Would Trotsky Wear a Bluetooth?

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NO HARD HATS, NO STEEL-TOED SHOES REQUIRED

Worker Safety in the Proletarian Paradise

There’s nothing wrong.
You won’t die.
It will pass.
You will live to your wedding.

A doctor’s diagnoses
at a one-room infirmary
in the Russian Arctic

In 1989 I dropped into the Soviet “Toys ‘R’ Us,” Dom Igrushki, not far from October Square in Moscow, to buy my two-year-old son several toys. He had come down with chicken pox and was quarantined to our room in the Academy of Sciences hotel, and the repeated showings of Teenage Mutant Ninja Turtles and the Japanese cartoon Voltron on television, only weeks earlier permitted as a new sign of Gorbachev’s glasnost and perestroika, distracted him only so much. I bought a few games, a metal truck, and a steam shovel. No sooner had Isaac started playing with them than the toys broke apart into small edible pieces. I was reminded of this event by the belated response of officials in the Bush administration Consumer Product Safety Commission to move decisively to protect American boys and girls in the face of Chinese toys laced with lead, made of dangerous small parts, and containing other hazardous imperfections. One source of the problem was that President Bush had appointed industry representatives to leading positions in regulatory agencies who considered it quite acceptable to work with trade organizations while ignoring consumer groups; in the USSR, no independent consumer groups existed, while industry representatives were worried entirely about output, little about safety, and rarely
considered product liability and the consumer. Product liability, in fact, had little meaning. At least there was a positive side to Isaac’s experience: playing with the Russian toys prepared him to survive on Soviet playgrounds, anchored on concrete or asphalt, whose swings, merry-go-rounds, and other rides and climbs made of standard piping had long before acquired rusted, dangerously sharp edges. Everywhere you turned, you saw the rusted, sharp edges of Soviet life in construction projects, in automobile, railroad, and plane travel, in factories, and in forestry and agricultural operations.

In the United States, fear that regulation would limit economic growth and stifle employment joined with a belief that the unregulated market was somehow sacrosanct to prevent truly meaningful worker safety laws until the New Deal. The market would also somehow ensure worker and product safety. Yet American mining, manufacturing, and other industries had significantly higher accident rates than in England and other countries during the tumult of the industrial revolution of the nineteenth and twentieth centuries. Machines and power sources were largely left unguarded, while factory managers sought ever-increased output and displayed little interest in improving safety. Various commissions set up before and after the Civil War had little power or authority, and workplace conditions in many industries actually deteriorated. It took legislators until the twentieth century to realize that only federal, not state, laws were effective in improving the situation, although some employers recognized that accidents had costs, and that workers were not replaceable cogs, especially after the passage of state workmen’s compensation laws and increased employers’ liability; forty-four states passed workmen’s compensation laws in the second decade of the twentieth century. One of the major milestones was the Pure Food and Drug Act of 1906, legislation encouraged by a work of fiction, Upton Sinclair’s *The Jungle* (1906). By 1910 Congress had established the Bureau of Mines in response to a series of mine disasters. But the Bureau was a scientific, not a regulatory, body. Further efforts to ensure mine safety—and safety in other industries—would have to come from the legislative branch of government.

Inevitably, if slowly, manufacturers set out to guard workers from machinery, while machinery makers developed safer designs. They required workers to wear safety equipment. They created national organizations to promote industrial safety, joining state and federal governments and universities in research on work safety. Accident rates eventually began to fall in the 1920s and 1930s. Yet Congress passed the Fair Labor Standards Act only in 1938, finally putting an end to child exploitation: the act required employers to pay child laborers the
minimum wage and generally limited the age of child laborers to sixteen and older. One has the sense that the specter of socialism had something to do with legislation in the United States. If the capitalist system was the better system, why had the Soviets, at least on paper, managed to promote worker safety and create universal employment? The U.S. government would have to act during the Great Depression.

At first glance, the dangers associated with modern industrial technology, and the responses of engineers, managers, and policy makers to those dangers, would appear to hold across economic systems. Similar machinery and equipment hold similar risks to workers. Regulators have little choice but to adopt safety measures to protect them. In spite of the delay in adopting industrial safety measures in the United States and other capitalist nations, they pursued worker safety on the shop floor with greater vigor than the USSR—that socialist nation dedicated to the glory of the proletariat. Soviet leaders were more capable of creating posthumous heroes out of the Soviet laborer than the capitalist boss.

We often hear the argument that we Americans have done too much in the name of safety and accident prevention. Children need to learn to walk and play, fall down and get back up. Climbing jungle gyms, jumping off, rolling, and getting a few bumps and bruises and scraped knees are a part of growing up. Yet few people deny that playgrounds built on woodchips with toys, slides, swings, and rides made from hard but flexible plastics with smooth edges should also be part of growing up. Once grown up, American workers are also accustomed to safety measures on the shop floor to protect them from moving machinery. A century-long effort that includes such rudimentary innovations as the yellow lines painted on factory floors has significantly reduced injury and fatality rates. While it may have taken longer in the United States than in England, Sweden, or France to introduce laws and regulations, and while some business people lament them as too costly or even unnecessary, most citizens welcome such federal workplace safety agencies as the Occupational Health and Safety Administration (OSHA, founded in 1971) and the Mine Safety and Health Administration (MSHA) as crucial institutions in any industrial democracy.

In the USSR, and to some extent in Russia to this day, a different kind of safety philosophy and attitude toward accidents prevailed that was shared by managers, party officials, and workers, too. In this chapter I call this attitude of fatalism, if not lack of concern about many avoidable accidents in modern industrial society, “unsafety.” How can we understand the fact that to this day in
Russia, men and women, boys and girls engage in unsafe activities, sanctioned or not, avoided by Europeans and North Americans as too risky, or requiring government regulation to protect the citizen from danger to himself and others? Unsafety reflects a lax attitude toward human life, while also greatly overvaluing economic performance as a crucial criterion of public good. While officials struggled to introduce modern laws and standards for industrial safety and public health, they also faced self-imposed pressures to fulfill production plans that diverted attention from safety, especially during the Stalin period of heroic five-year plans for industrialization. Soviet authorities threw workers into the factory, logging activities, and other sectors of the economy without vigilance toward accidents, let alone safety goggles, helmets, or steel-toed shoes. When accidents occurred, Soviet investigators always blamed the workers, never the technology or process, and assumed that more talk by party activists about the need for greater discipline, more reading of the classics of Leninism-Stalinism, and less vodka—but not necessarily safer equipment—would solve the problem. In fact, a dangerous stroll through the forestry, construction, nuclear, and other industries reveals that Soviet workers’ democracy did less to protect the proletariat than it should have—and less than in the capitalist democracies of the West.

This was not the way workers or leaders thought it would be. When Vladimir Lenin addressed issues of the modern manufactory, he anticipated the construction of well-illuminated, well-ventilated, and safe facilities under socialism. The production of copious amounts of electricity would enable the agricultural laborer and the industrial worker alike to live and work in cleaner, quieter environments than those under capitalism, out of harm’s way of powerful, modern machinery. According to Lazar Kaganovich, the Moscow Party Committee chairman responsible for the construction of the city’s subway system, the Moscow Metro similarly would whisk the worker to and from work in spacious, dirt-free wagons, arriving at work—and at home at the end of the day—refreshed, energetic, and ready to continue building communism, not exhausted and weighted down by poverty as in London, Berlin, or New York. On paper at the very least, national statutes on wages, workplace safety, sanitation, workmen’s compensation, and union rights and privileges equaled or exceeded those of other countries. Specialists studied industrial hygiene in comparative perspective to ensure the adoption of progressive statutes.

On paper, that is, Soviet leaders embraced a legalistic attitude toward all aspects of Soviet life. As part of the dictatorship of the proletariat, the Bolshe-
viks used proclamations, new rule-making procedures, and violence to destroy the bourgeoisie. After the Bolsheviks seized power, Lenin, a lawyer by training, issued proclamation after proclamation, day after day, concerning important issues of both rule (nationalization of property, of banks, and so on) and law to indicate a sharp break with the bourgeois past. Overnight new statutes on marriage and divorce, labor and the workplace, private property, and dozens of other areas appeared. It was important for Soviet leaders to demonstrate for both the domestic audience and the international community that the socialist state would protect the rights of the workers. With his own “Stalin Constitution” (1936), Stalin asserted that workers had gained complete rights—more than guaranteed in the U.S. constitution—as a reflection of the achievement of the classless society. This constitution also guaranteed, or rather required, that workers work as part of their freedom—and obligation to society. The authorities simultaneously issued progressive laws concerning workplace safety, exposure to dangerous chemicals, hours of work, and environmental regulation to the end of the regime. We must assume that these laws were for propaganda purposes because enforcement of those laws, issuance of fines, and training of lawyers to prosecute the law lagged far behind what industrial safety required.

Soviet laws were nevertheless a clean break with those from the Tsarist era. A factory inspectorate had existed before the Russian Revolution, but laws related to enforcement of workers’ rights were weak or vague, enabling factory owners to avoid enforcement. Factories smaller than a certain size and without motors were excluded from their purview, and the inspectorate never had sufficient numbers of personnel to carry out its work, nor were there offices in every province.⁵ Ultimately, Soviet workers gained access to such perquisites as free medical care, access to sanitaria, vacation facilities, and camps for their children. But, judging by archival materials, in reality the Soviet worker encountered significant hazards in his or her place of work. To put it quite sadly, Soviet officials placed propaganda about safety well ahead of real safety, and only if it did not slow work. They failed to create regulatory agencies or inspectorates with sufficient power and purview to protect the worker and the consumer. And while we cannot measure the impact of attitudes toward safety at work on the personal attitudes of Russian citizens toward safety at home, at play, or in the automobile, their attitudes do depart significantly from citizens in the industrial democracies of Europe and North America.

Several difficulties confront us in dealing with this subject. First, the Soviet authorities classified national data on accidents, so we must assemble that infor-
mation in a piecemeal fashion from local archives. Similarly, few social scientists have actively considered risk and safety in the Soviet experience. They have focused instead on the ideals and ideas of public health and the heroic efforts of specialists after the Bolshevik seizure of power to combat epidemics of typhus, cholera, scurvy, sexually transmitted diseases, and other problems of a preindustrial society. They have pointed to the establishment of the Commissariats of Health and of Labor (Narkomzdrav and Narkomtrud, respectively) and the efforts of their personnel to break with Tsarist inaction in treatment of the worker. Personnel of Narkomzdrav and Narkomtrud indeed attacked the problems of public health and industrial safety with vigor, at least until Stalin’s rise to power. Taylorist specialists in the Institute of the Scientific Organization of Labor studied worker-machine-manager interaction and orientation in pursuit of both efficiency and safety. All of these personnel had to deal with the problem that many citizens were illiterate or barely literate, a problem that persisted into the 1940s. Narkomzdrav was largely successful in its “sanitary enlightenment” campaign. Sanitary enlightenment was a product of the October Revolution—health, education, and sanitary measures to remake society. The goal was to end epidemics and also to turn citizens away from folk healers considered backward and dangerous to the modern hospital state. But once Stalin’s industrialization campaign commenced, industrial hygiene lost importance.

The Reality of the Soviet Industrial Experience

The American engineer John Scott participated in the construction and operation of Magnitogorsk, the Soviet copy of Gary, Indiana, one of Stalin’s “hero projects” intended to demonstrate the advantages of socialism over capitalism, while producing huge quantities of iron and steel in modern Bessemer furnaces. At dozens of new enterprises like Magnitogorsk, workers would not toil but gladly produce iron and steel, elsewhere cement, nickel, and asbestos, in cities named Nikel and Asbest and other burgeoning municipalities named after crucial yet hazardous materials. Yet as Scott described, the Magnitogorsk construction site was anything but a worker’s paradise. Poorly equipped peasant-workers struggled against the elements—against bitter cold in the winter, dressed in rags, and against mud and mosquitoes in the summer. The dining halls were known for long lines and small portions of low-quality food, and they were incubators of various intestinal and respiratory ailments. The authorities gathered the peasants at sites like Magnitogorsk to transform them overnight into
conscious loyal communist workers. They offered reading and writing classes along with some technical training better to use the few available machines. But this training was often an afterthought to the needs of fulfillment of production norms by armies of inexperienced laborers, who often ruined equipment out of ignorance. The bosses forced the laborers into backbreaking work with rudimentary tools, giving little time to the exhausted workers to improve their skills or struggle with their illiteracy. High accident rates characterized the site. Frequently, workers slipped from icy scaffolding to their deaths below. They turned to alcohol to salve their wounds. The workers were both exhausted and treated as expendable. These same patterns of exhortation of workers, inadequate training, failed literacy campaigns, poor conditions of work, and alcohol abuse led to high accident rates at construction sites throughout the nation. Homage to production engendered a poor attitude toward safety that spread among managers. Coming to understand that they were merely cogs in the socialist machine, workers also developed a fatalist attitude toward their work.

Simultaneously, the Communist Party leadership engaged in a campaign to discredit the old intelligentsia, including a large number of foreign engineers engaged in the industrialization effort to make up for any lags in target fulfillment. Engineers who recommended a more moderate approach, such as expenditures on workers’ comfort, housing, and safety, were labeled as “wreckers.” The first show trials that Stalin and other officials orchestrated, the so-called Industrial Party and Shakhty (Mining) Affairs, chronicled the discovery of sabotage, the identification of its perpetrators (representatives of foreign capital), and punishment of death for their heinous crimes. The message was not lost on other engineers. As quickly as they could, they designed and built tools, machinery, equipment, power stations, paper mills, smelters, and other facilities and brought them on line without delay. Given the backwardness of Russian industry and the shortage of tractors, cranes, steamships, generators, and so on, engineers and planners sought simple if functional designs to achieve the task at hand. Safety and pollution control were an afterthought. They avoided innovations that might have improved efficiency or safety but required time to introduce because of the pressure to fulfill that year’s plan and to avoid the accusation that they were slackers or, worse still, wreckers. The result was, to a much greater extent than in mid-twentieth-century European and American factories, danger that lurked everywhere in mines, smelters, and factories. All of this led to growing ennui among the workers, a lackadaisical attitude toward safety, and still more alcohol and more accidents.
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The pace of the Stalinist industrial campaign and the attitude of managers about the relative expendability of workers also affected women laborers. In the 1920s the Bolsheviks passed a series of regulations to limit the presence of female laborers in the most dangerous jobs—mining and metallurgy, for example. Yet women were drawn into those jobs in increasing absolute numbers, if a smaller percent of total workers in those sectors, and they were often engaged in precisely the most difficult tasks. Female laborers joined the labor force in growing numbers because they were needed to fulfill the wildly ambitious targets of the five-year plans. By the end of the 1930s, women were one-third of the labor force. They were also expected simultaneously to recall their traditional roles as child bearers, mothers, and homemakers. In this time of rapid economic and political change, the nuclear family became one island of stability among the din of burgeoning industry.

The forest and collective farm were no more places of modern industrial hygiene than the factories. Poor living conditions seem to have contributed to the lackadaisical attitude of officials and workers alike toward industrial safety. Lumberjacks of such major organizations as Dvinoles and Kotlasles (the Dvina and Kotlas Forestry Trusts, respectively) in Arkhangelsk Province frequently complained to party officials about their housing, miserable food, and the lack of books, films, or even simple board games for entertainment. Their barracks and dining halls were filthy, damp, and unheated, the latter lacking dishes, pots, and pans. There were no washing facilities. They might go weeks without bathing or having clean clothes. They slept on straw mattresses, attacked by bugs, often without sheets and pillowcases. These miserable conditions persisted for decades. For example, the plan for housing construction for Dvinoles and Kotlasles workers indicated 11,550 square meters of new quarters in 1949. Given thousands of workers, this amounted to 2 or 3 square meters of living space per worker, and the plan was only 70 percent completed because of shortages of materials and laborers. Enterprise managers were more concerned with lumber harvest than housing, so they ordered construction workers to the forest as well. The plans for 1950 called for completion of twenty-seven dormitories, each for thirty-five lumberjacks, but only five of them were in some stage of construction by mid-year. Roughly 1,300 workers were required for construction, but only 150 to 200 individuals were employed in this task.

In every industry it was the same story: the absence of housing and other simple comforts, especially for younger, recent hires. The Northern Rivers Steamship Authority had at least 279 families living in kitchens of communal
houses that were used by dozens of other families throughout the day. When on shore, the merchant marines lived six to eight people per room, and even many captains shared space with five or six other people in rooms that were 3 by 5 meters. Low pay, poor housing, absence of medical care, and so on, took its toll on their attitudes. They worried about their families’ living conditions when at sea, no matter how devoted to their chores they were. Said one administrator, “If we recondition six apartments with our shock workers, then still many find poor conditions, have big families and live on the edge. The worker will keep himself together on the ship if he knows that his family is well taken care of at home.” Perhaps one in ten sailors had his own apartment. The miserable conditions led to high turnover and thence to inexperienced workers with basic skills being thrust into positions of responsibility.

Lumbering is a dangerous activity wherever it occurs. In the Soviet Union it was even more dangerous because of the shortage of equipment that might take pressure off of the men, and because of the rudimentary nature of the equipment. By the late 1930s, in spite of ever-increasing harvest requirements, Dvinoles had opened very few safe roads, had fewer tractors, and even had fewer parts to maintain the machines. In one year, they ordered 205 tractors, but factories delivered only eighty-six of them. None of the tractors had safety cages for the operators, and none of the operators wore helmets or goggles. Dvinoles planners indicated 275 kilometers of roads of various kinds, but only 140 kilometers had been built. Comrade Medvedev, the main engineer and deputy director of Dvinoles, concluded, “I personally consider it a great mistake that we don’t have any technology whatsoever in the forest. It is a basic law on the foundation of which we should carry out all activities, to which everything should be subordinated, on which the brains of our scientific-technical personnel ought to work. We do not have technology in the forest . . . Is it possible that [officials of the Commissariat of Forestry] have not been in the forest? But it turns out that the Commissar is also an enemy. If he were a man who was devoted to Soviet power, he would look at what goes on in the forest.” Indeed, Medvedev asserted, they had “retreated” from modern technology, which was the same thing, in his mind, as wrecking.

By the 1950s, Kotlasles, with its twelve forestry enterprises and fifty-eight logging operations, could still count only 257 tractors (half of them acquired in the preceding two years), 118 winches, 195 small portable generators, and 1,100 electric saws. Getting into the forest and getting the wood out was a challenge given the fact that roads were bumpy, filled with puddles, potholes, and even
boulders, and consisted of deep mud in the spring and deep snow in the winter, as well as the fact that the men had to attack the forest with equipment inadequate to the task. In all Kotlasles had a total of 117 kilometers of narrow gauge rail at nine operations, 140 kilometers of automobile roads, and 140 kilometers of tractor roads. The target plans for felling were never fulfilled, especially plans concerning use of machinery that came in at 43–45 percent of targets. Brute human force was the key. Imagine pulling sleighs of lumber with poorly shod horses or riding tractors of uncertain reliability. Even if they were to get the equipment needed, they lacked qualified workers to operate it. In the Sevles Forestry Trust in 1936 the personnel office could not fill hundreds of positions: they needed 210 mechanics but had only eighty-one, they needed 1,300 tractor operators but had only 400, and they needed 200 portable generator operators but had only fifty-one. They were short over 100 engine specialists, 100 drivers, 135 smithies, 200 couplers, 130 lathe operators, 58 electricians, and so on. Nor had authorities established vocational schools to train more than a handful of these folks.

The problem with substandard and poorly operating equipment extended to the very organization intended to supply parts for repairs, Glavleszapchast, whose shortages prevented repairs of scores of tractors, bulldozers, cranes, generators, and saws. Exacerbating the problem, Glavleszapchast had only half of the 200 required qualified employees, and they could not retain them. Plus, they lacked machine tools to fabricate parts. Of the 101 tractors sent to Glavleszapchast for repairs before the winter 1954/55 logging season, forty had yet to be fixed well into the lumbering season. Arkhangelskles (the Arkhangelsk Forestry Enterprise) reported the same problems: late in 1954 only 28 percent of repairs on tractors were completed, none on truck or automobile engines, they couldn’t get spare parts, their shop was too small, and they had only fifty-five of the required 147 mechanics.

Technological lag created obstacles to efficient and safe operation in every sector of the economy. Industry simply could not produce all of the new machine tools and machines themselves to replace equipment that dated to the Tsarist era. This was an especially grave problem in the shipping industry. Bolshevik visionaries imagined the opening of a year-round shipping lane from Arkhangelsk on the White Sea, through the Barents and Karsk Seas along the Arctic coast, and eventually to Vladivostok. They created Glavsevmorput (the Main Administration of the Northern Sea Route) toward that end, with its various divisions responsible for studying the climate, the currents, the ice flows, the
potential for freight shipment, and so on.\textsuperscript{19} Glavsevmorput was given a series of steamships, freighters, cutters, motorboats, and icebreakers that dated to the Tsarist era. The administration sent these ships and sailors into icy waters with insufficient understanding of how they worked, let alone the nature of currents and changeability of the weather. The age of ships, the inexperienced nature of the workforce, and natural challenges imposed by the northern climate strained the ingenuity of ship captains and their vessels to the extreme. Captain Pechuro of the “\textit{Lenin}” worried that his seventeen-year-old icebreaker could not keep up with the demands placed on him and his crew. Pechuro reported, “We escorted barges of wheat from the Ob [River] to Arkhangelsk. We dragged along small barges that were hardly sea worthy and on which it was necessary to put sailors so that they could bail water with fire pumps.” Even with the \textit{Lenin}'s help, they lost two of their best steamships. One, a 3,000-ton boat, went down near Belyi Island in five minutes after taking on water.\textsuperscript{20}

Accidents at sea were an endemic problem related to all of these other factors: poor repairs, old vessels, high labor turnover, and inexperienced workers without incentives and with relatively low qualifications and insufficient knowledge about Arctic geography, weather, and transport.\textsuperscript{21} Captains with long service quickly learned that the “the slightest wavering or carelessness or negligence will have great consequences when at sea.”\textsuperscript{22} Party officials understood precisely that high labor turnover meant more accidents: new sailors aboard the Arctic fleet meant insufficient training and inexperience, as a result of which the “number of accidents because of human error grows.” For Glavsevmorput’s fleet in 1946 there were eight accidents, in 1947 sixteen, and in the first half of 1948 five more. The main reason was “insufficient technical literacy, violations of laws concerning operations, and violation of discipline.”\textsuperscript{23} But the officials provided no incentives to sailors to stay on the job in terms of housing, pay, or training because they considered it cheaper to thrust new workers to sea.

The problem of inadequate qualifications extended to all levels of personnel, with direct implications for safety. A report to the Communist Party secretary responsible for inland river transportation of the Arkhangelsk region in late 1946 revealed that efforts to retrain captains and technical specialists employed by the Northern Rivers Steam Ship Authority had failed, with a “large number of accidents” the result. The accidents demonstrated “the lack of preparedness of a significant component of the commanders of the fleet.” Only 22 percent of the captains had general middle education, 23 percent middle-technical education, and the rest with only elementary and some special courses. There were no
reserves, which limited the ability “to move staff around and to replace the in-
competent ones.” The authorities needed to retrain seventy-one steamship cap-
tains, forty mechanics, thirty-six motorists, 127 stokers, and 360 other technical
employees, and they had no training schools to do so. Comrade Makarychev, the
chief engineer of the authority, reported that “fifty percent of our mechanics do
not correspond to their position. Eighty percent of technical accidents devolve
from the weak staff of mechanics.”24 Workers everywhere lacked qualifications
other than time at their posts. Rarely had they finished even middle school.25

The northern shipping season lasted only from late June to October. By mid-
October cyclones had appeared and wet snow was frequent; ships became ice-
bound as early as November. The treacherous and unfamiliar waters of the Bar-
ents and Karsk Seas and Arctic Ocean created significant dangers. In the best
case, captains had carried out preliminary sounding in search of rocks, reefs, and
other hazards. Yet even the experienced captain was often at the mercy of good
lucky. Dozens of ships were lost, sinking after striking unknown objects or
crushed in the ice. Scores of sailors perished in the deaths or froze to death on
ships. Given the hostile environment in which they sailed, explored, and deliv-
ered goods, it is shocking to read in ship manifests how often captains sailed
with insufficient supplies of food and fuel. The authorities ordered captains and
their crews to take on conquest of the Arctic in the name of the glory of the
Soviet Union and the glory of their profession yet inadequately equipped them
to do so.26

Similar to the conquest of the Arctic, Soviet officials ordered the conquest of
the skies in the 1930s through a series of aviation spectacles, including polar
flights, but at great human and technological cost. Posthumous heroism—vic-
tory over the elements and the machine—and outperforming the West were
more important than pilots and planes.27 Accidents plagued the military and
civilian aviation sector as well. An investigation into the causes of a February 5,
1938, crash of an N-114 airplane on Vaigach Island under pilot communist
L. K. Shukailo, killing all people on board, revealed that Shukailo had willfully
ignored rules, regulations, and elementary facts by flying in inclement weather
and dismissing orders to cancel the flight. Yet had he not been raised to seek
heroic results? The investigation further revealed that the entire aviation wing
lacked any kind of labor discipline, let alone any interest in engaging in political
education. In the short time since he had joined the Belomor Aviation Detach-
ment in November 1937, Shukailo had committed a series of violations, some
minor and some major that had damaged aircraft. He had flown with defective
tires, caught the engine on fire, and previously engaged in risky maneuvers such as the kind leading to the Vaigach crash. The investigation into this and other accidents indicated that base personnel—good communists among them—had engaged in all sorts of troublemaking, including drunken orgies with nonparty individuals. The commandant of the wing had consorted with his secretary in front of everyone, gotten her pregnant, and then shamelessly shipped her off to Leningrad. Would orgies with party members alone have improved safety performance?

One reason for the lackadaisical attitude toward worker safety and accidents may have been the fact that most organizations learned about production on the fly. After all, thousands of new organizations and factories came into existence in a few short years, each trying to use newer, but not yet widely available, technology. One of those organizations was Sevzryvsplav (the Northern Explosives River Lumber Float Organization), whose employees used dynamite and other explosives in the lumber industry to keep the logs moving downstream in the spring float. They dynamited both to engineer rivers and to eliminate logjams. Eventually officials of Sevzryvsplav developed a 100-hour course to train young specialists in both theory and practice. The graduates were mostly twenty-five to thirty-year-olds, all men, although some were as young as nineteen years old, and roughly 10 percent of each class was dismissed for not passing muster. In Sevzryvsplav shortages of work clothing and gloves and the seasonal nature of the work once again contributed to high labor turnover, as well as to the high death rate. In 1939, six of roughly 120 employees died in accidents.

If the factories producing the machines and infrastructure needed in the field or factory were negligent, then they were also responsible for accidents. In the railroad industry, train engineers faced the unenviable task of trying to keep locomotives running at higher speeds and unloading freight quickly, yet running on rails prone to failure. The Pechora department of the Arkhangelsk-Moscow railroad line discovered that at least 32,000 rails, or more than 200 kilometers of poor-quality, lighter rails, were subject to failure. Crashes and accidents had resulted. Engineers had had to slow their trains in some cases to 15 kilometers per hour. A heavier rail was being manufactured by 1952, but only 85 kilometers of rail had been replaced. On top of this, 1,148 railway bridges built during World War II of low-grade, untreated pine had begun to rot from truss to weight-bearing beams, and only a few hundred of them had been replaced. In 1948 there were four crashes and 264 cases of substandard work, while in 1949 there were ten crashes and 377 cases of substandard work. The authorities re-
ported a “huge accident” with a passenger train at the beginning of 1950, although not revealing how many injuries or fatalities. But they determined that the cause was a “low level of labor and government discipline among workers connected with train traffic.” In the previous fourteen months they had issued over 1,000 administrative punishments, including 212 involving legal proceeding, 673 for violations of technical norms, and 197 for truancy or leaving work. The high level of truancy in all industries is all the more shocking given the kinds of punishments a worker faced for violations of socialist norms in Stalin’s USSR. Let us remember that officials without exception determined that workers were at fault in every accident, never the technology itself. Nor did they understand how their cavalier attitudes toward health and safety were the true culprit.

The rails continued to deteriorate, limiting freight and speed. By May of 1954 the majority of rails of the Niandomsk division of the Northern Railroad had worn down to 9 millimeters and thinner, and scores of sections failed technical inspection daily. Many of the rails were built according to prerevolutionary specifications. The workers attempted to make some headway. In 1951, 10,316 highly defective rails were replaced; in 1952, 9,277; in 1953, 13,200; and in the first half of 1954, 5,482. But 11,400 defective rails remained, and the numbers continued to grow. The dispatcher issued as many as eighty orders daily to limit speeds, again, to 15 kilometers per hour. Over 170 kilometers of the main line out of Moscow to Arkhangelsk were in need of capital repair and 234 kilometers in need of medium repair. Endemic substandard work resulted in three crashes and one accident. The deputy minister of the Ministry of Means of Communication informed the Niandomsk officials that the ministry could do little to help since they lacked the rails to repair more than 59 kilometers of track, strengthen 5.5 kilometers of turns, and regrade 215 kilometers of track during the year.

Accidents frequently occurred on the narrow gauge railroads used for transport of lumber, too, because of poor construction in the first place and inadequate repairs. On October 15, 1954, at Pudukha seventeen wagons and engines derailed. They reluctantly took lumberjacks out of the forest, who spent hours with timbers and levers to get the cars back on the tracks. A party official worried that no one took responsibility, and no one had organized safe operation of the narrow gauge railway. Party officials instructed the forestry enterprises to increase the frequency of lectures and the number of study groups that considered the glorious role of the Communist Party and Stalin as a way to combat the accidents. One wonders if the officials were surprised that their lectures on party
history did little to stem truancy, fight growing crime problems, and combat alcoholism.  

Prison Labor, the Gulag, and the Value of Human Life

By the late 1920s, Soviet officials had established the first of a series of labor camps to handle critics of the state and common criminals. One was located in a monastery on the Solovki Islands in the White Sea. Eventually, the secret police establishment hit on the idea of using the camps as a source of very cheap labor for the burgeoning industrialization campaign and as a place to reeducate opponents, priests, merchants, and other bourgeois elements in the advantages of the Soviet system through hard labor. By the end of the 1930s, the camps had consumed millions of people and spread across the Far North and the Far East primarily for their economic purposes. Such organizations as Dalstroï (the Far Eastern Construction Organization) and Sevdvinlag (the Arkhangelsk-based Northern Dvina Labor Camp) threw thousands of poorly equipped workers into the industrialization campaigns. They mined and smelted in Anderma and Norilsk in the Arctic. They felled trees and built railway lines through the taiga. The prisoners seldom had good housing or adequate clothing or tools, and they essentially starved to death over months and years. A flagship effort in the simultaneous reeducation/industrialization campaigns was the construction of the Belomor Canal, during which tens of thousands of laborers died from starvation, disease, and exposure. The gulag general responsible for the Belomor Canal, Sergei Iakovlevich Zhuk, gained respectability for his murderous projects after Stalin’s death. The Gulag was disassembled with various amnesties, commutations, and rehabilitations (often posthumous) under Nikita Khrushchev. The authorities then transformed many of the prison organizations into construction and engineering organizations, in Zhuk’s case into the Zhuk Gidroproekt Institute, the nation’s leading hydroelectric power station design institute to this day.

The extensive use of forced labor of all sorts must have conditioned the attitude of unsafety. Party officials often ordered thousands of “free” workers to leave their homes and families in one part of the country for another. But prison inmates—millions of innocent political prisoners, so-called “kulaks” or wealthier peasants, Volga Germans, Estonians, Lithuanians, Latvians, Poles, Germans, and other spoils of war—were also required to toil in unspeakable conditions, with high fatality and injury rates. These people were truly expendable to their
captors. It must be noted that much of the Arctic and Far East labor force was
slave labor in the infamous Gulag. The guards and officials in the camps were
rough with their prisoners, many of whom died of disease or starvation. We can
get some sense of the difficulties of labor in the camps from a report of the
Sevdvinlag NKVD in 1946, where some 10 percent of the labor force was unable
to work on any given day. We do not know the mortality rate with certainty.\(^{36}\)
Even after a secret resolution of the Central Committee in 1954 to ease some of
the conditions of camp prisoners, commandants and guards continued to abuse
them, placing some prisoners in isolation for lengthy periods, shooting others
without provocation. Thousands of prisoners refused to work. Escapes became
endemic.\(^{37}\)

Shortages of lumberjacks meant that thousands of workers—and not only
gulag prisoners—were sent into the forest to attack the trees. They included
seasonal workers from other republics. For example, the Communist Party sent
agricultural laborers from agriculturally rich Moldova to Arkhangelsk Province
as the Moldsel’les (the Moldova Forestry Trust). The Moldovans met head on
the usual miserable living conditions and dangerous work conditions and re-
jected the mistreatment. In the first half of 1953, Moldsel’les lost more than
17,000 man-days to truancy, mass desertions, excessive drunkenness, and other
“amoral manifestations.” The workers had been thrown into a kind of hell and
preferred to sell various canned and bottled goods from home on local markets
at speculative prices.\(^{38}\)

Public Health and the Industrialization Campaign

In spite of the efforts of specialists to introduce modern medicine to the new
Soviet state, medical care was inadequate to the task of rapid industrialization,
and this contributed to unsafety. The bosses seemed more concerned with lost
man-days than illness. They accused workers of shirking. This aspect of unsafety
is paradoxical because officials invested a great deal in developing a medical
delivery system. By the end of the Khrushchev years, roughly 6 percent of the
budget went to public health. This dropped significantly in the next two decades
under Leonid Brezhnev, to 1 or 2 percent. However, in addition to being cen-
tralized in the cities, medicine also lacked prestige. The Soviet “doctor” was not
the specialist of high status that he was in the West, but often an individual who
had only finished five years of university, and she faced the usual problems of lack
of modern equipment and access to medicines. She (60 percent of doctors were
female) was also poorly paid. This is not to denigrate the contribution of female specialists to medicine, but to indicate that it was considered a less prestigious occupation. Ultimately, in fact, in spite of the provision of universal free medical care, good medical care was a perquisite of the party and economic elite. Furthermore, the provision of medical care—like the provision of housing, schools, and stores—was almost always an afterthought, and better care went to well-positioned individuals with connections, not workers. Some local officials were clearly frustrated by this state of affairs. While it may be a logical jump to claim that the attitudes of Russian citizens toward safety and public health were conditioned to some degree by what we now know was miserable health care, we can assert on the basis of archival documents—and on the basis of my observations over the last twenty years—that workers and agricultural laborers understood that to get ill or suffer an injury meant delayed treatment by persons of low qualifications in poorly equipped facilities with few medicines or other technologies.

Indeed, during the initial stages of Stalin’s industrial campaign, officials provided inadequate resources for the crucial task of public health given their interest in attracting workers to the tasks of “socialist construction” and keeping them on the job. Arkhangelsk Province provided much of the timber for the thousands of ongoing construction projects in the European USSR, and its exports generated crucial hard currency. Yet Narkomzdrav sent an “entirely insignificant number” of young doctors into the region to tend to 1.1 million inhabitants. In 1933 the authorities assigned the region’s health department, Sevkraizdravotdel, seventy-five doctors, while in 1935 only eighteen more were sent to tend to the sick. Most of the agricultural towns and villages had no regular medical service even when they had a hospital or emergency ambulatory center. The region’s hospitals in Vilegodsk, Niuksenitsk, Pavinsk, Primorsk, Lezhsk, Verkhovazhsk, Chebsark, and five districts of Komi Province had only one doctor instead of the three required. And the “industrial centers” of Arkhangelsk, Vologda, Sokol, Kotlas, Syktyvkar, Narian Mar, and Mezen were short ninety-two medical personnel: twenty-five surgeons; twelve gynecologists; fourteen eye, ear, and throat specialists; eight pediatricians; four psychiatrists; four radiologists; and twenty-five public health doctors.\(^1\) (To call Narian Mar or Mezen an industrial center in the twenty-first century is stretching it.) Narkomzdrav’s response seems to have been to revise the number of doctors needed downward. Initially stipulating the establishment of one infirmary for every 500 forestry workers, in 1936 it raised that to 1,000 workers. The forestry enter-
prises could not meet that relaxed target even by lowering qualifications for medical personnel.  

The further one got from Moscow, from Arkhangelsk, and then from regional centers, the less likely you could rely on medical service of any sort, let alone find a first aid kit. As of February 1937, the Khichmeno-Gorodetskii region, a territory 106 kilometers from the nearest dock and 156 kilometers from the nearest railroad, had 60,000 inhabitants served by two hospitals and three infirmaries attended to by two doctors in all. One, Tarasev, was a drunkard, while the other was a morphine addict. Epidemics of typhus, dysentery, and measles hit frequently, in 1936 killing 2,876 people, 1,207 of whom were children. Mortality exceeded fertility in the region by 566 people. The so-called cultural bases, established to bring modern medicine and education to such indigenous people in the tundra as Nenets, Komi, and Saami, consisted of little more than a room, a bed without linens, no instruments or equipment, and a few medicines. The bases exposed the local people to illnesses and diseases brought in by people from the Soviet world. Medical personnel were few and far between, lacking advanced training or bedside manner. Nenets reindeer herder patients complained that the doctor of their cultural base, Matiushev, often urged patients back to their jobs with such comments as “There’s nothing wrong,” “You won’t die,” “It will pass,” and “You will live to your wedding.” Other doctors worked too quickly because of demands on their time and were often rude with patients, and the absence of qualified replacements meant that you could not fire them. One medical assistant, Kashpirovskii, had improved his behavior, “but has taken up a new method of ‘calming’ the sick—he hits them on their sex organs.”

If emergency care was needed, the patient rarely got it. The USSR had few ambulances, and in most cases they were poorly equipped trucks that had to navigate treacherous, bumpy roads. To the end of the Soviet period, ambulances were notoriously late to arrive, and then the patient, manhandled into the back, was likely to suffer additional injury from the jostling. In the provinces, it did not help matters that rural electrification and establishment of citizens’ band radios or telephone systems lagged literally decades behind the establishment of the economic production units at factories, on farms, and in the forest. A critically injured individual was not likely to recover quickly.

On top of this, the worker injured at his place of work had little recourse to the courts to get compensation for his pain, suffering, and loss of livelihood. Managers tried to hide accidents because of the significant criminal penalties
they faced for being found negligent, in addition to which the entire organization might lose its place in competition for bonuses. Workers knew that it was not in their interests to hide their injuries. Managers therefore tried (illegally) to engage workers to agree to some payment under the table that was larger than the amount of legal compensation that a worker might receive. Lawyers employed by the enterprise assisted the managers in evading the law and justified it by pointing out that the worker would get more money this way. Their responsibility was to protect the enterprise and the production process, not the worker. Thus, of course, the dangerous working situation that led to the accident in the first place remained. In 1989, I myself witnessed a pedestrian getting hit by a car on a busy Moscow street, the driver and his passenger exiting the vehicle and, after a cursory examination of the bleeding man, lifting him bodily without a stretcher or immobilization of his limbs, stuffing him into the rear seat unconscious, and driving off—presumably to the nearest hospital.

The Propaganda Campaign for Production Ignores Safety

A major source of the mind-set of unsafety was the prolonged and aggressive campaign to increase production at any cost that unfolded in national, regional, and local newspapers, in film and literature, and in the arts. The five-year plans required great sacrifice from all citizens and superhuman effort. On many levels, the plans succeeded, for the USSR became an industrial powerhouse where an agrarian economy had existed only years earlier. An entirely new intelligentsia committed to the industrial transformation of Soviet lands and peoples assumed power in the party, in the bureaucracy, in factories, and in educational and scientific institutions. And within eight years the USSR was prepared to engage Germany in a war, survive that war barely, and then engage the United States in the cold war with even greater industrial achievements—and human sacrifice. Yet the constant exhortations to increase production in the face of equipment and other shortfalls led to a cheapening of the value of the labor of men and women and of the laborers themselves. Party organizers pushed industrial production at meetings, in discussions, in so-called Red Corners of workers’ clubs where agitprop took place in the print media (including local and factory newspapers and bulletin boards), in Red Tents of the reindeer herders, and through film. Propaganda posters replaced religious subjects with technological ones. The new icons of Soviet power were the heroic worker heroically commanding the heroic machine in scenes of victory over nature and its various ores. Graphs
pushed into the proletarian heavens. In other posters, electrical power lines spread into the countryside to power new factories. But rarely in any poster does a worker wear what western industrial engineers considered proper attire. In this light, we should have great affection for safety posters in American places of work.

Officials approved a new genre of arts and literature called socialist realism to glorify the Soviet hero disinterested in himself, perhaps disinterested in family, determined only to apply Bolshevik methods to victory over all enemies, including backward technology, enemies of the people, and the occasional saboteur or wrecker. In stories with industrial themes—many of them have industrial themes—the reader learned of the glorious pursuit of plan fulfillment. The authors wasted no words on safety, hesitation, or weakness of will. No accidents occurred. The occasional subtle point might be the bourgeois expert at a construction site who realizes the errors of his ways and throws himself 100 percent behind his proletarian leader in pursuit of bringing the factory on line, for example, the engineer German Gleist in Fedor Gladkov’s novel Cement (1924, but the forerunner of the official genre). In another example of this genre, Vasilii Azhaev’s Daleko ot Moskvy (Far from Moscow, 1948), the hero, the engineer Batmanov, modeled on the director of the huge Stalinist dam project at Tsimliansk on the Volga, Barabanov, successfully urges workers of the Dalstroi construction trust to build a pipeline connecting a new oil refinery at Komsomol’sk to Okha on Sakhalin Island. In fact, Dalstroi, the Far Eastern division of Stalin’s gulag camps, used prisoners mercilessly to mine gold and other resources, with disease and death often the result.46

Hooliganism, Alcoholism, and Other Problems of Labor Discipline

A major source of high rates of accidents in Russia and the former Soviet Union was alcohol abuse.47 It is not a stereotype to suggest that Russians love alcohol. The government has tried numerous times to fight alcoholism through stern and halfhearted measures. The government of Tsar Nicholas II even declared prohibition during World War I, denying the government extensive revenues to conduct the war. Officials have long recognized the problem of alcohol abuse but have disagreed over what to do about it.48 Such Soviet leaders as Leonid Brezhnev and Yuri Andropov insisted on greater “labor discipline,” which often meant to fight alcohol abuse. In May 1985, Mikhail Gorbachev declared a new
“dry law” that included shorter operating hours at liquor stores, smaller bottles, fines and punishments, and the destruction of vineyards in Moldova and Georgia, which led to longer lines, discontent, and the disappearance of sugar from shelves as people turned to the production of samogon (homemade booze). By his example of drinking alcohol only in small amounts at official functions, and by his own words, former President Putin also struggled against alcohol abuse. Yet the situation seems to be getting worse, contributing to a high accident rate. The Russian minister of public health declared on television in October 2007 that younger and younger schoolgirls are drinking beer during the day, treating it as if it were some kind of juice. Everywhere you turn, on buses, in parks, on the street, people chug bottles of beer in clear view, although by law they must have bottles in paper bags. The ministry estimates that one of three premature deaths in Russia is connected with alcohol. A culture of alcohol contributed directly to unsafety in the former USSR.

As a number of specialists have pointed out, we do not know the real extent of alcohol abuse or its contribution to high mortality and accident rates in the Soviet period because of the closed state, lack of access to clinical and other data, and Soviet reluctance to talk about this significant problem because of the glorious stories of enlightened leadership, hero projects, full employment, worker contentment, and the ideal state. The extensive discussion of delinquency, crime, and alcoholism, although not accidents, in the open press, especially after the death of Stalin, indicates recognition that this was a significant, if not the major, problem in Soviet industry in terms of lost workdays, shoddy goods, and absenteeism, especially among the most hazardous professions (mining) and among all manual workers (loggers, fishermen). These same sources indicated that it became a deepening and widespread problem.

Perusal of archives for four industries (fisheries, forestry, communications, and transport) in Arkhangelsk Province from 1930 to 1964 suggests that party officials and managers believed that alcohol abuse more than any other issue contributed to failure to fulfill plans. One could provide hundreds of individual examples; a few will suffice. A high level of alcoholism plagued the development of the northern sea route. Yet labor turnover was so rapid, and workers in such great demand, that a man fired for drunkenness on one ship would easily be hired on another. All the captains seemed to be aware of this. In 1934, party officials of the Pechora River Steamship Administration attributed fulfillment targets at only 62 percent of the plan to a series of imprecise reasons: the absence of militant party-political work on board ships, the failure to mobilize party
organizations, few political discussions, and no socialist competitions. Perhaps a greater problem was that workers used vodka to excess. One party investigator wrote, “Steamships approach the docks, the captains will take vodka by the boxes and get drunk, when they approach the barge, they get drunk. Rare is the steamship where they aren’t drunk.”52 Sailors spent most of their time on shore waiting for their next sail in a drunken stupor.53

The forest was another place of excessive drink in order to pass the time in miserable work and living conditions. It led to hangovers, truancy, and to workers leaving the job well before the end of the working day. Alcohol helped the workers ignore the absence of soap, salt, and even bread, the absence of consumer goods, and the low-quality food in the dining hall.54 In isolated Amderma on the inhospitable Barents Sea shore where gulag prisoners built mines—and died—party officials themselves turned to alcohol to pass the time. These officials also made a contribution to the spread of syphilis.55 The staff of cultural bases, established in the tundra to convert indigenous peoples from nomadic reindeer herders into modern Soviet citizens anchored to settlements and integrated into the economy, frequently turned to alcohol to salve their loneliness56 and also seem to have promoted drinking among the indigenous people.

While anecdotal evidence may not be compelling to many readers, twenty years worth of evidence indicates a pattern. As I discovered on my training runs through factory neighborhoods, the Soviet authorities requisitioned huge carts of beer and kvas (a fermented bread drink) to factory entrances. This enabled workers to have a bit of the hair of the dog that bit them the night before, and with the hangover temporarily fixed for them to avoid pitching forward into moving machinery. The carts have disappeared, but easier access to alcohol means that the same pattern holds. The life expectancy for Russian men is roughly fifty-five years, or fifteen to twenty years less than that in Europe. I have seen workers picking up a half-liter bottle of beer on the way to work, and I have seen a larger number stagger home.

Gorbachev, Chernobyl, and Industrial Safety

Industrial safety issues were explored in a new light—dare I say radiance?—after the Chernobyl disaster on April 26, 1986, when reactor no. 4 at the station exploded, spreading vast quantities of dangerous radioisotopes throughout the Northern Hemisphere. Initially, the Gorbachev administration responded in understated terms, with a brief announcement of an accident and some indica-
tion that remediation had begun, as if to minimize the extent of the accident or its ramifications for public safety. But Mikhail Gorbachev had promised perestroika (restructuring) and glasnost (openness) as the major policy distinctions of his rule, with glasnost intended to gain public support for reforms. Over the next few months and years, journalists published exposés about the human and environmental costs of the Soviet industrial development model, including past disasters and accidents, many of them about the chemical, metallurgical, and nuclear industries. A kind of “radiophobia” developed, as the Soviet press referred to it, and perhaps a kind of technophobia as well. Citizens who had learned about the glory (and inherent safety) of life in modern society now confronted a strange, new, unsafe world. The media finally began to cover automobile, train, and plane crashes and other accidents as in some ways unavoidable in modern industrial society. Yet, reflecting the always ambivalent attitude about safety and technology and the typical determination of blame, Soviet investigators determined that personnel at the Chernobyl station were at fault for the accident, not the design of an inherently unsafe reactor carried out under the direction of Academy of Sciences President Anatolii Aleksandrov.

In the initial effort to contain the damage at Chernobyl, the government ordered tens of thousands of soldiers into the breach, armed with shovels and wheelbarrows, often wearing no more than a cotton mask, although a number were given loosely fitting lead aprons, to gather the pieces of fuel and highly radioactive graphite that had been thrown dozens of yards into the surroundings and cart them back to the reactor hall. Robotic devices failed in the high radiation, so these “biorobots,” as they were called, replaced them. Many of the “Chernobyl veterans” courageously faced the great danger of exposure to radiation. Many of them drank down a bottle of vodka before they faced that risk with the belief that the vodka would protect their testicles from excessive radiation. After a two-week battle, these men had calmed the reactor. Officials were already planning to bring the surviving reactors of the Chernobyl station back on line as quickly as possible. Toward that end—and the end of containment of the spread of radioactivity—they built a concrete “sarcophagus” around unit number four. Since they believed that speed was of the essence—they wanted electricity—they ordered concrete pourers, dump truck drivers, and other construction specialists into the accident site with inadequate concern about the high levels of radiation and once again with little safety equipment.

Having evacuated—after a three-day delay—Pripiat, the residence town of Chernobyl operators and their families but 3 kilometers from the reactor, they
determined to build a new town, Slavutich, 35 kilometers from the station, for new operators and their families.\(^{59}\) (By the way, there were but a few bottles of iodine tablets available at Chernobyl or any other reactor site in the USSR that could be taken to block the thyroid’s uptake of radioisotopes.) Officials attracted 27,000 young workers to Slavutich with promises of new apartments, many of whom later married, and many whose children have birth defects and cancers, especially thyroid and leukemia. Since the final shutdown of Chernobyl in 2000, several thousand workers have remained behind who are taken by train to the reactors to complete decommissioning and emptying of fuel.

Urban Sights and Sounds

I would like to suggest that attitudes about unsafety that developed during the Soviet period have persisted into the twenty-first century. To this day, most Russian construction sites do a poor job of keeping pedestrians out and workers safe within. As for road repairs, the most one can hope for is a poorly illuminated sign indicating a road hazard or workers just 10 to 15 meters ahead. Jersey barriers, plastic barrels, and flashing lights to indicate the need to slow down, to merge, to pay attention to workers ahead, or the posting of a cop car with lights flashing, have only recently appeared in twenty-first-century Russia. In Moscow and Petersburg, many of the industrial firms have shifted to western standards of safety. In the provinces, safety seems to be a concern of a century far in the future. One explanation may be that safety officials do not need to worry about a large number of foreigners reacting in horror to workers laboring at heights without safety harnesses, let alone hard hats, protective eye and ear equipment, gloves, and work boots. In Arkhangelsk in 2007, I visited seventeen apartment and office building construction sites within 2 kilometers of my residence, including one involving replacement of underground asbestos-coated steam pipes. I saw five hard hats in all.

But there are signs of hope. The Putin administration recognized the need, for example, to combat the epidemic of carnage on Russian roads. According to the Russian Ministry of Civil Defense and Emergency Response, 34,506 people died in road accidents in 2004, while in 2005 the scale, death rate, and injury rate all increased. In three-quarters of all traffic accidents, drivers are at fault. Alcohol plays a role in every eighth accident, speed in every third, and driving in the wrong lane in every seventh. (All Russian drivers believe that the potholes are worse on their side of the road and therefore drive on the other side when they
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On the way back from any destination they also drive on the wrong side of the road, bizarrely insisting it better than their current side of the road.) Considering the significantly fewer automobiles and fewer kilometers traveled, the fatality rate is probably on the order of 5 times higher than in the United States, where 45,000 died in automobile accidents in 2006. Many of the fatalities are due to what the Russians called euphemistically “a lack of culture” among drivers. Many more drivers than you encounter in Europe are unrepentantly aggressive, discourteous, immature, and dangerous. They consider the pedestrian sport, not reason to yield. It would help for the police to enforce traffic laws. I myself, in over twenty years of visiting the former Soviet Union, have never seen a policeman stop a driver who has run a light or failed to yield to a pedestrian in a crosswalk, and policemen themselves have nearly run me down in a crosswalk. Police have much more time to stop drivers to verify their drivers’ licenses and registration, which they do with impunity as they fish for small bribes. I am not asking for high-speed chases, but until the police enforce traffic laws more consistently and aggressively, the drivers will control the cities. When queried about the problem, many Russians will respond, “U nas—duraki and dorogi” (“That’s Russia for you. We have fools and roads”).

The number of pedestrians in Russia killed has increased 80 percent since 2000, during which time a total of 100,000 pedestrians were killed and over 500,000 were injured. Part of the problem is that pedestrians do not always cross at crosswalks. Yet because of Russian drivers, crosswalks are no guarantee of safety. It would help to have timed lights with dedicated pedestrian walkways and signals, but outside of Moscow and Leningrad these are a rarity. It is, however, a vast improvement that the Russian Ministry of Civil Defense and Emergency Response now publishes accident data, and we should remember the importance of public access to product safety information and accident rates as a way to create a culture of concern.

Yet a culture of fatalism persists, and it extends to seat belt usage. The majority of Russians do not use seat belts, although they are required to by law. In most cases, the seat belts have dropped to the floor. The only time many people will use a seat belt is when they see a policeman and worry he’ll stop and fine them. Many of them still harbor the idea that seat belts are somehow dangerous. How will you get out of a flaming vehicle quickly if the belt malfunctions? They do not realize, or perhaps ignore, the fact that a person leaving a vehicle (that is, as a projectile traveling at 70 or 80 kilometers per hour) almost certainly will die on impact. And should you wish to put on a seat belt, the driver (a taxi driver for
example, or an acquaintance) will tell you not to bother since it’s unnecessary, or that it’s necessary only outside of the city. Many of them even believe that it is safer to be drunk rather than sober in a crash, for the body is more relaxed. Seat belt use increased significantly when the fines for failing to use seat belts increased 1,000 percent on January 1, 2008.

During the Putin years, several private organizations banded together to end the road carnage. This is a positive sign, and yet automobile safety has had a public face in Europe and the United States for forty years. Recall that Ralph Nader came to prominence in 1964 with his *Unsafe at Any Speed*, a criticism of the inherent unsafety of the Chevrolet Corvair. Volvo introduced the first standard seat belts on vehicles in 1967. Airbags were developed by the early 1980s and should have been standard on all American automobiles—with the result that European manufacturers would have introduced them, too, and tens of thousands of lives would have been saved—had President Ronald Reagan, in the name of cost savings for the industry, not public safety, not delayed their introduction until the late 1990s. In the USSR and Russia, such simple standard safety features as dashboard padding, collapsible steering wheels, safety glass, side guard door beams, better crashworthiness of the passenger compartment, and airbags were all introduced significantly later and are still not universally available. That is, Russian vehicles, unlike the Czech Skoda and Korean Hyundai, which have international markets, do not meet international safety standards. This, and the inability to provide replacement parts, is just one reason they can’t be sold abroad successfully.

Roads and road safety have been a perpetual Russian problem, as we know from the previous discussion of forestry roads. The glacially slow pace of technological improvement in the design and construction of roads reflects again different attitudes toward safety. In the United States, beginning in the late 1950s and early 1960s, under pressure from the Insurance Institute for Highway Safety (founded in 1959), automobile manufacturers and road engineers began to think of safety in a new way. Until that time, safety advocates focused their efforts on preventing crashes by changing driver behavior. As part of a revolution in attitudes toward consumer product safety and litigation, engineers recognized the need also to develop technologies to reduce the consequences of crashes. The Insurance Institute notes that “because of the focus on crash prevention, many lifesaving vehicle designs were overlooked. For example, a few physicians advocated safety belts in the 1930s, but US automakers didn’t begin installing lap belts as standard equipment until the 1960s—and then in response
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to state mandates. Shoulder belts didn’t become standard until the 1968 model year when they were mandated by federal law.”61 Interest in profits led automakers to argue that vehicle characteristics were irrelevant: people caused crashes, so people, not vehicles, needed to change. Another reason for the lag was the nonscientific approach to safety.

To combat these problems, the Institute began aggressively to collect data and analyze it precisely in pursuit of an active role in traffic safety. In the spring of 1972 the Institute published To Prevent Harm. The alumni magazine of the Massachusetts Institute of Technology, Technology Review, drew on the study to argue, “There must be a continued effort to reduce the frequency of crashes. But there must be new emphasis on improving the protection which vehicles provide their occupants and on making vehicles themselves less subject to damage and less expensive to repair.” The Institute opened its Vehicle Research Center, which included a state-of-the-art crash test facility, in 1992 and publishes data on vehicles to assist the consumer in making informed choices.62 Yet only in the twenty-first century has crash testing and publication of data become a standard feature of the U.S. government’s National Highway Traffic Safety Administration (NHTSA), although, adopting an entirely too friendly view of the ability of industry to regulate itself, the Bush administration weakened NHTSA’s scope, purview, and rule-making ability. It watered down a regulation requiring tire pressure monitoring systems on vehicles (an action later overturned in court), advanced an ineffective standard that otherwise would have protected passengers in rollover accidents, and permitted outdated standards for door locks, seat backs, gas tanks, and headrests to remain in place.

Fortunately, U.S. roads are built to exacting standards. Not so Russian and Soviet roads, which in their design and maintenance fail to take into account the fact that accidents will occur and that roadways indeed contribute to them. Whether streets or highways; gravel, dirt, or asphalt; forest, agricultural, town, or city, these roads age rapidly. Built with inappropriate machines used in other sectors of the economy, built cheaply with inadequate foundation and thin surface, they degrade overnight, developing washboard bumps and huge potholes. At more than a moderate speed, the driver easily loses control. All roads lack guard rails, water and sand barrels, and other technologies to lessen the impact of accidents. Signs at best are an afterthought. Illuminated and/or reflecting signs to indicate exits, turns, and hazards have only recently begun to enter Russian consciousness. Unfortunately, Russian officials rarely consider such traffic-calming measures as speed bumps, narrower streets and broader sidewalks, bi-
cycle paths, and lowered speed limits. They have much to learn from their Dutch, German, and Norwegian colleagues, who have determined that the automobile must be slowed and its drivers converted into mothers, fathers, brothers, sisters, and friends of pedestrians. Traffic calming is such a foreign concept in Russia that no translation of the idea into Russian exists.

As automobile ownership expands at an exponential rate, these safety problems have become another public health epidemic. Were money the answer to the problem, the problem would be big but perhaps solvable. Yet the Putin administration has failed to provide adequate resources. Only 1 of every 100 kilometers of road in need of repair was repaired in 2006; the government estimates the need to build 2 million kilometers of modern roads. According to Russian government statistics, in 2006 the federal budget for highway and roads programs needed $90 billion but received $20 billion. And in 2007, highway officials requested $100 billion and received $43 billion. Such simple safety devices as accurate maps have just appeared. During the Soviet period, there could be no accurate maps of value to Soviet citizens or foreign spies alike.

Lessons of the Russian Culture of Unsafety for American Regulators and Citizens

A few years ago I observed workers of the Moscow City Heating Authority cut open a huge section of sidewalk on Leninskii Prospect to get at a steam pipe that had ruptured. We see the same kinds of ruptures in all cities as infrastructure, under great temperature and pressure, succumbs to natural aging. Steels creep and break, reinforced concrete decays, the old must be renewed. On numerous occasions Consolidated Edison of New York has faced the same challenges of repair in difficult conditions that the Moscow workers experience. With the cooperation of police, Con Ed workers quickly move residents out of harm’s way, erect relatively hermetic plastic tents, and enter the fray in full battle regalia of sealed suits and respirators. Not so in Moscow. Over a series of weeks, under open skies, the workers jackhammered down to the pipes covered in insulation permeated with asbestos. Wearing only leather gloves, they cut through the pipes with chainsaws fitted with diamond-tipped blades, used a crane to lift out the pipes, and dropped them onto the back of Kamaz dump trucks, whose operators rumbled off down Leninskii Prospect without bothering to cover the pipe in any way. The same process of repair with inadequate attention to worker and resident safety continues to play out all over Russian cities today.
On another occasion, I visited a lumber mill in Arkhangelsk Province on a very hot July day. The mill’s owner was a superb guide. He showed me the entire operation and asked the workers who were on lunch break to cut some logs into planks using gang saws. The mill workers appeared from their cots in the mill through the mist of sawdust in sandals and shorts. No one wore any safety equipment—no goggles, no earplugs, nothing. Upon learning that I was an American, the men not only joyously completed their task, but then brought out a few bottles of vodka to drink with me before the afternoon shift. These workers, and those of the Moscow Heating Authority, have grown up on Soviet-era playgrounds and played with Soviet-era toys. While the Putin administration has shown its deep concern about industrial accidents, declining life expectancy, excessive smoking (especially among males), and growing alcoholism rates, it may be another generation before government officials successfully create a new attitude toward risk and safety so that all citizens may enjoy the benefits of the modern industrial world.

Take a flight in Russia. Before the plane has reached the gate, before the fasten-seat-belt sign is off, several passengers will be up and about the cabin to get their bags and put their jackets on, oblivious to the threat they pose to themselves and others, and to the admonitions of the flight attendants. Many of them will head to the restrooms during the flight for that cigarette, and the flight attendants rarely stop them, nor do they see to it that they are arrested on arrival at the terminal. I suppose, however, that the planes themselves are an improvement. It has been fifteen years since I saw on the Novosibirsk-Irkutsk flight an open flame on a Bunsen burner device being used to heat up chicken.

The most important tool to combat unsafety is openness. An informed citizen is a safer citizen. During the Soviet period, data on health, safety, accidents, and pollution were usually classified. The Putin administration began the practice of publishing safety data on accidents in all areas. It adheres, for example, to International Atomic Energy Agency standards for monthly reports on incidents at nuclear power stations. The data may be hard to find for some industries, but they are there. And some consumer groups have begun to form to force the federal government to pass legislation concerning product liability to protect the consumer, at the same time strengthening laws to improve workplace safety. Shockingly, taking a page out of the Soviet manual for worker safety—with an emphasis on secrecy and deception, and being in cahoots with big business—the Bush administration abandoned in many cases accepted safety practices in the name of profitability for business. After 2001, the Mine Safety
and Health Administration staff was downsized by 170 positions. Industry officials appointed to administer mine safety lowered or ignored fines required by law and fired whistle blowers, with the result that accidents and deaths are on the rise. The budget in real-dollar terms for the Occupational Safety and Health Administration was cut, and the agency lost 162 positions from its already inadequate staff after 2001.

Deregulation and subterfuge exist in other industries. Nicole R. Nason, administrator of the National Highway Traffic Safety Administration, issued a ruling in 2006 to silence her staff researchers; they could no longer speak on the record with reporters about automobile safety. This built on a determination, published in April of 2004, that would forbid the public release of some data relating to unsafe motor vehicles, saying that publicizing the information would cause “substantial competitive harm” to manufacturers. The Bush administration Labor Department spent the last weeks of his presidency making a new rule that would make it much harder for the government to regulate toxic substances and hazardous chemicals at the workplace. Business groups support the measure, while public health officials and labor unions say it will delay needed protections for workers and result in additional deaths and illnesses. As some American officials consider relaxing standards or cutting budgets for regulatory agencies, permitting the sale of unsafe things, or creating institutions founded on secrecy, it is well to remember the great human and environmental costs of the experiences of the culture of unsafety in Russia.

Is it possible that America and Russia share more features than we realize? Beyond vast geography, rich natural sources, and desire for empire, do they share a common attitude about the place of technology in modern culture and its relationship to people? I sense an overriding interest in the acquisition of technology and its application to the natural world. Both nations desired to build the most modern, the most advanced, and the largest technological systems possible. The engineers in design institutes and construction firms, supported amply by their government, saw citizens as less important than the technology itself. They stressed fulfillment of the plan, the search for profit, not the public health and safety of the citizen. Yet for over 100 years, in spite of brief periods of backtracking, the U.S. government has become increasingly involved in regulating industry in the name of public health, as all enlightened governments, capitalist or socialist, must.

In the early nineteenth century, members of the English Parliament passed several laws aimed at protecting defenseless people from such dangers of the
industrial world as treacherous machines and unscrupulous owners. Over several decades they increasingly restricted child labor and female labor, at first particularly in mines, hours of work, and so on. Somewhat later, the United States and other countries followed suit, although in all cases the governments failed to provide adequate budgetary support or personnel to ensure compliance. The Soviet government intended to demonstrate that, unlike the capitalist nations, it would protect the worker and make the workplace safe. On paper at least it succeeded. But by putting production ahead of safety, output ahead of pollution control, and iron and steel ahead of human bones, party leaders presided over the creation of a perilous workplace. The devil-may-care attitude extended to the home, to the store, and to recreation. Ultimately, the rise of a consumer culture with the expansion of the middle class ensured that industrial safety and product liability assumed a central place in other modern nations. Perhaps this culture of safety will develop in twenty-first-century Russia as its well-educated middle class grows.
Natalia Gippius (1905–94), “The Female Tractor Brigade—Mordovia 1942–1943,” 1950s, lithograph. Liberated from paternalist family relations and patriarchal government, women would join the labor force in increasing numbers, especially during Stalin’s industrialization campaign of the 1930s. They became doctors and other professionals in greater numbers than in the capitalist world. But they also, under Stalin, reacquired the responsibility to be the pillar of the family; hence, they had a twofold burden under socialism: to work a full-time job, and to take care of the family, often with little help from the menfolk. Courtesy of the Allan Gamborg Gallery, Moscow, Russia.