Then, as each piece was fastened into place, the ship was assembled rapidly, almost like a huge model made from a kit. The frigate, 100 feet long, was called *The Apostles Peter and Paul*, and Peter worked enthusiastically on every stage of its assembly.

Every day, Peter arrived at the shipyard at dawn, carrying his axe and tools on his shoulders as the other workmen did. He allowed no distinction between himself and them, and strictly refused to be addressed or identified by any title. In his afternoon leisure hours, he liked sitting on a log, talking to sailors or shipbuilders or anyone who addressed him as "Carpenter Peter" or "Baas [Master] Peter." He ignored or turned away from anyone who addressed him as "Your Majesty" or "Sire." When two English noblemen came to catch a glimpse of the Tsar of Muscovy working as a laborer, the foreman, in order to point out which one was Peter, called to him, "Carpenter Peter, why don't you help your comrades?" Without a word, Peter walked over and put his shoulder beneath a timber which several men were struggling to raise and helped lift it into place.

Peter was happy with the house assigned to him. Several of his comrades lived there with him in the manner of a group of common workmen. Originally, the Tsar's meals were prepared by the staff of the inn at which the Embassy was staying, but this bothered him; he wanted an entirely independent household. He had no fixed hours for meals; he wished to be able to eat whenever he was hungry. It was arranged that he should be supplied with firewood and foodstuffs and then left alone. Thereafter, Peter lighted his own fire and cooked his own meals like a simple carpenter.

But although he was in a foreign land, wearing the clothes and practicing the trade of a laborer, neither Peter nor his countrymen ever forgot who he really was or the awesome power he wielded. His viceroys in Moscow were reluctant to act without his consent, and every post brought him thick bundles of letters asking for guidance, requesting favors or passing on news. Peter himself, in a shipyard a thousand miles from his capital, took far more interest in his own government than ever before. He insisted on being informed of even the smallest details of those public affairs which he had once so happily neglected. He wanted to know everything that was happening: How are the Streltsy behaving? What progress is being made on the two Azov forts? What about the harbor and the forts at Taganrog? What is happening in Poland? When Shein wrote about a victory over the Turks outside Azov, Peter celebrated by giving a magnificent banquet for the principal merchants of Amsterdam, followed by a concert, a ball and fireworks. When Peter learned of the climactic victory Prince Eugene of Savoy won over the Turks at Zenta, he sent the news to Moscow along with the fact that he had given another banquet to honor this success. He tried to reply every Friday to the letters from Moscow, although, as he wrote

to Vinius, "sometimes from weariness, sometimes from absence, sometimes from Khmel'nitsky [drink], we cannot accomplish it."

On one occasion, Peter's power over two of his subjects, both noblemen serving with the Embassy in Holland, was stayed. Hearing that these Russians had criticized his behavior, saying that he should make less of a spectacle of himself and act more in keeping with his rank, Peter flew into a fury. Presuming that he wielded in Holland as he did in Russia the power of life and death over his subjects, he ordered the pair placed in irons as a preliminary to their execution. Witsen interfered, asking Peter to remember that he was in Holland, where no execution could take place except by sentence of a Dutch court. Gently, Witsen suggested that the men be freed, but Peter was adamant. Finally, he reluctantly agreed to a compromise which saw the two unfortunates exiled to the farthest overseas colonies of Holland: one to Batavia, the other to Surinam.

Outside the shipyard, Peter's curiosity was insatiable. He wanted to see everything with his own eyes. He visited factories, sawmills, spinning mills, paper mills, workshops, museums, botanical gardens and laboratories. Everywhere he asked, "What is that for? How does it work?" Listening to the explanations, he nodded: "Very good. Very good." He met architects, sculptors and Van der Heyden, the inventor of the fire pump, whom he tried to persuade to come to Russia. He visited the architect Simon Schvoet, the museum of Jacob de Wilde, and learned to sketch and draw under the direction of Schonebeck. He engraved a plate depicting a tall young man, who closely resembled himself, holding the cross high, standing on the fallen crescent and banners of Islam. At Delft, he visited engineer Baron von Coehörn, the Dutch Vauban, who gave him lessons in the science of fortifications. He visited Dutchmen in their homes, especially Dutchmen engaged in the Russian trade. He became interested in printing when he met the Tessing family, and granted one of the brothers the right to print books in Russian and to introduce them into Russia.

Several times, Peter left the shipyard to visit the lecture hall and dissecting room of Professor Fredrik Ruysch, the renowned professor of anatomy. Ruysch was famous throughout Europe for his ability to preserve parts of the human body and even whole corpses by injection of chemicals. His magnificent laboratory was considered one of the marvels of Holland. One day, Peter was present in front of the body of a small child so perfectly preserved that it seemed alive and smiling. Peter gazed at it a long time, marveling, and finally could not resist leaning forward and kissing the cold forehead. Peter became so interested in surgery that he had difficulty leaving the laboratory; he wanted to stay and observe more. He dined with Ruysch, who advised him on his choice of surgeons to take back to Russia for service with his army and fleet. He was intrigued by

anatomy and thereafter considered himself qualified as a surgeon. After all, he was able to ask, how many others in Russia had studied with the famous Ruysch?

In later years, Peter always carried two cases with him, one filled with mathematical instruments to examine and verify construction plans presented to him, the other filled with surgical instruments. He left instructions that he was to be informed whenever an interesting operation was to be performed in a hospital in his vicinity, and he was usually present, frequently lending assistance and acquiring sufficient skill to dissect, to bleed, to draw teeth and to perform minor operations. Those of his servants who fell ill tried to keep it a secret from the Tsar lest he appear at their bedsides with his case of instruments to offer—and even insist on their acceptance of—his services.

In Leyden, Peter visited the famous Dr. Boerhaave, who supervised a celebrated botanical garden. Boerhaave also lectured on anatomy, and when he asked Peter what hour he would like to visit, the Tsar chose six o'clock the following morning. He also visited Boerhaave's dissection theater, where a corpse was lying on a table with some of its muscles exposed. Peter was studying the corpse with fascination when he heard grumbles of disgust from some of his squeamish Russian comrades. Furious, and to the horror of the Dutch, he ordered them to approach the cadaver, bend down and bite off a muscle of the corpse with their teeth.

In Delft, he visited the celebrated naturalist Anton van Leeuwenhoek, inventor of the microscope. Peter spent more than two hours talking with him and looking through the miraculous instrument by which Leeuwenhoek had discovered the existence of spermatozoa and had studied the circulation of blood in fish.

On free days in Amsterdam, Peter wandered the city on foot, watching the citizens bustling by, the carriages rattling over the bridges, the thousands of boats rowing up and down the canals. On market days, the Tsar went to the great open-air market, the Botermarkt, where goods of every kind were piled up in the open or under arcades. Standing next to a woman buying cheeses, or a merchant choosing a painting, Peter observed and studied. He especially enjoyed watching street artists performing before a crowd. One day, he watched a celebrated clown juggling while standing on top of a cask, and Peter stepped forward and tried to persuade the man to come back with him to Russia. The juggler refused, saying he was having too much success in Amsterdam. In the market, the Tsar witnessed a traveling dentist who pulled aching teeth with unorthodox instruments such as the bowl of a spoon or the tip of a sword. Peter asked for lessons and absorbed enough to experiment on his servants. He learned to mend his own clothes and, from a cobbler, how to make himself a pair of slippers. In winter, when the skies were eternally gray and the Amstel

and the canals were frozen, Peter saw women dressed in furs and woollens and men and boys in long cloaks and scarves go speeding by on ice skates with curved blades. The warmest places, he found, and the places where he was happiest, were the beer houses and taverns where he relaxed with his Dutch and Russian comrades.

Observing Holland's immense prosperity, Peter could not escape asking himself how it was that his own people, with an endless stretch of steppe and forest at their disposition, produced only enough to feed themselves, whereas here in Amsterdam, with its wharves and warehouses and forest of masts, more convertible wealth had been accumulated than in all the expanse of Russia. One reason, Peter knew, was trade, a mercantile economy, the possession of ships; he resolved to dedicate himself to achieving these things for Russia. Another reason was the religious toleration in Holland. Because international trade could not flourish in an atmosphere of narrow religious doctrine or prejudice, Protestant Holland practiced the widest religious toleration in the Europe of that day. It was to Holland that the dissenters fled from James I's Calvinist England in 1606, from there to sail a decade later to Plymouth Bay. It was to Holland also that the French Protestant Huguenots swarmed by the thousands when Louis XIV revoked the Edict of Nantes. Throughout the seventeenth century, Holland served as Europe's intellectual and artistic clearinghouse as well as its commercial center. It was to defend their religious liberties as much as their commercial supremacy that the Dutch resisted so fiercely the aggrandizements of Louis XIV's Catholic France. Peter was intrigued by this atmosphere of religious toleration. He visited many Protestant churches in Holland and asked questions of the pastors.

One brilliant facet of Holland's seventeenth-century culture did not much interest him. This was the new and remarkable painting of the great masters of the Dutch School—Rembrandt, Vermeer, Frans Hals and their contemporaries and successors. Peter bought paintings and took them back to Russia, but they were not the Rembrandts and other masterpieces which later were collected by Catherine the Great. Instead, Peter collected pictures of ships and the sea.

## COMMERCE BY DECREE

IN RUSSIA, before Peter's time, there was little that could be called industry. Scattered through the towns were small factories and workshops for household implements, handicrafts and tools which met the needs of tsar, boyars and merchants. In the villages, the peasants made everything for themselves.

Upon his return from the West in 1698, Peter determined to change this and for the remainder of his life he labored to make Russia richer and its economy more efficient and productive. At first, with his country plunged into a major war, Peter's attempt to build industry related entirely to the needs of war. He developed cannon foundries, powder mills, factories to make muskets, leatherworks for saddles and harness, textile mills to weave woolen cloth for uniforms and make sails for the fleet. By 1705, the state-owned textile factories in Moscow and Voronezh were doing so well that Peter wrote to Menshikov: "They are making cloth and God gives excellent results, so that I have made a caftan for myself for the holidays."

After Poltava, the emphasis changed. As the demands of war diminished, Peter became more interested in other kinds of manufacturing, those designed to raise Russian life to the level of the West and at the same time to make Russia less dependent on imports from abroad. Aware that large sums were being drained out of the country to pay for imports of silk, velvet, ribbon, china, and crystal, he established factories to make these products in Russia. To protect the fledgling industries, he placed high import duties on foreign silk and cloth which doubled their price for Russian buyers. Basically, his policy was similar to that of other European states at the time, which can generally be described as mercantilism: to increase exports in order to earn foreign currency, and decrease imports in order to stem the flow of Russian wealth abroad.

Peter's industrialization policy had a second purpose, equally important. His tax collectors were already wringing the Russian people lifeless to finance the war. The only long-term way to extract more revenue from his people, Peter realized, was to increase the production of national wealth,

thus increasing the tax base. To achieve this goal, the Tsar hurled himself and the power of the state into every aspect of developing the national economy. Peter viewed himself as personally responsible for the strengthening of the national economy, but at the same time he understood that private enterprise and initiative were the true sources of national wealth. His goal was to create a class of Russian entrepreneurs who would assist and eventually replace the sovereign and the state as producers of this wealth. It was not an easy task. By tradition, Russian noblemen looked disdainfully on any involvement in trade and industry and were determined not to invest their capital in commercial enterprises. Peter employed a combination of persuasion and force, preaching the dignity and usefulness of commerce and making trade and industry an honorable form of state service—like service in the army, navy or civilian bureaucracy. The government, through the College of Mining and Manufacturing, provided initial capital in the form of loans and subsidies, granted monopolies and tax exemptions, and sometimes simply erected factories at Treasury expense and leased them to private individuals or companies. These arrangements often were compulsory. In 1712, the state constructed a group of cloth factories to be managed by private merchants. "If they do not wish to do this of their own free will," declared the order, "then they must be forced. Grant them facilities to defray the cost of the factory so that they may take pleasure in trading."

Not all of the new enterprises flourished. A silk company formed by Menshikov, Shafirov and Peter Tolstoy was granted generous privileges and subsidies and still managed to fail. Menshikov quarreled with his partners and resigned, to be replaced by Admiral Apraxin. Eventually, having swallowed all of its original capital, the company was sold to private merchants for 20,000 roubles. Menshikov had better luck with a company formed to fish for walrus and cod in the White Sea.

The most productive partnership between state and private industry was in mining and heavy industry. When Peter came to the throne, Russia possessed some twenty small state and private iron foundries around Moscow, in Tula and at Olonets on Lake Onega. Declaring that "our Russian state abounds in riches more than many other lands and is blessed with metals and minerals," Peter began early in his reign to develop these natural resources. Among the foreigners employed by the Great Embassy for service in Russia were numerous mining engineers. Once the war began, the ironworks at Tula, founded by the Dutch father of Andrew Vinius and owned in part by the crown and in part by the ironmaster Nikita Demidov, were expanded to provide muskets and cannon for the entire army. The city of Tula became an immense arsenal, its various suburbs populated by different categories of armorers and smiths. After Poltava, Peter sent prospectors throughout the Urals looking for new deposits. In 1718, he estab-

lished a College of Mining and Manufacturing, to encourage location and development of new mineral sites. In December 1719, a decree threatened with the knout any landowner who concealed mineral deposits on his lands or who obstructed prospecting by others. The rolling hills of the Urals, especially in Perm province, revealed themselves to be astonishingly rich in high-grade ores: the ore taken from the ground produced almost half its weight in pure iron. To help develop these rich veins, Peter turned again to Nikita Demidov. By the end of Peter's reign, a vast industrial and mining complex consisting of twenty-one iron and copper foundries had risen in the Urals, centering on the town of Ekaterinburg, named in honor of Peter's wife.\* Nine of these works were owned by the state and twelve by private individuals, including Demidov, who owned five. Their production constantly increased, and by the end of the reign more than forty percent of all Russian iron was coming from the Urals. Within Peter's lifetime, Russian output of pig iron equaled that of England, and in the reign of Catherine the Great, Russia supplanted Sweden as the largest producer of iron in Europe. These flourishing mines and foundries made the state strong (16,000 cannon were in the arsenals at Peter's death) and Demidov enormously rich. On the birth of the Tsarevich Peter Petrovich, Demidov presented the infant with 100,000 roubles as "tooth-cutting money." In 1720, the infant's proud father made Demidov a count, a title which lasted until the end of the dynasty.

To facilitate trade, Russia needed more circulating currency. New Russian coins had been minted since Peter's return from the West with the Great Embassy, but coins were so scarce that merchants in Petersburg, Moscow and Archangel borrowed them at fifteen percent interest simply to keep their businesses operating. One reason for this scarcity was the ingrained habit of all Russians, from peasant to noble, of quickly hiding any money on which they could lay their hands. As a foreign visitor explained, "Among the peasants, if by chance one happens to gain a small sum, he hides it under a dunghill, where it lies dead to him and to the nation. The nobility, being afraid of making themselves noticed and obnoxious to the court by the show of their wealth, commonly lock it up in coffers to molder there, or those more sophisticated send it to banks in London, Venice or Amsterdam. Consequently, with all the money thus concealed by nobility and peasants, it has no circulation and the country reaps no benefit from it." At the beginning of the war, a decree declared that "the hoarding of money is forbidden. Informers who discover a cache are to be rewarded with one third of the money, the remainder to go to the state."

\* In 1918, Ekaterinburg was the site of the murder of the family of the last Russian Emperor, Nicholas II. Today, the city is named Sverdlovsk.

Another reason for the scarcity of coinage was an insufficiency of precious metals. Gold- and silversmiths who came to Russia became discouraged and went home, and many freshly coined roubles were defective as to both alloy and weight of metal. Peter knew this and it worried him, but as the mines simply were not producing enough gold and silver, he was forced to allow the debasement to continue. In 1714, to preserve the nation's economy, Peter forbade the export of silver. In 1718, merchants leaving Russia were searched and any gold, silver or copper coins found were confiscated. On the least suspicion, customs officers would dismantle the carriages or sledges in which merchants were traveling. In 1723, this regulation was strengthened by adding the death penalty for anyone caught exporting silver. On the other hand, the import of gold and silver was vigorously encouraged; there was no duty on these metals. And when Russians sold their goods to foreigners, they were not permitted to accept Russian money in payment, but had always to receive foreign money.\*

Peter's commands, issued impatiently from above, often were received without the slightest understanding of what was wanted or why. This compelled the Tsar not only to supervise everything closely himself, but also to employ force to get things done. Traditionally conservative, Russians balked at innovations, and Peter told his ministers, "You know yourselves that anything that is new, even if it is good and necessary, our people will not do without being compelled." He never apologized for using force. In a decree in 1723, he explained that "our people are like children who never want to begin the alphabet unless they are compelled to by the teacher. It seems very hard to them at first, but when they have learned it, they are thankful. So in manufacturing affairs, we must not be satisfied with the proposing of the idea only, but we must act and even compel."

Commerce is a delicate mechanism, and state decrees are not usually the best way to make it work. In Peter's case, it was not simply the element of compulsion that detracted from the success of his efforts—he himself was not always sure what he wanted. When his attention wandered or he was distracted, those below him, uncertain as to his desires, did nothing and all activity stopped. Peter's methods were strictly empirical. He tried this or that, ordering and countermanding, seeking a system that worked, sometimes without thoroughly understanding what was needed or the nature of the obstacles confronting him. His constant changes in direction, his minute regulations leaving no scope for local adjustment, confused and drained initiative from Russian merchants and manufacturers. Once, when the Dutch ambassador was pressing for Russian approval of a new commercial treaty

\* All this has a familiar ring to foreigners who live or travel in the Soviet Union today.



and had been frustrated by repeated delays, he was told by Osterman, "Between ourselves, I will tell you the truth. We have not a single man who understands commercial affairs at all."

There were occasions when enterprises foundered simply because Peter was not present to give instructions. His temper could be so fierce and unpredictable that, in the absence of specific orders, people were unwilling to take initiative and simply did nothing. In Novgorod, for example, a large number of leather saddles and harnesses had been stored for the army. The local authorities knew that they were there, but because no order to distribute them had come down from above, they were left until "eventually, moldy and rotten, they had to be dug up with spades." Similarly, in 1717, many oak trunks brought from central Russia through the canals to Lake Ladoga for use in building the Baltic fleet were left to wash up on the shores and bury themselves in mud, simply because Peter was away in Germany and France and had not left specific instructions for their use.

To bridge the gap between the innovative Tsar who, despite his consuming interest, was often occupied with other matters, and the uncomprehending, unwilling nation, there were the foreigners. None of Peter's work in developing the national economy would have been possible without the foreign experts and craftsmen who poured into Russia between the time of Peter's return from the West in 1698 and his death in 1725. The Tsar engaged more than a thousand foreigners during his first visit to Amsterdam and London, and thereafter Russian envoys and agents at foreign courts were urgently commissioned to search out and persuade local artisans and technicians to enter Russian service.

Foreign craftsmen, foreign ideas and foreign machines and materials were at work in every sphere of industrial, commercial and agricultural activity. Vines, brought from France, were planted near Astrachan to produce wine which a Dutch traveler pronounced as "red and pleasant enough." Twenty shepherds, arriving from Silesia, were sent to Kazan to shear the sheep and teach the Russians there how to make wool so that it would no longer be necessary to buy English wool to clothe the army. Peter saw better horses in Prussia and Silesia and ordered the Senate to establish stud farms and import stallions and mares. He observed Western peasants reaping grain with a long-handled scythe rather than the short-handled sickle which Russian peasants had always bent to use, and decreed that his people must adopt the scythe. Near Petersburg was a factory which turned Russian flax into a linen as fine in every respect as linen from Holland. The flax was spun in a workhouse where an old Dutch woman was teaching eighty Russian women how to use the spinning wheels, which were little known in Russia. Not far off was a paper mill run by a German specialist. Throughout the land, foreigners were teaching Russians how to build and operate glass factories, brick kilns, powder mills, saltpeter works, ironworks

and paper mills. Once in Russia, foreign workers enjoyed numerous special privileges, including free houses and exemption from taxes for ten years. Surrounded by suspicious and xenophobic Russians, they lived under the Tsar's personal protection, and Peter sternly warned his people not to harm or take advantage of them. Even when a foreigner failed, Peter usually treated him with kindness and sent him home with a sum of money.

Behind this policy was not a frivolous love of everything foreign. Instead, Peter had a single, firm purpose: to use foreign technicians to help build a modern Russia. Foreigners were invited and privileges granted to them on a single condition which was part of every contract: "that they instruct our Russian people properly and conceal nothing." Occasionally, foreign experts did attempt to conceal trade secrets. In one such case, English tobacco curers, departing from Russia, used violent means to prevent their special technology from falling into Russian hands. Astonishingly, Charles Whitworth, the English ambassador, not only countenanced this violence, but committed it himself:

The great secret which the Muscovites desire to know is the liquor for preparing and coloring the tobacco. . . . The Russian laborers were dismissed and the same evening I went to the workhouse together with Mr. Parsons, my secretary, and four of my servants. We spent the best part of the night in destroying the several instruments and materials, some of which were so strong that they obliged us to make a great noise in pulling them to pieces. There were cloven barrels about a quarter full of the tobacco liquor which I caused to be let out. . . . I likewise broke the great spinning wheel, and above three score reels for rolling; I then destroyed three engines already set up for cutting tobacco and took away the plates and cranes for two more; several engines for pressing the tobacco into form have been pulled to pieces, their screws split, the wooden moles broken, the copper carried away, and about 20 fine sieves cut to pieces. . . . The next day my servants returned and burned all that remained of wood.

Had Peter discovered the ambassador's role in this violent, nocturnal episode, Whitworth's stay in Russia would certainly have been cut short. . . . On another occasion, however, a Russian outwitted a secretive foreigner. Peter had established a ribbon factory near Petersburg, staffing it with young Russian apprentices; the master was a foreigner. At the end of a year, Peter found that one young man, the most skilled of the young Russians, could make any kind of ribbon once the materials were set upon the loom, but that neither he nor his companions could begin unaided because the master always placed the work upon the loom himself and forbade anyone to watch during this operation. Peter instructed the Russian apprentice to discover

this secret and promised a reward if he succeeded. Accordingly, the apprentice bored a small hole in the ceiling of the workshop and lay quietly on his stomach, observing the master as he set the looms. Having learned the technique, he informed the Tsar, who had set up a loom in his presence in the palace. When the apprentice succeeded, Peter kissed him, gave him money and made him the new master.

HAVING CONSTRUCTED a new capital on the Neva, Peter was determined that it should be more than an administrative hive for his bureaucrats and a parade ground for his Guards regiments; he meant St. Petersburg to be a great port and commercial center. To endow it with importance and build it into a major commercial center, he took steps to divert trade to the Neva from other ports, in particular from the lengthy, circuitous Archangel route. This arbitrary commercial upheaval was achieved only by overriding the pleas and cries of many—Russians and foreigners alike—who had invested heavily in that route. Nevertheless, Peter gradually increased the pressure. The struggle continued until 1722, when he finally forbade the shipping of any goods from Archangel other than those actually produced in that province or along the banks of the Dvina. That year, St. Petersburg finally prevailed over Archangel and became the leading port on Russian soil, although its trade was still not as large as Riga's. By the end of Peter's reign, the volume of Russia's foreign trade exceeded the wildest of Peter's early dreams. Overall seaborne commerce had quadrupled in value. In 1724, 240 Western merchant ships arrived in St. Petersburg, while 303 visited Riga. In 1725, 914 foreign ships called at Russian Baltic ports.

But Peter failed in another objective: the creation of a Russian merchant marine. He had hoped that Russian goods could be carried to the West in Russian merchant ships, but this effort ran into an old prejudice, long inflicted by Western maritime nations. In the time of Novgorod, when Russian merchants had desired to export their produce in their own ships, the merchants of the Hanseatic League had joined against them to insist that they would buy Russian goods only in Novgorod and then be responsible for shipping them themselves. At a later time, an enterprising merchant of Yaroslavl took a cargo of furs to sell in Amsterdam, but, by concerted arrangement among Dutch buyers, he was unable to sell a single fur and had to carry them back to Archangel. There, they were bought immediately at a good price by the Dutch merchant who owned the vessel which had carried the furs back to Russia.

Early in his reign, Peter resolved to change this pattern and instructed Apraxin, as Governor of Archangel, to build two small Russian ships which would sail to the West carrying Russian cargoes under the Russian flag. Knowing that their arrival would provoke opposition, he pondered where

to send them. Dutch and English merchants would be vigorously opposed, while in France, the Tsar felt, the Russian flag might not be respected. At last the ships were dispatched to France, but already Peter had retreated: They sailed under the Dutch rather than the Russian flag. One of the ships was confiscated by the French, and its return became the subject of a lengthy argument. In general, Peter never succeeded in this effort, and in shipping—and even in the handling of foreign commerce in Russian ports—Dutch and English merchants retained their virtual monopoly.

Despite this failure, Peter bore no grudge against foreign captains or seamen. On the contrary, he was delighted when foreign merchant ships arrived in Russian ports, welcoming them grandly and treating the captains as brother mariners. As soon as a foreign ship appeared in the harbor of Kronstadt or St. Petersburg, Peter arrived on board to walk its decks, examine its structure and rigging and look for new developments in its construction. His visits were so common, especially among the Dutch captains who came annually to St. Petersburg, that they looked forward to sitting down with the Tsar in their cabins with brandy, wine, cheese and biscuits to answer his questions about their voyages. In return, Peter invited them ashore to attend his court and all its celebrations; it was seldom that they returned sober to their ships. As one observer noted: "It is easy to conceive how much this reception was to the taste of people in that line of life and with how much pleasure they steered their course for St. Petersburg."

Nothing was allowed to spoil this relationship. In 1719, when new customs regulations were drawn up for the port of St. Petersburg, the first draft presented to Peter for approval declared that ships that carried contraband or concealed dutiable goods should be confiscated. Peter struck out this article, explaining that it was much too early in the life of the port for such drastic action; he had no desire to frighten ship captains and merchants away.

The Emperor allowed visiting captains to speak to him on terms of familiarity which shocked his Russian favorites. When one Dutch captain said he still preferred Archangel to St. Petersburg and the Tsar asked why, the captain cheekily replied that there were no pancakes in St. Petersburg. "Come to court tomorrow," Peter replied, "and you will have your fill of pancakes."

When foreign seamen became embroiled in disputes with Russians, Peter hurried to the defense. Once, a Dutch merchant vessel, maneuvering into the crowded harbor of Kronstadt, accidentally rammed a Russian frigate, breaking its accommodation ladder. The Russian captain was furious, although the apologetic Dutch captain offered to pay for the damage. Unappeased, the Russian sent a guard of Russian soldiers and sailors on board the merchantman and demanded ten times the appropriate sum. Peter was at Kronstadt and, hearing of the commotion, rowed out to the frigate to

inspect the damage. Seeing that no harm had been done except to the ladder, which could be repaired in a few hours, he became enraged at his frigate captain. "In three hours," he said, "I will return and I expect to see the ladder of your ship repaired." Three hours later, the Tsar returned to find the ladder repaired but unpainted. "Paint the ladder red," he commanded, "and in the future, let foreigners receive nothing at your hands but marks of politeness and friendship."

IT WAS TYPICAL of Peter's character that in the middle of a war, with a new army, a new navy, a new capital and a new national economy all under construction, he should also begin to dig a new system of canals at different points in Russia. It was not that they were unneeded. The distances in Russia were so vast and the roads so poor that commercial goods as well as individual travelers faced almost insurmountable obstacles in moving from place to place. This problem had always bedeviled the effort to bring products from deep inside the giant nation to the seaports for export; now, it presented itself even more acutely in the form of transporting the quantities of grain and other foodstuffs which were needed to feed St. Petersburg. The solution had been provided in large part by nature, which had equipped Russia with a magnificent network of rivers—the Dnieper, the Don, the Volga and the Dvina. Although all these rivers except the Dvina flowed south, it still remained possible to haul goods northward, upstream, by the sheer brute force of human and animal labor. What remained was to connect this far-flung tracery of natural water routes with a system of canals which linked the rivers at vital points.

Peter's first herculean effort was to try to link the Volga with the Don and thus, by his possession of Azov at the mouth of the Don, give most of the Russian heartland access to the Black Sea. For more than ten years, thousands of men labored to dig a canal and build stone locks, but the project was abandoned when Peter was forced to return Azov to the Turks. The growth of St. Petersburg inspired a second vision: linking the whole of Russia to the Baltic by connecting the Volga to the Neva. By extensive surveying, Peter located in the region of Tver and Novgorod a tributary of the Volga which ran within less than a mile of another stream which flowed through many lakes and rivers, into Lake Ladoga, which emptied into the Neva. The key was a small canal at Vyshny-Volochok. It took 20,000 men four years to dig the canal with the necessary locks, but when it was finished, the Caspian Sea was linked by water with St. Petersburg, the Baltic and the Atlantic Ocean. Thereafter, a stream of flat-bottomed barges loaded with grain, oak timbers and other products of southern and central Russia, along with the goods of Persia and the East, moved slowly but continuously across the face of Russia.

Naturally, there were difficulties and opposition. Prince Boris Golitsyn, assigned to oversee the first of these projects, grumbled that "God made the rivers go one way and it was presumption in man to think to turn them another." The flow of river traffic was sometimes impeded when the stone locks of Vyshny-Volochok canal silted up and had to be redredged. But this was a minor obstacle compared to the hazards faced on Lake Ladoga. The surface of this mighty inland lake, the largest in Europe, was sometimes whipped by wind into a violence worthy of an ocean, and often the waves overwhelmed the unwieldy, flat-bottomed river barges which had to have an exceptionally shallow draft to pass through the Vyshny-Volochok canal. When storm winds howling down from the north caught these clumsy river craft on the open lake, the boats either capsized or were driven onto the southern shore of the lake and broken in pieces. Every year, gale winds sank or drove ashore hundreds of barges, with the loss of their cargoes. Peter ordered the construction of a special fleet of lake boats with hulls and keels deeper than the shallow barges, to be used for the passage across Lake Ladoga. But this required unloading and reloading which were far too expensive and time-consuming with cargoes such as grain, hay and timber. His next move was to look for a way of avoiding the lake passage. In 1718, he decided to cut a canal through the swampy land along the southern shore of the lake from the River Volkhov to the mouth of the Neva at Schlüsselburg. The total distance would be sixty-six miles.

The project was first entrusted to Menshikov, who knew nothing of engineering, but was anxious to accept any assignment which might win him favor with Peter. Menshikov spent more than two million roubles and squandered the lives of 7,000 workmen, who died of hunger and disease because of bad administration. A great deal of needless work was done even before the basic decision had been made whether it was better to dig the canal in the earth behind the shoreline or to try to wall off part of the lake with dikes. The Tsar was on the point of abandoning the work when he encountered a German engineer, Burkhard Christopher von Munnich, who had had extensive experience building dikes and canals in North Germany and Denmark. Once Munnich took over, the work proceeded more efficiently, and in 1720 Weber wrote: "I am credibly informed that this work is in such an advanced state as to be ready next summer and that consequently the trade between the Baltic and the Caspian Sea, or between all Russia and Persia, will be upon a sure foot, though still with the inconvenience that ships coming from Kazan might be near two years on their way." Weber was badly misinformed, and by 1725, when Peter died, the Emperor had seen only twenty miles of the great canal (it was seventy feet wide and sixteen feet deep) actually dug. After Peter's death, Menshikov frowned on the engineer, and it was not until 1732, in the reign of Empress Anne, that the canal was finished and Munnich triumphantly escorted the

Empress in a procession of state barges along the entire length of the prodigious waterway.

Today, the great canal system of Russia initiated by Peter forms a giant artery of commerce for the Soviet Union. The canals permit large ships to pass to and fro, up and down the rivers of Russia from the Black Sea and the Caspian to the White Sea and the Baltic. During the White Nights in Leningrad, one can sit on the Neva embankment and, after midnight, when the city's bridges have gone up, watch a long procession of ocean-sized cargo ships pass like silent mammoths up the river, bound for the interior of Russia a thousand miles away.

EVERYTHING had to be paid for. Relentlessly and remorselessly, the war and the great construction projects sucked up the lifeblood and treasure of Russia. Although Peter repeatedly emphasized to his officials that taxes should be levied "without unduly burdening the people," his own constant demand for funds overruled this sentiment. Taxes crushed every article and activity of daily life, yet the state never collected enough money to pay its mounting expenses. In 1701, the army and navy swallowed up three quarters of the revenues; in 1710, four fifths; and in 1724, even though the war was over, two thirds. When money was short, Peter slashed the salaries of all officials, temporal and spiritual, excepting only those most necessary to the realm: "foreign artisans, soldiers and sailors." In 1723, there was so little cash that some government officials were paid in furs.

The only solution, until growing commercial and industrial activity could expand the tax base, was to lay still heavier taxes on the burdened nation. Hitherto, the basic tax had been the old household tax, determined by a census taken in 1678 during the reign of Tsar Fedor. This tax was laid on every village and landowner according to the number of houses and farms possessed (and made for crowded living because, to avoid taxation, as many families and people as possible crowded under one roof). In 1710, believing that the population must have increased, Peter ordered a new census. To his astonishment, the new census showed that in thirty years the number of households had decreased by from one fifth to one quarter. There was some real justification for this: Peter had drained off hundreds of thousands of men into the army, the shipyards at Voronezh, the work on the canals and the building of St. Petersburg, while thousands more had fled into the forest or to the frontier. But the new low figures also represented the helplessness of the government to overcome the stratagems of both nobility and peasants who were determined to evade taxes. Bribing the commissioners who counted the houses was a preliminary gambit. If this failed, the peasants simply removed their houses from the commissioners' sight. Russian peasant houses were largely made of logs or timbers notched at four corners. Thus,

they could be un-notched in a few hours and either removed to the forest or scattered about. The census takers and tax collectors knew the trick, but there was little they could do about it.

Upon his return from France, Peter decided to approach the problem differently, replacing the household tax with a version of the individual head tax he had observed in France. The tax-paying unit of this new poll tax was to be the "soul": that is, every male from infant to grandfather in every village, town or peasant commune. But before the new tax could be levied, a new census was required. On November 26, 1718, a decree ordered that every Russian male except noblemen, churchmen and certain privileged merchants (all of whom were taxed differently) be inscribed. Again, opposition was intense but by 1722, a census had been compiled, listing 5,794,928 male "souls" and in 1724 the soul tax was collected for the first time. Peasants were assessed at 74 kopeks or 114 kopeks per year, depending on whether they worked on private or state land. In terms of revenue, the tax was an enormous success, producing half of the state income that year and continuing in use through most of the nineteenth century until 1887, when it was abolished by Alexander III.

The soul tax solved Peter's problem of revenue, but at the cost of placing an even heavier burden on the peasants and strengthening the bonds of the serfdom that tethered them to the land. In earlier times, Russian peasants had been free to move where they wished, a right that made it difficult and sometimes impossible for landowners to meet their needs for labor. This crisis intensified in the middle of the sixteenth century when Ivan the Terrible conquered Kazan and Astrachan, opening to Russian colonization vast regions of virgin black earth previously inhabited by nomads. By the thousands and hundreds of thousands, Russian peasants abandoned the forest to the north and poured into this flat, rich country. Farms and villages in central Russia were left uninhabited; whole provinces were semi-deserted. Landowners, threatened with ruin, appealed to the state, and the state, unable to collect taxes from empty villages, reacted. Beginning in the 1550's, decrees forbidding peasants to leave the land were issued. Runaway peasants were pursued, and in 1649 it was declared that any person who harbored them was liable to their landlord for his losses. In Peter's time, over ninety-five percent of the people were serfs; some were state peasants and some belonged to private landlords, but all were bound for life to the land they worked.

Peter's new soul tax placed the peasants even more firmly in the hands of the landowners. Once the population of a district had been counted by the census, the landowners and local authorities were responsible to the state for producing the tax revenue based on that population; actual collection of the money was left up to them. To assist landowners in keeping track of their peasants and extracting these taxes, Peter decreed in 1722 that serfs

could not leave a landowner's estate without his written permission. This was the origin of the internal-passport system which continues in use in the Soviet Union today. Eventually, the power placed in the hands of the landowners—to collect taxes, to control movement, to dictate work, to punish infractions—made each landowner a little government unto himself. Where his ability to enforce was threatened, he was supported by the intervention of army regiments permanently billeted throughout the countryside. In time, to increase the controls on peasant movement, any serf wanting to leave the land was required to get not only the landowner's written permission, but written permission from the army as well. The result was a hereditary, all-embracing system of permanent servitude.

Most Russian serfs were bonded to the land, but not all. One great obstacle to persuading Russian noblemen and merchants to open new factories had been the difficulty of finding labor. To overcome this, Peter decreed in January 1721 that factory and mine owners could have factory serfs—that is, laborers permanently attached to the factory or mine in which their labor took place. Underscoring the key importance of building new industry, the Tsar also waived the strict rules about returning runaway serfs. Those serfs, he declared, who had fled their landowners to find work in factories should not be returned, but should remain where they were as permanent industrial serfs.

In the end, Peter's tax policies were a success for the state and a massive burden for the people. When the Emperor died, the state did not owe a kopek. Peter had fought twenty-one years of war, constructed a fleet, a new capital, new harbors and canals without the aid of a single foreign loan or subsidy (indeed, it was he who paid subsidies to his allies, especially Augustus of Poland). Every kopek was raised by the toil and sacrifice of the Russian people within a single generation. He did not float internal loans so that future generations could help to pay for his projects, nor did he devalue the currency by issuing paper money as Goertz had done on behalf of Charles XII of Sweden. Instead, he laid the entire burden on his contemporary Russians. They strained, they struggled, they opposed, they cursed. But they obeyed.

## SUPREME UNDER GOD

IN MATTERS OF RELIGION, Peter was an eighteenth- rather than a seventeenth-century man, secular and rationalist rather than devout and mystical. He cared more about trade and national prosperity than about dogma or interpretations of Scripture; none of his wars was fought over religion. Yet, personally, Peter believed in God. He accepted God's omnipotence and saw His hand in everything: life and death, victory and defeat. His letters are studded with the phrase "Thanks be to God"; every victory was promptly celebrated with a Te Deum. He believed that tsars were more responsible to God than commoners were, as tsars were entrusted with the duty to rule, but he did not endorse the role of monarchy in anything so theoretical or philosophical as the Divine Right of Kings. Peter simply approached religion as he approached everything else: What seemed reasonable? What was practical? What worked best? The best way to serve God, he believed, was to work for the strength and prosperity of Russia.

Peter enjoyed going to church. As a child, he was thoroughly drilled in the Bible and the liturgy, and as a tsar he made an effort to spread accurately written Bibles throughout his realm. He loved choral singing, the only music of the Orthodox Church, and it was his lifelong habit to push his way forward through the standing crowd and take his place to sing with the choir. Orthodox congregations are less disciplined than those of other faiths: People stand through the service and move about, coming and going, signaling, whispering and smiling among themselves. Peter accepted this, but he would not tolerate people talking openly during a service. When he heard such an offender, he immediately collected a fine of one rouble. Later, he erected a pillory in front of a church in St. Petersburg for those who spoke during the service.

Respect for the service was more important to Peter than the form of the service. To the despair of many of his countrymen—especially the leaders of the Russian church—Peter's tolerance of other Christian sects was