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Subslug: [Book ``On the Trail of Submarine Disasters'', authored and
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FULL TEXT OF ARTICLE:

1. [Book ``On the Trail of Submarine Disasters'', authored and compiled by
Sergey Petrovich Bukan, Gildiya masterov ``Rus'', 20,000 copies, 208 pages]
2. [Text]
3. Annotation
4. The book uses photographs and materials from holdings of the Northern
Fleet Museum, the TASS pictorial review, the journal TIME (USA) and the
pamphlet ``Soviet Military Power,' 1987 (USA).
5. Foreword
6. Dedicated to the memory of Soviet submariners Who died in peacetime
7. Many gaps in the history of the Soviet Navy, above all of the submarine
fleet, have been and still are a sealed book. Behind these gaps are hidden
not only blunders of the command element and of our designers, but also the
courage and heroism of seamen who overcame all difficulties which arose for
them along the paths of mastering and operating diesel and nuclear powered
submarines.
8. To this day many in the fleets, especially the young generation, do not
know the details of the first accidents and the number of submariners who have

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received the title of Hero of the Soviet Union [HSU] in postwar times, or for what this title was conferred. (All this was hidden by secret orders and by classified edicts of the USSR Supreme Soviet Presidium.)

9. Lately the journal MORSKOY SBORNIK has lifted the curtain somewhat over individual tragic events by publishing memoirs about the raising of the submarine S-80 and the accident on the missile-armed submarine K-19. These articles about 30-year-old events generated lively interest among readers.

10. But there are burial places of deceased submariners in the fleets about which not everyone knows. The fact is there are seven such sacred places in the Northern Fleet alone. People come to these monuments on major holidays, but in winter they are covered by snow.

11. A memorial complex dedicated to the memory of deceased submariners was erected in November 1991 in the garrison from which the nuclear powered submarine "Komsomolets" departed on her last deployment. It rises majestically above the city which is the cradle of the Soviet nuclear powered fleet, and it became not simply another sight to see, but a reminder of the greatness, strength of spirit, courage and heroism of seamen who performed their military duty to the end.

12. The digest "Po sledam podvodnykh katastrof" is the first endeavor to throw light upon the tragic events which occurred in the Navy.

13. To Avoid Catastrophes, by Rear Admiral (Reserve) G. Kostev and Captain 1st Rank I. Kostev, candidate of naval sciences, professor

14. Just what occurred in far-off 1956? That was a time of searching for a new submarine engine. The first nuclear powered submarine was just being built and submarines with a power plant capable of supporting lengthy underwater operation were being tested in parallel, but its design potentially was a fire and explosion hazard. This is why these submarines unofficially were called "cigarette lighters" in the Navy. Liquid oxygen was used on them to support the diesel's underwater operation.

15. One was commanded by Captain 3rd Rank Yu. Vavakin. As was the case with the "Komsomolets," there was a senior commander aboard in addition to Vavakin on that tragic day when the submarine sank in the Baltic. A fire which broke out in the power plant compartment was the primary cause of the catastrophe. The submarine immediately came up to a surface condition and personnel were moved up on deck, since specialists believed a power plant explosion was likely. Five hours after the fire began the submarine suddenly lost longitudinal stability and in a matter of seconds went under with a large trim by the stern. People ended up in waves of a stormy sea. Only seven persons managed to be saved because of the stormy weather. An analysis showed the submarine sank because water entered the pressure hull as a result of its loss of seal because of the fire, but no explosion followed. Subsequently some accused the crew of passiveness and others believed that creation of such a power plant was ahead of its time and so the personnel were not sufficiently ready to service such sophisticated equipment.

16. Photo captions
17. Uncaptioned [inscription: To submariners who died in the ocean; eternal glory]
18. Torpedo-armed submarine [Translator note: correction made from errata page]
19. Monument to Baltic Fleet submariners who died on 21 November 1956, Paldiski
20. MORSKOY SBORNIK, No 4, 1991
21. Why Compartments Burn, by Rear Admiral (Reserve) G. Kostev and Captain 1st Rank I. Kostev, professor, deputy commander of submarine formation
22. The first Soviet nuclear powered submarine, ``Leninskiy komsomol," was only being built. Diesel submarines with engines capable of supporting fast, lengthy underwater movement were being tested in parallel. Among them also was an M-Class (``Malyutka") submarine of a new design. Liquid oxygen was used on her for underwater diesel operation and a considerable store of liquid oxygen was aboard in a special tank. A second ``Malyutka" commanded by Captain 3rd Rank Vavakin put to sea to test the new power plant. Suddenly a fire started in the power plant compartment and the submarine came up to a surface condition. What could be the consequences of a fire, considering the presence of a large mass of liquid oxygen aboard ship and the novelty of the engine installation? Submariners considered an explosion to be the most probable. Most likely this is what can explain a certain passiveness of the crew in submarine damage control: main efforts were concentrated on saving the personnel. Nevertheless a fatal outcome was not avoided.
23. KRASNAYA ZVEZDA, 15 February 1991
24. From Underwater Captivity, by Colonel (Retired) E. Leybovich, former chief of Black Sea Fleet Search and Rescue Service
25. On 22 August 1957 a Black Sea Fleet submarine arrived in a combat training area and received the okay to submerge, but did not surface at the appointed time (1700 hours). A general alarm was announced in the Fleet. Just what happened?
26. After receiving the report on closure of the flap valve supplying air to the diesels, submarine commander Captain 3rd Rank R. Belozerov gave the command ``Quick dive," but this commonplace command led to an accident.
27. The trunk closure signal, which was imperfect in its design, deceived the commander. Water gushed into the sixth diesel compartment through the not fully closed flap valve. The submarine fell swiftly into the marine abyss and several minutes later her stern went deep into the sandy bottom at a 60° angle.
28. Water from the half-flooded sixth compartment seeped into the seventh

after compartment through a damaged bulkhead and fire broke out in the seventh from a power panel short circuit. Seventh compartment was de-energized to stop the fire. Sixth compartment was two-thirds flooded, and the sea continued to gush into the submarine. The entry of water managed to be checked only two hours later. People from the end compartments were received by comrades in fifth compartment through flooded hatches.

29. The situation analysis was summed up in the control room: 40 tonnes of water had been received in the after compartments and was impossible to pump out with a trim of 60°, submergence depth was near maximum, breathing equipment was sufficient for 70 hours and food for two days, and there was no confirmation about the emergency signal buoy surfacing.

30. The commander made the following decision: try to reduce trim by the stern and then pump out the water. Everyone including officers got into single file and passed buckets and cans of water from hand to hand from after to forward compartments. The heavy work caused increased oxygen intake. People were losing consciousness, but the chain still functioned. Twelve tonnes of water were transferred to a height of 35-40 m, all possible loads were taken and moved to forward compartments, but the trim did not decrease- the bottom firmly held the submarine's stern.

31. Captain 1st Rank N. Smirnov, commander of Black Sea Fleet Submarine Forces, was first to arrive in the area of the submarine accident. The commander of the submarine in distress briefly reported what happened to his flag officer by underwater sound communication. Telephone communication with rescue ships which had arrived also was established via the emergency buoy, which, as it turned out, had surfaced after all.

32. CinC Black Sea Fleet Admiral V. Kasatonov exercised overall direction of the rescue operation. Captain 1st Rank N. Chiker, a USSR State Prize laureate and a founder of the Rescue Service, headed up the submarine's immediate rescue.

33. It was decided to pass a reliable line under the submarine's forebody, wrest her from the bottom by the pull of tugboats, and supply high-pressure air for blowing the main ballast tanks, after which the submarine would be able to surface on her own.

34. The main burden in saving the submarine rested on the divers' shoulders. KRASNAYA ZVEZDA told about their courage and heroism in January 1958 in connection with publication of the USSR Supreme Soviet Presidium Edict "On Awarding Orders and Medals" to Captain 2nd Rank P. Nikolskiy; warrant officers M. Karagayev, A. Ivlev, F. Kremlyakov, N. Litvinov, D. Karpayev and B. Masnev; and petty officers P. Shlyakhetko, Yu. Baranov and V. Stopkin.

35. Air supply and suction hoses were passed to the submarine. Warm underwear, wine, chocolate and canned food were transferred through the torpedo tubes in special containers. The submariners themselves also continued to struggle for life-they made fast property, checked hatch seals, and removed ammunition and combustible materials to safe places.

36. Stormy weather broke up the rescuers' plans and made unforeseen corrections to them. A capron line which snapped broke the leg of Captain 2nd Rank Anisimov, one of the most experienced divers, and several divers got decompression sickness. A break in the emergency buoy cable deprived them of two-way communications with the submarine. Problems which were arising in the course of rescue operations were reported to Marshal of the Soviet Union G. K. Zhukov, and large combatant ships of the Navy were sent out. They used their hulls to damp waves around the rescue ship "Beshtau," from which rescue operations were being conducted.
37. Captain 2nd Rank P. Nikolskiy went down, as it was necessary to fasten a tow line. The capron line broke during towing in battering waves. Then, despite fatigue after the previous dive, Nikolskiy again went down and attached a steel tow line.
38. It was the night of 25/26 August. There was combat readiness above and beneath the water. A tugboat slowly took up the slack and the submarine's trim decreased under tow line tension. Minutes stretched out for a painfully long time between reports from the submarine: "Pump took up water...", "...sixth and seventh almost fully drained...", "...personnel taking places for special emergency surfacing...", "...blowing main ballast tanks..."
39. At 0230 hours on 26 August the surface of the sea seethed in the beams of ship searchlights, releasing the submarine and her crew from underwater captivity. In the morning the submarine was towed to base, where the submariners were greeted as victors with the traditional roast pig.
40. Photo captions
41. Monument to submariners who died on 11 January 1962, Polyarnyy
42. KRASNAYA ZVEZDA, 1 September 1990
43. Forgotten Explosion, written from the words of Captain 1st Rank N. Styulkevich, eyewitness to the tragedy, now submarine formation radiotechnical service flag officer
44. The crew of the diesel submarine B-37 (commander Captain 2nd Rank Begeba, executive officer Captain 3rd Rank Simonyan) was preparing for a lengthy cruise.
45. On 11 January 1962, after completing the naval ritual of hoisting the naval ensign aboard the submarine, the crew executed the command "Begin jacking over weapons and technical equipment on power" as usual. It seemed nothing portended tragedy, but at 0822 hours there was an explosion aboard ship, the reasons for which still have not been clarified. Although the commission for investigating reasons for the tragedy did work and make a certain finding, no one has returned to that tragedy for the last 30 years and nowhere has material on it been published in the open press. There were different versions.
46. One is as follows: a torpedo was mechanically damaged while ammunition

was being loaded aboard the submarine, and the torpedo caught fire during welding work in first compartment. A large-volume fire in the compartment a minute before the explosion was most likely. As a result of the explosion the submarine was completely demolished through the forward bulkhead of third compartment and sank practically instantaneously. The S-350 standing nearby received damage to her pressure hull, first and second compartments were flooded, and she was subsequently towed to a shoal and the compartments drained. Everyone on the dock, aboard the submarine, and at the torpedo-technical base (a total of 122 persons) died as a result of the explosion. The dead were buried at a cemetery in Polyarnyy.

47. NA STRAZHE ZAPOLYARYA, 6 January 1991

48. Raised from the Depth

49. One of the first diesel powered missile submarines sank on a combat training range in the Barents Sea north of Rybachiy Peninsula in February 1961. She was the lead submarine of this design. Design deficiencies of machinery supporting the submarine's submerged operation on diesels became the primary cause of the crew's death. More precisely, a control valve of the sensor of the presence of water in the air duct proved to be closed. It was learned later that miscalculations also were made by the personnel in the emergency situation. None of the submarine crew headed by Captain 3rd Rank M. Sitarchik remained alive. Captain 3rd Rank A. Nikolayev, second-crew commander who was aboard, also died.

50. HSU Vice Admiral A. Petelin, who took part in the search for the sunken submarine and who descended in a bathyscaphe, discovered that the submarine was on an even keel and determined the possibilities of raising her. She was raised in 1969 and towed to an inlet. The state commission for investigating reasons for the submarine's loss was headed by Marshal of the Soviet Union K. Rokossovskiy. After familiarizing himself with the work of submariners, the outstanding military leader did not agree with those who tried to place all the blame on the navymen. His suppositions were confirmed eight years later when the operation to raise the ship was successfully carried out. In those years the submariners' tragedy did not become public property.

51. Only 30 years later did KRASNAYA ZVEZDA include a small note about the accident and a photograph of the submarine.

52. A modest obelisk was placed on the grave in Olenya Inlet in which crew members' remains lie. Seamen come to it before going on a lengthy cruise, and flowers are placed on it on holidays and on the anniversary of the day the submarine sank.

53. Photo captions

54. After an eight-year stay beneath the water. 24 June 1969

55. KRASNAYA ZVEZDA, 6 September 1990

56. How the S-80 Sank, by Senior Warrant Officer V. Kazanov

57. A monument stands in a remote garrison, modest and unassuming. It is apparent that it was made by a seaman who was a skilled craftsman. There is a mournful row of names on tombstones.

58. "In eternal memory of submariners of the crew of the submarine S-80 who died in line of duty," goes the inscription on the stele. What lies behind these words? Only now has it become possible to reveal the secret of the S-80's loss.

59. It was January 1961. The S-80, which had departed for the range to rehearse combat training missions, did not come up in communications at the appointed time. A search did not produce the desired result. The state commission which worked under the direction of USSR Ministry of Defense Chief Inspector Marshal of the Soviet Union K. Rokossovskiy just was unable to learn the reasons for the submarine's loss.

60. But work of searching for the S-80 did not stop. Help unexpectedly came from fishermen, who reported that some kind of underwater object had been discovered in a fishery area.

61. A check showed that in fact a metallic object was located at a great depth and corresponded to a submarine in all parameters.

62. Having descended beneath the water in a submersible vehicle in the summer of 1969, HSU First Deputy CinC Fleet Vice Admiral A. Petelin saw a picture which chilled the soul: picked up in a searchlight beam, a submarine lay on the bottom with fishing nets hanging on the conning tower. There was no doubt this was the S-80.

63. The S-80 managed to be snatched from underwater captivity on 25 July 1969. A sunken submarine was raised from a depth of almost 200 m for the first time in world practice.

64. Rear Admiral N. Chiker, chief of the Navy Salvage and Rescue Service, directed salvage operations, Engineer-Captain 1st Rank Yu. Senatskiy was chief engineer, and the expedition was headed by Captain 1st Rank S. Minchenko.

65. Rear Admiral Chiker had colossal experience in raising sunken ships. As a young beginning engineer he worked out the operation to raise the cruiser "Oleg," sunk by the British in 1919. This was his first ship, but others later followed where Nikolay Petrovich Chiker's talent and deep technical thinking were revealed.

66. The operation to raise the S-80 was carefully conceived. Large forces of the Fleet Search and Rescue Service were involved. An entire group of engineers and designers became State Prize laureates for developing the device and everything new used in freeing the S-80 from underwater captivity.

67. A device resembling large tongs would go beneath the water from the salvage ship "Karpaty" and a diver would precisely lead it to the submarine, simultaneously performing the role of slinger. Having securely gripped the

cigar-shaped body of the S-Class sub, the "tongs" would wrest her from the bottom and then, dragging her closer to shore, salvagers would finally raise the submarine to the surface. After this the state commission headed by HSU Vice Admiral G. Shchedrin would be able to establish the true cause of the submarine's loss.

68. It was not by chance that the role of chairman was entrusted to Grigoriy Ivanovich. What was required above all was a specialist who knew submarines to the last rivet. Vice Admiral Shchedrin, who had gone through a stern school of submarine service in the Northern Fleet in the war years, was such a person. The S-56 which he commanded was decorated with the Order of Red Banner and became a Guards submarine on 23 February 1945.

69. Recently I phoned Grigoriy Ivanovich Shchedrin and asked him to recall events of 30 years ago. Here is what he related:

70. "The S-80, which was commanded by Captain 3rd Rank Sitarchik, put to sea to rehearse missions. The presence aboard ship of a second commander, Captain 3rd Rank Nikolayev, enabled speaking about the presence of a second crew allegedly aboard the submarine. This was not so.

71. "The tragedy occurred at 1420 hours on 27 January 1961. This submarine had a design feature: her snorkel mast was wider than on other S-Class subs. On that day the sea was stormy and there was a good little freeze. The S-80 was charging using the snorkel. Apparently waves were sweeping over the mast and ice froze on the upper cover. After having charged, the submarine submerged and the cover naturally did not close. Water gushed in. People in the control room could have stopped it, but there they made a mistake and instead of closing the cover, which was in third compartment, they opened it. Water rushed further into fifth compartment, where two seamen attempted to save the ship from disaster, but it was already too late. That is how we found them, together. I briefed the CinC Northern Fleet, CinC Navy and the CPSU Central Committee based on results of the commission's work. The tragedy showed once again that submariners have a very difficult profession which does not tolerate carelessness and lack of discipline. Everyone aboard a submarine is responsible for each other. This simple truth cannot be forgotten. We pointed out in the report that industry must be precise and accurate in a ship's specifications. There must be no vagueness here. From this comes something else as well. Military acceptance must be very demanding, for the personnel pay for every design deficiency. What happened to the S-80 was subjected to a thorough analysis at a technical conference with submariners in Polyarnyy, to which I traveled and where I spoke.

72. "The submarine had to be blown up, since there were torpedoes in the torpedo tubes and no one knew how they would behave.

73. "In my view it is necessary to elevate the submariner's professionalism and prestige. He must not appear to be in the role of one begging alms on the church porch. Believe me in this; after all, I spent many years in a pressure hull.' And what kind of years! When they pour depth charges on your head, when there is nothing to breathe and it is impossible to surface. We were helped in defeating the fascists by love for the Motherland and professionalism. Do not

lose these qualities. This is my wish for Northern Fleet navymen."

74. And so we managed to complete one more sad page of history. But not completely. Possibly one of the relatives of the deceased or veteran submariners will respond who will supplement the story about the crew of the S-80.

75. NA STRAZHE ZAPOLYARYA, 17 February 1990

76. And They Still Raised the Submarine: (From Notes of a Special Purpose Expedition Commander), by Captain 1st Rank (Retired) S. Minchenko

77. Several circumstances prompted me to take up the pen.

78. First of all, the natural change of generations involuntarily leads to loss of a portion of the experience gained by veterans.

79. Secondly, there are few who now know the features of the 1969 raising of a Northern Fleet diesel submarine which sank in the Barents Sea. At that time this was the first time in world ship-raising practice this operation was accomplished using deep-water apparatus and television cameras and without diving labor in working at a depth of around 200 m. For the first time in our Navy's history, a special unit of central subordination, a Special Purpose Expedition, was established to raise a submarine, and the author of these lines was entrusted with commanding it.

80. Thirdly, Rear Admiral N. Chiker, former chief of the Navy Salvage and Rescue Service, planned to describe the work of the Special Purpose Expedition in detail, but unfortunately did not have time to do so.

81. It must be noted that the Expedition functioned in a period when the Navy Salvage and Rescue Service had been consolidated with the Auxiliary Fleet. Such a union of organizations that were totally different in nature of missions accomplished and makeup could not be deemed proper. It apparently was explained by that reorganizing itch with which all our country's national economy was gripped at that time. This was understood both by Salvage and Rescue Service specialists as well as by the majority of heads of fleets, but it took an entire 15 years to revise an incorrect decision.

82. The submarine in question sank on a combat training range in January 1961. An intensive search for her lasted until fall. Up to 40-50 ships, vessels, aircraft and helicopters took part, but failed to find the submarine with the means then existing in the Navy.

83. As often happens, that tragedy accelerated the creation of more effective equipment for hunting and inspecting objects which have sunk at great depths.

84. 1965-1967. The fleet received test models of a special search sonar, underwater television unit, hydrographic echo sweep and towed magnetic metal detector. The new equipment underwent comprehensive tests, including in a test exercise to find a real submarine which had been specially bottomed at a depth of 220 m.

85. It was confirmed in the exercise that the most effective means for detecting a submarine lying on the bottom at great depths were the sonar for hunting sunken objects mounted on a salvage vessel, and hydrographic echo sweeps and magnetic metal detectors towed by ocean minesweepers.

86. Reference recordings obtained on this gear's automatic recorders subsequently permitted competently analyzing contacts with underwater objects.

87. Finally a salvage vessel in the search area received a positive contact registered from five directions and then confirmed by ocean minesweepers. A comparison of recordings of the contact with reference recordings obtained in the test exercise left no doubt that a submarine was on the bottom.

88. Thus after mastery of new equipment and rehearsal of search methods, the sunken submarine was discovered and inspected in 1968 using a descent observation chamber from the salvage vessel ``Altay." Experienced divers and specialists Chief Petty Officer Zamoshchin, Petty Officer 1st Class Grigoryev, Petty Officer 1st Class Krasnokutskiy and Captain 3rd Rank Ivashchenko had to work under difficult, dangerous conditions during the inspection. They made a total of nine operator descents in the observation chamber, each lasting 2-4 hours.

89. As a result of the inspection they determined that the submarine which had been located was lying on the bottom with a 30-40° list with no apparent trim. Messenger buoys were absent from recesses, diving planes were positioned for surfacing and the vertical rudder was positioned 20° to port. Outer and pressure hulls had no apparent damage. There was a large number of parts of fishing trawls and nets on and near the submarine, and one net was being held vertically by floats at a height of 15-20 m. This net was a serious hindrance in the descents, since it created a constant threat that the observation chamber, uncontrolled beneath the water, would become entangled in the net.

90. The author directed inspection of the submarine, and he has special recollections connected with this period. It is common knowledge how difficult it is for a ship commander and any leader to work in the presence of higher-ups, especially if there is danger to people's lives. I too ended up in that situation when HSU First Deputy CinC Northern Fleet Vice Admiral A. Petelin arrived aboard our salvage vessel. After familiarizing himself with inspection results and learning that operators' contradictory reports about the position of masts and status of the submarine's conning-tower hatch were of special concern, the vice admiral decided to descend personally in the observation chamber. He believed that as a submariner it would be easy for him to understand the situation on the submarine. This placed me in an extremely difficult spot, especially as safety of observation chamber descents was not guaranteed because of the fishing net hanging over the submarine hull. And although Petelin was senior in position and rank and so his decision was subject to unquestioning execution, I was responsible for organization and safety of observation chamber descents. With consideration of all these circumstances I had to report to the First Deputy CinC Fleet that it was impossible to carry out his decision. The vice admiral took my arguments in an extremely negative manner.

91. In order somehow to avoid an imminent conflict in which my behavior might be regarded as lack of diligence or discipline, I instructed flag specialists who were aboard- diver Captain 3rd Rank I. Ivashchenko and physiologist Zolotavin-to give Petelin the complete quiz, check his preparedness as an operator as well as his state of health, and to make an appropriate entry in the diving log about this. But my hopes for negative findings were not borne out. Under the rear [sic] admiral's pressure, the flag specialists authorized him to make a descent after giving him a detailed briefing on actions and safety measures. The descent took place. The admiral lacked necessary underwater work experience and could not immediately understand the situation, determine his position relative to the submarine, and recognize the submarine masts, which had become encrusted with seaweed and mussels and had changed their customary appearance. After some time Petelin got his bearings. After a thorough inspection he reported that the conning-tower access hatch was closed, the periscope was lowered, and the radio communications and radar antenna as well as the snorkel mast were raised. The inspection mission thus was accomplished. Nevertheless, after becoming comfortable in the underwater situation, the admiral began demanding that the observation chamber be shifted to the submarine afterbody to continue the inspection. Considering that the effective time of regeneration equipment in the chamber was coming to an end, I did not meet this demand and hoisted the chamber aboard the vessel. Petelin expressed his extreme dissatisfaction to me... Despite this, I was happy that the descent had ended safely and asked Petelin that he not advertise his descent, since I had committed a violation. He made a promise but did not keep it, and I had a serious conversation with then First Deputy CinC Navy, Admiral of the Fleet V. Kasatonov.

92. A finding was compiled based on results of the series of inspections and a possible version of the submarine's loss was formulated which basically was confirmed after she was raised and inspected by a commission. The submarine had been proceeding under periscope in a snorkel mode with a sea state of 5-6 and reduced visibility due to periodic snow flurries; she had negative buoyancy of 5-8 tonnes in accordance with existing instructions. At some point in time those aboard discovered the submarine was closing dangerously with a vessel. They put the rudder over to ``hard to port" position to pass, but the danger of a collision remained and they decided to crash dive to avoid it. Malfunctions in the snorkel lines' valve-closing system led to taking on water in the pressure hull, which increased the submarine's negative buoyancy even more. By the steps it took, the crew managed to stop or reduce entry of water into the pressure hull, decrease trim, and restrain the fast dive. The submarine descended smoothly to the bottom. Attempts to surface produced no positive results in view of the expenditure of high pressure air reserves.

93. After results of the submarine's inspection were reported to Moscow, the decision was made to raise her in 1969 using the ship-raising salvage vessel ``Karpaty," whose construction was being completed. Creation of a special unit, the Special Purpose Expedition, was provided for to prepare and perform this not very common work. It was initially planned to appoint Rear Admiral N. Chiker, the most experienced specialist in the Navy Salvage and Rescue Service, as Expedition commander and me as chief of staff, but after detailed studies and coordination of the Special Purpose Expedition's table of

organization and other organizational and technical documents, Nikolay Petrovich Chiker nominated me for the position of commander, leaving overall direction for himself. Thus I became commander of the Special Purpose Expedition, which was quite an unusual unit manned by specialists not only of the Northern Fleet, but also of other fleets and even of central naval entities.

94. A number of directive documents were issued through channels of the Ministry of Defense, Navy, Ministry of the Shipbuilding Industry, and Northern Fleet in fulfilling the government decision to raise the submarine. Considering that the sunken submarine's design did not provide for ship-raising stocks, the decision was made to specially design and build a gripping device, a cumbersome structure weighing around 400 tonnes overall. It was to be lowered onto the submarine hull and was to grip her with its clamp-fenders.

95. The Research Institute was assigned to develop the project for raising the submarine using the gripping device and the salvage ship "Karpaty" and to issue necessary technological data and provide consultations for Ministry of the Shipbuilding Industry planning organizations.

96. The Northern Fleet Rear, other Fleet entities, and ship repair yards were assigned to support Special Purpose Expedition activity with everything necessary, including to equip the work area at sea with anchorage buoys for stationing vessels; supply additional ship-raising gear and equipment and facilities; organize specific hydrometeorological support and so on.

97. In this period the Special Purpose Expedition table of organization structure, functional duties of appointed persons of its headquarters, the staffs of the engineer service, and the salvage parties were established; the Expedition's ship makeup was determined and substantiated; and documents were drawn up for preparing and conducting test exercises. Considering that favorable weather permitting ship-raising operations could be expected in the Barents Sea only during June-July, strict control was established over observance of time periods for performing all planned measures.

98. But in real life not everything turned out as planned...

99. Neither the importance and special nature of the work nor the compressed time periods which had been established generated great concern or desire in a large number of staff officials in the center and in the Fleet to resolve all questions promptly. The Special Purpose Expedition table of organization did not manage to be coordinated in Ministry of Defense central entities for a long time. Representatives of these entities did not wish to understand the complexity and importance of tasks being assigned the Expedition. Ministry of the Shipbuilding Industry planning organizations and yards were more concerned with the size of the bonus for unscheduled work than for its timely fulfillment...

100. Some chiefs of the directorate and departments in the Northern Fleet considered our Expedition an alien body which was simply hampering accomplishment of current Fleet missions.

101. Almost all established deadlines were missed as a result. Manning the Special Purpose Expedition with officers was completed in March 1969 and with petty officers and seamen in March instead of January; and it was brought up to strength in vessels in April (by plan prior to 1 February 1969). The "Karpaty" arrived in the Northern Fleet in June instead of May and the gripping device was delivered to the Northern Fleet only in September 1969, already after completion of raising operations.

102. In recalling all the organizational shortcomings, I would like to make kind mention of Northern Fleet officers who actively assisted our Expedition despite being very busy with principal functional duties. They were Rear Admiral (later Admiral) V. Sidorov, commander of a seaward defense ship formation; Captain 3rd Rank (later Captain 1st Rank and Chief Engineer of the Navy Search and Rescue Service) N. Burkov, a salvage operations specialist; and others.

103. The possibility and results of raising operations depend on a number of objective and subjective factors, one of the most important being weather conditions, and sea state above all, since even to this day performance of ship-raising operations as a rule is possible only with a sea state up to 2-3. Swells are a special hindrance. The sunken submarine was in an open area of the always restless and crafty Barents Sea. Therefore a portion of the preparatory measures, including preparation of roadstead equipment (six sets, each consisting of a mooring anchor, line mooring bridle, chain mooring bridle, and buoys), removal of the fishing net from the submarine and clearing the hull of trawl pieces, was planned to be done prior to 1 June. The success of ship-raising also depends to a considerable extent on proper choice of the raising option (optimum for a given situation) and on the quality with which its plan is worked out.

104. Considering industry's delay in fabricating the gripping device, which was a raising option, reserve options also were studied in which it was decided to use forward and aft underkeel slings in place of the gripping device. It was planned to raise the submarine on them to a depth of 70 m using hoisting gear of the "Karpaty" and tow her in a suspended condition to a sheltered coastal area for subsequent raising to the surface using pontons and divers.

105. *** GRAPHICS uma0240 *** Scheme for raising and towing the submarine to a coastal area *** GRAPHICS uma0240 ***

106. Despite its seeming simplicity, the reserve option which we chose contained significant variants of risk:

107. · safety margins in these ship-raising devices were considerably less than for the gripping device envisaged by the main option; · it was inevitable that the slings would cut through the submarine's outer hull, which might be accompanied by a break of the slings themselves; · the forward sling was situated in the vicinity of a torpedo tube; if the sling slipped toward the submarine bow with the trim necessary for passing the aft sling over, this might lead to deformation of torpedo tubes and explosion of torpedoes; · it

was more likely that the submarine would slip from the slings than from the gripping device on the sea transit;

108. We carefully analyzed all this and outlined steps to reduce risk, but new problems arose after a failure in a test exercise. In the exercise an attempt was made to raise a submarine mock-up made of two 400-tonne pontons and to test the capability of modified lowering and hoisting devices of "Karpaty". One sling 65 mm in diameter broke due to great dynamic overloads with a sea state of 3, and the mock-up sank.

109. Thus the test exercise showed that without reliable shock absorbers to compensate for wave effect it was impossible to raise the submarine in the restless Barents Sea and move her to a sheltered coastal area over a distance of up to 100 nm.

110. Ministry of the Shipbuilding Industry research institutes and planning organizations refused to develop shock absorbers for heavy loads, motivating this by the fact that there were no such shock absorbers in world practice. Navy research institutes also did not find a solution to this problem. An impasse formed which cast doubt not only on the deadlines, but also on the possibility of raising the submarine at all using "Karpaty."

111. We began seeking a solution and rested on an idea of Captain 1st Rank Yu. Senatskiy, Special Purpose Expedition chief engineer, who proposed using the capron lines found aboard salvage vessels for fabricating shock absorbers. A sketch of such a shock absorber was sent to scientific and planning organizations of the Ministry of the Shipbuilding Industry and the Navy, where it received no support. Then we decided to make and test a mock-up sample ourselves. The mock-up passed the test positively with a sea state of 3-4 over a five-day period. After this we had Special Purpose Expedition salvage party personnel fabricate similar homemade capron shock absorbers, and some parts were ordered from a ship repair yard. Another serious problem had been solved.

112. It was June 1969. Summer had come to the Arctic. For the Barents Sea this is a period of polar night and favorable weather conditions.

113. In the first days of June almost all preparatory measures involving the shore were completed and we received a fundamental "okay" to raise the submarine according to the chosen reserve option.

114. Within the scope of brief notes there is no opportunity to tell in detail about what was done in raising the submarine. This was most intensive labor. We began work on 9 June and on 5 July had raised the submarine 5 m above the bottom, moved her 60 m to one side, and again laid her on the bottom to prepare for towing to a coastal area. Her towing in a suspended state beneath "Karpaty" at a speed of 2.5 knots began on 10 July. Thirty-eight hours later, on 12 July, the submarine was lowered to the bottom at a depth of 51 m in Zavalishina Inlet of Teriberskaya Bay.

115. The first phase of the operation had ended. Everyone was satisfied with its result: Fleet command element, heads of the Navy and of the Navy Salvage and Rescue Service and, finally, we the immediate participants in the raising.

116. The second phase was conducted using pontoons and diver labor and also ended successfully. The submarine was raised to the surface on 24 July.

117. Thus the submarine, which was at a depth of 200 m in an open part of the Barents Sea, was raised in only 34 working days. During this time there were 67 descents of the deep-water work chamber with an overall stay beneath water of 172 hours, and 20 descents of the observation chamber (67 hours under water). Divers went down 54 times. Their work time under water was 68 hours and decompression time was 175 hours. Stormy weather and other sometimes unforeseen circumstances at times placed us in a critical situation, but it should be noted especially that correct decisions were found in all difficult situations.

118. At the completion of raising the submarine, a special commission arrived aboard "Karpaty" chaired by well-known submariner HSU Vice Admiral Grigoriy Ivanovich Shchedrin. The commission completed work on the submarine on 12 August and made a finding about the inadvisability of performing restoration work. The submarine was later cut up for scrap.

119. Our Expedition was disbanded in October 1969. Vessels returned to their own formations and officers were placed at the disposal of personnel entities of those fleets from which they were assigned. At the recommendation of the Special Purpose Expedition command element, all participants in raising the submarine were commended in CinC Northern Fleet and CinC Navy orders. Some participants received valuable gifts. The Navy leadership did not petition for presenting state awards to those who especially distinguished themselves, motivating this by the fact that the Navy sank the submarine and raised her herself, and so there was no one to reward. It is clearly impossible to agree with such a practice. Heroic deeds of salvagers must not remain in the shadows, as often happened when some leaders tried to find shortcomings in salvagers' actions and the latter had only unpleasantness in place of commendation.

120. For objectivity's sake it should be noted that work to create the salvage ship "Karpaty" and to raise the submarine were twice submitted for the USSR State Prize competition at the initiative of the Ministry of the Shipbuilding Industry. Included as coauthors from the Navy were N. Chiker, S. Minchenko and Yu. Senatskiy. The documents submitted to the Committee for Lenin and State Prizes of the USSR stated: "...There was not a single instance in world practice of raising sunken submarines by nondiver means. Submarines have been raised from a depth down to 93 m by conventional methods, with a time of up to 180 days spent on these raisings. The method submitted for competition was used to raise a submarine with a displacement of 1,160 tonnes from a depth of 200 m in 34 days in 1969..."

121. But the awarding of prizes depended wholly on allocations from above, and the number of awards and prizes was strictly limited... A positive decision made earlier on our work was rescinded.

122. And that is how this complicated, risky ship-raising operation ended. Its success was won under those difficult conditions thanks to the selfless

labor of all participants of the Special Purpose Expedition, and above all the officers of its staff engineer service. Among them were Yu. Senatskiy, chief engineer of the Special Purpose Expedition and chief of engineer service; V. Basistyy, his senior assistant; V. Bakharev and I. Svistunov, senior shipbuilding engineers; Ye. Cherednichenko, flag engineer officer; L. Koloshko, chief of staff of the Special Purpose Expedition; E. Chirimanov, flag diving specialist; N. Gusskikh, his assistant; N. Tkachenko, flag hydrometeorologist; Yu. Kitkov, salvage party officer; as well as Navy Research Institute scientific associates L. Chistyakov, V. Molchanov, P. Nikolskiy, A. Sergeev and V. Bogdanov.

123. It would appear that the experience of organization and work in the Special Purpose Expedition will be useful even now in preparations to raise the submarine ``Komsomolets" and in other work being done by naval salvage personnel.

124. Photo captions

125. Monument to crew members of the sunken submarine S-80, Polyarnyy

126. Memorial badge of EON-69 expedition to raise the S-80

127. MORSKOY SBORNIK, No 1, 1990

128. A Quarter Century Before Chernobyl, by V. Izgarshev

129. It happened in the Atlantic on 4 July 1961 aboard a Soviet nuclear powered submarine: a reactor accident! The seamen did not falter. They worked to save the ship regardless of their own lives, and they saved her. The ``secret" of the exploit was kept for 29 years.

130. In April 1989, some time after the loss of the nuclear powered submarine Komsomolets, two veteran submariners-N. Zateyev and G. Kuznetsov-appeared in the PRAVDA military department. Both now are retired captains 1st rank. Zateyev spent eight years underwater just as a submarine commander. He sailed all the seas and oceans. He performed duty abroad. Three orders recognize his services to the Navy. Captain 1st Rank Kuznetsov's biography is no less impressive.

131. ``Have you had a chance to read the novel `Eternal Flame'?" was the question with which Nikolay Vladimirovich Zateyev began our conversation.

132. Unfortunately you can't keep up with everything printed, as they say.

133. ``Here's the point," explained Zateyev. ``In the prologue the author wrote that the events told about in the novel are fictitious, but if something similar were to happen in reality Soviet seamen would act just as courageously and selflessly as the heroes of Eternal Flame'..." ``But the events did occur in real life-aboard the nuclear powered submarine which I commanded," continued Zateyev.

134. ``That means the lines of the foreword were necessary just for

ensorship?"

135. ``Very likely..."

136. After completing a difficult phase of Exercise ``Arctic Circle," the nuclear powered submarine commanded by Nikolay Zateyev was proceeding to a new area of the North Atlantic assigned by the senior commander. There were to be missile launches with emergence from beneath the Arctic ice. Service on the ship, one of the firstborn of the Soviet nuclear powered submarine fleet, proceeded with faultless precision according to a rhythm worked out on a lengthy training cruise. The ocean was quiet and motionless in the depths. All machinery and the main power plant functioned normally and nothing presaged trouble. The next sheet on the calendar in the commander's cabin already had been uncovered since evening-4 July 1961.

137. At 0415 hours the port reactor emergency protection system suddenly was actuated. An emergency? It seemed so. Monitoring devices showed a sharp drop in first loop pressure to zero. The main and auxiliary pumps that supported the loop's coolant circulation stopped (or more accurately, they jammed as a result of the pressure drop) and the level in the pressurizers fell.

138. I quote all these technical terms from the submarine commander's words: he gives them smoothly.

139. And so the unforeseen occurred aboard the nuclear powered submarine. The instruction manual contained no recommendations for this instance, although its likelihood had been envisaged. What was to be done? How should they act so as not to allow fuel-element meltdown, destruction of the reactor and a catastrophic spread of radiation? The instruction manual suggested removing the heat being given off by the fuel elements by running (pumping) water through the core. But how? In what way? The design of the first reactors had no special systems and devices for this purpose. A critical situation was forming. A council of department heads and engineers decided to assemble a nonstandard cooling system and use the onboard fresh water reserve for this.

140. The fight for the life of ship and crew began. In two hours the cooling system became operational and the threat of reactor destruction was eliminated. But at what cost? It was clear that everyone called upon to work on the reactor would receive very large radiation doses.

141. ``Boris, do you know what you're getting into?" Zateyev asked Lieutenant Korchilov.

142. ``I know, Commander. But I can think of no other alternative."

143. The commander clearly realized there simply was no other alternative.

144. Here are the names of those who, in sacrificing themselves to save the crew and ship, did not falter and performed their duty to the end in the reactor compartment, adjacent compartments and control room:

145. Lieutenant Boris KORCHILOV, Petty Officer 1st Class Yuriy ORDOCHKIN,

Petty Officer 2nd Class Yevgeniy KASHENKOV, Seaman Semen PENKOV, Seaman Nikolay SAVKIN, Seaman Valeriy KHARITONOV, Captain-Lieutenant Yuriy POVSTYEV, Chief Petty Officer Boris RYZHIKOV.

146. I quote the list in the sequence given by Zateyev. Captain 3rd Rank Anatoliy Kozyrev, Captain-Lieutenant Vladimir Yelin [sic], Chief Petty Officer Ivan Kulakov and Senior Lieutenant Mikhail Krasichkov received very large doses.

147. Not one crew member avoided his share of rems. Ship's doctor Major A. Kosach and chemical department head Captain N. Vakhromeyev had an excessive amount of work. All cares of assisting victims fell on their shoulders. It was the first time they had encountered such patients or such an unbelievable situation. It is impossible to tell about the tortures of those who received an above-permissible radiation dose. People's faces changed and speech failed...

148. A fire broke out twice in the reactor enclosure. A steam blanket was discovered beneath the reactor compartment deck (it is sealed). Pipes turned into a dangerous radiation source as the reactor was flooded with water. "They glowed," said Zateyev.

149. The commander instructed that seamen not engaged in rescue operations or the watch be taken onto the upper deck.

150. But it is not said for nothing: It does not rain but it pours. The submarine's lengthy cruise at great depths with the forcing of ice fields had affected the structure of the main transmitter antenna insulator: the ship was left without communications with shore. Moreover, she was in a deserted corner of the ocean, in isolation. It was 1,500 nm to base.

151. Head home? But this would take so much time on one reactor in a surface condition that even if they all transferred to the upper deck, the consequences of people being in the presence of such a radiation level were unpredictable. By the way, they were fully predictable. No one would be left with any hope of survival.

152. Zateyev made the decision to reverse course to close with our other ships in the exercise area. There was one consideration: to contact them using the emergency low-power transmitter and ask that they transmit an incident report to shore. There was of course no small amount of risk: the submarines might have departed the exercise area. But there was no alternative and, after announcing his decision to the crew, the commander ordered turning to the reverse course.

153. The risk justified itself. A rendezvous occurred. Captains 3rd rank Grigoriy Vasser and Zhan Sverbilov, commanders of two diesel submarines, S-159 and S-270, responded to the emergency signal. At their own responsibility and risk, without the command element's authorization, they both immediately left the area where training missions were being performed and hastened to assist the damaged ship during a storm which had begun and which was so common in these places.

154. With the arrival of Vasser's submarine contact was made with the Navy and Northern Fleet command centers. The diesel submariners tried to take the damaged submarine in tow, but the attempts failed because of the storm.

155. The seriously ill and seamen not engaged in duties managed to be evacuated with great difficulty from the nuclear powered submarine to Sverbilov's submarine, which had arrived. The odyssey of the submariners who had gotten into trouble continued. Alarming radio reports went to shore. The shore gave advice to feed the irradiated seamen fresh vegetables and fruits and give them juices to drink. Of course there had been no vegetables, fruit or juice aboard for a long time.

156. The next to last radio message... Zateyev requested permission for the personnel to abandon ship. Shore was silent. Realizing that he could not wait for authorization and that being on the nuclear powered submarine without risk to life already was simply foolhardy, Zateyev ordered everyone to evacuate to the diesel submarine.

157. But first the crew placed all machinery and systems in an inoperative condition. In short, everything was done to ensure the nuclear powered submarine's survivability afloat and ecologic safety for the ocean.

158. As prescribed by regulation, Zateyev abandoned ship last. Captain-Lieutenant Vladimir Pogorelov, electrical engineering division officer, was with him.

159. An entry was left in the ship's log of Vasser's submarine that at the nuclear powered submarine commander's suggestion, two live torpedoes were prepared on the diesel submarine in case they had to sink the nuclear powered submarine if any uninvited foreign representatives made any attempts to get aboard her. Well, such were the times-general suspicion, mistrust, and confrontation of a far from fictitious enemy.

160. Fortunately torpedoes were not required.

161. It was a difficult, stormy passage home. Transfer to a destroyer which arrived... The radiological decontamination procedure. And then hospital ashore. The seriously wounded were dispatched to the Biophysics Institute. And there was the ridiculous fall of one of the helicopters with sick submariners aboard before the eyes of the entire hospital and all those seeing them off. True, there were no victims. Fate had prepared a different ordeal for the submariners. The sick died from the atom.

162. And there were also many days of investigation of actions by the commander and other appointed persons, with records, testimony, explanations, night summons...

163. The fate of those who received extremely heavy radiation doses was decided within a week. The others had to lie a long time in hospital beds.

164. One street in the Zapolyarnyy naval garrison bears the name of Boris

Korchilov. The commander recommended the lieutenant for the Hero of the Soviet Union title. The Navy command in Moscow decreed otherwise: "An accident.. An order will do."

165. Modest monuments stand in Moscow's Kuzminskiy Cemetery over the graves of Yu. Ordochkin, Ye. Kashenkov, S. Penkov, N. Savkin and V. Kharitonov. At Krasnenkiy Cemetery in Leningrad there are monuments on the graves of B. Korchilov and Yu. Povstyev. B. Ryzhikov is buried in Zelenogradskiy Cemetery near Leningrad.

166. And the other crew members? They scattered throughout the country by ground and air. The fate of some is unknown. With respect to the Muscovites, they gather at Kuzminskiy Cemetery each year. And on Navy Day they come with wives, children and grandchildren to the suburban Moscow settlement of Skhodnya, to ulitsa Kirov, 5. This is the address where Petty Officer 1st Class (Reserve) Viktor Strelets, former proprietor of the nuclear powered submarine's storage battery, lives. The first meeting in Skhodnya took place at the request of Strelets many years ago. The petty officer turned to colleagues for help in finishing his house. Everyone came and helped. This was on the day of the navymen's holiday. Since then meetings in Skhodnya have become traditional, considering that there is a house for this.

167. A special government commission acknowledged that the personnel's actions in eliminating the emergency situation aboard the ship were correct. The navymen's capable actions were recognized once again somewhat later at an important conference in October 1961 where the question of continuing construction of the nuclear powered submarine fleet was decided. It was said that the sacrifices suffered by the crew had not been in vain.

168. The lesson was of benefit. Authorized emergency water flooding systems were installed and provided for on all operating or planned deck-type reactors.

169. Many seamen, petty officers and officers were decorated (some posthumously) with orders and medals for courage and heroism. The entire crew was recognized with valuable engraved gifts of the Minister of Defense.

170. During presentation of orders and medals, Admiral I. Baykov, who at that time was commander of the Leningrad Naval Base, "heartened" the navymen, who had not yet recovered from the shock: "Well, why do you consider yourselves heroes? Injury accidents also happen here in Leningrad." By the way, some submariners got no award at all.

171. Perhaps now it is worthwhile to return to this question of awards. I realize it is not the important thing, but it is never too late to render people their due, for they were the first who did battle with the atom and conquered it.

172. Then, at the dawn of the atom, none of them yet knew the consequences to which a reactor explosion might lead for all living things and for our entire mother Earth. People learned of this after Chernobyl.

173. But at that time 25 years still remained until Chernobyl.

174. The commander now has one concern-to find every one of the crew and learn how and on what they are living. Perhaps assemble them in that same hospital in the Military Medical Academy? Let the specialists have a look and check how those disastrous rems affected the heroes' health...

175. He writes to the Navy command, to the USSR Ministry of Defense and to high places. And by the way, he finds support. It is up to the navymen. Where are you, comrades? Respond.

176. ``Well, but what happened to the submarine?" the reader asks. She is in the Northern Fleet order of battle. At that time she was brought to base by the ``Aldan," a fleet rescue ship. The shipbuilders fixed and corrected everything and the nuclear powered submarine continues her service.

177. Photo captions

178. Captain 1st Rank N. V. Zateyev, commander of submarine K-19, 1972
[Translator note: name correction made from errata page]

179. Monument to crew members of nuclear powered submarine K-19, which was lost [sic] [Inscription: Glory to you and eternal memory]

180. PRAVDA, 1 July 1990

181. An Emergency Which Did Not Happen, by Zh. Sverbilov

182. This was in July 1961. The submarine S-270, which I commanded at that time, was in the North Atlantic participating in Exercise ``Arctic Circle." There were over 30 submarines in this area. Having come up to a depth of nine meters for a routine communications session, my radiomen received a message: ``Have reactor accident. Personnel overexposed. Need help. Latitude 66° north, longitude 4°. Commander, K-19."

183. Assembling the officers and petty officers in second compartment, I read them the coded message and expressed my opinion: our duty was to go help the submariners. The officers and petty officers supported me.

184. There was doubt only as to the location of the submarine in distress: the radio message did not specify whether the longitude was east or west. At this time our S-270 was on Greenwich, i.e., the zero meridian.

185. Then Executive Officer Ivan Svishch recalled that about seven days ago we had intercepted a radio message in which the commander of the K-1 (which now has been lost) was reporting the condition of ice in Denmark Strait to the commander of this submarine. We thus surmised that the longitude of the submarine in distress was west.

186. We came up to a surface condition and headed for the presumed rendezvous point at full speed. The weather was good, the sun was shining, and the ocean was calm. There was only a rough swell.

187. After about four hours we made out a dot on the horizon. In closing we recognized it to be a submarine in full surface condition. We received a disorderly salvo of varicolored flares in response to our green-flare identification query. It was the sub. Before this we, i.e., I and my officers and seamen, had not had occasion to see the first Soviet nuclear powered missile submarine. Her entire crew was assembled on the forward superstructure. Having learned my first name from the commander, people were waving their hands and shouting: ``Zhan, come on!!!''

188. The radiation level began increasing as we approached the submarine. While it was 0.4-0.5 roentgens per hour at a distance of 0.1 nm, it rose to 4-7 roentgens per hour by her side. We moored alongside at 1400 hours. Submarine commander Nikolay Zateyev was on the bridge. I asked what help they needed. He asked me to take aboard 11 seriously ill persons and provide him with radio communications with the flag command center, i.e., with shore, since his radios already had oxidized and were inoperative.

189. Among the excited people on the K-19's forward superstructure were three with swollen faces lying on stretchers. A problem immediately arose of how to transfer the people to our submarine, as submarines leave access boards on the pier in base in putting to sea. I suggested that Zateyev rig out the bow planes and, moving forward along his side, I led the S-270's stempost beneath them. Now it was possible to transfer the three persons on stretchers along the planes as along access boards. These were Lieutenant Boris Korchilov, Chief Petty Officer Boris Ryzhikov and Petty Officer 1st Class Yuriy Ordochkin. Eight persons ran across on their own.

190. Hardly had these eleven persons been accommodated in first compartment when 9 roentgens per hour immediately appeared in it. When I reported this to Kolya Zateyev, he suggested undressing the lads and tossing the clothing overboard. After this procedure there were 0.5 roentgens per hour in our compartment. But these lads themselves were radiating considerably more, especially when they vomited. Our doctor, Yuriy Saliyenko, processed each one with alcohol and dressed them in our emergency clothing. I sent a radio message to the Fleet command center: ``Standing alongside K-19. Took aboard 11 seriously ill. Providing K-19 with radio communications. Await instructions Commander, S-270." In approximately an hour messages came addressed to me from CinC Navy and CinC Northern Fleet with almost the same content: ``What are you doing alongside K-19? Why did you leave the screen without authorization? You will answer for unwarranted action. ''

191. I asked Zateyev to draw up a coded message on the condition of his submarine in order to transmit it to the Fleet command center with my radio. An hour and a half after the coded message went ashore, the Fleet command center ordered the S-159 commanded by Grigoriy Vasser and S-270 [sic] commanded by Gennadiy Nefedov to proceed to the submarine in distress and help Sverbilov take off the people.

192. And we continued standing alongside. Doctor Yura Saliyenko was working on the patients in first compartment. Executive Officer Ivan Svishch together with Zateyev's assistant Volodya Yenin led the mooring lines from our stern to

their bow in order to try to tow the submarine, but as soon as we got under way, the stretched lines snapped like strings. All attempts were in vain-nothing came of the towing.

193. And we continued standing there. The diesel generator was started on the damaged submarine and radioactive smoke began pouring into our faces with the spray. Naturally I asked Zateyev to stop the machinery. Then he called me to the bow for top secret talks. Only then I learned that he had colossal thermal conditions in the reactor and from minute to minute he was awaiting... a nuclear explosion. It remained to be happy that we were in the epicenter and if anything happened we would not be left as cripples.

194. No foreign aircraft were flying over us, but just in case, Zateyev and I also ran through the following option: if an American warship should appear, everyone would transfer to our submarine and we would sink the K-19. To this end the command was given to our submarine torpedo department head Boris Antropov to prepare two live torpedoes. Fortunately this action did not have to be taken. There were neither aircraft nor ships in the time we were standing there.

195. By 0300 hours on the following day the submarines of Vasser and Nefedov had approached. A command came from the Fleet command center for all personnel of the damaged submarine to transfer to Sverbilov, Vasser and Nefedov, to withdraw 1 nm from the K-19 and observe her until the arrival of our surface ships. Kolya Zateyev was last to leave the ship.

196. In receiving the people, we undressed them. They went along the planes naked, carrying Kalashnikov assault rifles, but Ivan Svishch and Borya Antropov tossed these weapons overboard with a spinning motion. Money and party and Komsomol cards were placed in a sealed locker. Another 68 persons came over to our submarine in addition to those 11. Among them were two of the commander's understudies-Vladimir Pershin and Vasiliy Arkhipov. Large bags of secret documents also were dragged onto our submarine. Kolya Zateyev transferred over to Grisha Vasser's submarine with the remaining people.

197. The Fleet command center ordered me and Vasser to proceed to base at full speed by the shortest route. All this time radio messages of various content were coming addressed to us. The chief of the Fleet medical service recommended feeding the irradiated persons fruit, fresh vegetables, juices and antibiotics, but by that time even potatoes already had run out for us. A representative of the special department inquired as to who from the crew could sensibly explain the reason for the accident. To this query, assistant Volodya Yenin suggested ``sending" the inquirer as far away as possible, but I responded that I had 79 persons aboard who needed medical help. A radio message came which announced that by the end of the third day of the route we would be debarked onto destroyers coming to meet us.

198. The weather worsened. A storm broke with high waves, rain and wind. On the third day we discovered we were being tracked by radars and realized these were the destroyers. We headed to meet them and soon discovered the three destroyers. The storm broke loose and we and the destroyers were flung in turn high into the sky. It was impossible to approach. I transmitted this to the

commander of the destroyer detachment (he was aboard one of them) by VHF/UHF [Translator note: could be either VHF or UHF]. He responded that he had a categorical CinC Fleet order to receive the people from me and suggested passing close by the side of the destroyer "Byvalyy" and assess the situation together with her commander. At this time Doctor Yura Saliyenko emerged onto the bridge and said: "Comrade Commander, they're dying; I'm doing everything I can." Then I decided to approach. I transmitted over VHF/UHF that "Byvalyy" should swing to a heading against the waves and the other destroyer should cover us from the bow by standing athwart the waves. That is what they did. I approached "Byvalyy's" starboard side with my port side. Under cover of the second destroyer this maneuver succeeded.

199. The topside crew on "Byvalyy" was dressed in chemical outfits and protective masks. "Byvalyy's" commander also wore a protective mask. They threw us mooring lines from the destroyer and passed an access board to the top of our sail. We first assembled the people from the damaged submarine in our control room and conning tower. Thirty of the healthiest managed to run across to the destroyer. When the ship covering us from the bow began falling foul of us the destroyer got underway.

200. All the seriously ill remained with us. Our wonderful engineer officer, Tolya Feoktistov, came up to the bridge and reported that we were left with no more than 7-8 percent metacentric stability and in order to right the submarine it was necessary to partially fill the starboard main ballast tanks and with constant operation of compressors to blow out the port tanks, which were filling from the motion.

201. After righting the submarine in that manner, we began moving toward base, no longer at full speed, but at 6 knots, at an acute angle to the waves. Our submarine's seamen, petty officers and officers did everything possible to ease the suffering of the sick. We gave up all our bunks to them, dressed them in our emergency and diving gear, and prepared hot food in the galley only for their crew. Doctor Saliyenko did not leave the patients. The torpedomen in first compartment spoon-fed the patients. The commander's understudies, Volodya Pershin and Vasya Arkhipov, were put up in my cabin.

202. Another two days went by. The weather began to improve and the water to abate. We received a radio message that we would debark the people onto other destroyers in the vicinity of North Cape. On approaching the rendezvous point we discovered two Type 30-BIS destroyers. By this point in time Grisha Vasser's submarine also had caught up with us.

203. In order not to finish off and sink my damaged submarine once and for all, I suggested to the commander of one of the destroyers that we proceed to the nearest fjord and that he receive the people from us there on calm water. That is what we did. We entered a narrow fjord near Nordkyn. It was very deep. There were sheer cliffs 110-120 m to the left and right reflecting a powerful echo. Despite our intelligence summaries, we discovered no observation posts or missile-gun emplacements on the coast of this fjord. I moored to the destroyer in quiet water and debarked the 49 remaining persons. Vasser debarked people onto the other destroyer in boats.

204. After this we swung to a course for base and began radiological decontamination in compartments. We washed sides, bulkheads, plating, instruments and so on. On the approach to Kola Bay all posts hoisted the signal "Entry granted for the commander" without our requesting it. We signalled the Kildin post: "Request provide mooring. Have no mooring lines."

205. We moored in base at third pier. On descending to the pier I did not know to whom to report our arrival-it was the first time I had seen that many admirals and generals in a relatively small area. The generals basically were medical people. Finally I caught sight of Northern Fleet Chief of Staff Anatoliy Ivanovich Rassokho among the admirals and reported our arrival to him. A medical general addressed me with the question of whether or not we had a ship's doctor and if we did, could he be invited to the pier. We summoned Doctor Saliyenko. On seeing the big medical luminary, Yura, who had conducted himself so boldly and selflessly at sea, became so confused that he saluted the general with his left hand. The general took the doctor's hands into his own and said: "How do you do, Colleague." Our doctor blushed and went with the general to the end of the pier to chat on their professional subjects.

206. We began unloading the bags of secret documents from the submarine. I was standing next to the Fleet chief of staff watching our seamen pile these bags on the pier and the Fleet Radiation Safety Service took measurements of radiation levels. The Fleet flag security officer approach Rassokho and asked what to do with the documents. "Is there much on them?" asked Rassokho. "Much," the other responded. "Burn them immediately!!!" said Major General of Medical Service Tspichev, chief of the Fleet Medical Service, intervening in the conversation.

207. Then the executive officer formed up our submarine crew on shore. I thanked the seamen, petty officers and officers for their service. They responded, not quite in concert, with the traditional "We Serve the Soviet Union," and all of us went to the bathhouse for decontamination. We washed long and thoroughly. There was a table in the dressing room at which a female registering clerk sat, and next to her stood a chemical rating with a beta-gamma radiometer and Northern Fleet flag chemical officer Captain 1st Rank Kuvardin.

208. Our radar operator, Petty Officer 2nd Class Bokov, was first out of the washroom. He approached the table and they measured his level-2,700 for beta particles. "How many does he have?" asked Kuvardin. "2,700," responded the girl. Kuvardin slapped Bokov on his wet shoulder and said: "You're lucky, lad! 3,000 is the norm." When the next one turned out to have 4,200, Kuvardin cheered him up, too and said that the norm was 5,000. For us, the officers who stood on the bridge, beta particle levels in the vicinity of the thyroid gland were from 8,000 to 11,500. They took away all our clothing and issued white seamen's robes-we did not have our own clothing. The tender "Pineda" was hurried in for my crew and Vasser's. Aboard her the seamen were accommodated in bunkrooms freed up especially for us and the officers were shown cabins.

209. Officer friends from submarines standing in base came to see me in the cabin and brought alcohol, which in all fleets of the Soviet Union is called "murder," evidently because murder will out [Translator's note: literally

``awl," but ``murder" fits the saying better]. They brought appetizers and we drank to the health of those whom we rescued and to the health of people in our crew. Our guests questioned us about how it all happened. They were interested in the details of what happened and who behaved how in this extreme situation. And there was something to tell.

210. Against the background of general decency and boldness, if you like, there was a fact of cowardice. Briefly about the essence of the matter. When we moored to the side of K-19, the first to run across to our submarine was a fully healthy person, and it was after that that we carried across the three who were seriously ill. In handing me an encrypted message form for transmission to Fleet command center submarines, Kolya Zateyev requested that the form be sent back to him as a secret document requiring strict accounting. Well, when the radio message had been transmitted I asked this seaman who was first to leave the submarine to pass the form to Zateyev and heard in response that he was not a seaman but an officer and was a representative of one of the Fleet staff directorates and would not go back aboard the damaged submarine. Then I ordered him to proceed to first compartment where the 11 seriously ill persons already were located, and he responded that he also would not go there and would report my arbitrariness to the Fleet command. I regarded his disobedience as mutiny on a warship, of which I informed him and everyone present on the bridge. After this I ordered Executive Officer Ivan Svishch to bring a pistol to the bridge and shoot the mutineer at the ensign. Ivan began descending to the control room for the pistol. The staff officer realized we were not joking and, mouthing threats, went to first compartment. Subsequently he was first to run across to ``Byvalyy." I am not giving this person's first and last name only because, as both Volodya Yenin and my political officer Sergey Safonov said, he was not a coward, but simply ``began leaking morally." I also am not giving his name because he was decorated with an order for this cruise, and orders are not handed out to us for nothing. That is how we were taught. We spoke and drank a lot that night. Later we sang Smelyakov's ``Should I Fall Ill" to a guitar. We parted at four in the morning. Before falling asleep I thought about the fact that we, i.e., our crew and I as its commander, had done a sacred job.

211. I awoke from someone shaking me by the shoulder. I was being aroused by Kim Batmanov, flag signalman of one of the submarine formations. ``We Fleet officers," he said, ``are all for you, Zhan; Butoma, the highest-up in Soviet shipbuilding, has arrived in the Fleet. Everyone tiptoes before him, for he is a Central Committee representative. Well then, he declared that the industry supplies superb equipment to the Fleet, and the Fleet is crap, it does not know how to operate it. That Zateyev is a panic-monger and you, Zhan, are an accomplice to panic. You are accused on three points. First-Why did you leave the screen without an order? Second-On approaching the side, why did you not send a signal about a submarine accident on the appropriate radio net? Third-Why, in standing alongside K-19 and receiving the people, did you not provide for radiological protection of your crew?" On hearing these points, it was with great difficulty I forced my morning-after head to come to a working state so that thoughts proceeded ``from the right by twos" as for a normal serviceman. ``On the first point," I said, ``we departed the screen since I decided this was a radio message from the Fleet command center, i.e., that the shore was backing up Zateyev's radio message. On the second point,

the signal about the accident was supposed to be given by Zateyev through my radio, since he suffered the accident. And on the third point, there are certain norms for all rubber chemical sets and protective masks. Time spent in them is figured in hours and not days. Five days in them would not have added to our health." Batmanov was satisfied by my explanation, wrote everything down and said that a mountain had fallen from his shoulders, that he had been given a most unpleasant assignment and was not accustomed to "setting up" comrades.

212. I was ordered to report to CinC Fleet Admiral Andrey Trofimovich Chebanenko by 1400 hours. I reported to the CinC Fleet at the appointed time in the white seaman's robe: "Comrade Admiral, commander of S-270, Captain 3rd Rank Sverbilov, reporting as ordered." He asked why my appearance was such. I responded that they took away our uniforms for burial. He immediately summoned Deputy CinC Fleet for Rear, Rear Admiral Polikarpov and issued an order to have new uniforms sewn for our officers. Then I briefed him about all our actions from the moment of receiving the radio message about the accident.

213. The commander in chief conversed with me in a very warm and friendly manner. At that time I did not know how much blood Butoma had spoiled for him, having accused the Fleet of everything and shielded the industry.

214. That evening Ivan Svishch met me on base and said that I alone had not been measured in the tailor's shop. They also measured me and the uniform was ready on the following day.

215. Our submarine had to be placed in the dock for fixing the torn port side, but representatives of the Antiradiation Service refused to accept such an order inasmuch as workers could spend only 20 minutes each on a work shift in our first compartment, around an hour in second compartment, two hours in the control room and so on. Representatives of that service declared to me that soap-and-brush radiological decontamination would not help. It was necessary to cut out the "ekspanzit," remove linoleum and cut out all the wood. This is what our crew did for all the following six days.

216. We visited the navymen from the damaged submarine who were in the local hospital. All the very serious ones were dispatched to Leningrad. Political Officer Sergey Safonov watched them load 11 persons on stretchers into a helicopter. The helicopter lifted off about three meters from the seamen's stadium, the tail rotor brushed a "The sea loves the strong" poster and crashed down on its wheels.

217. The medical general was first to leap through the wide-open door shouting curses and then after him they carried out the recumbent lads. Fortunately no one was hurt. It was necessary to use the cheap sea route; they were delivered to Severomorsk aboard the commander in chief's cutter and then by aircraft to Leningrad. Volodya Yenin remained in the hospital. Safonov and I asked him what to do with their party and Komsomol cards, money, and all that we had preserved in the sealed locker. He suggested turning in the cards to the formation political department and taking the money to the lads in the hospital since it had not lost buying power.

218. When Safonov and I placed the pile of party and Komsomol cards on the desk of Captain 1st Rank M. Repin, chief of the formation political department, he looked at them as if they were an unexploded grenade. "Why did you bring them here?" he asked. "And where were we supposed to bring them?" we asked. Then he summoned a young civilian secretary and ordered her to lock them in the safe. I do not know the further fate of these party cards.

219. The crew worked on the submarine daily for many hours. It was necessary to get into the dock. On meeting me on the pier, Karaushev, chief of the submarine formation personnel department, said that award documents had been prepared for our crew. According to him, I had been recommended for the Hero of the Soviet Union title. But a month would go by (the submarine already was in the dock) and Gleb Karaushev would say that our award would not take place since, without looking into whose submarine had the accident, Nikita Sergeyevich Khrushchev would write on my recommendation: "We do not reward for accidents. N. Khrushchev."

220. Not a single entry about radiation doses received remained in medical records of navymen of our three crews.

221. I accidentally met a funeral procession while on leave in Zelenogorsk in late July 1961. Those in the procession told me they were burying a submariner from the North. I asked: "And what did he die of?" "He was electrocuted," they responded. "What is the name of the deceased?" "Ryzhikov." Yes, it was that same Chief Petty Officer Boris Ryzhikov who was among the first three on stretchers transferred to our first compartment. When will bitter experience teach us something?

222. Meanwhile, after the accident the damaged submarine was given the sad nickname "Hiroshima." Subsequently there was another accident on the "Hiroshima," also with loss of life, but let eyewitnesses recall and write about this.

223. It would have been possible to end my tedious odyssey with this if an article by V. Izgarshev "A Quarter Century Before Chernobyl" had not been published in PRAVDA on 1 June 1990, 29 years after the occurrence. I thank Izgarshev for making public that which had been classified and for speaking well of the participants of this catastrophe. But there are slight inaccuracies in this article; specifically, we were first to approach the damaged submarine and Vasser's first name is not Lev, but Grigoriy. But for the rest, thank you.

224. At the invitation of my comrade, the present commander of K-19, I flew to the base, where we celebrated the 30th anniversary of the first Soviet nuclear powered missile submarine from 12 through 14 July 1990. Members of this submarine's first crew arrived from all corners of the country. Her first commander, Nikolay Zateyev, arrived. His assistant Volodya Yenin came. He had had two bone marrow transplants. At that time he "took" a great deal. The meetings were very cordial. People embraced and cried. I was asked: "Nevertheless, at that time just why did you leave the screen and go to us without order? For that smelled of the tribunal for you." I explained that all this was from my inborn lack of discipline.

225. And only now, after the passage of many years, I realized why the shipbuilding leadership at that time received us so poorly-we did not just bring back the sick, we brought back material proof of design imperfection, incomplete development of assemblies and the absence of a precise methodology for operating the new nuclear powered submarine.

226. Captain-Lieutenant Yu. Povstyev, Lieutenant B. Korchilov, Chief Petty Officer B. Ryzhikov, Petty Officer 1st Class Yu. Ordochkin, Petty Officer 2nd Class Kashenkov and seamen Penkov, Kharitonov and Savkin died of radiation sickness in July 1961.

227. Captain 1st Rank A. Kozyrev, the engineering department head, died in 1970 from aftereffects of irradiation.

228. Eternal memory for them!

229. And the others are all alive!

230. ZVEZDA, No 3, 1991

231. Twenty Nine Years Later, by P. Lysenko

232. By publishing a small article, "A Quarter Century Before Chernobyl" (1 July 1990), PRAVDA finally told the entire country about how in July 1961 the crew of a nuclear powered missile submarine commanded by Captain 2nd Rank N. Zateyev did battle against the atom, which had gotten out of control, and won, albeit at a dear price.

233. Today one can regret that for long years the details of this exploit were known to very few even in the garrison that was the cradle of the nuclear powered submarine fleet, and that of the members of this crew who displayed courage and self-sacrifice, only the name of Lieutenant Boris Korchilov was more or less familiar to many generations of Northern Fleet navymen, accompanied by a meager wording: He performed his duty to the end in an emergency. But it is impossible only to regret. Our duty, albeit with a delay of almost 30 years, is to render to the heroes what is due them and to do everything possible so the truth about their exploit remains in people's memories.

234. A. S. Ilin, a participant of those tragic events, continues to serve in the Northern Fleet to this day. He now is a rear admiral. We offer for your attention his story as well as excerpts from memoirs of Vladimir Pogorelov, former electrical engineering division head of the nuclear powered submarine, which Ilin passed on to the editors.

235. On 3 July 1961 the submarine was proceeding northeast in order to go beneath the edge of the pack ice and perform missile firing with a practice weapon in the role of the probable enemy. Two diesel submarines located to the south and playing the role of "Red" forces had the mission of detecting the nuclear powered submarine, "attacking" her and preventing her from executing a missile salvo. Missilemen of the nuclear powered submarine headed by

missile-gunnery department head Yuriy Fedorovich Mukhin were ready to demonstrate their proficiency and conclude the deployment with a successful firing, but...

236. From Memoirs of V. Pogorelov

237. 4 July. 0400-Went on watch. 0407-Report from console of remote control group watch commander Yuriy Yerastov: ``Pressure falling in first loop of after apparatus (reactor-Author). Auxiliary circulating pump started..."

238. Pressure falling. Emergency protection system dropped. Pump No ... started for maintaining loop water level. Pressure falling. Chief of chemical department Nikolay Vakhrameyev [sic] reports increased activity in turbine compartment. Quarters played aboard ship.

239. Under the direction of engineering department head A. Kozyrev and propulsion division officer Yu. Povstyev, all possible steps were taken to restore first loop pressure and stabilize radioactivity in the power compartments. But a little more than an hour later it became clear that the process of cooling down the damaged reactor was getting out of control and there was a realistic threat of destruction of core channels and melting of fuel elements, which could lead to the reactor's thermal explosion. The only solution was to set up a nonstandard system for flooding (pumping through) the reactor to remove heat from fuel elements.

240. The submarine surfaced at around 0600 hours. Preparation of sixth compartment to perform damage-control work was in full swing.

241. ...Back at the yard during the ship's acceptance, Kozyrev and Povstyev tried to prove to builders that it was necessary to provide such a main line for emergency shut-down cooling of the reactor... Why do we learn only from catastrophes and people's deaths?!

242. ...A steam cloud filled the enclosure after the reactor cover air valve [vozdushnik] was opened. Ionized hydrogen ignited from the flame of electric welding. Such a possibility had been foreseen, fire extinguishing equipment was at the ready, and the fire was put out in a matter of minutes...

243. The sixth compartment damage-control party- Lieutenant Boris Korchilov, Chief Petty Officer Boris Ryzhikov, Petty Officer 1st Class Yuriy Ordochkin, Petty Officer 2nd Class Yevgeniy Kashenkov, and seamen Semen Penkov, Nikolay Savkin and Valeriy Kharitonov- worked in shifts of 2-3 persons. The glass of the self-contained breathing protective masks instantaneously steamed up in the steam and heat of the reactor enclosure and the workers ripped them off and breathed the superradioactive gas -this devilish mixture cannot be called air.

244. As compartment officer, Korchilov went into the enclosure in the most intense moments outside of any sequence, although he knew full well the degree of danger. Kozyrev, Povstyev and Senior Lieutenant Mikhail Krasichkov, a control station man, directly headed work in sixth compartment. Senior lieutenants A. Vasilyev and G. Glushenkov stood watch at propulsion motor

control panels in adjacent compartments.

245. Approximately an hour after work began, cooling was supplied to the damaged reactor core according to the nonstandard scheme. In another hour temperature in channels had dropped to a safe level and relatively stabilized.

246. In a sick bay set up in first compartment, Major of Medical Service A. Kosach assisted those who took a direct part in work on the reactor as much as he could. And... he himself was irradiated excessively since, having received enormous doses above that permissible, they essentially became powerful sources of radioactive contamination themselves.

247. PRAVDA told in a rather detailed manner about how two diesel submarines, which had established communications with the Navy and Northern Fleet command centers, came to assist the nuclear powered submarine, how attempts to take the damaged ship in tow ended in failure, and how first the seriously ill, then all the others except party members and those providing control were evacuated to one of the diesel submarines.

248. At approximately 1500 hours Ivan Kulakov, damage-control team leader, discovered a leak in the nonstandard cooling main. They-he himself, assistant commander Vladimir Yenin, and missile-gunnery department rating Leonid Berezov-entered the literally ``glowing" reactor room and fixed the leak.

249. At around 2300 hours Captain 2nd Rank Zateyev reported to shore yet another time about the ship's condition, the radiation situation and his intention to evacuate remaining crew members to the diesel submarine by 0300 hours on 5 July.

250. 0300-Shore silent. 0400-Shore silent. I leave the ship among the last six persons. Once more I cast a glance at our own submarine rocking on the hollow swell. Our flag is fluttering over her sail.

251. After some time our commander is informed about receipt of a decrypted message from Fleet: Commander Zateyev is to report condition of the ship, number of crew members remaining aboard, and possibility of proceeding to base independently. It is not difficult to guess what the commander said on reading this belated opus, to put it mildly.

252. Later came the rendezvous with a destroyer. It is impossible to express in words how solicitously her crew treated us submariners. The destroyer did not come from base; she was sent after us from sea. Therefore they did not even have reserve clothing for everyone (everything was immediately removed from us and destroyed). Officers, warrant officers and personnel removed their own clothing and gave it to us. Old-time seamen gave up new boots which they had saved for discharge. We said: ``Don't, we are dirty,' this will have to be discarded." But they still brought them. They collected money and purchased cigarettes and candy for us in the ship's store...

253. On arrival in Polyarnyy we were put in the hospital, whose staff treated us exceptionally warmly and solicitously. The most seriously injured-Korchilov, Ordochkin, Kashenkov, Penkov, Savkin and Kharitonov-were

sent by helicopters to Severomorsk.

254. In the hospital we were met by a Navy Political Directorate representative. After questioning us about the events he began saying that it still was necessary to look carefully into all our actions... Something further was said about objectivity of the critique and about the possibility of heroism of individual submariners... It must be admitted that all these cautious passages were already beyond our understanding. We simply felt distrust. A day later the attitude toward us changed sharply. Delicacies and overseas fruits already appeared at breakfast. After dinner the personnel people suddenly appeared to prepare award citations for all who distinguished themselves. We learned from the words of staff officers that the "godfather" of nuclear powered submarines, Academician A. P. Aleksandrov, had visited with a commission the area where the nuclear powered submarine was adrift and, convinced of the safekeeping of the submarine, assessed our actions as proper and courageous.

255. Later it also became known that N. S. Khrushchev phoned several times and inquired about our condition.

256. During 9-10 July those in worst shape were transferred to Leningrad for treatment. The others were sent to a base in Shchukozero on 17 July and then to a sanatorium in Zelenogorsk on 22 August.

257. Unfortunately, despite all their efforts, the physicians did not succeed in saving Boris Korchilov, Yuriy Ordochkin, Yevgeniy Kashenkov, Nikolay Savkin, Valeriy Kharitonov and Semen Penkov. They died in the Moscow Biophysics Institute. Yuriy Povstyev and Boris Ryzhikov passed away several days later.

258. I must admit that today it is surprising to hear that our countrymen are going abroad for bone marrow transplants, for already then in 1961 it was a bone marrow transplant performed by our medical personnel which helped save Ivan Kulakov, Anatoliy Kozyrev, Vladimir Yenin and Mikhail Krasichkov. Just why, 30 years later, can we not save our own patients without the help of foreign physicians?

259. I will not be wrong if I say that many of us who remain alive are obligated to the decisiveness and truly civic position of Commander Nikolay Vladimirovich Zateyev. But years go by and we become fewer. Engineer Anatoliy Kozyrev died suddenly in late 1968. Later Leonid Berezov and Nikolay Vakhromeyev passed away.

260. I recall how back in the hospital after consulting with the officers, the commander decided to recommend Boris Korchilov, Yuriy Ordochkin and Semen Penkov for the Hero of the Soviet Union title.

261. On 5 August 1961 49 crew members were decorated with USSR orders and medals, but not even Korchilov became a Hero and the rank of awards was reduced for the others for unknown reasons. I recall that on 5 August of that same 1961 the country was honoring Hero of the Soviet Union Pilot-Cosmonaut German Titov. Without belittling the services of cosmonaut-heroes, I cannot

agree that the conscious dash of our comrades to the "embrasure" of the reactor was a less heroic act. It deserves the memory and respect of posterity.

262. Photo Captions

263. Engineer-Captain 3rd Rank A. S. Kozyrev, engineering department head of K-19. Photo from early 1980's

264. Petty Officer 1st Class Yu. Ordochkin during mop-up of the accident aboard K-19 in July 1961 (He died displaying personal courage. Decorated with the Order of V. I. Lenin)

265. NA STRAZHE ZAPOLYARYA, 25 July 1990

266. Thirty Years Later

267. Few today know how a nuclear reactor explosion aboard one of the first Soviet nuclear powered submarines managed to be averted 30 years ago. This page of the "peaceful atom" has been kept secret all these years. A difficult lot fell to participants of those far-off events who remained alive. One of them now lives in Minsk. This is Ivan Petrovich Kulakov, who received a radiation dose of over 500 rems during the accident aboard the nuclear powered submarine.

268. At that time Kulakov, chief petty officer of the nuclear powered submarine, was 25 years old. In July 1961 the submarine set a course for a given area of the North Atlantic. All machinery was operating normally, not presaging misfortune. But on 4 July the reactor's emergency protection system suddenly operated. Pressure fell sharply, temperature rose, pumps failed, and paint on the plating began to ignite. A party headed by Lieutenant Boris Korchilov eliminated the threat of the reactor's destruction.

269. It does not rain but it pours, however: the valves for pumping out water and steam failed in the reactor compartment. Ivan Kulakov's time to perform his duty also had come.

270. ...Kulakov was dying a week after the accident-there was active decomposition of the blood, unbearable headaches, loss of vision, balding, and impossibility to eat because of radiation burn.

271. Military physician G. I. Alekseyev of the Military Medical Academy helped Kulakov return from the other world.

272. Since then the ulcers on Ivan Petrovich's arms and legs have not healed as a result of the radiation burn. Kulakov was given a second-group disability and a pension of 32 rubles. Former commanders helped him get a job ashore as a warrant officer, where he served until 1980.

273. That is how years passed in a struggle against the ailment and against the indifference of those around him and bureaucrats of various ranks. At that time people hardly knew the consequences to which a nuclear reactor explosion

could lead for all living things, or at what price it managed to be averted.

274. NA STRAZHE ZAPOLYARYA, 18 May 1991

275. The Atomic Life of Ivan Kulakov, by Lieutenant Colonel V. Zdanyuk

276. I do not believe many people will be found on Earth who have been inside a nuclear reactor-not one being built, not one dismantled, but the one and only: a real, "live," rebellious, out of control one...

277. This happened 25 years before the Chernobyl tragedy, in July 1961. Chief Petty Officer Ivan Kulakov voluntarily descended into the maw of a nuclear powered submarine compartment containing a damaged reactor to save the crew and ship from inevitable loss...

278. After straying pretty well among the standard, nine-story apartment houses, I found the house I needed, but not without difficulty. The door was opened by the host, a person of average height, neat skipper's tuft of a beard, and good-natured expression on his face...

279. He extended me his hand. I did not venture to shake it at once. Ivan Petrovich's hand looked unnatural: fragile, seemingly dried up, sickly white. Noticing my embarrassment, Kulakov smiled: "Radiation burn. You never saw one? I've carried it for 30 years."

280. I had seen burns from fire and from boiling water. I had seen blisters from getting excessively carried away with suntanning. I had only heard about radiation burn. People have spoken about it more and more often since Chernobyl with growing alarm and pain. It scorched our souls.

281. I shook the scorched hand of the former navyman and felt the scars under his fingers, as if he had touched bare electrical wires.

282. "My feet also are burned to the ankles," Kulakov continued. "For I went into the reactor compartment in leather slippers, and the water there was hot and radioactive... They still are not healing; a thin skin will begin lightly stretching across, then it begins to break and spread apart. My fingers straighten poorly. In winter my hands and feet freeze, and in summer they have to be protected against the sun... Well, I have somehow gotten used to it."

283. Ivan Petrovich has to force himself to tell about the accident. Painful recollections. It is like going to sure death, but surviving. Halfway surviving?

284. And until recently it was not customary to enlarge upon this accident on the submarine. Only last summer PRAVDA broke the curtain of silence.

285. "I served first-term service beginning in 1957. I myself am Byelorussian, and was called up from Mogilev Oblast. Of course I did not end up on the submarine right away. At that time selection was very strict and only through the training detachment in Leningrad. I went into the ocean for the

first time on a diesel submarine. A year later, already impregnated by northern winds and storms, I was chosen for the crew of the nuclear powered submarine.

286. ``While the submarine stood on the building ways, we mastered her. They drove us to exhaustion. The equipment was unprecedented for those times. Secrecy was very strict. Your every step ashore was monitored. There were no contacts with the local population.

287. ``In short, we received the nuclear powered submarine, went through yard tests and already several months later were performing combat patrol duty somewhere off the shores of Canada or the United States. Our submarine was the first in a series of nuclear powered missile submarines. We operated only at great depths. Concealment and secrecy-you yourself understand.

288. ``Generally I became involved in the ordinary life of the submariner. Lengthy autonomous deployment, the return home to the Northern Fleet, a brief rest, and the ocean again. I set off on my last deployment as surfacing and submergence post team leader, a position, I will say without boasting, that is not within everyone's ability. About 15 persons subordinate to you and sophisticated equipment. The life of an enormous submarine in your hands. And I was just over 22...

289. ``Well, that time, in the summer of 1961, we were taking part in a complicated exercise. We went to the Atlantic and penetrated a blockade of ASW ships... Then we set off for home. Along the way we were to return beneath the edge of the ice somewhere in the Arctic and perform one of the operational training missions.

290. ``Everything was going normally, as they say in the fleet. A precise, coordinated work schedule of all departments had shaped up on the long deployment. The ocean was calm. The nuclear plant operated normally. In about ten days we were supposed to be ceremoniously greeted in base.

291. ``On 4 July 1961 the submarine was in the Norwegian Sea, 100 nm from Jan Mayen Island, if memory does not betray me. At this time I was standing watch in the control room. Suddenly the radiation monitors went into action. Pressure had fallen sharply in the reactor's first loop. The emergency protection system had operated...

292. ``To this day I keep in memory the intonation of the report of one of the reactor group specialists: 'In first loop- pressure-zero.' What does zero' mean? The temperature had risen sharply. Main and secondary pumps supporting loop coolant circulation jammed. The level fell in the pressurizers. Paint on compartment platings began to ignite. A fire was just about to flare up...

293. ``I am telling you all this now in such detail when the emergency situation has been investigated by dozens of commissions and when I myself have turned over everything in memory a thousand times. But at that time all events unfolded swiftly. Temperature was rising very quickly. A little more and the fuel elements would begin to melt. That is a catastrophe. The reactor would blow up from overheating, the submarine would perish, and with her the

entire crew.

294. ``Captain 1st Rank Nikolay Vladimirovich Zateyev, commander of the nuclear powered submarine, made the decision to remove the heat by pumping water through the reactor core. But how? A reactor had been installed in the submarine without special devices and systems for such flooding. It was later, after our accident, that design changes were made to the power plant.

295. ``I received the command to surface. My lads functioned precisely. The submarine emerged from the marine abyss. The struggle to save the nuclear powered submarine had begun.

296. ``Our department heads and engineers were superb. Do you know what they thought up? They installed a nonstandard cooling system. Stores of fresh water which were aboard were used for this operation. But in order to start up this system it was necessary to descend into the reactor compartment, connect pipes to pumps and supply water to the core.

297. ``Everyone realized well that the one who descended into the compartment first would receive a fatal radiation dose. Lieutenant Boris Korchilov volunteered. He was so young and likeable. He was only on polite terms with the seamen-an intelligent lad. This was his first sea'-he came aboard the submarine immediately after school. Several other persons went with him, all from the reactor group. No one ordered them, they volunteered themselves. They sacrificed themselves for the sake of saving the ship and crew. In two hours Korchilov and the lads installed and started up the cooling system. Water gushed into the reactor. This saved it from a thermal explosion.

298. ``In other words, we had the very same situation as at Chernobyl, only without destruction of the reactor. One can say that Boris Korchilov, Chief Petty Officer Boris Ryzhikov, Seaman Kolya Savkin and others covered it with their bodies. All received enormous radiation doses of 5,000-6,000 rems. They died several days later in terrible torment... I saw these lads immediately after they were carried from the compartment; they were unable to come out themselves. Their faces had changed beyond recognition and speech failed them...

299. ``The reason for the accident was at first glance a minor thing: a tiny drop of metal on the junction of two pipes in the reactor's first loop. The welder probably did careless work. He dropped only a gram or two of smelt. Those who received the submarine did not notice this. This is why elementary carelessness almost ended up with an explosion.

300. ``I was standing watch in the reactor compartment, in which our compressors and other devices were located.

301. ``It does not rain, but it pours: as ill luck would have it, automatic valves in the reactor compartment for pumping out water and steam failed. Pressure rose and the temperature continued to rise. Again the threat of explosion appeared...

302. ``At this time the entire crew was on the upper deck as far away from

the heated reactor as possible.

303. ``I went into the compartment together with the executive officer. I myself asked for the assignment. I figured no one would be able to get these valves going better than me. The executive officer backed me up behind the enclosure.

304. ``I will say honestly that in the reactor compartment it was the first time I felt a terrible fear. It was as if I was headed into the mouth of a boa constrictor. I already had seen the burned faces of the reactor group lads and knew what the atom was. There was no one in the compartment; just the noise of machinery and the squelching of water beneath my feet. Pipes and walls were glowing from radiation. It was eerie...

305. ``I had to open the compartment drain valves in order to suck steam from the reactor and thereby relieve pressure and eliminate the steam blanket. The temperature was over 60 degrees. My skin was being burned by the steam and it was impossible to breathe... I groped for the valve, opened it and started wandering back ankle-deep in water. Later I descended again: one more valve had stuck.

306. ``I don't know how long I spent in the reactor compartment in all. Perhaps someone was clocking it, I don't know. One thought pulsed in my head: find the valve, open it, and don't stumble; don't fall into the water, otherwise that was the end...

307. ``These two descents ended up for me with third degree radiation sickness and a dose of over 500 roentgens-at that time we had heard nothing about rems. I exceeded the permissible dose by a little over five times... I learned these figures later when I ended up in Leningrad at the Military Medical Academy...

308. ``The fight to save the nuclear powered submarine continued.

309. ``The situation became even more complicated when the damage to the main transmitter antenna became known. The submarine was without communications and it was around a thousand nautical miles to base with not a single little ship around. It was a most genuine god-forsaken hole. Going home on one reactor would require too much time; people would receive fatal radiation doses, even if they would be only on the upper deck.

310. ``Our commander quickly got his bearings: the submarine swung to the reverse course, to the exercise area of the Fleet main forces. Using an emergency transmitter, we came up in communications with the commanders of two diesel submarines. At their own responsibility and risk, without requesting authorization of the command element, which would have taken much time, both diesel submarines came to meet us.

311. ``The rest I remember very vaguely. My roentgens' were raging. I began to feel sick, there was nausea, vomiting, unbearable headaches, and I began to lose vision. What left an impression was only how our ship's doctor and chief of chemical department Vakhromeyev busied themselves with me. They previously

had not come face to face with radiation sickness, let alone in such a situation. I recall how they transferred part of the crew to a destroyer and tried to take our submarine in tow. Nothing came of this: a storm began, and wild buffeting. Torpedo tubes from a diesel submarine which had come up were aimed at the nuclear submarine. Yes, there was that option.

312. ``If the Americans should attempt to penetrate or seize the abandoned submarine-and they were nosing about everywhere-it was ordered to fire several torpedoes. Better have her sink than have the uninvited guests ransack her and find out all the secrets. It was such a time-general suspicion and general confrontation. Fortunately the torpedoes were not needed. The nuclear submarine was towed to base. At first they wanted to drag her somewhere into the Arctic and sink her there, but they spared her, repaired her and fixed her up. I saw her more than once later. To this day the submarine is in formation. So many crews passed through her! So many lads received rems...

313. ``I received skilled help on the destroyer. They stripped me naked and put me in the shower. I washed all the dirt off me, emerged from under the water and the device in the dosimeter operator's hands crackled and crackled. Again under the water, and again the same result-the needle went off the scale. Wash or not wash, but as it turned out, I was glowing all over from head to foot.

314. ``Ankles, hands and legs especially...

315. ``They delivered me to the hospital. The nausea and pain stopped somewhat. The physicians explained that a latent process had begun. None of the Fleet medical personnel at that time knew where to begin. How should an acute form of radiation sickness be treated? They conferred and sent the lads from the reactor group straight from the hospital to Moscow, to Doctor Guskova. Do you remember that after Chernobyl the name of Professor Guskova also was glimpsed in the press? Yes, that was she, at that time a young physician, at that time a young specialist in the area of radiological medicine.

316. ``One more catastrophe almost happened before being sent off. The helicopter with sick submariners was unable to take off and fell to the ground, and this was before the eyes of the entire hospital. Thank God, we got by without victims.

317. ``Well, those who received less radiation went to the Military Medical Academy. Some looked at us suspiciously. Why, they said, treat these submariners if they are so lively and joke? They were not beyond running after the junior medical personnel...

318. ``But the latent period of the illness passed very quickly and nightmarish days set in. I surrendered' first-as it turned out, I had taken the largest portion of rems. Hellish pains chained my body. It seemed someone was unscrewing my bones. I began to lose consciousness. The physicians were on duty near me for days on end...

319. ``They sent a telegram to my parents. They informed them without any

diplomacy, in the clear: this and that is how it is, they said, your son is in a most serious state, come immediately if you wish to find him alive...

320. ``I had one foot in the grave. Active decomposition of my blood was going on. Coagulability was zero. The nurse would apply a plaster so blood did not flow out, and that was all the means used. I began to see very poorly. I became bald. My legs themselves peeled' like scales from a fish. It was impossible to eat anything. My mouth, tongue and throat-everything had been burned. They stuck some kind of tube through my nose and dribbled drop by drop straight into my stomach.

321. ``In short, I was dying an agonizing death. My whole body was a clot of pain. I became so accustomed to it that I was indifferent to everything. You will not believe it, but most of all I wanted one thing: an irrevocable fall into black unconsciousness so as to put an end to earthly sufferings at a single stroke.

322. ``I was dragged back from the other world by physician Grigoriy Ilich Alekseyev. Now he is a professor and doctor of sciences, but at that time he was only beginning. I swore on the operating table that if I survived and had a son I would call him Grigoriy... I did not fulfill the promise at once, but I kept it. My Grisha now is in the third class of a polytechnical institute. I also have a daughter, 15. Now they are asserting that our physicians know little and that patients have to be taken to the States or the FRG and pay currency for treatment. Twenty years before Chernobyl Alekseyev gave me a blood transfusion and bone marrow transplant. He evidently did everything successfully, because I immediately felt relief and was ashamed of my thoughts about a quick death. I again wanted to live... Cadets of Leningrad schools and navymen friends were my donors. Their blood is flowing in me-several times they changed it completely. I am living with their bone marrow. I do not know their first and last names, although I became a small part of them...

323. ``I gradually began to pull through. I laid around in hospitals for about nine months, then they sent me south to a sanatorium. Here my hair began to grow out and it became curly. The lads would pull it in disbelief, thinking it was a wig. Even now I have a splendid head of hair-not one gray hair.

324. ``But not everyone was lucky as I was. I already told about Boris Korchilov's reactor group. All eight burned themselves in the reactor. Many of those who received a lesser dose also passed away; some earlier, some later. Doctor Alekseyev said I was saved by a strong heart. How could it bear the torments which fell to my lot?

325. ``Those who died from radiation each were given an order or medal posthumously depending on military rank and position. It stands to reason the political officer and commander received one... By the way, Korchilov was recommended for Hero. Somewhere on top they cut it-an accident, they said, was no reason for such high awards. The others, including me, should be grateful they remained alive...

326. ``Commissions examined me through and through. They gave me a second-group disability and set the pension at 28 rubles, plus another four

rubles petty officer pay. Don't spend it all in one place, lad!

327. ``I traveled to my brother in the Ukraine. I worried next to him for a year. My health seemingly had begun improving. Do you have to eat and drink? Clothe yourself... You won't get far on my 32 rubles. I tried to find a job, but not likely. The personnel people would open my medical record and immediately chuck me out the door. In those years radiation sickness was carefully concealed. It was mentioned in a half-whisper in the hospital ward. When you went beyond the gate, forget why you were sick! State secret. The physician who made an entry in my medical record was an inventive person. His hand did not waver as he entered it: asthenovegetative syndrome. Do you know what this is? They accept you only at a psychiatric hospital with that diagnosis. Thanks for nothing...

328. ``I wrote a desperate letter to Kuzminchuk, chief of the political department, who was a good man and he respected seamen. I asked his advice: What am I to do, perhaps steal? With a bludgeon onto the highway or with an extended hand to the train station? Give to a former submariner for Christ's sake.

329. ``Kuzminchuk, a good soul, pressured our medical personnel and came to an agreement that I would be reexamined. That is how I again ended up in the Fleet. They did not allow me to go to sea, and I myself was not longing for it. How much can you test fate? I give thanks that they helped me receive my piece of bread. They appointed me chief of a simulator for training submariners. (True, I first took courses.) I served in that position until I went on pension.

330. ``I married nine years after the accident, at age 32. I did not venture this step for a long time. At first I was simply not up to marriage-my rems gave me no rest. Then later everything seemingly fell into place, but it did not leave my head: How would the radiation sickness be reflected in children? The Japanese have all kinds of fat-faced horrors after Hiroshima...

331. ``Now these doubts are behind me. The children are growing up healthy. The radiation sickness makes itself known now and then. Earlier it happened that it would come for no reason at all-at least say goodbye to life. Bones aching, joints twisting. Up until 1970 all of us who survived were regularly invited to Leningrad. They would observe, treat and give advice. Then all this suddenly was cut off sharply. Since then no one has been interested in us. I have been living in Minsk for ten years and no one once asked me about radiation sickness, although during discharge I insisted that they enter a real diagnosis in my medical record. The times of stupid prohibitions have passed.

332. ``You ask me: Can I be compared with those people who have been living in a zone of radioactive contamination for five years already? In the literal sense, no. The situation in which I found myself was more favorable, if this word is at all applicable in this case. I received a high one-time dose of radiation. But thousands of people in Byelarus, in Ukraine and in Russia have become hostages of Chernobyl for long years. Radioactive elements are gradually accumulating in the bodies of each one, the atom is doing its

destructive work unhurriedly; a person does not suspect from where he is threatened by danger.

333. ``I know very well what radiation is. Therefore I consider those leaders who hid the truth about the Chernobyl tragedy and who did not lift a finger to diminish its consequences to be criminals. Many of them even today are in high positions. They committed a crime against their own people and should answer for this...

334. ``What else can I add about myself? I settled solidly in Minsk. I received a three-room apartment. I work, of course. Can you really live on a 150 ruble pension-the ceiling' of a submarine warrant officer? I went into security work. They respect our brother retiree in the militarized guard... My wife works and my children study. For now I have had no occasion to be bored."

335. Photo captions

336. Commemorative device made from metal of the first nuclear powered missile submarine

337. Device commemorating deceased submariners of submarine K-19 30 years after the accident. 4 July 1991, Moscow

338. SOVETSKIY VOIN, No 2, 1991

339. Requiem in Yelokhovskiy Temple, by D. Barinov

340. On 4 July 1991 a requiem was held in the patriarchal cathedral for victims of the accident aboard the nuclear powered submarine K-19.

341. The tragedy occurred 30 years ago in the North Atlantic. Loss of the submarine managed to be averted at too dear a price, at the price of eight human lives.

342. Father Damian conducted the memorial requiem. Crew members of the K-19 and other submariners came to revere the memory and pray for the repose of souls of their deceased comrades.

343. ``Apostle Paul has wonderful words," said Father Damian before the requiem. ``We live not for ourselves, and we are born and die not for ourselves, but for God.' These sacred words can relate with full right to those who died at the damaged reactor. They saved other people at the cost of their lives. By their exploit the deceased submariners truly deserve eternal rest in the abodes of the heavenly Father, and eternal memory in our souls."

344. The flames of hundreds of candles flutter quietly. There is sorrow and emotional bitterness on the faces of the navymen and parishioners.

345. Photo captions

346. Uncaptioned photo

347. KURANTY, 5 July 1991

348. Flame in the Compartment, by Captain 1st Rank S. Turchenko and Captain 3rd Rank Yu. Gladkevich

349. It was the 56th day of a lengthy cruise. The submarine ``Leninskiy komsomol" was in the Norwegian Sea returning from a routine deployment. There were still 1,770 km to base. The submariners were living with thoughts of greeting their native shores.

350. At 0152 hours, with the submarine in a submerged condition at a depth of 49 m, a report came to the control room from first compartment: ``Fire, entire bilge on fire." Quarters were sounded on the ship and the command to surface was given.

351. Flame instantly enveloped the upper part of the compartment. As personnel were abandoning the compartment where the emergency was, flame spread through the bulkhead door for the entire length of the upper part of second compartment in a brief time. The fire was accompanied by intensive generation of carbon monoxide, as a result of which personnel of first and second compartments were put out of action in a few minutes.

352. Second compartment did not respond to a call. The submarine surfaced and continued further operation in a surface condition. First and second compartments remained sealed for four days. A damage-control party of four persons plugged into IP-46 self-contained breathing protective masks and began moving personnel from the central compartment; the AB [not further expanded, possibly storage battery] and electrical power of first and second compartments were turned off. The most likely cause of the fire was ignition of an explosive concentration of hydraulic system oil vapors. It continued smoldering for several days in the compartment where the accident had occurred, which contributed to a loss of seal in the high-pressure air system and resulted in air being let into the compartments. Because of the rapidity of the fire's development, the personnel did not plug into self-contained breathing protective masks and abandoned first compartment, at which point the fire also spread to second compartment.

353. In the presence of the high-intensity fire which broke out suddenly with formation of a lethal concentration of carbon monoxide and gas contamination of forward apparatus, the control center managed to properly organize personnel for localizing the fire, which contributed to saving the submarine and returning her to base under her own power.

354. When air samples were taken from first and second compartments on arrival at the base location, the following gas composition was established: 10 percent oxygen, 10 percent carbon monoxide.

355. The memorial placed on the fraternal grave in Zapadnaya Litsa reminds everyone of the courage and heroism of 39 submariners who died in the ocean.

356. Photo captions

357. Nuclear powered submarine of same class as K-3 ``Leninskiy komsomol''
358. Memorial badge of nuclear powered submarine K-3 ``Leninskiy komsomol''
359. Monument on grave to crew members of nuclear powered submarine K-3, settlement of Zapadnaya Litsa [upper inscription: To the courage of seamen [two words illegible] who performed their duty to the Motherland; lower inscription: To submariners who died in the ocean, 8 September 1967]
360. Operation Jennifer
361. This tragedy occurred in March 1968. The U.S. CIA appears to have the most information about it. Part of it also leaked into the western press. Based on documents which the Main Naval Staff gave us an opportunity to look over and the memoirs of people involved in one way or another in the dramatic events of more than 20 years ago, we are trying to get closer to the secret which to this day troubles the minds of many navymen, intelligence people, diplomats, and relatives and friends of people who died in the ocean abyss.
362. ...According to some sources, it was this way. An enormous, awkward vessel with strange machinery and devices rising above the upper deck was hove-to one August day of 1974, 350 nm from the Hawaiian Islands. The Stars and Stripes fluttered on her flagstaff, but the powerful chords of the USSR Anthem came loudly from the loudspeakers. Stalwart lads stood on the poop in solemn formation, before which lay six human bodies on metal dollies, sewn up in canvas and wrapped in white and blue flags of the USSR Navy.
363. At an officer's command, two black seamen approached the first dolly and rolled it along a rail to the after break until it tipped overboard. There was a brief splash. A three-gun salute drowned out the anthem for a few instants, but soon its solemn, sad sounds again could be heard over the ocean. That was repeated five times.
364. Then, in step with the music, the seamen slowly carried a purple-green wreath to the edge of the stern and carefully lowered it to the water on capron lanyards.
365. On the bridge the officer of the watch entered the events in the log: ``Latitude 40° North, longitude 180° East. Burial rites performed for six Soviet submariners according to the naval custom of their country.''
366. A white feather boiled up after the vessel. She got underway and set a course for Honolulu. In the vessel's hold, concealed from outside eyes, was a gigantic heap of metal which at one time was part of a Soviet diesel powered missile submarine.
367. ...By the way, there is another version according to which the submariners' bodies are buried on the Florida coast...
368. Anonymous Letter for the Attache

369. 22 October 1970. USSR Embassy, Washington.

370. That day an anonymous letter came addressed to the USSR naval attache in the United States.

371. "In March 1968 a Soviet submarine sank in the Pacific. The U.S. Central Intelligence Agency is using the minesweeping vessel Glomar' to hunt for the submarine; she departed Honolulu 17 October and will be at the point latitude 40° North, longitude 180° East in early November. A Well-Wisher."

372. The naval attache of course knew about this tragedy through his official duties, but he also knew the information was strictly classified. Not one Soviet newspaper had mentioned a single word about the accident either in 1968 or later. Even relatives of the deceased had been issued death certificates which stated: "Declared dead." But here the secret of the submarine's loss suddenly was being brought to light... And none other than the CIA was fishing her from the ocean depths.

373. That same day an urgent message left for Moscow from the USSR ambassador to the United States. It caused a fair amount of commotion in the capital. The CinC Navy put the entire Main Staff on its feet. Dropping current matters, dozens of people in staff directorates and departments prepared memoranda and tables for the CinC to brief the Minister of Defense, the government and the party Central Committee.

374. After hearing out the CinC Navy, Minister of Defense A. A. Grechko ordered an immediate check of data on CIA activity in the area indicated by the anonymous letter.

375. Here is what soon was reported to the CinC:

376. "The Navy performed reconnaissance using two intelligence ships, two auxiliary vessels and shore COMINT units to check information on activity of the American vessel Glomar.'

377. "On 11 October the American vessel Glomar-2' was discovered by our ships 1,100 km south of the Aleutians.

378. "The vessel is intended for deep water seabed drilling and represents a self-propelled drilling rig. Vessel dimensions: length 81.4 m, beam 17.6 m. Drilling mast 41.4 m. Drilling depth: minimum 183 m, maximum 6,042 m.

379. "The vessel performed deep water work from 12 through 18 November at the point with coordinates latitude 40°04'05" North, longitude 179° 57'03" East.

380. "Observation has established that the vessel joined and lowered pipes to a depth on the order of 5,000 m. Undetermined work was done for 6 hours 30 minutes on reaching the seabed. In contrast to usual drilling operations, about which notification always is given to mariners, in this case the vessel's activity was camouflaged.

381. "On 19 November the vessel left the work area and began moving in the direction of the Hawaiian Islands. A preliminary analysis of information about the vessel's activity for the period from 11 through 19 November provides grounds to assume that the vessel performed seabed exploration and collected samples of soil and water in search of an underwater object, presumably a submarine (side number 574)."

382. The Americans are known to be clever, practical people. And if they became interested in our submarine, if they already had begun to take specific steps to search for her, then one need not doubt that they would take matters to completion. Therefore the country's leadership demanded a complete, precise report from the Navy about what the Americans might obtain if they successfully finished raising the sunken submarine. What damage would be done to USSR defense interests? Again work got into full swing on the Main Naval Staff.

383. The navymen's report somewhat dispelled the concern of high spheres. It appeared from everything that our probable enemy was undertaking a game that was not worth the candle: the submarine was not that new and cryptodocuments aboard had been changed in the Fleet after her loss... True, there were also missiles with nuclear warheads aboard PL-574...

384. But experts agreed that on the whole it was hardly worth fearing that the Americans would raise the submarine. First of all, they still did not have appropriate equipment. Secondly, the submarine still had to be discovered on the seabed, which at that depth-over, 5,000 m-was oh so difficult to do...

385. From information about the submarine (side number 574):

386. The submarine was built at the Ministry of the Shipbuilding Industry' s Yard imeni Leninist Komsomol and was commissioned in the Navy in February 1960. Specifications and performance characteristics: displacement- surface 2,900 tonnes, submerged 3,600 tonnes; length 99 m, beam 8.2 m, draft 8.1 m; submerged speed 12 knots; range 4,250 nm; maximum diving depth 300 m; endurance 30 days; armament-3 missiles with nuclear warheads, 6 torpedoes (two of which had special munitions).

387. Photo captions

388. Last roadstead of PL-574

389. She Did Not Come Up in Communications

390. 25 February 1968. A military port in the Far East.

391. At 0700 hours PL-574 left the pier and headed for the ocean. This was an unscheduled deployment for the crew. From 1 October through 30 November 1967 PL-574 had performed combat patrol duty in the Northeast Pacific. On returning, the navymen performed navigational repairs and then half of the officers left on leave. Personnel were resting in the sanatorium in two shifts. The crew then was to undergo ordinary training and take care of the

ship. But then something unforeseen happened.

392. Higher headquarters inspected one of the submarines readying for combat patrol duty and removed her from deployment after giving her an "unsatisfactory." They inspected a second submarine with the very same result. Then the question of PL-574 came up. She turned out to be combat-ready.

393. On 9 February the decision was made to send her off on combat patrol duty. Because of leaves, some officers arrived aboard the submarine 15 days and some 5 days before putting to sea, which could not help but affect preparation for the cruise.

394. By the way, they just were unable to fully assemble the crew. The submarine departed with 14 officers and 83 seamen and petty officers aboard, of whom only 58 were regularly assigned, 15 were appointed in place of those on leave, and 10 were sent for OJT.

395. In making the decision, the command element rested hopes on the professionalism of the main nucleus of the crew and above all on command personnel, who really were ace submariners.

396. Captain 1st Rank Vladimir Ivanovich Kobzar had commanded PL-574 for around four years. Before that he headed the crew of a mini-submarine for two years and operated an S-class submarine in the depths for four and a half years. He had been awarded the Order of Red Star for exemplary service on the eve of the deployment.

397. Although Executive Officer Captain 3rd Rank Aleksandr Mikhaylovich Zhuravin had not served on PL-574 for long, only since September 1967, prior to this he had successfully coped with a similar position on the very same kind of submarine for three years.

398. Command and staff department heads also were no less experienced. Evidently despite the fouled-up preparation and having no other options due to the small number of combat-ready submarines, CinC Pacific Fleet N. Amelko and Pacific Fleet Chief of Staff Vice Admiral G. Bondarenko signed the operation order for this crew on 15 February 1968.

399. It noted that U.S. Seventh Fleet carrier forces were conducting combat operations against the DRV. Pacific Fleet submarines were performing combat patrol duty in the ocean. PL-574 was assigned the mission of covert patrolling in readiness for operations at a Main Staff signal according to the procedure set forth in a special packet... The submarine was assigned a combat patrol area and time... The return to base was planned for 1200 hours 5 May 1968.

400. Rear Admiral (Retired) V. Dygalo, who in 1968 commanded the formation which included PL-574, relates:

401. "Kobzar regularly reported progress of the deployment to headquarters in accordance with the operation order, but on 12 March we all were alarmed-the submarine did not respond to a control radio message transmitted

by Pacific Fleet Headquarters for a communications check. True, this provided no grounds to presume a tragic outcome of the cruise-all kinds of reasons kept a commander from coming up in communications. The operation order for the deployment provided for PL-574 to report taking up the combat patrol area on 22 March. All of us awaited it impatiently, but the report just did not come. This was a serious basis for alarm, especially as, according to intelligence, in recent days an American submarine, 'Swordfish,' had arrived in the Japanese port of Yokosuka with damages. The Americans took unusual security measures when this submarine entered port, and only American personnel were used for repairs... So the thought logically arose about an underwater collision. The question of a major search and rescue operation arose."

402. March 1968. Northwest Pacific.

403. An entire squadron of fleet search and rescue forces arrived here. Ships and vessels ironed the ocean day and night, feeling about in the depths with sonar and echo sounder transmissions and inspecting the sea surface. Long-range reconnaissance aircraft inspected the sea surface and patrolled along the submarine's route, imprinting the ocean, kilometer by kilometer, with lenses and listening attentively to sonobuoy signals. Initially they hoped to find the submarine in distress in a surface condition, and later hoped at least for traces of a disaster... Each day encrypted messages about the progress of the search went to the Main Naval Staff in Moscow, but their content pleased no one.

404. Yu. Senatskiy, a participant of the search for PL-574 and now a retired Rear Admiral, relates:

405. "Initially the overall search area was 854,000 nm² and later it expanded to more than a million nm². Participating in the search were two destroyers, three patrol ships, three minesweepers, four submarines, two tenders, and ten auxiliary vessels... A total of 36 pennants. There were 286 sorties flown. But unfortunately we did not manage to find the submarine..."

406. Photo captions

407. Submarine commander Captain 1st Rank V. I. Kobzar

408. The CIA Joins In

409. March 1968. Hawaii. A post of the fixed system for detecting and tracking Soviet submarines.

410. ...That day post personnel had something over which to puzzle. A strange signal had been registered in one of the control sectors by hydrophones, the system's sensitive ears hidden deep beneath the water. The post commander immediately realized that this sound had nothing in common with ordinary ocean voices. After comparing all data, he realized after some reflection what kind of "nut" had cracked in the ocean depths...

411. The information immediately went to the top accompanied by a special

memorandum where the post commander set forth his considerations, and his memorandum ``met" a memorandum of another campaigner, a ``listener," on the desk of the American Navy commander in this area... The picture cleared: two lines drawn from two detection posts intersected at one point, denoting approximately where the ocean had crushed that same ``nut."

412. After Soviet Navy search operations subsided and then stopped entirely, the ``Mizar," an ultramodern, ultrasecret U.S. Navy vessel, moved into the presumed area of the submarine's loss; at one time she had located the disaster sites of the American nuclear powered submarines ``Thresher" and ``Scorpion." The mission was to determine the site of the Soviet submarine's loss with maximum accuracy. ``Mizar" searched patiently for two months. Several times they ran across a ``submarine" in the ocean depths, but after thorough inspections and investigations of these objects they were convinced it was not the one... And they continued searching.

413. All the same, they got a fix on the sunken submarine by the end of the second month. Marking the site with buoys, ``Mizar" began exploring the depths. They lowered searchlights and special cameras into the abyss on long, sturdy lines and carefully photographed the submarine lying on the bottom.

414. After performing her mission, ``Mizar" returned to base. Now it was up to others.

415. The problem of how to bring the Soviet submarine to the surface was discussed at the highest level of the U.S. Navy. To the Americans' great annoyance, the problem did not reduce to purely technical aspects. How would the Russians react? No matter what you say, the act clearly was piratic: without knowledge of the country which had lost the ship and, moreover, secretly from it... It would be fine were it a civilian vessel. The practice on this score is commonplace: you raise it, notify the country of ownership and get the prize... But here it was a question of a submarine. An unprecedented situation...

416. By the way, military lawyers suggested that even were information about the raising to leak to the Russians, they hardly would begin raising a ruckus. They had hushed up the fact of the ship's loss and were taking no steps to raise her... There were grounds to take a risk.

417. Well, the end justifies the means. On securing for itself the submarine's wreckage, missiles with nuclear warheads, other models of the submarine's arms and equipment, and the ciphers and codes on her, the American Navy would be the possessor of valuable intelligence about Soviet submariners and about the Russians' engineering and technology...

418. It really was worth the risk.

419. Having arrived at that conclusion, the U.S. Navy leadership turned to the CIA for help. The operation was extremely complicated and secret.

420. A deputy to CIA Director R. Helms recalls this affair as follows: ``When I presented my proposals for raising the Russian submarine to the CIA

director, Helms almost threw me out the window. You must be crazy,' he said... But he declared that the idea had to be discussed first with the President. Only in case of his support was it possible to begin implementation..."

421. By this time the CIA had many successes on its record which added weight both to the CIA director and his establishment, forcing the U.S. President to listen attentively to the voice of the special service. Despite the U-2's destruction and the pilot's capture, the Powers espionage flight nevertheless brought the CIA many dividends. The East Berlin tunnel, tapping Kremlin telephones, and certain other actions-the CIA had all this to its credit. And as U.S. NEWS AND WORLD REPORT noted later, in 1975, President R. Nixon could not resist Helms' charm and the authority of the establishment he headed-he gave the okay for the operation.

422. The "good news" generated a surge of enthusiasm in the U.S. Navy leadership. But CIA specialists grown wise from experience cooled the ardor of Navy colleagues. There was to be no hurrying here. Above all it was necessary to work out the operation as thoroughly as possible, find a reliable cover, obtain necessary appropriations and build special vessels... And most important, preclude a possible information leak in all stages.

423. Secret Mission of "Glomar Explorer"

424. As a cover the CIA decided to use a very eccentric American billionaire, Howard Hughes, owner of a network of airlines, hotels and electronics companies. It was very opportune that Hughes recently had shown interest in mining minerals from the ocean floor: in connection with this it would hardly cause undesirable repercussions if he began building a special vessel for underwater prospecting and operations.

425. Hughes began implementing the project enthusiastically. He was so pleased by the proposal that he even agreed to relatively small remuneration.

426. TIME reported in March 1975 that the operation financed by the CIA to raise the submarine cost taxpayers almost \$350 million. Some 4,000 persons took part in accomplishing it...

427. Hughes revived relations with Lockheed to build the system for raising the submarine. A basic vessel was to be built which would accommodate devices for the raising, and a special barge for transporting the raised ship or her parts. The well-known firm of Global Marine Incorporated (hence evidently the vessel's name "Glomar Explorer") acted as client and the no less well-known Sun Shipbuilding and Dry Dock Company as contractor.

428. ...For the two years construction and trials of "Glomar Explorer" were going on, the CIA used numerous channels to actively spread information that the vessel was intended for prospecting for and mining minerals from the seabed. By the way, in an irony of fate, this wide-scale disinformation gave impetus to development of an entire set of directions of science and entrepreneurial activity. More than two dozen companies formed a well-financed enterprise for joint prospecting and seabed mining of minerals...

429. ``Glomar Explorer" was launched and departed on her first cruise in 1972. To camouflage the vessel's true purpose even more reliably and divert the attention of newspapermen and the public who were inclined to doubt the official version, it was decided that ``Glomar Explorer" would take part in an expedition to prospect for minerals in the ocean. The vessel really proved herself to be irreplaceable in performing such tasks, but a different role had been prepared for her...

430. On 20 June 1974 ``Glomar Explorer" again put to sea with barge in tow to carry out the main phase of the operation, named Project Jennifer. The vessel was at the site of the submarine's loss by mid-July and the raising began.

431. The barge was submerged to a depth of 150 feet and brought beneath ``Glomar Explorer's" hatches. A flexible articulated pipe, built up gradually, reached the submerged barge, then, connected to a claw, went further. By the moment it reached the depth at which the submarine was resting, the weight of pipe with claw had reached 400,000 pounds (around 2,000 tons). Numerous television cameras permitted operators to see everything occurring in the ocean depths in detail. Now the claw had been led to the submarine hull. Now the intricate work began. The grab was made! It could be raised.

432. The first thousand feet to the surface, the second, the third... Everything was going normally. Suddenly, when almost half the distance had been covered, the vessel shuddered. A break? No, everything was in order with the lowering devices. Just what happened? The television cameras gave a hint. Having experienced the water's destructive effect, the submarine hull did not hold up. In breaking, part of it had again swooped into the depths, this time possibly forever.

433. But the claw continued tenaciously holding the remaining part, approximately two-thirds of the submarine's length, and slowly but surely coaxed it to the surface. To the Americans' great disappointment, the submarine afterbody together with sail had broken off, and it was there that the missile silos with nuclear warheads and the code room had been.

434. The raised part of the submarine was accommodated on the barge, which then surfaced. ``Glomar Explorer" headed for base...

435. Subsequently U.S. NEWS AND WORLD REPORT would give the following assessment of this unique operation: ``From all appearances, Project Jennifer should be assessed as one of the most successful CIA undertakings and also as evidence of U.S. attainment of a high level of development of technology for raising underwater objects from great depths..."

436. Inspired by the first success, newly appointed CIA Director W. Colby demanded authorization to continue the operation. He motivated this by the fact that in case of further success the United States would have all the codes, ciphers and diagrams of the Soviet submarine control machines and would receive invaluable information on many questions which would facilitate organizing opposition to the USSR Navy in the ocean.

437. But there were people in government circles doubting the advisability of continuing the operation. They emphasized the high cost of this adventure and possibilities of complications with the Soviet Union in case it should learn about the operation. Other experts rebutted this, saying that the U-2 situation of 1960 would not be repeated and the Russians hardly were about to make a serious diplomatic problem out of this. They cynically referred to the USSR's incentive for strengthening international detente and declared that the Soviets were not about to turn the affair of the submarine into one more subject of disagreement... "Project Jennifer is being carried out in the interests of U.S. security, which is ensured by CIA activity," declared Senator Stennis, Democrat from Mississippi, with straightforward frankness at a session of the Senate Armed Services Committee. He also was supported by Senator Hart from Colorado.

438. Thus one need not doubt that a rather long life would have been predestined for Project Jennifer but, as often happens, chance intervened in the matter...

439. In what way did the ubiquitous American journalists come across the initial information about preparation of Operation Jennifer? Such is the nature of the American journalist: to dig down to and sensationalize the minutest details on securing for himself a small crumb of information.

440. And the following fact indicates that newspapermen did "dig down" to the crux of the matter: one fine day Howard Hughes discovered that documents connected with Operation Jennifer had disappeared from his personal safe, and soon newspapers came out with sensational headlines... What had been secret had become manifest.

441. Photo captions

442. American vessel "Glomar Explorer"

443. Device used by the Americans to raise the sunken Soviet submarine

444. Will We Learn the Truth?

445. The Navy leadership, which to this day some are not beyond accusing of the desire to keep everything concerning the loss of the submarine in March 1968 secret, presented the authors with numerous documents of those years. It is clear from them that all these years our government and the Navy command did not give up attempts to obtain extremely valid information about the fate of PL-574 and her crew. It is also clear that on receiving information about American attempts to raise the sunken submarine, those at the top did everything to stop this action.

446. To keep the CIA from raising the submarine and also to obtain complete information regarding PL-574 from the American side, the USSR Minister of Defense sent a memo to the CPSU Central Committee in which he proposed that the ambassador in the United States lodge a protest against CIA activity and demand that the operation be stopped. After considering this memo, the CPSU

Central Committee decreed:

447. 1. Approve the USSR Ministry of Defense proposal.

448. 2. Approve instructions on this matter to the Soviet ambassador in Washington.

449. The following was reported from Washington in April 1975:

450. ``In response to the Soviet Embassy query, American government representatives . . . officially confirmed the fact that an operation was conducted to raise a Soviet submarine and essentially admitted partial success. Thus, in a conversation with USSR Ambassador A. Dobrynin on 19 April 1975, U.S. Secretary of State H. Kissinger declared that the Americans had raised the bodies of six Soviet seamen from the sunken submarine. The first and last names of three managed to be established from preserved documents. Three others could not be identified. Kissinger promised to give the names of the deceased seamen..."

451. On 22 April 1975 Scowcroft, a representative of the U.S. Secretary of State, informed our ambassador of the names of some of the deceased seamen: Viktor Lokhov, Vladimir Kostyshko, Valeriy Nosachev.

452. The American side kept the word Kissinger gave Dobrynin: a command to stand down went to the CIA and attempts to raise the remaining parts of PL-574 have not been renewed since then.

453. Meanwhile the Soviet government was interested in obtaining official documents confirming that the CIA raised the submarine and buried those dead seamen. The Soviet side needed those documents not for some kind of appeals to international law, but in order to publish information about the loss of PL-574 and about the fate of the sunken submarine. Possibly this is why appropriate services of our country to this day have not ceased attempts to obtain necessary information from U.S. officials.

454. On 12 January 1990 Admiral of the Fleet K. V. Makarov, chief of the Main Naval Staff, requested General of the Army M. A. Moiseyev, chief of the USSR Armed Forces General Staff, to send an instruction to the Soviet ambassador in Washington to obtain detailed information about raising of the Soviet submarine in the Pacific in 1974, the number of seamen discovered and their burial locations, and to submit available documentary data.

455. General of the Army Moiseyev sent a message to the Soviet ambassador.

456. The answer came from Washington on 1 February 1990. The USSR ambassador to the United States reported: ``...The Secretary of State regarded this communication with attention and promised to look into it."

457. Time passed, but there still was no answer to the question raised by the Main Naval Staff and USSR Armed Forces General Staff. Finally one more message came in May 1990 from the USSR ambassador to the United States for E. A. Shevardnadze, D. T. Yazov and V. N. Chernavin: ``In a conversation with me on

27 April of this year Deputy Secretary of State R. Seitz passed on the American side's answer to our communication in connection with the Soviet submarine which sank in 1968.

458. ``We realize,' said Seitz, that it is a question of a very delicate matter. In referring to the history of this question we determined that at one time the U.S. government transmitted certain information to the Soviet side through Ambassador Dobrynin in this connection in April 1975. Certain details of what was the subject of Your recent communication on this question were made known to the Soviet government on a confidential basis. In particular, at that time information was passed to the Soviet side that a total of six dead seamen were found and raised and that identities of three managed to be established. Their names also were communicated through Ambassador Dobrynin.

459. ``We proceed from the assumption,' said Seitz in conclusion, that in its entirety the transmitted information provides an adequate response to the questions You raised. In any case, that response covers the humanitarian aspect of Your communication...''

460. It is apparent that even today, when our powers widely declared mutual rejection of the policy of confrontation, someone in the United States prefers innuendos and reservations. It remains only to regret that the time of total frankness has not yet arrived, especially as with the passage of so many years the question of PL-574 becomes less and less a military and political problem and more and more a moral problem. For it is a question of relatives and friends of the deceased finally learning the truth about the tragedy insofar as possible.

461. We succeeded in meeting some of them.

462. Irina Georgiyevna Zhuravina, wife of PL-574's executive officer, relates:

463. ``In 1968 the USSR Council of Ministers adopted a decree providing families of the submarine crew with housing and giving material assistance. We were given a one-time allowance for my husband of R1,000 plus R500 for the child. I still have that in my savings-bank book. I cannot take this money. It is a feeling like if I take it, that means I agree with the death of my husband. I cannot cross this line.

464. ``In 1975 I was working at the Sheremetyevo customs house. During an inspection of articles, foreign newspapers with the story of the loss of a Soviet submarine in the Pacific in 1968 and her raising by the Americans began showing up. With the permission of KGB representatives, I collected several excerpts, translated them and realized this was our submarine. I turned to the Main Naval Staff for explanations, and there they said: We know nothing. And in general, why do you think this is PL-574? This may be an entirely different submarine.'

465. ``Even now I continue to seek at least some kind of information about the submarine. It is just a pity there has been almost nothing about this in the Soviet press up to now. I ask you to locate and publish a list of the

dead. At least let this be an official document for relatives and loved ones of crew members that the submariners died in line of duty..."

466. Andrey Kobzar, son of the PL-574 commander, recalls:

467. "Since 1982 I have been attempting unsuccessfully to receive at least some kind of information about my father's fate. I repeatedly turned to various echelons-Moscow City Military Commissariat, Ministry of Defense Main Cadres Directorate-with a request to communicate at least that information which can be declassified after the passage of so many years. Basically I was given evasive answers, and several times they wrote answers for form only. Do we really not have the right to know the truth?!"

468. "I also asked that I be given father's Order of Red Star, which he did not manage to receive before departing on the final deployment, for safekeeping as a cherished memory. And only after appealing to the Chairman of the USSR Supreme Soviet in 1985 was the request satisfied."

469. In fulfilling the wishes of those near and dear to the dead seamen, we publish a list of the crew of the submarine PL-574 at the conclusion of this story. And we appeal to the leadership and public of the United States of America: help publicize all information available in the CIA concerning the tragic loss of the Soviet submarine and burial of some of her crew. With respect to data which USSR naval archives possess, they are quoted almost fully in this story.

470. Photo captions

471. Memorial to crew of submarine K-129, Rybachiy settlement, city of Petropavlovsk-Kamchatskiy

472. KRASNAYA ZVEZDA, 5, 6, 7 August 1991

473. The Secret of Point K, by N. Cherkashin, Moscow-Vladivostok-Leningrad

474. What were you doing on Friday, the 8th of March, 1968? Remember if possible, if you kept a diary. Indeed, this is very important.

475. On that holiday a Soviet missile submarine with side number 574 was lost in the Pacific. The lives of several dozen persons came to an end simultaneously. No one knew about this on that day, even those who had marked her course on secret charts. The missile-armed submarine simply did not come up in communications at the appointed time when she was to report passing a turning point on the route. Although this was a very alarming fact, no one uttered the terrible word "lost." Many things happen at sea-disabled transmitter, flooded antenna...

476. It stands to reason an alert was declared in the Pacific Fleet and aircraft flew out to hunt the submarine...

477. A month later, when all hopes had been exhausted, notices of the personnel's death were sent out to the next of kin.

478. ``Dear ...

479. ``It is with deep sorrow I inform You that Your son (husband) died tragically in the ocean in line of duty. Your son (husband) was a good seaman and true comrade and will remain forever in the memory of comrades in arms as a model of fulfillment of his duty to the Motherland. Accept our sincere condolences.

480. ``Rear Admiral V. Dygalo."

481. Shots had not yet thundered on Damanskiy, Afghanistan had not yet blazed up, but the ``Novorossiysk" incident already had occurred and the experience of secret burials gained by guardians of the people's peace from Gulag times, honed on concealment of the Sevastopol tragedy, the most serious in all our Navy history, helped them also easily send crew members of the sunken PL-574 off onto the river of oblivion. It was well that the submarine and her unlucky crew had been swallowed up by deep kilometers.

482. This is where none will be the wiser...

483. The newspaper requiem for the ``Novorossiysk" which thundered a third of a century after the battleship's loss generated a detonation of memory for many people. Navymen began recalling it aloud, recalling what they had been ordered not to remember-recalling comrades lost at sea.

484. Postage stamps on the envelopes will not allow chance to be embellished: these two letters were laid into my mailbox one after the other with a difference of one day. First the first one, from Leningrad.

485. ``Hello, Nikolay Andreyevich! The journal editors gave me your address. . . . I read the documentary essay on the Novorossiysk' with great emotion. This misfortune is very close and understandable to me, because for 21 years I have been keeping another tragedy in my memory that somehow resembles that of Sevastopol... The submarine aboard which my father, Captain 3rd Rank Nikolay Nikolayevich Orekhov, served departed on a routine deployment and did not return. Another 105 persons perished with him.

486. ``During all these years we knew nothing about the fate of the submarine and her crew. We were only informed that the cause of the ship's loss was unknown. In 1975 I learned from a report on Voice of America that the Americans had discovered the submarine and raised her forebody. From there they removed 80 corpses of crew members and buried them either in the Hawaiian Islands or in California. It was also reported that invitations were sent to families of the deceased. Our Soviet Ministry of Defense did not pass on anything to us, and generally it was very disappointing to learn about all this from across the ocean.

487. ``My father completed the Higher Naval Engineering School imeni F. E. Dzerzhinskiy in Leningrad in 1958. Three years later the journal SOVETSKIY VOIN published an essay about him called Good Fortune.' Papa was supposed to serve aboard a nuclear powered submarine, but the appointment did not take

place due to high blood pressure. At that time they were selecting for the nuclear powered fleet as they were for the cosmonauts. From Mama's stories I know that Father loved his work very much and was exacting not only toward himself, but also toward seamen of his department. The boys became real specialists. When an accident happened aboard the submarine once (the cylinder cover of one of the diesels flew off), the seamen fixed everything at sea in two days. And you know this was yard work.

488. ``I also know the crew was very close-knit, and this probably is the most important. The majority of officers were on leave before the final deployment. They all were summoned to the unit by telegrams. Another submarine was supposed to have gone, but she proved to be unready. They sent PL-574.

489. ``Mama and I told about the loss of 574 in the television broadcast 'Fifth Wheel' on 2 November 1989. At that time I heard from Mama that Father was uneasy before departure and in the circle of close friends told his comrades: 'If something happens, look after my family.' As much as he put to sea, never before had he uttered such words.

490. ``Mama knows nothing about the commander's family except the widow is called Irina, her daughter now is 35 and her son 28. They live somewhere near Moscow. In June of this year I visited the U.S. Consulate and conversed with the military representative. This gentleman promised to inform me of everything the American side knows about the burial of the former submariners. There has been nothing for now.

491. ``I do not wish to go to our own Ministry of Defense any more. That desire passed after receiving a number of bureaucratic responses written for form only.

492. ``I heard two mutually exclusive opinions from competent seamen. Some assert that our seamen, those who were raised, were buried in the ocean near the Hawaiian Islands. Others, particularly retired Admiral I. Vasilenko, who at one time worked abroad as a naval attache, say the Americans removed eight bodies from the forward compartments and buried them on Midway Island (Hawaii).

493. ``I cannot separate my father from the crew, from his comrades. They were all together at a terrible minute, and therefore I believe that both fraternal graves, no matter where they may be, in the ocean or on land, are equally dear and sacred to me. I believe that all mothers, widows and children of the dead seamen have the right to visit these places. You know the coordinates of PL-574's loss are known precisely. I have been corresponding on this account with our former military unit on Kamchatka. The command element gave the okay to set up memorial plaques in the settlement on ulitsa Kobzar with the names of everyone lost on PL-574. But unfortunately even in this unit they cannot reconstruct the full list, although such attempts are being made. I was told this by Lieutenant Andrey Kulikov, who works in the Fleet Officers' Club combat glory museum.

494. ``I wish to know where my father lies: on the bottom of the Pacific or in America? My mama wrote this letter from dictation. It is very difficult for

me to write since I have a second category of visual impairment. I am 29. Respectfully and hopefully, Igor Orekhov."

495. ``P.S. I would like to transfer my month's pension of 60 rubles to establish a monument for seamen of the Novorossiysk.' Please give me the account number..."

496. Here is the second letter, from Kishinev.

497. ``Dear Nikolay Andreyevich! A former submariner, Rear Admiral (Retired) Anatoliy Timofeyevich Sungariyev, is writing You. I am already at that age when it is time to think about the soul, and I would not like to take with me this story, which now already not only I alone can tell in all details.

498. ``Everything set forth below is the exact truth. I can err only in the accuracy of dates, since I am reconstructing events of 15 years ago only from memory, and this, as you know, is not a reliable tool. There is further difficulty in the fact that some of the persons involved are still alive and hold high leadership posts. And inasmuch as this story affects them personally and reminds them of what they do not wish to remember, in publishing my story You will surely hear an angry outcry: All this was not that way! All this is slander!' Meanwhile, everything was specifically that way!

499. ``On 24 February 1968 a submarine, side number 574, departed on combat patrol duty from a bay on Kamchatka. She was new for those times. The diesel powered missile submarine carried a missile system with underwater launch of several high-powered ballistic missiles, as well as two torpedoes with nuclear munitions. The submarine did not return from the deployment. At the appointed time (coinciding with a turning point on the route), the submarine did not transmit the RDO (radio message) stipulated by the operation order. A Fleet alert was declared. Aircraft flew out into the ocean and search and rescue forces and combatant ships departed, but a massive two-week search in the calculated quadrant of her probable location produced no results. A weak hope that, deprived of communications and power, the submarine possibly was adrift somewhere in a surface condition soon disappeared.

500. ``Individual reports from ships about discovering diesel fuel slicks and unidentified floating objects could not be unequivocally related to the submarine which had disappeared. The search was called off and in time other events crowded the sad story from Fleet life.

501. ``At the beginning of emergency search operations it was learned that a certified list of crew members of the submarine which had departed on combat deployment was absent at the submarine squadron command post (the formation no longer exists at the present time; then it was commanded by Rear Admiral Ya. Krivoruchko). Crying slipshodness!

502. ``Subsequently the fact of the submarine's loss was not announced in an order of the CinC Navy, Admiral of the Fleet of the Soviet Union S. G. Gorshkov: a hushing-up system which had formed long ago functioned.

503. ``As a result, finance personnel began shoving sticks in the wheels' in

deciding the question of pensions for wives of deceased officers and warrant officers: it was iron logic- since there was no order on the loss, that means he did not die. At the very least it dragged on that way at first. By tradition, they passed the hat...

504. ``But subsequently, hushing up the fact of the submarine's loss at the government level led to unforeseen complications in the Ministry of Foreign Affairs channel, and on an international plane in general. But about this later.

505. ``In 1966 I, a former submarine commander in another formation, turned over command to my successor and transferred to higher headquarters. It was then I had occasion to become closely familiar with PL-574 and her commander and crew.

506. ``During 1966-1967 this submarine underwent yard repair and modernization. After its completion, as a staff officer I took part in post repair trials.

507. ``I liked Captain 2nd Rank V. Kobzar, commander of the PL-574; he showed himself to be a highly professional submariner specialist. The crew demonstrated good naval proficiency. Many retain a good memory of the commander as a competent, industrious, strong-willed officer who firmly held the reins of control over ship and crew.

508. ``I established confidential relations with Kobzar during a check departure. As a matter of fact, it is easy and pleasant to give a good grade when a ship is clean, the crew knows their job and officers are well trained (including also for my narrow profile-checking knowledge of the probable enemy and his tactics).

509. ``After completing post repair preparation, the submarine departed for Kamchatka, where she began performing missions...

510. ``With this I am breaking off my story. I will continue it as soon as You confirm receipt of this letter by telegram. My subscriber box is No ..."

511. It stands to reason I immediately sent a telegram to Kishinev and, in expectation of the next letter, began calling around to seamen I knew who might know at least something about the ill-fated submarine. Above all I contacted Rear Admiral (Reserve) Viktor Ananyevich Dygalo, former commander of that same division which included PL-574. We met.

512. ``It's difficult for me to speak about this... During all my 30 years of service I never experienced anything more sorrowful... Yes, I sent PL-574 off on that final fatal deployment. I did not wish this and tried to persuade the higher-ups to send another ship in her place.

513. ``Captain 2nd Rank Kobzar's submarine returned from combat patrol duty on 30 November 1967. Not two months went by when they again began preparing the submarine for putting to sea. Officers were piped' back from leave, people did not have time to rest, machinery done in by rigorous operation was not

seriously adjusted, and again off on deployment. But squadron commander Rear Admiral Ya. Krivoruchko was not about to listen to me. Vice Admiral G. K. Vasilyev, commander of Pacific Fleet submarine forces, was pressing him hard. As an old submariner and with front experience to boot, Georgiy Konstantinovich could not help but be aware of all the riskiness of shoving a ship out into the winter ocean that way. But CinC Fleet Admiral V. Amelko was pressuring him and the CinC Navy was pressuring Amelko to put to sea no later than 24 February. Another aggravation of the international situation was occurring and Brezhnev was attempting to threaten the Americans with much more than shoes from the UN rostrum. He demanded that the Navy be ready for war.

514. ``It was that kind of fatal chain. Even without that we were feverish: with Kamchatka's remoteness it is very difficult to organize normal duty with timely repair of ships and a scheduled rest for crews. At every trifle there would be an immediate reference to the state's highest interests. You yourself remember that time: You have to, Fedya.' And do it even though you die. Everything proceeded from the Stalinist line-do it at any cost. And so we pay with lives...

515. ``I have to say this as well. The nuclear powered fleet was only just getting on its feet. Therefore at Brezhnev's direction naval leaders were striving for supremacy in the ocean and were squeezing everything they could out of the diesel submarines. You probably think I am trying to shift all responsibility to the shoulders of higher-ups. No, I fully received everything coming to me, but you should consider all circumstances of this tragedy in trying to understand who is at fault for the submarine's loss. All of them!

516. ``But the fact is, we do not know all of them. We still do not know what occurred aboard the submarine herself. Captain 2nd Rank Kobzar was an intelligent commander, but sometimes any trifle becomes fatal at sea.

517. ``They departed on 24 February 1968. By the way, the Komsomolets' also set off on her last deployment on 24 February. Perhaps the day is so unlucky? The mood of many was dispirited. Someone flung out on parting: We're leaving forever.'

518. ``All in all, they departed from the bay whose name in French means grave.' They went down south to the 40th parallel and moved westward along it. Something happened to them on the 12th day. On 8 March Kobzar did not come up in communications. A rumor went around the garrison. Wives came running to headquarters. I calmed them for a day, a second day, a third day... I lied a great deal. They believed me because they wanted to believe, but their hearts suggested more accurately than any equipment that there had been trouble.

519. ``...Kobzar's wife just has not married. She keeps waiting...

520. ``The crew was close-knit. They even sang something like a hymn to a guitar:

521. ``Lights did wink to us but briefly, As nighttime fog enveloped all. Sea gulls dozing, mountains sleepy, When we heeded ocean's call..."

522. Dygalo's words trembled and his eyes grew moist, but he still finished the song:

523. ``...And gulls will not believe their eyes, When in the fog ere dawn is full
We come up dreaming to see shores rise, After crushing ocean beneath the hull.

524. ``But it turned out that the ocean crushed them. The depths in that depression are even more than 5 km..."

525. And he fell silent, locking his fingers firmly.

526. I met one other seaman, Captain 1st Rank (Retired) Nikolay Vladimirovich Zateyev. Zateyev is a former Northern Fleet man who commanded the first Soviet nuclear powered missile submarine. That year when the 574 disappeared without a trace he was serving in Moscow as a USSR Navy Command Center operations duty officer. Our conversation took place over a cup of coffee in the Writers' Club on ulitsa Gertsena.

527. ``I don't know what could have happened to them. There were no complaints about the crew in combat training. They had just returned from the seas, they rehearsed as necessary, and had become cohesive.

528. ``What can I surmise? In all times, concealment of operation was the yardstick of a commander's proficiency above all. Without it no other missions of an underwater ship can be executed. The problem of problems for diesel submariners was covert charging of the storage battery. Most often submarines surface for this purpose at night and thrash the diesels until dawn. But darkness helped only in the preradar era. Therefore they undertook the following contrivance-sailing in the layer near the surface and putting out a snorkel mast underwater...

529. ``The snorkel mode-diesel operation underwater-is the most dangerous for an underwater ship.

530. ``Yes, I remember what tension reigned in the Command Center when one of our submarines snorkeled. Most often the commander would choose a calm sea for this.

531. ``Quarters! Stand by your posts! Proceed to snorkel!' The broad air induction pipe would extend from the conning tower sail. It would rip open the calm, mirrorlike surface of the sea, flap valves would open and the diesels would greedily suck in marine ozone. In addition to the snorkel mast, extendable antennas and both periscopes- altiperiscope and attack periscope-would protrude above the water or, more accurately, would cut it. All officers even including the doctor would progressively observe the sea and sky through the periscopes. There was little hope for the sonarmen-the diesels' din jammed hydrophones...

532. ``How many submarines perish because of this snorkel! Either the float valve freezes and does not function in time, or it is covered by waves, the submarine sinks, and damage controlmen miss closing the mast... It would

happen where the mast would break in two itself because of a scarcity of metal from which it should have been made.

533. ``I think something of the sort also happened with the 574. The crew was tired and lost vigilance-and operating under diesel in a winter ocean is nothing to sneeze at. But Kobzar was required to have total concealment. They had ballistic missiles and nuclear munitions. Possibly they were under snorkel even when the waves came up... I will not guess.

534. ``At this time I was on duty at the Navy Command Center. I remember well how everyone got in a whirl when Kobzar did not come up in communications. A massive search began on 12 March. They even moved reconnaissance aircraft from the North and Baltic. They looked for a long time... Then the Americans joined in. They were first to discover a 10x2 nm oil slick and vectored our hydrographic vessel. The hydrographer collected about 50 grams of fuel from the film. An analysis showed it was our diesel fuel. Then a storm came up and the slick was dispersed... Then the following also was superimposed. No certified list of PL-574 crew members was to be found in division headquarters. They went out hastily, and with mobilization registrants-apprentice seamen-at that... They did not have time to formalize the list. But without this document the personnel people will not issue death certificates to relatives, and without them a pension is not assigned... They deliberately delayed things for a long time-this was the custom from Stalinist times. A Shch'-Class disappeared without a trace in the Tatar Sea in the early 1950's. Stalin expressed doubt: What if they sailed away to the enemy? The personnel people bided their time. At that time, too, neither pensions nor allowances were allocated..."

535. It was with enormous impatience I waited for and received the second letter from Kishinev.

536. ``...By the second and main stage of this story," wrote Sungariyev, ``I was serving on the Pacific Fleet staff in the position of deputy chief of a directorate... It was 1974. My immediate superior, Captain 1st Rank V. Dombrovskiy (he became a Rear Admiral in 1975), now deceased, was distinguished by an exuberant cheerfulness and made no attempt at all to load himself down with the burden of official responsibility; therefore he willingly granted me control of the conglomerate of subordinate units, ships and departments. Because of this it so happened that I basically bossed the firm' and it was I, too, who would be called on the carpet before the Fleet command. My superior would make a trip to the units in anticipation of all kinds of collisions, and as a rule would appear before the bright eyes of the command during advantageous briefings when the firm' was on top of things. That was the specific nature of duty and that was the settled procedure, and I do not plan to unbosom myself over any resentments and assert how good I was and how bad my superiors were. No. I was simply free to act and at that time every one of us had become a bit accustomed to receiving bumps' and bruises.'

537. ``As was later established, on the transit route to the mission area the Soviet submarine had been rammed by the U.S. SSN Swordfish' (Skate'-Class), which had been following her.

538. ``Up to the moment of the collision our submarine had been proceeding under snorkel and was deaf as a moo-cow' (terminology of American ASW personnel) due to the noise of the diesel.

539. ``It should be mentioned that lengthy covert' transits under snorkel by submarines of those years were regarded as a certain yardstick of diesel submariners' tactical art, and in some formations took the form of unique nautical bravery in addition to a commendatory evaluation of the command element. Tactical manuals which existed in those times and the backwardness of our Navy's tactics compared with development of U.S. ASW systems also contributed to this.

540. ``According to commanders and submarine engineers, the lost submarine was not among the laggards and was distinguished by her art of snorkelling even under stormy conditions.

541. ``The collision occurred on the evening of Friday, 8 March 1968, near a route turning point at coordinates 40°00' North latitude, 180°00' West longitude; and actually at coordinates 40°06' North latitude, 179°57' West longitude. The depth in the area is 6,500 m and the distance from the Kamchatka coast is around 1,230 nm.

542. ``Subsequently this point began to figure as Point K in Fleet documents.

543. ``While tracking our submarine, the U.S. nuclear powered submarine presumably maneuvered actively from side to side and dove beneath the tracked target at critically short distances.

544. ``It is not precluded that the collision occurred as a result of our submarine turning to a new route heading that was not promptly noted by the commander of Swordfish' when our submarine presented her side. The American SSN unintentionally struck the bottom part of our submarine's control room with the upper part of her sail. PL-574 went to the bottom with a flooded central compartment.

545. ``Three days later the U.S. SSN Swordfish' arrived at the Yokosuka, Japan Naval Base with the forward part of the conning tower sail crumpled. Repairs were made covertly during the night. The submarine also left Yokosuka Naval Base and made the transit to Pearl Harbor covertly and subsequently was not noted in any kind of activity for approximately one and one-half years. We received indirect information that the crew of Swordfish' was made to sign about keeping the accident strictly secret.

546. ``Later, when the secret became manifest, U.S. Pacific Fleet High Command representatives who spoke at briefings stubbornly denied the fact of a collision and impact of the nuclear powered submarine with the hull of our submarine. They declared that the time and place of our submarine's loss had been identified by the Caesar early warning shore sound locating station according to the characteristic noise of the entry of water and breakup of the submarine hull as she sank into the depths. Thus three characteristic aspects appeared in the U.S. Pacific Fleet command's position:

547. · the intention to hide and shield the commander of Swordfish,' whom specialists might accuse of unjustified daring and incompetent maneuvering, the motive being to protect the honor of the uniform; · fear of international accusation of the U.S. Navy command of deliberate destruction of a Soviet submarine, which could lead to a sharp exacerbation of the military-political situation; · and finally, a unique advertising of technical capabilities of the Caesar shore sound locating subsystem.

548. ``On this I will break off for now. I do my own typing, and you can't peck out much with one finger."

549. Despite confirming receipt of the previous message twice, I just did not receive the next letter. Instead a postcard came with a Moscow stamp:

550. ``N. A.! Cardiac matters brought me to cardiology at the Hospital imeni Burdenko. Come if you are in Moscow and desire to hear the end of the story. 18th ward, 5th department. Yours, A.T.S."

551. I obtained a meeting with Sungariyev that same day despite nonvisiting hours.

552. An elderly, thickset man in brown hospital pajamas led me off to a quiet corner of the hall and I took out a notebook.

553. A few words about my narrator. He was born to a peasant family near Kursk, finished naval school in the 1950's, commanded diesel submarines of various designs in the Pacific, and experienced all the troubles of the Caribbean crisis while at sea on combat patrol duty. All in all, before transferring to staff work he had sailed, and seen, and gone through a great deal...

554. ``Well then," Sungariyev began his tale, ``at one morning theater situation briefing in July 1974 I noticed in the center of the North Pacific the appearance of a special vessel, Glomar Challenger' of the American Glomar firm, which had international status.

555. ``I also noticed the fact that the area of operations of Glomar Challenger' coincided with the center of the hunt for the submarine with side number 574.

556. ``But the principal reason for my watchfulness was that the Glomar firm was using its vessels (nine were registered) to explore the shelf and seabed of coastal continental slopes with depths on the order of 200 m. Vessels with the Glomar company mark had been noted earlier in the area of the Great Barrier Reef (Australia) and off the coast of the Philippines, but never in deep-water ocean areas. According to advertising, the Glomar vessels were specializing in deep drilling of bottom soils to reach liquid magma and study possibilities of extracting rare elements. Quite like in A. Tolstoy's Engineer Garin's Hyperboloid.' But this was advertising and it is the responsibility of businessmen-technocrats. We knew one thing: technical capabilities of the Glomar firm's specialized vessels were limited to shelf zones. Just what could such a vessel do in the middle of the ocean, where depths are over 6 km?

Meanwhile, the vessel was steadily noted in a limited area of the open ocean.

557. ``Dombrovskiy assessed my suspicions very unequivocally: There is no reason to create a problem when the higher-ups do not assign a task. We have enough of our own concerns.' It was left for me either to give it up as hopeless or act alone on my own responsibility and risk. To begin with it was necessary to acquire documentary substantiation. I turned to Fleet Deputy Chief of Staff L. U. Shashenkov.

558. ``Lev Uvarovich, when Kobzar's submarine sank it seems you were directing operations of search forces from Fleet Command Center positions?'

559. ``Well, yes, of course. I was directing.'

560. ``Just where are the records?'

561. ``Oh! You really found something to ask! So many years have passed! In the archives, of course.'

562. ``Lev Uvarovich! I beg you, give the order to locate these materials.'

563. ``Fine, if they haven't burned them...'

564. ``I realized that only friendly relations would help me acquire these documents. Several days later the archive reference material awaited me at the Fleet Command Center. Opening the charts, I immediately realized that the center of the search area for PL-574 and the center of the Glomar' area of operations were one and the same. But by that time Glomar Challenger' had left the area and departed for the States."

565. A nurse arrived and Rear Admiral Sungariyev, an analyst with burning eyes, turned into a patient wrapped in baggy pajamas with a white, turned-down collar. He was led away for procedures...

566. Alas, our second meeting was not destined to take place. I was informed in the hospital registry that patient Sungariyev had been transferred to the intensive therapy ward and access to him was prohibited. Such a turn of events also depressed Anatoliy Timofeyevich no less, if not more, than me. But what are hospital impediments to a former submariner?

567. In the morning the nurse phoned me from cardiology and passed on Sungariyev's request to bring him a portable dictaphone. Two days later, inserting the compact cassette into my tape recorder, I heard a hollow, intermittent voice.

568. ``The battery is rather weak. I fear it will not suffice. Next time bring a fresh one. Well now, approximately two and a half months went by. Services tracking the maritime situation reported that some kind of new target with the callsign Glomar Explorer' had appeared in our area of interest.

569. ``I rechecked international references-such a vessel of the Glomar firm was not registered. The conclusion suggested itself that someone was

camouflaging himself as a vessel of this firm, and this someone was interested in the area where our submarine was lost. But... The depths! It remained completely incomprehensible who could explore what lay at such a monstrous depth, how, and in what manner.

570. ``I and my officers prepared a local area chart and a brief memorandum to the effect that there were data requiring additional confirmation that U.S. special services were studying the area of our sunken submarine's probable location and an unidentified object with the callsign 'Glomar Explorer' was performing some kind of special assignment.

571. ``I broke my chief's skepticism with my briefing. Assembling a group of analytical geniuses, we invaded the CinC Fleet's office like a concerted crowd of gypsies. Here is this little surprise, Comrade Commander in Chief!

572. ``CinC Fleet Admiral V. Smirnov quickly grasped the essence of the matter and flew into an excited state.

573. ``Ready a ship immediately! No, two ships! Put aboard specialists, fill it with the necessary gear and head for the area in the shortest possible time. Identify the object and uncover the nature of its activity and intentions.'

574. ``If my dear chief could have foreseen the consequences to which this first little briefing would lead.

575. ``It was easy to order, but how to execute? One might think there was at the very least half a hundred ships standing at our disposal with their steam up. Sending one, let alone two ships on an unscheduled mission meant breaking up the entire annual plan for use of ships, for the clever CinC Fleet did not give us one additional ship!

576. ``On exiting Smirnov's office the chief already was looking at me like an angry bear': Why do I need your initiative? You thrust yourself on me with your idiotic undertakings.

577. ``But an order is an order, even if you fished for it yourself. Several days later the fastest ship with a solid cruising range departed for the area of Point K. Observing total radio silence, the ship arrived in the area in a week. It arrived and discovered in the area a vessel of completely incomprehensible design. Not even a vessel, but a floating platform almost the size of a soccer field. Open-work trusses resembling oil derricks in the middle. Racks of pipes. Civilians scurrying on deck. The Americans did not react to our ship's appearance. Anchor chains and mooring buoys were not visible, nevertheless the vessel was maintaining station. The weather was brisk. The platform was not performing any kind of work. That was all the information. Three days went by. 'Glomar Explorer' left the area and headed for the Hawaiian Islands. According to orders, our ship relentlessly pursued her at visual range.

578. ``On 25 December 1974, and this was Christmas Eve, 'Glomar Explorer' neared Oahu Island and entered Honolulu. It was clear to us that according to

established tradition, the vessel would not put to sea for all of Christmas week, from 26 December through 2 January. And the crew would squander dollars in the bars.

579. ``December is a period of storms. Considering that fuel reserves were coming to an end and it was an unbelievably difficult matter to refuel a ship in the open ocean even from our passing vessels, we made the decision to call the ship back to Vladivostok. Calling her back in the Pacific theater meant a three-week transit under continuous stormy conditions.

580. ``January went by. In its final days Glomar Explorer' again was DF'ed in the initial area.

581. ``We went to the CinC and told him a large combatant ship was needed for tracking and for interfering actions should it become necessary. The CinC looked at us like frivolous youths and snapped out:

582. ``There are no ships, and there will be none. Solve the problem with your own assets.'

583. ``We realized that sending a large combatant ship into the center of the ocean under continuous stormy conditions, sending her and providing a tanker to accompany her, was more than the Fleet could afford. We began to extricate ourselves with our own assets or, more accurately, to catch a situation.'

584. ``If memory does not betray me, ships of TOPE-5 (Pacific Hydrographic Expedition) were deployed in the southern part of the ocean in early March 1975 to support the flight of cosmonauts. The space command, control and telemetry complex ships are not shells, but bulky, cumbersome things of 8,000-12,000 tonnes with appropriate contents and seaworthiness. But most important, they could be used only under the Moscow Space Center plan. Consequently, we could count on their use only in passing, after performance of the mission assigned by the Center. We caught' one such space command, control and telemetry complex ship, Chazhma' (her commander was [Captain] 1st Rank N. Krasnov), returning to Kamchatka from an area south of the Hawaiian Islands. It was to him that we slipped a mission under the signature of the Fleet chief of staff: adjust heading for area with center ... Discover Explorer,' track, identify nature of activity, paying special attention to possible signs of ship-raising operations.

585. ``I am far from thinking that the commander of Chazhma' was enthusiastic over such a mission, especially at the end of an exhausting cruise. Nevertheless, he followed instructions. He arrived in the area, detected, and began tracking a completely incomprehensible, never before seen floating structure similar to a marine platform like those on Baku's Neftyanyye Kamni. What it was doing was absolutely incomprehensible. Some kind of devices resembling mechanical robots were lifting metal pipes each approximately 25 m long from racks, screwing them together and sending them downward. During hours of daylight it sent down a string of 60 pipes approximately 1.5 km long, then began to raise and unscrew them. The sea state was 6-7.

586. ``Not satisfied by reports of that nature, at night, when relative calm

set in at the Fleet Command Center and communications were not loaded down, I would go to the communicators and call up the commander of the space command, control and telemetry complex ship by teletype and pump information from him by bits and pieces.

587. ``Commander, do you remember Kobzar?'

588. ``Of course I do.'

589. ``Please look for signs that they are either raising him or planning to raise him.'

590. ``May God strike me dead, I can't find anything of the sort. All signs are that they're seeking oil.'

591. ``And so on, and in the very same spirit. A week passed and the commander reported that stores were giving out.

592. ``Reluctantly I carried the instruction to the Fleet chief of staff: To commander of space command, control and telemetry complex ship "Chazhma." Proceed to base.'

593. ``Another half month went by. I succeeded in dislodging the oceangoing rescue tug MB-136 from the Fleet command. We placed sharp-eyed lads on her, but this of course would make you cry compared with the previous ships. Binoculars and a notebook. A Talmud from which to encode a simple message to the captain (a civilian) took an extreme effort.

594. ``He arrived and discovered. Began observation. Nothing new. Ten days later the MB-136 implored that there were just enough stores left only for the transit to Petropavlovsk.

595. ``During April-May we got the hang of sending long-range reconnaissance aviation aircraft (Bears by American classification) into the Explorer' area of operations. The predominant cloud cover was 10 on the scale. They would fly in for a prick,' daub' at the horizon with radar and head back to the field. Large echo discovered. Coordinates coincide. Returning to base.' You could not request more from them. It was with difficulty I got 2-3 pairs of sorties.

596. ``In May we went with cap in hand to Comrade Byankin, chief of Far-Eastern Shipping Company: Comrade Chief, help us. You have containerships on the Los Angeles-Yokohama line. Would it be possible to adjust heading?'

597. ``The bigger any superior is, the more he loves respect and floor-scraping requests, especially seemingly for the sake of state interests. A radio message was sent into the ocean: To the captain. Pass through point latitude ... longitude ... Report discovery of such-and-such an object. Chief of shipping company.'

598. ``A containership is a monetary thing. Each nautical mile of route is on cost accounting and each extra hour of transit costs a pretty penny. Adjust heading-anywhere. But stopping and tracking-sorry. Still, the shipping

company chief gave the order. If she passed through the area she would give a report: Passed point. Discovered large object. Proceeding on route.' And that's it. While standing in for my superior in July, I could not stand it and requested time from the CinC Fleet for a special briefing.

599. ``Comrade Commander in Chief. From all accumulated signs the vessel "Glomar Explorer`` is completing a preparatory cycle of work to raise the submarine PL-574. How they will raise her is unclear to me, but they will. A characteristic sign is that the nature of radio communications has changed-previously "Explorer`` operated in the firm radio net, but now she has shifted to secure channels. Give us a ship.'

600. ``I have no extra ships,' snapped the CinC. A ship is operating there in the vicinity of Skwajanami Atoll... So get Moscow to turn her around to the area of "Explorer`` operations.'

601. ``What considerations guided the CinC Fleet in this period is unclear to me.

602. ``At that same time (this became known later) a very interesting piece of paper was lying in the CinC's safe. About a week earlier someone slipped a note under the door of the Soviet Embassy in Washington: Certain services are taking steps to raise the Soviet submarine which sank in the Pacific. A Well-Wisher.'

603. ``USSR Ambassador to the United States A. F. Dobrynin transmitted the contents of this note to Moscow to the Ministry of Foreign Affairs in code. From the Ministry of Foreign Affairs a copy ended up on the desk of CinC Navy S. G. Gorshkov and went into the safe of the CinC Pacific Fleet. And so he, the CinC Fleet, saw that one of the Fleet directorates had discovered the problem itself and was attempting to crack the nut' with its own teeth. But the nut' was too tough. There was that in his nature: to force people to huff and puff' until they were blue in the face and, inasmuch as Moscow was not assigning missions, to keep his hands free.

604. ``On receiving the CinC's refusal, I thought it over and decided to stake everything: I sent a report-query to the chief of my service on the Main Naval Staff.

605. ``To Chief... Analysis of activity of U.S. special vessel "Glomar Explorer`` in vicinity of point at latitude... longitude... gives grounds to presume that the U.S. Navy is completing preparation and in immediate future may begin to raise submarine side number 574, which sank in 1968, from the bottom of the Pacific. There are no Pacific Fleet ships in the northern part and Fleet cannot assign forces for tracking. At the present time a ship is performing missions assigned by higher command in the vicinity of Skwajanami Atoll... Request permission in the period from... through... to turn the ship around to the area of operations of vessel "Glomar Explorer`` with missions... Acting Chief Sungariyev.'

606. ``The answer came two days later: To Acting Chief... I direct your attention to more qualitative performance of scheduled tasks.' Translated from

bureaucratise, this meant: Don't come around with your nonsense. Better do your daily tasks.' An object lesson had been learned.

607. ``But in fact what did I need more than others? I had more than enough of my own pressing problems...

608. ``About another half month went by, and suddenly... a sensational explosion in the foreign press: U.S. CIA has raised a sunken submarine from the bottom of the Pacific.'

609. ``Evidently at the borderline of the 1960's and 1970's the CIA set about to practically solve the problem of penetrating the sanctum of the Armed Forces, and above all the USSR Navy: encrypted radio communications. In our jargon, to break' the codes of radio traffic, particularly the shore-submarines' link.

610. ``The loss of the Soviet submarine tempted with the rapid solution to this very difficult problem. A theoretically realistic idea appeared: to raise the submarine from the ocean floor, obtain the codes and read' all accumulated communications intercept of that period.

611. ``Well, so what?' nonspecialists will object. The submarine sank seven years ago. Let them chew over outdated communications intercept, that's not so terrible, for documents are changed almost every year.'

612. ``But the Americans are practical people and hardly would undertake such significant outlays because of obsolete correspondence.

613. ``The essence of the task was that by finding keys to developing ciphers of the late 1960's and comparing them with communications intercept data of the 1970's, to find the law' or, if you like, system for developing new ciphers with the help of logical computers. It would be of no small importance, of course, to read shore-submarine' communications intercept of the 1960's, but most important was to find the key to decoding current communications intercept, i.e., of the mid-1970's.

614. ``Even a child can understand what a rival achieves by solving this problem. But also, in addition to all else, it was not without interest for the special services to raise models of our special weapons and study their technology and combat characteristics.

615. ``And so the idea arose either in the CIA or in the Pentagon to covertly raise the Soviet submarine from the ocean floor. Wise heads developed a detailed operation and called it Jennifer.' The operation was of a deeply secret nature. In any case only three highly placed persons were fully familiarized with the concept and practical realization of the plan:

616. · Richard NIXON, then U.S. president; · William COLBY, director of CIA; · Howard HUGHES, billionaire, who financed the operation.

617. ``Evidently already in the late 1960's the area where the Pacific Fleet submarine was lost had been explored by the deep-sea bathyscaphe Trieste-2.'

The oceanauts discovered the submarine and clarified her coordinates, position on the bottom, and external condition. That this succeeded in being done so quickly indirectly confirms the fact of the submarine's loss from impact and not from her own sinking to extreme depth. Had the sound of the submarine hull breaking up and the noise of water bursting in been fixed, classified and DF'ed only by seabed sensors of the Caesar system (and the nearest ones were around 600 nm away), then considering resolution of the DF base even as 1°, the circular error probable of the object's likely location would have a diameter of at least 30 nm. Clearly inflated technical capabilities of the bottom shore sound locating stations are taken as the basis here, but they are worse in reality. Evidently the task of a visual searchlight' exploration by deep-sea bathyscaphe of such a vast area (an area of more than 300 square meters [sic]) is extremely difficult.

618. ``But the fact of a collision permits determining the loss site with an accuracy to 1-3 nm. Only under those conditions could the crew of Trieste-2' perform its mission of providing extremely accurate coordinates of the submarine lying on the bottom, determining her true position and inspecting the hull.

619. ``The purpose of the first Glomar Challenger' vessel being in the area of the submarine's loss is not clear to me. Evidently it was providing maskirovka [lit. "camouflage``, however, includes "concealment`` and "deception``-FBIS] for a future operation under a Glomar firm program, a blind game' by our terminology.

620. ``Those responsible for technical execution of Operation Jennifer designed the special vessel Glomar Explorer' to raise the submarine from the fantastic depth.

621. ``Individual structures of the vessel were made by different shipyards and plants in different parts of the country both on the Pacific as well as the Atlantic coast. Noteworthy is the fact that during final assembly the shipbuilding engineers could not guess the purpose of such a strange vessel.

622. ``The Glomar Explorer' represented a rectangular floating platform with a displacement of over 36,000 tonnes. The vessel's main elements were as follows:

623. · four thruster engines at the platform's corners with automatic remote control exercised from an autocoordinator using the Transit-C satellite precision guidance system. This provided the capability of placing the vessel above an object on the bottom without searching and keeping the vessel continuously above it with an accuracy of 10 cm and with a sea state up to 7; · a well' in the midship section of the vessel with open-work construction, as well as a set of threaded pipes. They were connected by mechanical robots and the pipes were lowered to the bottom through this well. They carried various indicators, and in the final stage of the operation also a gigantic claw; · a set of indicators (magnetic, radioactive and television sensors) for examining the sunken submarine's hull.

624. ``No mooring anchors or other roadstead equipment was required by

Explorer' for ship-raising operations. And so Explorer' fulfilled the first plan of preparatory measures in the period from October 1974 through March 1975. Possibly work dragged on due to the periodic presence of our tracking vessels in the area.

625. ``Another vessel, a docking well, was made for performing the main stage, ship raising. The self-propelled docking well had sluice devices for submergence, automatic stopper devices for attachment when coming up beneath the bottom of Explorer,' and its own sliding bottom. There was a special gigantic claw' on the floor of the bottom made in the shape of the hull of the sunken Soviet submarine.

626. ``In the concluding stage of the operation the hydraulic claw' with the screwed-together column of pipes gripped and squeezed the hull of the sunken submarine and began raising it to the bottom of the docking well. All this most likely was done in July 1975 during the absence of our ships and vessels from Point K.

627. ``But something unforeseen happened while the submarine was being raised: her hull broke along a crack line in the area of the after part of central compartment. The forebody (first and second compartments and part of third compartment) remained in the grip of the claw' but the after part again descended to the bottom. But assuming that the main goal-capture of the second command compartment in which the radio room and code room were located-had been achieved, Explorer' left the area together with the docking well and headed for Honolulu (Hawaiian Islands). Subsequently it was also planned to raise the afterbody with fourth compartment, the missile compartment. In the Honolulu area, closed to navigation of vessels with depths up to 40 m, the docking well was released from beneath the bottom of Explorer,' settled to the bottom, and divers and frogmen began work. They got documents from second compartment: combat packets, radio communications instructions and so on. The bodies of dead submariners also were removed. A numerical count showed that at the moment of the catastrophe almost all personnel not on watch were in first and second compartments. This could occur only in two cases: less likely-with a general ship assembly; more likely-during a movie. It should be taken into account that the collision of the submarines occurred on Friday evening. A submarine proceeding under snorkel was controlled by one watch section in readiness No 2-submerged readiness. There was one officer among the bodies removed. Most likely he was head of BCh-3 (the mine-torpedo department). He lay in a hammock, his elbow pressing to him an operational journal for nuclear-tipped torpedoes. None of the dead were affected by decomposition at all. In the words of one participant in the work, all of them looked like they had just fallen asleep.' The Americans were even able to determine age, nationality, degree of physical development and other individual features of the submariners. The crew members of our submarine who were raised were reburied at sea by U.S. Navy representatives according to the customary Soviet Navy ritual, with the playing of the Soviet Union's anthem. The burial was photographed on color movie film, which settled into CIA annals.

628. ``After completing the unique operation, Explorer' together with the docking well departed the Hawaiian Islands for the San Francisco area, where she was laid up in a strictly guarded restricted area (Redwood City Bay).

Here American specialists removed the nuclear torpedoes and carefully studied the joints of the Soviet missile submarine. The specialists assessed some of them as very interesting.'

629. ``But the U.S. special services did not achieve the main goal: they just did not get their hands on the cryptodocuments.

630. ``The reason turned out to be unexpected both for the Americans as well as subsequently also for us. The Americans understood and took into consideration everything except the curious nature of Soviet reality. By the way, the Germans also got burned' on this in the past war, forgetting that the final word always remains with His Majesty, Chance. And so much the more especially in our life.

631. ``The fact is that the commander of PL-574, Captain 1st Rank Kobzar, was a tall person. Inasmuch as cabins on submarines are planned for people of very average height, about a meter fifty with cap, then like many of his other comrades in the Procrustean bed, Kobzar had to sleep huddled on his own little sofa with his legs curled up. Finally he could not stand it and when the submarine was in the yard during major repair, he came to an agreement with a construction engineer for the hull people to transfer the code room to fourth (missile) compartment for an appropriate reward' (you yourself know what kind of currency submariners have-alcohol and dried, salted fish) and thereby expand the commander's cabin. I of course sought out this construction engineer. He turned out to be one of the most respected yard people, who by 1975 already had retired. He confirmed the fact of the shifted code room.

632. ``Thus, having performed the mission only partially, the U.S. special services were faced with the most important stage, the need to raise the PL-574 afterbody as well. But that very same omnipotent Chance interfered with this stage. Events developed further along the lines of an American western.

633. ``One of the criminal gangs in Los Angeles received a tip that there were documents in the safe in billionaire Howard Hughes' Los Angeles office, possession of which promised big money.

634. ``An operation was worked out according to all rules of gangster art and was begun on one dark night in July 1975 to penetrate the office and open the safe of interest to the gang. These were experts in their work equipped with the most up-to-date equipment, including a laser.

635. ``But a rival gang also penetrated the office simultaneously. A furious clash of competitors began at the opened safe.

636. ``Not the police and not the special services but... reporters were first to hasten to the site of events. A French reporter for the Paris newspaper LE MATIN, turned out to be the quickest. Having learned the essence of the matter, he darted to a communications facility, but was intercepted by FBI agents, who offered a million for silence.' But the adroit reporter slipped out of the agents' embraces and contrived to contact his bosses in Paris. What was to be done? Be silent or throw out' a sensation? The newspaper's starring hour, so to speak, had arrived. The bosses weighed it:

silence for a million, but a sensation would bring six million minimum. The command was given-set the type! Subsequently the sensation was picked up by all leading agencies and newspapers with a promptness inconceivable to us.

637. ``And the wave of reporters swept away everything in Hughes' office-both the security and the documents. The innermost details of the secret became manifest. A storm broke in the foreign press, but our newspapers preserved a deathlike silence. Leading telegraph agencies UPI, ASSOCIATED PRESS and others gushed' most sensational information and enthusiastic commentary. Explorer' was called a vessel of the 21st century which had outstripped the era by at least 50 years, and so forth...

638. ``Based on these materials, our group of geniuses against their will' performed an analysis and recreated the entire course of Operation Jennifer. The materials were put together into a so-called Red File,' whose contents became a scandalous bomb for the high command sitting in Moscow.

639. ``On that memorable morning when the teletype bogged down from the flow of reports of foreign agencies, I had to poke my nose into the CinC Fleet's office on urgent matters. The set-up was as follows: you enter and stand in the doorway. Well, what do you want?' Permit me to enter for a signature...'
At this moment the new CinC Fleet (Admiral V. P. Maslov, now deceased) was speaking on the telephone with CinC Navy Gorshkov. The CinC Navy's voice in the telephone and even his asthmatic breathing could be heard at the door. Usually very restrained like all people possessing enormous power, the CinC Navy was furious and was not fastidious in his choice of words:

640. ``Well now, Comrade Maslov, (expletive)... A submarine?!

641. ``Not at all, Comrade Commander in Chief!

642. ``What does "not at all" mean?! Do you think I am (expletive)... A submarine?..'

643. ``Comrade Commander in Chief! I just took over the Fleet...'

644. ``Guided by the old golden rule When giants fight, hide in any crack,' I understood that it was not a time for signing documents, no matter how urgent they might be, and quietly slipped out of the office. The aide caught up with me near the elevator: Come back, the CinC Fleet is calling you...'

645. ``I returned and again loomed in the door. For some time the CinC Fleet looked me over like something strange and finally asked, repeating all the CinC Navy's intonations:

646. ``Well now... (expletive)... A submarine?!

647. ``Not at all.'

648. ``What do you mean "not at all"?! Am I a (expletive)... a submarine?'

649. ``Permit me to report! We took all steps and briefed the former CinC

Fleet repeatedly and promptly. But we were not assisted in what was above our capabilities.'

650. ``How do you know this? What do you have to prove it?!...'

651. ``We have a whole file of material...'

652. ``Well, drag it here!'

653. ``I darted upstairs to my directorate, where a storm was raging. My chief, the very dear Viktor Aleksandrovich, who evidently already had gotten his dose from Moscow superiors, had my analyst-heroes' standing at attention and became utterly enraged on catching sight of me:

654. ``You. Forever poking around with your ideas! Nothing but unpleasantness because of you! Why the hell do I need such a deputy?! You made the bed, now lie in it yourself!...'

655. ``In response I too became furious:

656. ``I ask you not to shout! I made my bed, I myself will lie in it!' In such a situation, you yourself understand, a person is not up to subordination.

657. ``While these words were being bandied, a cascade of guidance instructions spouted from Moscow through overtaxed telephones: Immediately! Urgently! For a CinC Navy briefing! Submit written and graphic material. What did the Americans do? What did the Fleet undertake in order to promptly conceal and prevent? Report who is directly at fault' and so on.

658. ``After unbosoming himself in a fit of temper about everything he thought about me, my chief grabbed the file and darted below to the CinC Fleet. A deluge of clarifying instructions began pouring down from Moscow from the leadership of the firm': Deadline two hours! Submit graphic material on a chart by phototelegraph with an annex of an excerpt from the log of events-what orders were given, with what forces were they carried out and how, who reported what... Depict routes, area and time periods of passages and actions of sides' forces...'

659. ``Feverish drawing began on a situation map, which information briefers and draftsmen pasted up. Area, routes, chronology of events... Furious as could be from insistent calls from liaison officers' from Moscow to report who is guilty,' here is where I committed a strategic bureaucratic mistake inexcusable for an experienced staffer.

660. ``Lieutenant Colonel N. F. Uklein, chief of the communications service, came up to me and tugged at my sleeve:

661. ``Comrade Captain 1st Rank. Do you remember your last query addressed to the chief?! And his response?'

662. ``I said to him:

663. ``Well, bring the telegrams here!'

664. ``And these two telegrams of eloquent and authentic content, traced out in India ink, were placed on the map. The excited lads traced a black box around them.

665. ``The ink had not yet managed to dry when the request came from Moscow: Are you frying bugs? Transmit the material immediately! The CinC will not wait!'

666. ``And there on the other end of the line they began snatching still damp pages out of the apparatus in feverish haste without reading and darted into the CinC Navy's office. They laid the pages on the desk:

667. ``Here, Comrade Commander in Chief, is what the Pacific Fleet people report... We are out of this, but they all...'

668. ``As it later became known, the CinC put on his glasses and... for three days Moscow was silent. On all channels. No queries for you, no questions for you. As in a nuclear war. Silence!

669. ``Three days later I arrived in the office of the Fleet chief of staff on some kind of important matters. A group of directorate chiefs were in the office and the chief of staff himself was talking on the red telephone. With Moscow.

670. ``Hanging up the phone, the chief of staff looked me over for a long time like a rare exhibit and finally, with a certain share of irony, uttered:

671. ``Well, hero, you proved your rightness?'

672. ``It turns out I did.'

673. ``Well, Moscow will not forgive you for this. Understood?'

674. ``I already learned this, Comrade Admiral...'

675. ``The story did not end here. As it was learned, on that memorable day the CinC Navy was called to the CPSU Central Committee and received a good dressing-down, which made him furious. And the latter always is vented on the subordinate staff. Point men' were needed. The highest echelon' began working. The Soviet Ministry of Foreign Affairs sent the United States a note: Your services raised our ship secretly in violation of international law rules.' The U.S. State Department parried: You did not announce the loss of your submarine. Consequently, according to rules of International Maritime Law, this is worthless, ownerless property...' Then the USSR Ministry of Foreign Affairs sent a second note: You disturbed the rest of dead seamen and defiled their fraternal grave...' The U.S. State Department: Nothing of the sort. The dead seamen were buried at sea according to all rules customary in the USSR Navy. A copy of the movie film is being sent to you...'

676. ``On this our international law people and diplomats were silent, since there was nothing to say. It was apparent the U.S. special services also had thought of that option. A stormy period of indignation, briefings and explanations and a search for guilty persons passed over. A period of menacing instructions from Moscow set in: Assign combatant ships, send them to constantly maintain station in the vicinity of Point K, do not permit continuation of work by the Americans right down to bombing the area...'

677. ``For approximately a half year the ships spelled each other in the vicinity of Point K. Explorer' did not appear there. The U.S. Navy command of course was following the actions of our forces.

678. ``Approximately a month after the violent quarrel, a General Staff lieutenant general arrived in Fleet headquarters, probably a very wise man, as there were two academic floats' on his chest. But why a lieutenant general and not some navyman? I just could not understand this.

679. ``They summoned me, since my chief refused point-blank to take part in all this affair. By order of the Fleet chief of staff I presented the Red File' with a set of all accumulated material. The general staffer retired to a separate office. After about four hours I was summoned to the chief of staff. The lieutenant general shoved the Red File' toward me and uttered:

680. ``I carefully studied the materials. I do not believe this.'

681. ``But these are facts!' I objected.

682. ``I still don't believe it since it is technically impossible.'

683. ``But these are facts!' I repeated.

684. ``The Fleet chief of staff was silent. I silently took the Red File' and left...

685. ``I will tell the rest the next time. Your machine doesn't last at all. Replace the battery or bring an adapter. I have an outlet here..."

686. After traveling around a half-dozen Moscow radio stores, I obtained fresh batteries. But when I extended the little package to our ``messenger," the nurse, she only shook her head sadly:

687. ``Sungariyev is no longer with us."

688. ``But where is he?"

689. ``They took him away yesterday... To pathology... Here is your dictaphone."

690. I still hoped to hear his voice come from the cassette which remained in the apparatus, but an even hissing came from the loudspeakers-the voice of nonexistence.

691. I retyped the two final points in the story (as Sungariyev called the chronicle of the raising of PL-574), which had been recorded in the notebook and on tape. It remained to be satisfied with what there was. After all, the important thing had been said... I gave a start when I pulled a letter written in a familiar hand out of the mailbox a month later. There was a Kishinev cancellation on the stamp.

692. Either the nurse had been pulling my leg or I had received a letter from the other world. Everything turned out simpler and sadder. Sungariyev wrote the end of the story himself as soon as he saw that the machine would not make it. He put it in an envelope addressed to me, but did not have time to pass it on to the nurse. The letter was sent to Kishinev together with his hospital belongings and papers, and there a relative tossed it in the mailbox. Here are these last lines:

693. ``I do not know whether or not Explorer,' biding its time, carried out the final part of the operation to raise the submarine afterbody, in part because I soon left for another directorate. In any case their yellow press' wrote for a long time about a suitable moment,' and that it was only necessary to bide their time...

694. ``But evidently the after compartments just were not raised by Explorer.' Judging from American newspaper statements, Operation Jennifer cost U.S. taxpayers \$350 million. Billionaire Hughes, who financed this operation, did not like tossing money to the wind. Expenses had to be compensated. To this end the CIA planned and covertly carried out one other action truly in the spirit of knights of the cloak and dagger.'

695. ``In the 17th century a Spanish sailing ship with a load of gold ingots sank in an area southwest of California. A certain American firm purchased the rights for hunting the ship and for diving operations from state authorities and possibly also from the government of Mexico. But while this firm was making preparations, Explorer' arrived in the area one dark night and scooped up and carried off the Spanish galleon together with its contents with its gigantic scoop-claw. The offended firm filed a suit in the U.S. federal court, but the CIA gave to understand that if you wish to exist... drop the suit.

696. ``Soon after the scandal over Operation Jennifer, the main participants left the scene: President Nixon suffered the fiasco in connection with the Watergate affair, CIA Director Colby was relieved of his position for unstated reasons, and billionaire Hughes, who lived in sterile clean apartments, died from what he feared most of all on Earth, elementary flu.

697. ``And you yourself will easily trace the departure from the scene of the main interested persons on the red side'..."

698. Probably all this sad history could have been written into the archive of the ``cold war" and ``era of stagnation" long ago were it not for letters written by the widow of a deceased engineer officer dictated by her half-blind son:

699. ``A year ago I sent a letter to the Ministry of Defense with a request to permit Mama and myself to visit the place sacred to us from which submariners departed and did not return. I received no answer. Later it was learned that the letter was sent on to the unit where Father served. It was only thanks to officers of this unit that our trip took place. Mama and I were received cordially by the navymen. Even today they remember their comrades who died at sea. We told correspondents of local newspapers about everyone who was aboard the submarine in detail, everything we knew. I was happy that the people would learn at least something about them, and that the memory of them would be preserved at least on the newspaper page.

700. ``I received a newspaper a month after departure. The article told only about the fate of Mama and two words to the effect that my father died, and not a hint that another 105 persons died with him. In a brief note the correspondent informed me that local censorship had not passed the material about the loss of the 574. One thing is unpleasant to me-the fact is, the submariners were performing their military duty, and although the reason for the ship's loss is not clear, can they all really be crossed from our common memory?! But there is a specific official who does cross it out! Who is he?

701. ``I have been assembling materials about the deceased navymen for a long time now in order to send them to the unit museum, where there is nothing about them. Probably some Cerberus at a local level does not permit this, but I believe all these bans do not have long to live.

702. ``And I still live with the hope of passing over Father's grave on a ship and throwing flowers into the sea over his ship..."

703. There in Burdenko Hospital I told Sungariyev about Igor Orekhov. Anatoliy Timofeyevich sighed heavily:

704. ``I already wrote to my former colleagues in Vladivostok- let them sound out this matter... There is such a cruise trip, Vladivostok-Kuriles-Kamchatka-Bering Strait-Chuckchee Sea and back. I can't imagine who travels this route. Foreign tourists? Nomenklatura alcoholics who find pleasure in hurling an empty bottle at a walrus? Loving couples? I don't know. But it costs big money to turn an excursion motorship to Point K... The Kamchadals could do this good deed-for example, send a hydrographic or auxiliary vessel. But they don't sneeze without instructions from Moscow.

705. ``But if you turn to Chief of the Navy Political Directorate Admiral Panin... Vasiliy Ivanovich is a conscientious man, and a Kamchadal himself. Perhaps he will help?"

706. Reference information.

707. The diesel powered missile submarine lost on 8 March 1968 is called a ``Golf"-Class submarine in the West.

708. The size of her crew is 59 persons, of whom 10 are officers.

709. SOVETSKIY VOIN, No 1, 1991

710. Clementine: Project of the Century, by V. Lukov, candidate of historical sciences

711. How and where was the submarine lost? The CIA tried to answer this question many years ago. With this organization's knowledge and consent, the immediate participants in searches for our submarine published their version of events back in the early 1980's. In the dead of a tropical night in late February 1968 an American reconnaissance satellite registered a bright flash on the surface of the Pacific several hundred nautical miles northwest of the island of Guam. After analyzing data on vessel movements in this area, U.S. Navy and CIA analysts concluded that an accident probably had occurred there—an explosion aboard a foreign submarine in a surface condition. Several days later this hypothesis began to be confirmed: Soviet ships unfolded a major search operation in an area approximately coinciding with the area of the submarine's loss. And intercept of radio traffic among search aircraft and ships convinced the CIA leadership once and for all that the United States had come into possession of a secret of strategic importance: precise coordinates of the loss of a Soviet submarine. It concerned a diesel-electric submarine armed, according to American data, with three nuclear ballistic missiles and nuclear torpedoes.

712. The American leadership was faced with the question of how this information should be used. Pass it on to the Soviet side or try to raise the submarine covertly? ``Cold war" logic predetermined choice of the second option of actions...

713. When it became clear to the Americans that the Soviet side had given up further searches for the submarine, the CIA continued these efforts, but on a different information and technical basis. A ``scientific research vessel" fitted out with deep-water television cameras was sent to the site of the catastrophe. After several unsuccessful submersions, the underwater ``eyes" finally discovered the submarine. She lay slightly tilted to one side on rocky soil at a depth of around 5,000 m. To the Americans' surprise, the submarine hardly suffered from the explosion, the plunge to a monstrous depth and impact on the bottom. It seemed the engines would start up at any moment, planes would begin to move, and the submarine with characteristic swift outlines would break loose from the spot... This illusion was disturbed only by a deep-sea crab which crawled from a hole in the hull with his prey—a seaman's shoe from which a human bone protruded...

714. Convinced the submarine was suitable for raising, the CIA began preparing for the operation, destined to be the most costly in the history of intelligence—in the final account it cost American taxpayers a half billion dollars. A bogus firm was established whose mission included building a large vessel and underwater platform for raising the submarine and also recruiting a crew. Soon work was in full swing at a yard near San Francisco: a vessel was laid down for ``experiments in deep-sea mineral production." In parallel engineers racked their brains over the design of a platform capable of raising to the surface a submarine weighing thousands of tons and, moreover, filled with thousands of cubic meters of water. A platform version was chosen which was supplied with two pairs of enormous hydraulic claws. In response to

commands of an operator from the base ship, these claws were supposed to reliably grip the submarine in the forebody and afterbody, then the platform (it was named ``Clementine") would be drawn inside the base ship, where it was planned to make a thorough study of the ``prey."

715. They began picking the crew several months before completion of the vessel's construction. Preference was given to former navymen familiar with the design of submarines and able to hold their tongues. At first the official version that they would be working on a new, unprecedented scientific research vessel was repeated to crew member candidates, but the very first classes Navy and CIA specialists held with crew members perplexed many seamen. For some reason they began to be given detailed explanations of methods of measuring radiation and procedures for safely working with radioactive materials. Then followed lectures on the design of diesel submarines. But what was most incomprehensible to the students was that they began to be taught rudiments of Russian and how to translate inscriptions such as ``Caution, Radiation Danger," ``Code Room," ``Control Room" and so on.

716. The future crew's confusion finally developed into fright when a CIA lawyer explained the content of the Geneva Convention on prisoners of war in detail to crew members of the ``scientific vessel."

717. Several days before ``Glomar Explorer" (that was the name of the vessel which had been built) got underway, organizers decided to reassure the seamen somehow. They were informed under strictest secrecy that the purpose of the expedition was not to collect iron-manganese nodules at all, but to raise from the floor of the Pacific a Soviet missile submarine which sank six years ago and which the Russians allegedly had given up as lost. Meanwhile, nuclear missiles aboard the submarine were trained directly at the U.S. west coast and ``could wipe San Francisco and Los Angeles from the face of the Earth at any moment." The Americans had to carry all this through secretly, but if the Russians guessed the purpose of the operation, it could not be precluded that USSR warships would attempt to board ``Glomar Explorer," take the crew prisoner and confiscate the submarine raised from the seabed.

718. It is hard to say whether or not this story convinced any of the audience, but promises of a fabulous fee did their job. Only one spy ship crew member candidate refused to take part in the voyage, declaring that all this undertaking with the secret raising of a foreign ship, let alone with a dead crew aboard, was amoral and smacked of digging up graves. The other seamen gave their signatures of nondivulgence and made ready to put into the ocean...

719. On one May day in 1974 thousands of San Francisco residents who had assembled on Golden Gate Bridge saw ``Glomar Explorer," deep-sea research pioneer, off on her first voyage. To the applause of altogether unsuspecting Americans, the naval spy set off on her somber mission. Test submergences of ``Clementine" were successful. After this it was decided to proceed to the area of the submarine's loss to begin work. Submerging ``Clementine" to a depth of 5,000 m went smoothly. The presence with ``Glomar Explorer" of Soviet ships from which the Americans' actions were being carefully observed was somewhat unnerving, but the Russians seemingly were not conducting

underwater observation, and this encouraged the heads of the operation. When only dozens of meters remained to the submarine, the underwater platform's chief designer sat down at the controls of ``Clementine''- the temptation was too great to become not only a theorist, but also a performer at the culmination of the operation. This person's vanity became fatal for the Americans. Controlled by an inexperienced hand, ``Clementine'' struck the bottom forcefully with its claws (the operator incorrectly figured the distance to the submarine, since he did not take into account the effect of light diffraction in the water). One claw cracked from the impact. Nevertheless, after a correction ``Clementine'' managed to grip the submarine. The raising began.

720. Not very much distance remained to the ocean surface when the damaged claw went to pieces. Now the submarine was held only by one pair of claws by the forebody, and here the unforeseen happened. Hidden damages to the submarine hull played their part. The submarine split before the Americans' eyes and approximately three-fourths of her hull began sinking into the black ocean abyss. A missile body slipped out of the overturned hulk and plunged to the bottom...

721. The submarine forebody was pulled inside ``Glomar Explorer'' essentially before the eyes of Soviet naval intelligence officers. The vessel immediately weighed anchor and moved toward U.S. shores. And after water was pumped from the enormous internal hangar, the opening team swooped down on the ``prey.''

722. The first thing that struck the Americans was the poor quality of steel from which the submarine hull was made. According to U.S. Navy engineers, even its thickness was not the same in all places. It turned out to be practically impossible to penetrate into the submarine: everything there had been mangled and compressed by the explosion and cyclopean pressure of the water. Mattresses on seamen's bunks were pressed together to a size of 40 cm in length. Internal lines and machinery had been shifted from their places and entangled as if by a giant's hand. Nevertheless, the Americans were able to extract the twisted nuclear torpedoes. It is unknown whether or not the CIA succeeded in getting to the code room... The remains of eight crew members were discovered. They were laid in coffins and lowered into the ocean to the sounds of the USSR Anthem far from the spot of the submarine's loss. The CIA documented this ceremony on movie film. This was done not so much out of respect for the memory of the dead as in order to present this film to the Soviet side as proof that the Americans had observed naval customs in case the operation became public. Did we think to request the film?

723. ``Glomar Explorer'' was still in the ocean, but the CIA leadership already had made the decision to organize a second expedition to raise the parts of the submarine remaining on the bottom. But intelligence plans were unexpectedly upset. Reports appeared in the American press that the CIA was secretly trying to raise a Soviet submarine from the ocean floor. True, newspapermen asserted that the submarine was lying in the Atlantic and not the Pacific and also confused the type of submarine. But even this information proved to be enough for the U.S. Senate to take up the matter, irritated by the CIA's uncontrollability both outside as well as inside the country. There followed Senators' queries to Agency heads with demands to provide information

about the purpose of the operation, its cost, and its legality from the standpoint of U.S. and international law. The intelligence agency was forced to lay out the concept and results of the undertaking involving the submarine to the lawmakers. As was to be expected, financing of the espionage ``project of the century" was immediately stopped. ``Glomar Explorer" was sold to a company which really was engaged in harvesting minerals from the seabed.

724. Such is the other side's version. Considering its source, of course not everything can be taken as truth. How was the submarine discovered? From a satellite or with the help of bottom acoustics? What else except for nuclear torpedoes fell into the Americans' hands? By the way, technical details almost a quarter century old hardly have great practical importance now. I wish to add for my own part that already after the loss our submariners fell victim to that callous ``line" which doomed to obscurity our fellow citizens who had performed their military duty to the end in the Korean War, 1967 Arab-Israeli War, Vietnam War, and conflicts in Angola, Ethiopia and Mozambique.

725. Major accidents in the Armed Forces which involved the death of a large number of people must be a subject of examination not just by departmental commissions, but without fail also by the USSR Supreme Soviet Committee on Defense and Committee on State Security.

726. SOVERSHENNO SEKRETNO, No 12, 1990

727. They Did Not Return From Underwater Captivity..., by S. Kovalchuk

728. Recently I succeeded in becoming acquainted with Rear Admiral (Retired) Yu. Senatskiy, a veteran of the Navy Search and Rescue Service. He told me about a tragedy more than 20 years old of which Soviet citizens know almost nothing.

729. ``In February 1968," related Senatskiy, ``a submarine commanded by Captain 1st Rank V. Kobzar left her berth at one of the Pacific Fleet bases and headed for the Pacific Ocean, where she was to perform combat patrol duty.

730. ``On 12 March the submarine did not respond to a control radio message. A scheduled report about occupying the combat patrol duty area also did not arrive from her. A search and rescue operation was organized in which I had occasion to take part. More than 30 ships and vessels set off on the search and 286 sorties were flown, but we just were unable to find the submarine. But in 1975 I learned from the western press that the Americans had fixed the place and time of the loss with the help of special gear. (The reason for the loss still has not been established.) The CIA conducted a secret operation to raise our submarine or, more accurately, part of her. The bodies of several seamen also were raised and reburied in the ocean."

731. After the conversation with Senatskiy I succeeded in locating Irina Georgiyevna Zhuravina, wife of the submarine's executive officer, Captain 3rd Rank A. Zhuravin.

732. She had not remarried. She could not even think of this. And although she understands in her mind that no miracle is to be expected, she still

experiences a heart palpitation when she catches sight of the figure of a naval officer in a crowd.

733. Irina Georgiyevna told me:

734. ``The government commission which investigated the reasons for the catastrophe also did not forget about the families of the deceased. My son was authorized a pension for his deceased father. Initially they paid 72 rubles, then 90, until the age of 18.

735. ``By decision of the Council of Ministers we had the right to choose a place of residence, but it is only all that simple on paper. My mama lived in Moscow and I myself am a Muscovite. I naturally chose this city. But do you think they were waiting for me? No one cared what the Council of Ministers had decided. For a long time I was punted from one echelon to another. Then once I learned quite by chance that Deputy Minister of Defense for Construction and Troop Billeting General Komarovskiy was a deputy from the Far East. I signed up for an appointment and brought a statement in which I told about my ordeals. He immediately affixed a resolution: Assign an apartment! All in all, my son and I received two rooms a year later.

736. ``He was already eight years old. All the time he would ask: Where's Papa?' And what could I say when they had even issued a humiliating death certificate? It states: Date of death of Aleksandr Ivanovich Zhuravin July (?) 1968. Cause of death "declared dead." `` And such certificates were issued to all families of the deceased. To this day no one has informed us officially that they died in the ocean in line of duty. How should we bring up the children? What should we say? Declared dead? Where, in a fight? Or in a hospital bed?.. In general, initially Mama and I concealed it from my son and said: Papa is at sea.' Once he fell into a nervous state and began shouting: You're deceiving me, people don't stay at sea that long!' We barely calmed him. And some time later he came in quiet and listless as if dejected and his gaze was such as though he had aged ten years. He spoke so sternly: Why did you deceive me? Our neighbor's daughter told me everything. My papa died. Tell me how.' I told what I could, what I knew...

737. ``We relatives of the deceased were promised by the Fleet command element back in 1968 that a monument would be put up for the crew and everyone would be invited to its unveiling, but years went by and no invitation came. I met an acquaintance from Kamchatka on the street by chance in 1974. He informed me the monument had been unveiled. For two years I tried to get permission to travel there to the border zone. The Fleet command refused. They even tried to persuade me that the monument was not for our crew, but for submariners in general.

738. ``Finally I managed to wangle TDY from my work to Kamchatka. With the help of friends, it was there I got formal authorization for entering the grounds of the military post. I arrived at the monument. On it really was written: To submariner-heroes.' But acquaintances told me that previously there was another plate with a list of crew members. Someone had ordered it removed.

739. ``In 1975 I was working at the Sheremetyevo customs house. During an inspection of articles, foreign newspapers with the story of the loss of a Soviet submarine in the Pacific in 1968 and her raising by the Americans began showing up. With the permission of KGB representatives I collected several excerpts, translated them and realized this was our submarine. I turned to the Main Naval Staff for explanations, and there they said:

740. ``We know nothing. And in general, why do you think that this is your submarine? This may be an entirely different one...'

741. ``Of course I did not believe it and even now I continue looking for at least some kind of information about the submarine. It is just a pity that there is nothing about this in the Soviet press.

742. ``It is painful to recall it all, but I decided to tell you everything in detail in order to pierce the curtain of silence about the loss of our husbands and the fathers of our children. I ask you to locate and publish a list of the dead. At least let this be an official document for relatives and loved ones of crew members to the effect that the submariners died in line of duty..."

743. SYN OTECHESTVA, No 3, 1991

744. Declared Dead? by Captain 2nd Rank (Reserve) G. Melkov, former submarine commander

745. On 24 February 1968 a diesel-powered missile submarine with three ballistic missiles and a crew of more than 100 commanded by Captain 1st Rank Vladimir Ivanovich Kobzar went out on patrol duty into the Pacific and... disappeared in its boundless expanses.

746. At the very beginning of March an operation unprecedented in scale and secrecy began in the Pacific in which dozens of warships, maritime and fishing fleet vessels, aircraft and helicopters took part. Enormous forces and assets were set in motion, but the press preserved sepulchral silence. I should think so: a missile-armed submarine had disappeared along with her crew. Naval officers were prohibited to carry on any kind of conversations on this topic. For example, G. I. Dostogayev, executive officer of the tender ``Kamchatskiy komsomolets," who had gone home on leave for several days and who returned to the ship's stationing location, for a long time did not know where his ship had gone.

747. From March through May thorough searches were conducted in Pacific waters not only for the submarine herself, but at least for visible signs of her loss. Communications intelligence attempted to register or intercept at least some kind of information relating to the submarine which had disappeared, but all in vain. It became clear to the Navy command that a catastrophe had occurred and the submarine had sunk. Searches were suspended. Enormous human grief came to families of the submariners who had lost husbands, fathers and sons in peacetime. Families of dead officers and extended-term personnel who wished to depart Kamchatka for their homes were given this opportunity. A stone was placed on the grounds of the submarine

base with the inscription: "A monument to a submarine will be erected here." Nevertheless, the submarine disappeared without a trace. A sound from destruction of the submarine hull (or sounds of explosions on the submarine) was registered by American bottom acoustic tracking systems, which gave the U.S. Navy command and CIA the precise location of the Soviet submarine's loss. This attested once more to the fact that already at that time the U.S. Navy knew and knows the precise current coordinates of each Soviet submarine going into the Pacific from Kamchatka or into the Atlantic beyond the Spitzbergen-Bear Island-North Cape (Norway) line. Soviet submariners and the CinC Navy and Minister of Defense know of those U.S. and NATO capabilities. Only the Soviet people do not know this, confident that the multibillion expenditures for defense really strengthen USSR defense, while in fact Soviet missile-armed submarines with their impermissible noise level (it is considerably higher than that of American submarines, which naturally increases the possibility of detection and destruction) are constantly in the sights of U.S. and NATO antisubmarine forces and assets capable of destroying them at any time. But to this day we do not have similar acoustic detection equipment.

748. As Clyde Burleson writes in his book "The Jennifer Project," by June 1968, when Soviet ships and vessels stopped searching for the missing submarine, the U.S. Navy and CIA began carrying out a secret operation to search for and raise the Soviet submarine to gain access to Soviet ballistic missiles, ciphers, codes, communications and control systems, the technology of manufacturing steel and welding submarine hulls and so on. Our submarine was raised to the surface from a depth of around 5,000 m with the help of the search vessel "Mizar" and the vessel "Glomar Explorer" with a special barge after they were tested during July-August 1974 at the site of the loss of the American submarine "Scorpion." According to some information, only the submarine forebody was raised and the remains of one of the junior officers were identified from documents discovered and restored; according to other data (TIME, 31 March 1975), it is possible that all three parts of the broken-up submarine were raised. There is the following contradictory information with respect to the burial of remains of Soviet seamen: at sea (with a funeral service in Russian and English and to the sounds of a funeral salute) and on land.

749. While in 1974 the entire world was discussing this operation, grandiose in scale and technical complexity, the Soviet press maintained a deathlike silence. The fact is, the Soviet government only had to publish a report about the submarine's loss with approximate coordinates of the catastrophe in "Notices to Mariners" or the open press and the Americans no longer would have the legal right to raise her. But this did not occur. The Soviet Navy missile-armed submarine and her crew were raised as ownerless property. According to a NEW YORK TIMES report, Soviet diplomats in Washington merely expressed displeasure that bodies and personal articles of Russian seamen raised from the sunken submarine had not been returned to their nearest relatives. By the way, everything was limited to this.

750. To this day the secret of the submarine's loss has not been revealed, to this day complete lists of the dead and true circumstances of the submarine's loss have not been published, and the burial locations of the crew's remains

are unknown. But the dispassionate hand of an official of the Petropavlovsk-Kamchatskiy City Civil Registrar's Office placed the blasphemous words "Declared dead" in the "Reasons for Death" column of death certificates issued to relatives of submariners who died in line of duty.

751. SOVERSHENNO SEKRETNO, No 7, 1990

752. Loss of a Submarine, by Captain 1st Rank V. Kulinchenko

753. Recently, albeit belatedly, I read articles in Yulian Semenov's publications of SOVERSHENNO SEKRETNO, No 7, 1990 and DETEKTIV I POLITIKA, No 1, 1991 where two authors who are former submariners, Captain 2nd Rank (Reserve) Gennadiy Melkov, a submarine commander in the recent past, and Nikolay Cherkashin, a writer of sea stories, express their opinions about the March 1968 loss of a submarine (side number 574) in the Pacific under the command of Captain 1st Rank V. Kobzar.

754. These articles prompted me to recall those far-off years. In those times I served aboard one of those submarines, which among ourselves we called "barns." These "barns," by the way, did much to establish our strategic nuclear powered submarine Fleet. Also among them in those times was the renowned submarine known as "three sevens" (side number 777), which demonstrated the underwater launch of a missile to N. S. Khrushchev, who visited the Northern Fleet in the 1960's.

755. But let us return to the writings. In the article "Declared Dead?" (SOVERSHENNO SEKRETNO, No 7, 1990), Gennadiy Melkov dwells less on the factual side of the matter and more on criticism of our naval system. But I am dissatisfied most in this article by the author's admiration of the nonexistent merits of the U.S. shore-based sonar station, which probably leads him away from the true causes of the submarine's loss, although he does not say this directly. He writes: "A sound from destruction of the submarine hull (or sounds of explosions on the submarine) was registered by American bottom acoustic tracking systems, which gave the U.S. Navy command and CIA the precise location of the Soviet submarine's loss..." And further there are superlative compliments for the Artemis-Caesar shore-based sonar station system. I do not agree with this. I also do not agree with the version that the Americans received precise coordinates of the submarine's loss thanks to this system. If this were so, then why do they make it a practice to constantly track our submarines? The objection to this might be: so they can be destroyed immediately with the beginning of combat operations. Yes, I agree. But this is too costly an amusement if there is an opportunity to have precise current coordinates of all our submarines and if it is possible to employ aircraft and other assets at a decisive moment. So there is more advertising than facts here.

756. The statements of Nikolay Cherkashin on behalf of competent persons in the story-version "Operation Jennifer" seem to me to be more valid: "...finally, a unique advertising of technical capabilities of the Caesar shore sound locating subsystem." I share the version expressed in this story by A. Sugariyev, former submariner and rear admiral: "As was later established, on the transit route to the mission area this submarine had been

rammed by the U.S. SSN Swordfish' (Skate'-Class), which had been following her. . . . It is not precluded that the collision occurred as a result of our submarine turning to a new route heading that was not promptly noted by the commander of Swordfish' when our submarine presented her side. The American SSN unintentionally struck the bottom part of PL-574's control room with the upper part of her sail. The submarine went to the bottom with a flooded central compartment." This version also is confirmed by the incident about which I told in KRASNAYA ZVEZDA in "Underwater Collision" (KRASNAYA ZVEZDA, 9 September 1990), although it occurred a year earlier and in the opposite part of the World Ocean. The trademark is the very same and it is an attempt at the very same goal-to record a noise portrait of our submarine as fully as possible.

757. As Gennadiy Melkov notes, Clyde Burleson writes in his book "The Jennifer Project" that the U.S. Navy and CIA began carrying out the secret operation of locating and raising the Soviet submarine to gain access to Soviet ballistic missiles, ciphers, codes, communications and control systems, the technology of manufacturing steel and welding submarine hulls, and so on. I believe that to this also should be added specifically why the choice rested on this submarine, for by that time a nuclear powered submarine (K-8, which sank 11-12 April 1970) also was lying on the bottom, at a lesser depth, and also ownerless. The Americans did not wish to risk people by subjecting them to radiation-who knows, because water samples do not mean the hull itself is safe. Therefore the raising equipment and device had to be tested on a safe object, which the Soviet diesel-powered submarine was.

758. The appeal to the U.S. CIA by editors of SOVERSHENNO SEKRETNO with a persuasive request to place all data it had concerning the submarine's tragic loss and burial locations of the crew at its disposal for further publication (SOVERSHENNO SEKRETNO, No 7, 1990) certainly will go unanswered. An answer is possible only about the burial location of crew members. Presenting materials means not only inching opening the secret of the Soviet submarine's loss, but also revealing many of the CIA's own secrets.

759. The ocean depths preserve many secrets and continue to be a potential site of many unpredictable events.

760. NA STRAZHE ZAPOLYARYA, 4 June 1991

761. USSR Main Naval Staff Summary on Status of Submarine K-129, by Captain 1st Rank L. Zaytsev, Main Naval Staff sector chief

762. Considering that the submarine was lost at a depth of more than 5,000 m, the special ammunition should have been destroyed and it is impossible to determine from it its complete characteristics.

763. If U.S. specialists succeeded in raising warheads, the maximum information, with incomplete destruction of the special ammunition, will be the following:

764. · general level of Navy munitions as of early 1960's; · physical and technical solutions contained in warhead design; · designs of individual

assemblies and special ammunition; · number of munitions on naval submarines of this type.

765. It should be taken into account that at the moment of K-129's loss the majority of special ammunition assemblies had been removed from production and were not being used in new types of weapons. Concerning ciphers and encryption units: all Fleet documents were changed following the loss of K-129...

766. Information on Preservation of Corpses of PL-129 Crew and Possibility of Their Identification, by Major General of Medical Service Ye. Ivanov, chief of Navy Medical Service

767. Based on information available about the accident, it can be presumed that corpses of crew members are in that state of preservation which will allow making an identification.

768. This is confirmed by experience of raising submarines [sic] from a depth of 270 m. After her presence on the bottom for seven years, corpses were preserved and it was possible to identify them.

769. To the Quick..., by I. Zhuravina

770. Or, about how journalists' noble intentions end up when they are carried out with a cold heart and indifferent pen

771. Dear Editors!

772. I am the widow of Captain 2nd Rank Aleksandr Mikhaylovich Zhuravin, executive officer of the submarine K-129 which sank in the Pacific in 1968. It is difficult for me to concentrate and collect my thoughts, but I hope for your indulgence if I am not always consistent.

773. The point is this. Having been silent about the loss of the submarine for 22 years, the press suddenly brought down on readers a stream of all possible information about this tragedy. And while these writings are simply entertaining reading for thousands of readers, each reminder of dead husbands and children is a new heartache and new suffering for widows and mothers who lost loved ones, especially when impatient authors deal with facts freely and hasten to publish unchecked and often contradictory information. Here are just a few of the countless examples.

774. G. Melkov in the newspaper SOVERSHENNO SEKRETNO (No 7, 1990) and A. Kulikov in ZALP (No 52, 1990) assert that the submarine put to sea on 24 February 1968, and Yu. Bogratov (GIPOTEZA, No 2, 1991) that the submarine put to sea on 25 February.

775. Melkov says the submarine crew was over 100 persons (SOVERSHENNO SEKRETNO, No 7, 1990), Bogratov says 86, including 13 officers (GIPOTEZA, No 2, 1991), Kulikov says 98 (ZALP, No 52, 1990) and S. Kovalchuk says 96 (SYN OTECHESTVA, No 8, 1991).

776. Well, just when did the submarine put to sea and what was her crew? And

how many seamen died?

777. ZALP reports in its article that there were 40 dead in the submarine forebody which the Americans raised. SOVERSHENNO SEKRETNO gives the number of dead as five times fewer (eight persons) and GIPOTEZA even fewer (six persons). So in reality just how many were in the forebody? How is it possible to publish such a thing without having checked facts and reestablished the truth?

778. And here are more little samples of journalists' liberties. "The submarine did not come up for the very first communications session," states ZALP. "In accordance with the operation order Kobzar regularly reported the progress of the cruise to headquarters, [but] K-129 did not respond to a control radio message on 12 March... But when the scheduled report also did not come in..." These words of Rear Admiral V. Dygalo are quoted by GIPOTEZA (No 2, 1991). But in reality, insofar as I know, the submarine did not once come up in communications, and Dygalo knows this better than anyone else. But obviously departmental interests forced the admiral to confirm the reverse and lead the public astray with the help of publications that are not too exacting toward the truth. By the way, this also is confirmed indirectly by some journalists. Melkov writes that searches for the submarine began at the very beginning of March (SOVERSHENNO SEKRETNO, No 7, 1991). V. Lukov reports that in late February an American reconnaissance satellite registered a bright flash in the ocean, which was evidence of the submarine's accident (SOVERSHENNO SEKRETNO, No 12, 1990). Then what kind of regular reports and control radio messages, according to Dygalo, can we speak of in March?

779. There is also total confusion in the writings about the submarine's endurance. For example, Bogratov asserts that the endurance is 30 days, then reports that the submarine put to sea on 25 February and the date of return was 5 May. The author has obvious trouble with arithmetic. And speaking of the truth, insofar as I know, the endurance of this type of submarine is three months.

780. It hurts to read all this; everyone writes in any old way, there is total falsification, and no one answers for anything. GIPOTEZA publishes materials about the ship's superb technical condition and her design reliability, and SOVERSHENNO SEKRETNO (No 12, 1990) refutes all the cited facts. Who is to be believed? Where is the truth?

781. One more thing. GIPOTEZA informs us the Americans began raising the submarine in mid-1974, and also that in a report addressed to the Minister of Defense on 15 May 1975 S. Gorshkov proposed to prevent the raising. "We will not allow the work to be done" and "the bodies of the dead submariners are the prerogative of the Soviet Union." What is this, mockery?! The CinC Navy came to his senses and reacted that way only after a year...

782. If what was written is the truth, I consider this to be open mockery of the memory of the deceased.

783. And now about the reason why I specifically addressed your editors. Honestly speaking, an article published in SYN OTECHESTVA (No 8, 1991)

distressed me most of all. I do not know how I was found by two journalists-S. Turchenko and S. Kovalchuk. They sat and talked, and I told everything I knew about the submarine's loss. I asked them only one thing: to restore the memory of the deceased, to write honestly and truthfully and to show me the article without fail before it was published. This was promised... It is apparent that Kovalchuk was in such a hurry to make a name for himself on the now fashionable topic that he forgot both about the promise given and about a journalist's honor. And so with uncommon ease, under his pen the submarine acquired ``side number 574" and my husband, Captain 2nd Rank Aleksandr Mikhaylovich Zhuravin (by the way, he went on the last deployment in this rank: as it was learned, an order already had been signed promoting him to captain 1st rank) suddenly became Aleksandr Ivanovich and was ``demoted" to captain 3rd rank. How hard it is for me and others who were close to Aleksandr Mikhaylovich to read this.

784. But did Kovalchuk really garble only my husband's name? Lapsar became Lopsar for him, Tokarevskikh became Tokarevskiy, Karabozhakov became Karabazhakov, Surnin became Surin, Pagadayev became Pogodayev, Aleksey Georgiyevich Knyazev turned into Anatoliy Georgiyevich... I am not even speaking about garbled military ranks. And he did not take pains at all to name two (or was it more?) of the deceased seamen: I. Odintsov and V. Tereshin. How is that possible?! How did this young man dare treat the first and last names of the deceased so freely?! Did he think about us, their relatives? Did he think about what it was like for a mother who read about her son and was bewildered by the garbled name? Does Kovalchuk really not understand that this cuts to the quick, it is painful?!

785. And then, who gave the journalist the right to write about me and my personal life without my permission?! Why? Who am I to be written about, and in connection with the tragedy to boot? On meeting, we talked about what happened, not at all about my person. Then just why does the journalist permit himself to discuss in the newspaper the question of why Zhuravina did not marry a second time? What does this have to do with anything that is written about? As far as that goes, I did not marry because no one asked me. As you see, everything is enormously simpler and it is not necessary to make me out a heroine. It is terrible for me to think that one of our friends or former colleagues of my husband read this article. What did they think about me? For you can't explain to everyone that what was written was an unconscientious journalist's fiction of the purest water.

786. And why suddenly did Kovalchuk decide that I and my son did not have enough money even for bread and milk? Did I really say this? I have worked all my life and earned enough, and they paid a good pension for the child. So my son had enough of everything-bread, milk and all the rest that other children had and have. He only lacked a father.

787. Why do I write all this? I cannot forget the article and turn to it again and again in my mind, and each time I feel pain and resentment. And so I decided to communicate my state of mind-and with no one further. And I would advise Kovalchuk to apologize to every family whom he injured by confusing first or last names of the deceased, to apologize personally and in writing, and best of all through the newspaper.

788. Respectfully, I Zhuravina

789. SYN OTECHESTVA, No 44, 1991

790. Foreign Mass Media on Loss of Soviet Submarine K-129, by Yu. Gladkevich and S. Turchenko

791. TIME. It all began with an accident. In March 1968 in the northwest Pacific the Soviet submarine surfaced to recharge batteries. There was an explosion, perhaps caused by a spark that ignited gases in the hull. Before a single member of the crew could escape the submarine plummeted to the ocean floor about three miles below. But not to an unknown grave. U.S. Navy devices picked up the stricken submarine's last throes. . . . The Soviet Navy was not so fortunate. A Soviet task force searched for the missing submarine far from the actual site.

792. Project Jennifer originated in the CIA. The operation was carried out in the summer of 1974. Using a specially built vessel, they raised the submarine forebody from the ocean floor. Bodies of dead seamen were in it. There was a ceremony to bury their remains, which a CIA associate recorded on film.

793. UPI. Soviet diplomats expressed their displeasure over the fact that bodies and personal articles of Russian seamen raised from the submarine by the CIA were not returned to the nearest relatives.

794. The Soviet press did not inform readers about the CIA's discovery of the Russian submarine, although Voice of America broadcasts lately have not been jammed. In the opinion of Soviet people we talked with, the reason why the Russian press was silent about this fact was as follows: this could cause anti-American sentiments and negatively affect the detente process, for Russian leader Leonid Brezhnev was to arrive in Washington this summer to meet with President Ford.

795. The Russians surveyed do not criticize Operation Jennifer itself as such. To the contrary, they comment on it with admiration as "superbly executed from a technical standpoint." The Russians only expressed displeasure over how the bodies of their countrymen were treated. One declared: "Had we discovered your submarine in the Murmansk area, we would have returned the bodies." The Russians were not satisfied by explanations that the bodies were reburied in full accordance with rules existing in the Soviet Navy. And although movies and photographs were made which recorded the ceremony, from all appearances they just were not sent off to Moscow.

796. WASHINGTON POST. According to a statement by international maritime law specialists, a vessel which has sunk in international waters can be raised by the one who gets to her first. But they admit that there are doubts and vagueness in the case of the Soviet submarine, since for now there have been few precedents (if any at all) of laying claim to salvaging a warship of another side...

797. U.S. government circles declared that the CIA attempt to raise the

sunken Russian submarine could entail certain consequences similar to those which occurred during the incident over the U-2 aircraft, but hardly would develop into a serious diplomatic problem.

798. After the U-2 was shot down over Soviet Union territory in 1960 and the pilot captured, the USSR registered a protest and called off the meeting which had begun between Eisenhower and Khrushchev. American officials declared that at that time the Soviet Union did not plan to make such a decisive gesture, but was forced to do so when Eisenhower openly admitted the fact of the U-2 espionage flight.

799. At the present time a certain delicacy must be observed to avoid actions which can place Moscow in a similar position. This explains the policy being followed by the U.S. administration since press organs published a report on CIA operations to raise the submarine.

800. Up to the present time not only has there been no public discussion of any kind of diplomatic complications, but also not one Ford administration representative even openly confirmed the fact of an attempt to raise the sunken submarine. The Russians are just as calm. In the words of one highly placed American official, they possibly would like it all to come to an end on its own.

801. There are also other reasons explaining the Russians' silence: the habit of not announcing tragic events at home. The Soviet Union never publicly reported the submarine's loss in 1968. In order to file a public protest now against the American attempt to raise the submarine, it would have to admit the fact of her loss.

802. REUTERS. CIA director William Colby made a statement the other day that the Central Intelligence Agency was preparing to undertake to raise the remnants of the submarine from the ocean floor despite the fact that this top secret operation became known to broad circles as a result of the theft of documents from a safe in a business office.

803. Washington expressed doubt that a second attempt might be made to raise the remnants of the submarine.

804. UPI. The vessel "Glomar Explorer," chartered in CIA interests, raised part of a Russian submarine from the floor of the Pacific. Two torpedoes with atomic warheads and the body of an atomic weapons specialist with a special journal were successfully raised.

805. "Glomar Explorer" is to be sent to the site of the catastrophe this summer to raise a missile with an atomic warhead and the remaining part of the submarine.

806. Project Jennifer, which is being criticized as costly (around \$400 million), nevertheless was crowned with success.

807. Two torpedoes with nuclear warheads as well as a journal which a young officer held in his hands were raised together with the submarine forebody.

808. The officer's body, which was curled up in a bunk, was so well preserved that the CIA was able to determine his identity.

809. The journal was the first document indicating that this was a ``Golf"-Class nuclear [sic] powered submarine.

810. NEW YORK TIMES. A Soviet submarine was discovered at a depth of 5,700 m.

811. The Director of the CIA queried the U.S. State Department whether or not an opportunity would be given to take further steps to raise fragments of the Soviet submarine. The answer is not yet clear.

812. NBC. The United States has conducted at the very least four secret operations to raise sunken Soviet military equipment. The raising of part of a submarine in August 1974 was the last in a series of operations. It is believed that some other organization was involved in this activity in addition to the CIA.

813. Cipher devices and deciphered information aboard the sunken Soviet submarine could be very valuable to American experts for decoding the superfast transmissions between Pacific Fleet headquarters in Vladivostok and submarines on patrol before the moment of the given submarine's loss.

814. WASHINGTON POST. The U.S. CIA discovered two torpedoes with nuclear warheads aboard a Soviet submarine. Surprising material was obtained as a result of work done to raise the submarine. Both torpedoes were raised to the surface and loaded into a specially equipped barge for concealment from foreign vessels. The operation to raise the submarine will continue. If it is successful, the CIA will have all codes, encrypted messages and diagrams of machines controlling the underwater ship. Information obtained will help the CIA uncover the secret of Soviet radio traffic. The cost of the salvage vessel and operation is \$350 million. The amount set aside will not be increased in any way, but the obsolete torpedoes with nuclear warheads will provide invaluable information about Soviet technology.

815. LOS ANGELES TIMES. In refutation of previous reports it was learned that the CIA did not succeed in removing two nuclear warheads of torpedoes from a Soviet submarine which sank in the Pacific. It is obvious from those parts which were removed that the nuclear warheads were aboard the submarine, but the warheads themselves were not raised. The presence of torpedoes with nuclear ammunition was established by analyzing remnants discovered on raised parts of the submarine.

816. The CIA plans to continue the operation to remove parts of the submarine this year, for which special equipment used in the last operation presently is being modified and repaired.

817. Documentary tale ``Loss of a Submarine," NABAT, No 10, 1991

818. Neither Stone Nor Cross Will Say..., by A. Mozgovoy

819. On 11 April 1970 a Soviet ``November"-Class (NATO classification) nuclear powered submarine surfaced because of some kind of malfunction approximately 300 nm northwest of the shores of Spain.

820. Soviet ships which hastened there attempted to take her in tow, but failed to save the submarine, which sank. Fifty-two seamen died aboard her. Nearby vessels picked up the remaining crew members.

821. EKHO PLANETY, No 24, 1990

822. Last Deployment, by Senior Warrant Officer V. Kazanov

823. Once five years ago a report by submarine political officer Captain 2nd Rank V. Anisov about personnel actions during a fire aboard a submarine commanded by Captain 2nd Rank Bessonov fell into my hands. Here is what he wrote: ``...On 8 April 1970 the submarine was at a depth of 160 m. She began coming up to a depth of 40 m.

824. ``The accident happened at 2231 hours. A fire broke out simultaneously in third and seventh compartments and the sonar room from a short circuit in power cables. The submarine lost way. Sea state was 1-2 and there was total, clear visibility. Submarine commander Captain 2nd Rank V. Bessonov gave the order: Undog hatches of 1st and 8th compartments.'

825. ``Captain of Medical Service A. Solovey set an example of courage and heroism. In order to save the life of his patient, Petty Officer 1st Class Ilchenko, on whom the officer had operated for appendicitis several days before the accident, Comrade Solovey gave him his breathing gear. Party Member Solovey died heroically at the battle station.

826. ``Party Member Comrade Kuznechenko displayed an example of mutual help and brotherhood in fighting for the life of a subordinate at an exceptionally difficult minute of danger at risk to his own life. He periodically gave Senior Seaman Kirin his own breathing gear to use.

827. ``...Submarine commander Captain 2nd Rank Vsevolod Borisovich Bessonov was the soul of the crew..."

828. My search for those who could tell about the submarine's final deployment began with this document.

829. ...[Once,] on meeting a former submarine officer who served in Fleet headquarters during the 1970's and 1980's, I inquired, just in case, whether or not he knew someone from Bessonov's crew.

830. ``How could I not know?" said my companion. ``Petr Nikolayevich Petrov began as a lieutenant on this submarine. He now serves in the Combat Training Directorate as a captain 1st rank."

831. I set off for the meeting with Petrov with I. Yalovenko, an associate of the Red-Banner Submarine K-21 Museum-Memorial. Irina took along photographs which she found in museum holdings that had been copied from personal files

and documents, and photographic portraits of those who performed their military duty to the end 21 years ago. It is not difficult to understand the feeling with which Petr Nikolayevich looked through these photographs that were simple but so dear to him. He extended a photo to us from which the young face of a lieutenant was looking.

832. ``This is Volodya Shabanov. At one time, in 1969, we arrived on the submarine together. By that time she was ten years old. With a passion inherent to youth we set about studying the nuclear powered submarine. Volodya became torpedo department head and I, electronavigation group officer. In short, a little navigator..."

833. Petrov fell silent for a short time, again looking through the photos; then, locating one more, he placed it before us on the table:

834. ``And this is my department head, Senior Lieutenant Kolya Shmakov. He was a year older than I. He finished the Pacific School and I the Caspian. One could say our crew was young. Submarine commander Vsevolod Borisovich Bessonov was the old man' for us. Although, what kind of old man... At that time he was only 37, but was already a fully experienced commander, as eloquently indicated by the Order of Red Banner. If memory does not fail me, Bessonov went through his commander's development on diesel submarines, then was executive officer aboard a nuclear powered submarine and only then headed up the ship."

835. I showed Petr Nikolayevich an excerpt from the report by submarine political officer Captain 2nd Rank Anisov. After reading it Petrov said:

836. ``Everything is written correctly. Only one addition has to be made: Anisov went on the deployment after replacing our political officer, Captain 2nd Rank V. Malyshev, who fell ill and remained in base. And then Anisimov got into such a turmoil."

837. Petr Nikolayevich had to force himself to tell about the accident. It was difficult to recall something that echoes with pain in the heart and burns the soul.

838. ``After performing the combat patrol missions, we were supposed to return home, but we were used for Exercise Okean. Somewhere around 2135 hours on 8 April after evening tea we began to come up toward the surface for a communications session. Nothing presaged trouble. Suddenly Warrant Officer Leonid Ogol reported as if thunderstruck:

839. ``Fire in sonar room.'

840. ``Damage-control quarters sounded immediately. The general alarm had not yet died out when a report came to the control room from seventh compartment: Regeneration burning.'

841. ``At that time unfortunately we did not have those damage-control means present aboard nuclear powered submarines today. All hopes were on the VPL (submarine air-foam system) and fire extinguisher.

842. ``The attempt to put out the fire in the control room failed. The compartment quickly became contaminated with gas. We surfaced. The commander ordered abandoning the compartment. Captain 2nd Rank Valentin Nikolayevich Pashin, engineering department head, dragged me on top; I was suffocating from carbon monoxide. I came to after gulping fresh air. The sea was almost calm.

843. ``The upper deck was damp, and in the vicinity of seventh compartment the water was coming in contact with hot metal and was steaming.

844. ``Main power plant specialists Captain 3rd Rank V. Khaslavskiy, Captain-Lieutenant A. Chudinov, Captain-Lieutenant A. Polikarpov and Senior Lieutenant G. Shostovskiy performed their military duty to the end. The port emergency protection system triggered, but they had to lower the protection themselves on the starboard reactor.

845. ``Farewell, boys, think kindly of us,' were their last words which we heard in the control room.

846. ``Together with Captain-Lieutenant A. Lisin and Petty Officer 1st Class L. Chekmarev, I went to undog the eighth compartment hatch. We managed to open it, although not at once. Surviving seamen began ascending from the compartment.

847. ``Ilchenko, whom Solovey had operated on for appendicitis before the accident, did not have the strength and he tumbled below. Leonid Chekmarev descended into the compartment and lifted Ilchenko topside. Hooking into [breathing] gear, Chekmarev and I descended into the submarine's maw. We found Arseniy Mefodyevich Solovey in the medical cabin lying on the couch, his face buried in a pillow... He was a good man. He himself studied and helped others.

848. ``Later Leonid Chekmarev and I descended to eighth compartment once more and let people out of ninth. Captain-Lieutenant G. Simakov managed to save all the people, and it was not a simple matter to do this with a shortage of [breathing] gear. I was poisoned by carbon monoxide a second time in eighth compartment. The boys dragged me out...

849. ``The crew behaved courageously and selflessly. Just one fact. Senior Lieutenant Adzhiyev was the example for navymen in fourth compartment. Under his direction the engineers started the diesel to suck air from the compartment, which was quickly becoming contaminated with gas. Gamardakhan Adzhiyevich lost consciousness. Seaman Filimonov, who had served two years on the submarine, assumed command of the compartment without losing his head. And when the upper conning-tower hatch was undogged, Filimonov hooked into the officer's breathing gear and led the people on top.

850. ``On 10 April we were discovered by the Bulgarian vessel Avior.' As ill luck would have it, the weather got worse. It stormed. Through a megaphone (our communications had broken off on the very first day of the accident), the vessel captain inquired what had happened and what we needed. We asked whether or not it was possible to contact Moscow. Only through Varna,' they answered from Avior.' They transmitted a radio message and after thanking them

we gave them the okay to depart. But the vessel remained; the captain decided to await an answer.

851. ``By that time the situation had become more complicated. The submarine was completely contaminated with gas, and water had entered through the burned-out stuffing boxes of seventh compartment. The nuclear powered submarine gradually began sinking by the stern. The commander decided to remove personnel from the ship. Bessonov himself determined who would leave the submarine in the first group. I also ended up in it. The Bulgarians took us off on 10 April. Avior' took 46 persons aboard. The Bulgarian seamen gave us a most cordial reception.

852. ``On the night of 10/11 April the Soviet motorships Komsomolets Litvy' and Kasimov' arrived in the accident area. Komsomolets Litvy' attempted to take the nuclear powered submarine in tow, but the tow line broke like a shoelace. Nothing remained but to resort again to the boat. It was difficult, but Kasimov' managed to remove another 30 persons, among them Petty Officer 2nd Class B. Kirichenko, my subordinate. He told us that Leonid Chekmarev had asked the commander to leave him on the submarine in place of Kirichenko. Boris had a wife and son awaiting him at home, Chekmarev said. Bessonov agreed with the Komsomol leader's argument...

853. ``The submarine swiftly disappeared beneath the water at 0215 hours on 12 April, taking with her 22 persons...

854. ``Later all of us were transferred to the tender Volga' which arrived, where Member of Military Council, Chief of Northern Fleet Political Directorate Vice Admiral F. Sizov was located. On arrival in Severomorsk we were driven away immediately to a rest facility and the proceedings began. The wives were told nothing, although the garrison seethed with various rumors. The tragedy which played out in the Atlantic was not widely publicized. Evidently no one wanted to admit the loss of the nuclear powered submarine, which, by the way, was one of the first in the Navy.

855. ``Crew members were decorated with orders and medals by a classified USSR Supreme Soviet Presidium edict. Surviving officers and warrant officers as well as all the dead were given the Order of Red Star and surviving first-term personnel the Ushakov medal. The Hero of the Soviet Union title was conferred on submarine commander Captain 2nd Rank Bessonov (posthumously).

856. ``We asked the CinC to send us to new construction to make up the backbone of the new ship's crew, but were refused. They scattered us throughout the Fleet, and some ended up outside it. Therefore it is simply impossible to get us survivors together.

857. ``After the accident I was sent to a submarine being newly built, but everything I experienced in those April days of 1970 had affected my health. They were forced to assign me ashore, and so I have been in staff work already for 20 years.

858. ``Fifty two persons did not return to their base from that deployment. They performed their duty honorably. The Fleet does not have the right to

forget them."

859. When a monument to the dead seamen was placed in the submariners' garrison in 1974, the living crew members of the submarine were not invited. As one of the superiors explained to Petrov, they did not want to traumatize the youth with tales about the death of submariners. But perhaps it is necessary to speak about this so the present generation of Northern Fleet navymen knows those who performed their military duty honorably and selflessly to the end.

860. Photo captions

861. Senior Lieutenant V. B. Bessonov, commander of submarine K-8

862. Captain of Medical Service A. M. Solovey, chief of medical department of submarine K-8, displayed personal courage during the accident. A street in the settlement of Gremikha was named in the hero's honor

863. Monument on grave to crew members of sunken nuclear powered submarine K-8

864. NA STRAZHE ZAPOLYARYA, 19 April 1991

865. Tragedy Beneath the Water, by V. Zavarin

866. In the past I was a submarine officer. I wish to tell about one unknown page of our Navy's story which imprinted courage under tragic circumstances.

867. In 1972 our submarine was returning from an independent deployment. Viktor Pavlovich Kulibaba was the commander. Among the officers was Boris Aleksandrovich Polyakov, a very experienced submarine engineer and main power plant control console operator. I believe all crew members who remained alive are obligated to him for their life. Our doctor, Misha Piskunov, also was on that deployment. He too was to play a decisive role in saving our comrades, as, by the way, also did division staff officer Viktor Mikhaylovich Nechayev. I personally am obligated to Nechayev for my life.

868. Here is what happened. An accident occurred at a very great depth a half hour before reveille. A tongue of flame under great pressure rushed into ninth compartment, where the personnel cabins are. The watchstander managed to get people up and report to the control room... Only several weeks later would they find compartment leader Vasilyev half-scorched near the center of the fire. The tongue of flame turned into a generator of burning-hot carbon monoxide. Our submarine already was more than ten years old and the concept of compartment seal was purely nominal. The submarine required major overhaul, but higher-ups evidently had to report to the very top that the next combat unit was on combat station.

869. Captain-Lieutenant Lev Grigoryevich Tsygankov remained at the battle station in eighth compartment. He is buried in Sevastopol. Young Lieutenant Khrychikov did not leave the main power plant control console. Warrant Officer Nikolayenko remained at the battle station. Machinist mates also died at the

maneuvering gear. Yes, we lost many of our comrades at that time.

870. Tenth compartment ended up cut off from everyone. When damage-control quarters sounded, I contacted tenth compartment by telephone. Torpedoman Ivan Khramtsov was there. He reported that the bulkhead was dripping and paint was smoking. We dragged people from the power compartments and passed them on topside. It is very difficult to drag a person in an unconscious state through several submarine compartments. Doctor Piskunov showed how to give mouth-to-mouth resuscitation. He managed to return almost everyone to life. There were only two they did not pump out. These lads were buried according to naval custom.

871. We surfaced, but our ordeals did not end with this. Only a submariner can imagine what a submarine is on the surface without way during a fierce storm.

872. And in ninth compartment 12 persons continued to suffocate from scorched paint and carbon monoxide. Several hours later I spoke on the telephone with Warrant Officer Valeriy Borshchov, chemical department team leader. I did not think the lads would survive. Their oxygen reserve in individual breathing gear had come to an end. Several persons were lying unconscious.

873. Ninth compartment was burning, eighth was burning, seventh was contaminated with gas, and the temperature in it was beyond a hundred degrees, sixth compartment was contaminated with gas, fifth compartment was flooded and sealed. Any attempt to cross from ninth compartment into the control room led to death. By a miracle communications was preserved thanks to an enormous two-way communications telephone. We had laughed about this telephone-a marvel of a model 1916 on a nuclear powered submarine. But this ``marvel" operated apart from the telephone station and without power sources. The magneto handle had to be turned to call up a subscriber.

874. For three weeks the submarine was tossed like a shell and the 12 persons in pitch darkness, on emergency rations and in the cold, hoped.

875. ...Officer Boris Polyakov and with him 11 of the personnel were immured for 23 days. The accident occurred on 24 February, but we were able to lead the lads out only on 18 March. They were led out by the hand with bandaged eyes, and some were carried on stretchers... But still they survived! When I tried to write about the dead and the accident, various editorial offices got rid of me: this is not typical, they said. But it was, it was! It seems to me we do not have to hide difficult pages of history from each other. Without them it will not be complete. Heroes are not only for posterity, but also for contemporaries.

876. Photo captions

877. Captain 1st Rank V. P. Kulibaba, commander of missile submarine K-19

878. IZVESTIYA, 14 May 1989.

879. Once at Sea..., by V. Zavarin

880. The watchstander aroused Aleksandr Petrovich Vasilyev, ninth compartment leader, several seconds before damage-control quarters sounded. The trouble rolled in as a microscopic crack on a hydraulic line. The small stream of inflammable liquid which was escaping into the compartment bilge had neither color nor odor. It immediately turned into an invisible cloud of an explosive mixture.

881. If there is an explosive cloud, a spark will be found. The time for a compartment inspection and report to the control room had come. Seaman Kabak descended. There was the smell of something burning. Smoke. He reported to the control room and aroused the compartment leader.

882. Where to find this source of foreign odor among the machinery and interlacing lines? Was this a chance scorching or a lurking source of trouble?

883. The damage-control quarters signal sounded. Vasilyev ordered the watchstander to get up all the personnel and report on the source of ignition, and for non-T/O personnel to prepare to leave the compartment.

884. The compartment leader was left one-on-one with the trouble in the bilge. He grabbed an IP-46 breathing apparatus—a marvel of equipment obtained from the tankers. But where was there to hook in when the fire was shooting into the shaft line oil pump feeder tank? He dashed upward, opened the fire extinguishing valve and unwound the reel of hose.

885. The ninth (living) compartment is a very narrow passage with living likenesses of cabins. What to do with the people? They would suffocate or burn. He was now reporting the situation to the control room from the bilge. A tongue of hot air was blowing against his face and hands.

886. The order came to ninth: "Personnel abandon compartment." This order was not for the compartment leader, submariner Vasilyev. A stream of foam already was lashing at the eerie tongue of fire. He tried to put on the breathing gear mask with his hand, but it was useless.

887. A minute for reflection is so short.

888. Scorning danger, Vasilyev grabbed not the gear, but the fire extinguishing hose. Fury does not choose options. The outcome for fury is only in struggle.

889. They found him many days later when the wounded submarine was towed to base. He was lying in the bilge near the broken line, the hose sprawling next to him. That is how Chief Petty Officer Aleksandr Petrovich Vasilyev died, a submarine hero who gave his life at the battle station.

890. Death does not follow each of us. But we do not allow it to extend its sharp-clawed paw to ourselves or our loved ones. Only, is each of us capable of this?

891. In a critical situation decisions are made instantaneously,

automatically. Only, for different people these decisions are opposite: in panic one runs to save his paltry life, another performs a human duty, sacrificing himself for the sake of saving others.

892. In throwing himself into the fire, Aleksandr did not think about death. In the minute which preceded death he did not say farewell to life. In this minute life fills the consciousness, all past life. It was all past life that determined his actions, which took but a short time.

893. Was it worthwhile living in order to give himself to the enraged fire in a matter of seconds? He was brought up by a superb Russian woman, his mother, Nadezhda Dmitriyevna. His father, Vasiliy Petrovich, went through the war from the first to the last day and knew the worth of allegiance to duty.

894. Sasha could not retreat before the fire because his father too had not retreated before fire. The minute of death seemed endless. Alone, in the bilge of a smoke-filled compartment, in the fire of a burning tongue of flame. And he did not believe in death.

895. What is death before the people's court? The danger of losing life is more important than being the talk of the town only for those who do not know the value of honor. But a person brought up in honor is a righteous man in his own actions...

896. I wanted to tell about his childhood, service on the submarine, and his friends and relatives. But we already have written so many smooth, sleek biographies!

897. He was a good son, not a dutiful boy. On the submarine he knew everything, was able to do everything, but looked on political classes as an unavoidable evil, and in the circle of colleagues ashore did not shun tipping up a glass. Negligent seamen and ignoramuses complained about his severity, and elderly warrant officers were not very pleased when the young petty officer demanded that they comply with all rigid shipboard rules in the compartment. Yes, convenient and obliging people are fine as long as everything is fine around them.

898. Viktor Pavlovich Kulibaba, commander of the nuclear powered submarine, accurately and faultlessly saw in him a reliable lad. And what could be more valuable than a reliable lad?

899. In desiring to create the appearance of well-being, we try to be in the midst of convenient people. Too often we have substituted an obedient, obliging person protected by papers and diplomas in place of a reliable person. A person can be taught everything, but try to educate him! This is not given to too many today.

900. There is a great deal of spitting at our past today. Rulers of the totalitarian regime brought much unhappiness to their people. They had many toadies. But there were also the Vasilyevs, who managed to pass on the traits of Russian people as a legacy to their son.

901. Once fate arranged a test for the generation of Vasilyevs at sea, and it passed this test with honor. There is life after death, only not for everyone, because people either speak well about the departed or are silent.

902. Zapadnaya Litsa, 25 July 1991, city of Murmansk-150

903. The Accident, by Captain 3rd Rank (Reserve) V. Zavarin

904. Combat patrol duty had ended and the submarine began moving toward base, her hull washed by cold North Atlantic waters. The damage-control quarters signal sounded a half-hour before reveille:

905. ``Fire in ninth compartment!"

906. This probably was the third damage-control quarters during the independent deployment. In previous cases everything ended safely, but now something troubling was sensed in the paucity of information from the control room.

907. We sealed first compartment, where I was in charge. Warrant Officer Mezhevich and the damage-controlman dashed below to recharge the fire extinguishing system. When I descended to them the foam generator immediate reserve was coming to an end. Last charge. That was it! We no longer could help those using this system in ninth compartment in any way. It remained only to wait and estimate the situation at hand based on commands from the control room and the submarine's status. Several weeks later, when the submarine would be brought to base, we would learn the reasons for the accident and the assessment of each one's role in its most important initial minutes.

908. Chief Petty Officer Aleksandr Vasilyev, ninth compartment leader, was first to take the firestorm on himself. He remained there at the center of the fire with an unreeled hose...

909. Just what happened in the compartment? Due to a loss of seal of a hydraulics line which was under high pressure, oil fell on the heated surface of a filter and... the irreparable occurred. When Vasilyev descended below, a tongue of flame already had burst from the line, burning through cable routings and the high-pressure air fixture. Seaman Kabak, the compartment watchstander, reported to the control room...

910. The voluminous fire in the compartment was developing swiftly.

911. Ship commander V. Kulibaba, engineering department head R. Minyayev, and formation chief of staff V. Nechayev arrived in the control room. The decision to evacuate personnel into eighth compartment followed immediately.

912. Ye. Medvedev, at that time a group officer, relates:

913. ``I was lying in an eighth compartment cabin when I heard the damage-control quarters signal. I got up the controllers and instructed them to sort out the gear. The bulkheads already had been sealed. The order came almost immediately from the control room to receive ninth compartment

personnel. When we undogged the bulkhead door, clouds of smoke burst into the compartment together with the personnel. Again we sealed up and began to hook into the rescue breathing gear. At this time there was a sharp blow against our ears and smoke poured through the bulkhead stuffing boxes and ventilation. Lev Grigoryevich Tsygankov, eighth compartment head, reported the situation to the control room. Minyayev's command came immediately that personnel not occupied at battle stations were to abandon the aft compartments. This saved the lives of many.

914. The submarine surfaced. In the control room they shut down the hydraulics and high-pressure air to the after part of the ship, but the air reserve was leaking from aft cylinders through the burned-through line into the stricken compartment and had sharply increased the pressure there. Mixing with combustion products, it penetrated into eighth compartment and then also into the next ones.

915. Electricians in eighth were dying. A drop of the emergency protection system could lead to disaster. The submarine was surfacing from great depth, and she very much needed way. Warrant Officer Viktor Nikolayenko, electricians team leader, did not leave the machinery to the last minute of his life. The damage-control party would find him in the aft part of the compartment in a self-contained breathing protective mask.

916. The submarine surfaced. The fire had cut off 12 submariners in tenth compartment who were destined to breathe air from the remaining high-pressure air reserve for 23 days. All survived largely thanks to the firmness and self-control of compartment head Boris Aleksandrovich Polyakov and competent use of ship air exchange systems.

917. The ship was given way at the main power plant control station by Captain-Lieutenant Viktor Milovanov, propulsion division officer, and Senior Lieutenant Sergey Yarchuk, a controller. The station enclosure proved to be nontight, and when pressure rose in the aft compartments, carbon monoxide began entering the enclosure along with air. The people's lives were threatened by danger. Then Milovanov ordered everyone to abandon the station. Only he and Yarchuk remained. They hooked into the gear. Yarchuk began choking and ripped off the mask. He died before the eyes of his commander, who could not help him: it was necessary to control the reactors. Had Milovanov been able to leave the station at that time...

918. Here are some lines from Minyayev's letter: ``Not everyone would have been able to control two reactors at once that way with two hands in an emergency situation and then, a half-hour later, also place other machinery in a serviceable condition along the way. I remember how Milovanov crawled into the control room with bloody foam on his lips in an unconscious state." Turbine operators in seventh kept up the rpm. Lieutenant Vyacheslav Khrychikov, a recent school graduate, also was there. Officer shoulderboards, the first independent cruise-his entire life was ahead of him...

919. The turbines dragged the submarine to the surface. Two petty officers, Kazimir Marach and Sasha Zakovinko, stood at the maneuvering gear. It was inconceivable to leave it in an emergency situation. The compartment filled

with smoke. Marach hooked into the gear himself and Zakovinko was assisted by Warrant Officer Aleksandr Novichkov. This superb person helped many burned seamen hook into the gear and led persons who were suffocating out of the compartment, but he did not protect himself.

920. They switched off the refrigerating machine and stopped the blowers. Temperature in the compartment rose sharply. Nechayev recently told me about Marach's last minutes.

921. ``As you recall, we buried Khrychikov and Marach at sea, observing all rules of maritime ritual, at the spot with coordinates 59°290' North latitude, 28°543' West longitude.

922. ``Marach hooked into the gear, but the mask lenses fogged up and he could not make out instrument readings. The lad ripped off the mask and wiped off the lenses. During this time he breathed in perhaps only twice, but even this was enough. Later they pulled the mask onto him, but it no longer helped..."

923. Reliving those tragic days again and again today, one evaluates what happened now more with the mind than the heart. The fact is that only experience and practical skills taken to an automatic state give a person the ability to act in a difficult situation before an understanding of impending danger arrives. And when you act, the inevitability of misfortune fades into the background and fear for one's life disappears from awareness.

924. That was the case with Senior Lieutenant Ye. Medvedev. He began preparing the diesel for start without order, realizing that a reserve energy source would be needed. When he smelled the odor of something burning in fifth compartment, he hooked into the gear and awaited surfacing. He knew that the main hydraulics and high-pressure air lines to the stern were shut down. His brain worked feverishly: How could the diesel be started without them? The fact is that immediately with start-up the diesel vent valve had to be opened instantaneously and at a strictly determined pressure so as not to flood cylinders. Medvedev and Warrant Officer Shishin were dragged from fifth compartment unconscious. In starting the diesel they had ripped off masks with fogged-up lenses in order to reliably ensure its start. Unfortunately, they did not succeed.

925. There is the concept of ``must" aboard a submarine. One must dog down in a compartment being flooded by water; one must remain at the reactor control panel when there is fire around; one must rip off the breathing gear mask if it is impossible to start a diesel in it...

926. This concept is traditional for the Russian Navy. It was significant to us, and it has not disappeared even today, only at times it is disappointing when a submariner is forced to risk his life in a place where one discovers the oversight of some, the thoughtlessness of others, and the irresponsibility of still others.

927. I received an order to shift to the control room. When I strode over there after hooking into the gear in second compartment, Minyayev said:

``Zavarin! Carry people out of the aft compartments with the damage-control party!" We carried navymen out of fifth, sixth and seventh compartments into the control room. At one point I lost control over myself and came to topside in the sail.

928. After surfacing, the chief of staff ordered that the physician be located immediately and taken to the bridge. Piskunov was brought to in the control room with the help of a good portion of liquid ammonia and pure oxygen.

929. Seamen were lying on deck in the sail. Under the physician's direction, we massaged their chests and gave them mouth-to-mouth resuscitation. We persistently tried to get breath into the lungs of those who were not showing signs of life and bring them to. Had Piskunov blundered, we would have lost enormously more people.

930. I descended below to the engineer.

931. ``Zavarin, ready the gear; you will go aft. Choose a teammate."

932. Lieutenant Smirnov went with me. To tell the truth, it was rather terrifying for me to go where my dead comrades were lying in the darkness. We had to get to ninth compartment, feel out the bulkhead, seal the compartments, and check the position of flaps and valves.

933. The compartments were so smoke-filled that a lantern beam hardly penetrated space. It was dark and unbearably hot. I undogged the eighth compartment bulkhead and was beside myself. There lay the dead. The first we saw was division head Lev Grigoryevich Tsygankov at the chemical department battle station. Bedding was smoldering in the controllers' cabin, and smoke also was coming from the chemical department station. We returned to the control room after putting out the smoldering centers and performing the assignment.

934. The outcome of our tragedy depended on each specific person. Engineering department head Minyayev wrote in a letter: ``Genuine heroism was displayed by Milovanov when, just before surfacing and before dropping the emergency protection system, he executed all my orders at the panel; by Beketov, who, scorning danger, went onto the superstructure during a storm; by Nechayev, who supported us with his confidence and outward calm in such a difficult situation; by the tireless Krasnikov and Konstantinyuk, who on the day of the accident submitted requests to join the party; by electrician Kravtsov, who was able to place all electrical machinery in an appropriate condition in the stricken compartments; by Shishin, who sealed the compartments under very difficult conditions; by the helicopter pilots from the large ASW ship "Vitse-admiral Drozd,"` who assumed full responsibility for risky flights over a stormy sea; by seamen from that same ship under the command of Kondrashev; and by many others."

935. Rudolf Andreyevich Minyayev, our permanent engineering department head, was the soul of the crew. He always tried to solve problems himself. He was able to calmly and sober-mindedly determine the priority of all affairs aboard

ship and persuade others he was right.

936. During the accident the engineering department head was in the control room and issued relatively few orders, but each of them was of decisive importance for saving people and for damage-control.

937. The enormous service of our commander, Viktor Pavlovich Kulibaba, in our saving the ship and many of the crew also is indisputable. He knew the people, their capabilities and human qualities well. Responsibility for everything that occurred in the ocean rested with him. At times this is what determined success in a particular situation. The commission to learn the reasons for the accident and the personnel's actions was in session a long time. The commander's decisions and actions in the difficult emergency situation were analyzed in a most thorough manner. The evaluation was the award of the Order of Red Banner.

938. The accident was serious, and many of us also experienced a sense of fear. There were also minutes of confusion, but there were officers, warrant officers and petty officers in each compartment who managed to take charge of the people during damage control and support comrades psychologically by their knowledge, their calm, and their personal example. Next to them the submariners gained confidence and conquered fear.

939. MORSKOY SBORNIK, No 6, 1990

940. It Is Never Someone Else's Misfortune, by Captain 3rd Rank (Reserve) V. Zavarin

941. The sea lives by its own stern and eternal laws, which determine the special way of life and relationships of people who have linked their fate with it. It does not tolerate dilettantes nor does it forgive mistakes. And when seamen get into trouble, on receiving a signal for help everyone within reach hastens to them without thinking about their own safety, sometimes risking their own lives.

942. We surfaced in the dank dawn of the North Atlantic. Clouds clustered low over the water, at times discharging a drizzle. We sent a report about the accident. A storm began. The submarine was sitting low-we blew only the midship main ballast group and a little forward and aft-the air reserve had to be saved. The sea was deserted. We were not entertaining any illusions about the ship's condition and dragged a life raft into the sail.

943. Soon Orions began flying over us. The dry-cargo ship ``Angarles" was the first vessel to approach us two days later. By this time the storm already had broken. Waves rolled across the superstructure and at times swept over our high conning tower. The vessel launched a motor lifeboat and passed us a hauling line. We tried to tie on a tow line. Warrant Officer Krasnikov was swept overboard and Warrant Officer Beketov also ended up in the water. They were pulled out with capron safety lines. Seamen from the ``Angarles" also made attempts to help us, but it was dangerous even to approach the submarine, as stormy waters were tossing her like a chip.

944. Soon the large ASW ship ``Vitse-admiral Drozd" approached us. Her masts at times disappeared behind the wave crests. We did not believe our eyes when a helicopter appeared over us. It hovered quite low and a line with a load was quickly lowered to the submarine. We unfastened the snap hooks and received breathing gear, food, a container of hot coffee, warm clothing, emergency lights- everything we so needed to continue the fight for the ship's survival and for towing her. The helicopter flew to us again and again... Three pilots were flying-Kraynov, Semkin, and Molodkin. We knew instructions did not provide for a helicopter to take off in such a storm and we admired their proficiency and boldness. Captain Molodkin later related: ``For me the important thing was to take off. I realized that each flight with cargo under such conditions harbored danger, and not just for the pilots, because the helicopter was rolled out to the grid manually and about 30 sailors held it as it picked up rpm. They released it on command and in a second I was already in the air. I landed back on the deck with the same risk."

945. The helicopter pilots removed some of the personnel, about 40, from the submarine. We passed others over to the rescue tug SB-38 ``by the wet method." Navymen would fasten a snap hook to a belt and jump into the water, while those aboard the rescue vessel would haul in the line in a matter of minutes and lift the seamen aboard the vessel. Only a damage-control party, 18 utterly fatigued navymen, remained aboard the submarine. They required help. Then those aboard SB-38 decided to ``toss" a raft of people towed by the rescue vessel onto the submarine hull on a wave. The navymen and officers in charge of this ship had to display so much selflessness and ability in order to prevent unpleasantness in so doing. These attempts continued for a long time, but did not produce a positive result. Moreover, this rescue vessel had a single shaft and was without thrusters.

946. And we aboard the submarine, exhausted by many days of work and meager subsistence, were losing our last energy. Our clothing was soaked and we were cold.

947. Aboard the large ASW ship ``Vitse-admiral Drozd" people were picked for a damage-control party to board the nuclear submarine. It was headed by Senior Lieutenant Vyacheslav Viktorovich Kondrashov, who was respected for straightforwardness and sincerity. People valued his character, will, and of course his genuine nautical proficiency. He was a reliable man in any situation. People believed in him and followed him. No one guaranteed these navymen safety. They knew it would be difficult and undertook it, confirming the Russian Navy tradition.

948. It was necessary to work without warm clothing which constrained movements and did not permit performing necessary actions rapidly. Wave rolling across the submarine deck would sweep away everything in their path and in such clothing it was difficult to hold on in the maelstrom. Therefore we went on deck in a thin corded suit and partially inflated life vest. This helped in the work, but subsequently some of us had to be treated in the hospital for hypothermia.

949. I recall an instance which almost ended tragically for Kondrashov's entire team. We received a line to which a capron hauling line was fastened

for sending a steel cable to the submarine. We took in the line and the hauling line all right and began to take in the steel cable. A coil of hauled-in cable gradually grew behind us in the narrow space of the sail. Navymen from the large ASW ship headed by Kondrashov were working in front. Suddenly a section of cable many meters long from the surface ship disappeared into the water. We didn't have the energy to take it in, but it was also impossible to release it, as the large coil of cable would have swept away and crippled many in its path as it unwound. The navymen were barely holding it. Their faces became bloodshot and the situation became critical. Everyone realized that if they relaxed even a second the irreparable would happen. Then a decision was made. In a few minutes we were able to drag a torpedo-loading winch out of first compartment, set it up in the sail and attach the cable... At that time special devices had only begun to be installed on submarines to perform such operations in a stormy situation. We did not yet have this.

950. Eighteen years have gone by since then. Time erases details of events in memory, but the important thing remains-the feeling of closeness when we were working in "one bunch," seamen and warrant officers and officers. There were many dangerous moments, but each person always could count on a comrade's help and support, and that person did not let you down. In those difficult days when there was no assurance the submarine would remain afloat, everyone was thinking only about how to save the ship and lose no more people. V. Kulibaba and R. Minyayev coped honorably with this task, but we were able to lead the navymen headed by Polyakov out of tenth compartment only on the 23rd day. The submarine was being towed by the rescue vessel "Altay", with the SB-38 and escort ships accompanying her. The crew was aboard the tender "Magomet Gadzhiyev." A group of submariners from another crew replaced our damage-control party, but the commander did not leave the submarine until arrival in base. Deputy commander for political affairs Veremyuk and chief boatswain's mate Krasnikov also were there all this time.

951. Our comrades who saved the ship and us their colleagues at the cost of their lives on the tragic morning of 24 February 1972 will remain in memory forever.

952. The serious ordeals linked us by firm friendship for long years. Destinies turned out variously. but all of us remember that cruise, our naval brotherhood, and our comrades dead and alive. Boris Demyanovich Veremyuk is no longer with us. The commander's destiny shaped up in a difficult way. After many years of service in the Northern Fleet he taught cadets and subsequently spent over three years in a country with a hot, dry climate. All this affected his health. Later he was discharged to the reserve and... there were problems with housing. Unfortunately, questions of social protection are not simple to resolve, even for the commander of a nuclear powered submarine decorated with a combat order who gave the best years of his life to the Navy and the Motherland.

953. In July 1990 the ship will celebrate her last ship holiday, after which she will bid farewell to active naval service, but the memory of her and of our comrades will remain. I think the song by naval authors dedicated to this tragedy also will be preserved. It contains the words:

954. ``...Twenty-eight lads without blame, without war Gave their lives so that others might live..."

955. MORSKOY SBORNIK, No 6, 1990

956. Ocean Test, by A. Yermolin, A. Mozgovoy and Ye. Nikitin

957. The damage-control quarters signal interrupted the submarine crew's measured life. This time it was not an emergency drill.

958. Bulkheads were tightly dogged and the center of danger which had suddenly appeared was isolated.

959. The light went out in one compartment and communications with the control room broke off. The submarine surfaced. Temperature fell sharply and cold drops dripped abundantly from the ceiling.

960. ``Compartment personnel form up!" came the voice of Captain-Lieutenant Boris Polyakov. ``Count off by the numbers!"

961. The officer recognized people by their voices and clearly pictured their faces and characters.

962. ``Comrade submariners," Polyakov spoke evenly and calmly. ``I am not about to simplify the present situation. We are isolated. Stores of food and drinking water in the compartment are extremely limited. It is difficult to say how much time will pass until we are helped from outside. The important thing now is self-control and composure. I ask you to look around, carefully examine every centimeter and make everything fast as for a storm. And execute all my commands quickly."

963. The officer distributed duties and established the daily routine.

964. The persistent struggle in low temperatures and pitch darkness did not cease for over 20 days. Exhausted by hunger and cold, the people kept up their spirits and fought a persistent battle for the ship's survival. Comrades immediately hurried to those who lost their strength and helped get them up, move and work. Salvation lay only in this.

965. And they held out, overcoming fear, the elements and freezing cold. And when finally the entrance hatch was undogged, the bright light of a portable lantern illuminated a formation of emaciated but unbroken people. Everyone was struck by the cleanliness and order in the compartment...

966. The Motherland highly assessed the submariners' courage. Boris Aleksandrovich Polyakov was decorated with the Order of Red Banner. On the day of the jubilee anniversary of Leninist Komsomol sponsorship of the Navy, he was entrusted with carrying the Komsomol Central Committee Red Banner into the Columns Hall of the House of Unions.

967. NA STRAZHE ZAPOLYARYA, 20 November 1978

968. Song ``Autonomous Deployment," written by submariners in memory of the dead

969. Autonomous deployment is ending, the path is to base and home. The submarine is peacefully rocked by the depths. Ninth compartment, ninth living compartment sleeps. Only the watchstander does not close his eyes.

970. What was he thinking then, perhaps recalling a dream, Mother, friends, or a sweetheart's eyes, Only a strange odor suddenly interrupted his thoughts. What was it? It seemed to smell of smoke.

971. To report it was nonsense, it would not go anywhere, And in the control room, you know, people are not gods. Too late, the flame roars, he was late, his heart torn By the ring of damage-control quarters.

972. Everyone sleeping in the compartment and standing the watch, Scattered to battle stations, But in ninth, whoever rose, who heard the signal, Fought for himself and for the sub.

973. Well those who did not rise, who fell asleep forever, Not sensing how they were dying, What dream they were dreaming then before, No one ever will learn.

974. And smoke keeps pouring out, there's no longer strength. Hydraulic lines are bursting. Fear and death opened the bulkhead of eighth-And as you see, there are new corpses.

975. The sub air-foam system's already on, but the fire hasn't wilted. They seek rescue vainly in ninth. A shout from there penetrates the blows: Why are you holding it, swine, skunks?

976. The heart responds to every blow, My own lads are dying nearby, I'd be happy to open it, but no, death also would come here, And in tenth they grey from the shouts.

977. Quiet is not terrible, there is no such quiet. So remember, you living people: Twenty-eight lads without blame, without war, Gave their lives so that others might live.

978. Stand up all who are warm, who sing out the verses, Think of them and sing out standing, Our submarine, missile-armed, nuclear fleet Salutes the dead heroes.

979. Disaster Heading, by Captain 3rd Rank Ye. Tarasov

980. Ten years ago, at 1945 hours on 21 October 1981, a Pacific Fleet diesel submarine and the motorship ``Refrizherator-13" collided on a head-on course off Skryplev Island near Vladivostok. After the impact the submarine with side number 300 sank at a depth of 32 m with a 30° starboard list. Five submariners died in the first minutes of the catastrophe. There were other victims as well, but about them a bit later.

981. The facts of the catastrophe were investigated quickly and without wide publicity. Then a court sentenced submarine commander Captain 3rd Rank V. A. Marango and "Refrizherator-13" chief mate V. F. Kurdyukov, who was in control of the vessel during the collision, to ten years imprisonment. But to this day Captain 2nd Rank Sergey Kubynin, former executive officer of PL-300, does not agree with the ruling of the Pacific Fleet military tribunal.

982. And This Is All About Her

983. Nikolay Cherkashin, a writer of sea stories, was the first to attempt to publicize circumstances of PL-300's loss. He wrote an essay about this which was published in the journal NASH SOVREMENNİK in 1982 and which came out in a separate digest two years later.

984. "It happened at the end of the war. The submarine where Captain-Lieutenant Kubynin was executive officer and Zybin was engineer officer went to the bottom after an attack collision of an enemy destroyer," is how Cherkashin begins his essay "Courage." I believe it was no accident that the writer needed to use the past war as such unique "camouflage." Any attempt to tie this event in to a real place and time then, in the early 1980's, would have been doomed to failure. Evidently for this same reason Cherkashin also avoids a detailed exposition of circumstances of the catastrophe, highlighting attention more on the courage of submariners who found themselves in an emergency situation.

985. The essay ends with a commentary by Hero of the Soviet Union Vice Admiral (Retired) G. Shchedrin, former commander of the Red-Banner Guards submarine S-56: "I am proud that such a complex operation as underwater transfer from one submarine to another was done for the first time in the Soviet Navy (a special rescue submarine, "Lenok," took part in evacuating the submariners- Ye.T.). Captain-Lieutenant Kubynin and Captain-Lieutenant Zybin . . . displayed genuine character, military selflessness and loyalty to Suvorov's rule: You yourself die, but help out a comrade."

986. More than a few years went by before a detailed version of the tragedy off Skryplev Island appeared in the press. Journalist Yevgeniy Sholokh presented it from the words of Captain 2nd Rank Kubynin in the newspaper VLADIVOSTOK (4 December 1990). There is a completely different assessment here of the operation to rescue the submariners. Here is what Sergey Kubynin said on this score: "Even today I cannot forget that most disgraceful, most stupid organization of rescue operations, for because of this the lads continued to perish..."

987. An article appeared in the Fleet newspaper BOYEVAYA VAKHTA (28 February 1961 [sic]) practically right after the article in VLADIVOSTOK; its author was Senior Warrant Officer (Reserve) A. Velikanov. At one time he served as diver team leader aboard the rescue vessel "Mashuk." In Velikanov's opinion, "it was they, the commander and executive officer (of PL-300-Ye.T.), who led to the most terrible and irrevocable thing-loss of human lives." But with respect to actions of rescue personnel, "everyone from the CinC Navy to the rank-and-file performers did not sleep a wink and did everything possible to rescue the people . . . and basically everyone came out normally. Only the

fear of going somewhere with the divers prompted them to immediately go to the water's surface..."

988. Well then, three divergent opinions about the tragedy. Just where is the truth?

989. Hostages

990. The submarine sank almost instantaneously. The impact of the vessel's stem fell in the area of the submarine's sixth compartment. Water gushed into the submarine through a hole around 10 m² in area. Everything was over in 15 seconds. Seamen who survived the collision became hostages of the sunken diesel submarine.

991. Fifteen minutes after the rammed submarine settled to the bottom, emergency buoys were released to the surface from first and seventh compartments. ``Refrizherator" radioed for rescuers, but two hours went by before the rescue vessel ``Mashuk" arrived at the site of the tragedy.

992. By the way, even after arriving at the site of the catastrophe and making contact with the sunken submarine's first compartment, rescuers were not ready to take immediate steps to evacuate the people. This was hampered both by hours of darkness and by an intensifying sea state. Moreover, the submariners did not have sufficient breathing gear (they did not have time to grab the gear as they hastily abandoned flooded compartments).

993. As circumstances turned out, executive officer Captain-Lieutenant N. Kubynin ended up as senior officer aboard PL-300. The commander, Captain 3rd Rank Marango, flew overboard in the collision and was picked up by ``Refrizherator-13." And Captain 2nd Rank V. Karavekov, submarine brigade chief of staff who was in the sunken submarine's pressure hull, had a heart attack.

994. When the executive officer managed to contact the Pacific Fleet chief of staff, he reported the situation and requested breathing gear and provisions for the stricken crew. On the first trip divers passed provisions and only a few pieces of breathing gear through the torpedo tubes. Captain-Lieutenant Kubynin learned from communications that the rescue submarine ``Lenok" had anchored underwater next to their submarine. The divers ran a hauling line by which the submariners could orient themselves in going over to ``Lenok," but it was not from the side on which they had agreed. There was more. Telephone communications through the emergency buoy cable malfunctioned. The submariners who had ended up in trouble were left to rely only on themselves. Toward evening of the 22nd Kubynin prepared three more seamen to exit the submarine (the first two submariner scouts had surfaced safely during the day), but those aboard the rescue vessel did not know about the new ascents. They just did not discover the seamen who emerged from the submarine. One seaman died of carbon monoxide poisoning right in the submarine. Only six submariners from the forward compartment had the good fortune to be met by divers and with their help go over to the rescue submarine's decompression chamber.

995. The others made their way out on their own. Captain 2nd Rank Karavekov died from cardiorrhexis on exiting the torpedo tube.

996. As prescribed by shipboard regulations, Captain-Lieutenant Kubynin was last to leave the submarine. On exiting the torpedo tube he did not meet the support divers and lost consciousness there. He essentially was thrown to the surface. Fortunately for Kubynin, they did not lose sight of him and got him aboard the rescue vessel.

997. Now let us sum up results of the "uniqueness" of rescue operations. Two submariners died in the compartments and four were missing. Twenty managed to save themselves. And many victims possibly would have been avoided had there been a more precise organization of rescue operations.

998. Victim S. Kubynin

999. For five days the physicians fought for Captain-Lieutenant Kubynin's life. Before he was sent to the sanatorium, the Pacific Fleet procuracy investigator handling the investigation met with him. They agreed Kubynin would give testimony only after complete recovery, but on returning from the sanatorium he learned that the investigation had been turned over to another investigator. No one got around to listening to Kubynin before the trial.

1000. Immediately after the sentence was handed down Sergey Kubynin met with the Pacific Fleet procurator (at that time Colonel of Justice Perepelitsa). In a conversation with him the executive officer expressed disagreement with the measure of punishment for the submarine commander and also with the fact that the investigation had not determined those at fault for the submariners' deaths during rescue operations. Kubynin wrote an appeal to the USSR Supreme Court Military Cases Collegium and signed it "Victim S. Kubynin." It stated in particular: "During the return to base, after the submarine surfaced and a situation estimate was made in the operating area, V. A. Marango made the decision to proceed on a heading of 5°. He reported this to formation chief of staff Captain 2nd Rank V. Ya. Karavekov, who agreed with that decision... There was no prohibition to proceeding on a course of 5°. No vessels were observed ahead along the course. Depths permitted the submarine to make the transit on a heading of 5° without hindrance. No danger existed for the submarine until V. F. Kurdyukov, controlling Refrizherator-13, arbitrarily changed the vessel's course to 30°..."

1001. Now one small but essential clarification. Having given the okay for the submarine's passage of the boom gate in East Bosphorus Strait, the dispatch service of shore seaward defense posts should have ensured the submarine's navigation safety and should have seen that there were no other vessels in the area at this time. This was not done. Moreover, the dispatch service gave the very same okay to the motorship "Refrizherator-13" for passing through the East Bosphorus. The chief mate of the latter vessel not only arbitrarily changed course to 30°, but also instructed that running lights not be turned on so the vessel would not be turned back to port because of the deteriorating weather.

1002. In short, those aboard "Refrizherator-13" wanted to slip covertly

through a prohibited area. Finally, signalmen on the motorship saw the running lights of PL-300, but took her for a fishing vessel. ``Refrizherator-13" persistently followed a ``disaster heading" in hopes of slipping through the danger area and missing the oncoming target. These and other circumstances of the catastrophe off Skryplev Island remained outside the field of view of the investigation. Regarding whether or not Captain 3rd Rank Marango was guilty of the submarine's collision with the motorship, he does bear a certain share of responsibility for the catastrophe which occurred. For example, the submarine's watch sonarman detected a target on a head-on course but did not persist in communicating the information about danger to the commander. And the crew's imprecise actions while standing underway watch is the commander's direct omission, as is the fact that he did not promptly sound quarters on approaching the narrows. But primary responsibility for the collision fell on the chief mate of ``Refrizherator-13." The court, however, divided blame equally for the catastrophe.

1003. The Lifesaving Medal (Instead of a Conclusion)

1004. In working on this material I referred to the USSR Main Naval Staff in order to hear a competent opinion of specialists about causes and effects of the tragedy off Skryplev Island. But the first thing I had occasion to become familiar with was the letter of a mother of one of the missing seamen.

1005. ``It is very regrettable to acknowledge," wrote L. A. Pashneva in appealing to USSR Minister of Defense Marshal of Aviation Ye. I. Shaposhnikov, ``that our children are missing in peacetime within sight of native shores... After the trial I was left with a very painful impression that they are hiding the truth from us..."

1006. And so even ten years later a mother's heart had not resigned itself to the loss of a son and pain remained that they were unable to get him out of trouble. Why? To this day the speedy trial has given no answer to this question...

1007. Captain 1st Rank A. Poznyakov, an officer on the Main Naval Staff, was charged with looking into the causes of the tragedy in detail. At one time he served as executive officer on the S-178 (tactical number PL-300-Ye.T.). In the opinion of Anatoliy Ivanovich, former Captain 3rd Rank Marango deserved punishment for serious omissions in organization of watch duties. At the same time an equal sign cannot be placed between him and the former chief mate of ``Refrizherator-13," whose irresponsible and criminal actions were the principal cause of the vessel's collision with the submarine.

1008. And with respect to Kubynin, Captain 1st Rank Poznyakov described his behavior aboard the sunken submarine as absolutely courageous and competent. By the way, there still were certain flaws in actions by the ``S-Class" submarine's executive officer. An enormous psychological responsibility rested on Kubynin for the surviving submariners' fate. And to the end of their days those 20 persons who nevertheless saw the light will remain grateful to their executive officer, who at a difficult minute managed by personal example to inspire in them calmness and faith in rescue.

1009. My second interview was with Colonel of Medical Service A. Ivanchenko, chief diving physician of the Navy, who was a direct participant of the operation to rescue the submariners. In those tragic days he was aboard the rescue vessel "Mashuk" as chief physiologist of the Pacific Fleet Search and Rescue Service.

1010. "The divers worked at the limit of their physical capabilities," says Anatoliy Ivanovich, "and they did much to get the submariners out of trouble."

1011. But I will emphasize that it was not only at the limit of physical, but also of professional capabilities. Ivanchenko believes that three years of service is an insufficient period of time to train young lads as professional divers who fully conform to their purpose.

1012. Three years... But the fact is, now people will serve two years in the Navy and later possibly even less. And one other essential detail. Both at that time and now, the Search and Rescue Service is a structure of the Fleet rear, and therefore its development was carried on according to the residual principle. This explains both the considerable age of rescue vessels and the delay in building new ones more advanced in technical outfitting. But if we speak of priorities, the most important ones must be to ensure the safety of people whose service is linked with the marine elements.

1013. I personally have put to sea on submarines more than once in my time. And before this I had occasion to take a scuba training course specifically on the subject of possible emergency exit from a sunken submarine. But even today I recall with a shudder that clumsy, impractical rescue gear which I pulled on with difficulty with the help of the warrant officer instructor. And I recall my mentor saying bitterly before the last test: "With such gear, if something happens the hope is only on God."

1014. Well, and the final point. Month after month before a flight, cosmonauts practice all possible actions in conceivable and inconceivable emergency situations on special simulators. I believe that submariners take no less a risk than cosmonauts. But in that same Pacific Fleet, and particularly in the brigade to which PL-300 was registered, the training facility for submariners to practice actions in emergency situations corresponds in the best instance to the level of the 1950's and early 1960's. Funds are needed for its development, but the Fleet budget grows thinner with each passing year; nevertheless, ships and submarines continue to put to sea. This means there also remains a risk to people who perform naval duty. This is why every instance of maritime catastrophes and people's death must be widely publicized both in order to learn appropriate lessons from the tragedies and in order for the public and state and political figures to know why and for what purpose the Navy needs funds. It is immoral to economize on the safety of people who have devoted themselves to serving the homeland.

1015. But it is even more immoral to leave unevaluated the exploit of people who display courage in an extraordinary situation, which happened with respect both to submariners from the sunken submarine as well as to those who took part in their rescue.

1016. "Of all participants of the rescue operation, the only person honored with an award was Captain of Medical Service Oleg Vasilchikov, flag physician of the PPS [not further expanded] brigade, and even then they awarded him the Lifesaving Medal," recalls Colonel of Medical Service Ivanchenko. "Executive officer Kubynin and engineering department head Zybin were recommended for award of the Order of Lenin, but people on top at that time figured that submarine officers did not deserve this. The only generosity' on the state's part was 300 rubles each allocated to parents of the dead submariners."

1017. ...A great resentment sank deeply into Sergey Kubynin's soul after the speedy and unjust trial. For this reason he left naval service and transferred to another department. After completing the Military Engineering Academy civil defense faculty, Captain 2nd Rank Kubynin was appointed deputy chief of staff of Maritime Kray Civil Defense. His former instructor, Colonel Yuriy Ponomartsev, a senior officer of USSR Civil Defense, believes Kubynin to be one of the best Academy students (he completed it with a gold medal), a modest person, and dedicated to service.

1018. Each year on 21 October surviving seamen from PL-300 assemble at the Naval Cemetery in Vladivostok to revere the memory of dead comrades. They keep in their hearts a bitter pain of loss, as do the parents who did not see their sons return...

1019. Photo captions

1020. Photographs of dead crew members of PL-300 (top to bottom, left to right): Captain 2nd Rank Karavekov, Senior Lieutenant Sokolov, Warrant Officer Lysenko, Seaman Balayev, Petty Officer 2nd Class Smirnov, Petty Officer 1st Class Astafyev, Petty Officer 2nd Class Demishev, Seaman Ivanov, Petty Officer 2nd Class Yemelyanov, Seaman Tukhvatulilin, Seaman Ananyev, Senior Seaman Sergeyev, Senior Seaman Stepkin, Seaman Shomnin, Seaman Lenshin, Seaman Sokolov, Senior Seaman Zhurilkin, Seaman Kireyev, Senior Seaman Medvedev, Seaman Ryabtsev, Seaman Arestov, Senior Seaman Yendyukov, Senior Seaman Khafizov, Seaman P. Kireyev, Seaman Yurin, Seaman Kostylev, Seaman Plyusnin, Petty Officer 2nd Class Adyatulin, Senior Seaman Pashnev, Seaman Kosnyrev, Senior Seaman Larin. Absent among these photographs is that of the deceased Lesnin, a cadet of the Leningrad Warrant Officer School.

1021. SYN OTECHESTVA, 25 October 1991

1022. Whoever Can, Rescue, by Captain 2nd Rank V. Stefanovskiy

1023. Submarine commander Captain 3rd Rank V. Marango did not have enough sea to pass clear of the refrigerator ship-cut in two, the submarine ended up on the seabed. When surviving submariners came to their senses and began thinking of rescue, an automatic battery in second compartment suddenly ignited-it short circuited from salt water hitting it. The fire was put out using the VPL (submarine air-foam) fire extinguishing system.

1024. The submariners did not have time to wipe the soot from their faces when the fire flared up with new force, and again that same system helped.

This is what saved the people. More correctly, it was not only this. It was very far until a rescue, but it was still possible to fight. Had the fire not been put out, the question of a further fight for life would have disappeared on its own. Captain 2nd Rank Karavekov, formation chief of staff, was senior aboard the submarine. An emergency supply of water and food was provided for in the submarine compartment in case of trouble and other unforeseen circumstances. It was possible to use emergency electric flashlights with the disappearance of light. For independent survival there is gear, a set of warm diver's clothing and much more...

1025. During the accident Captain 2nd Rank Karavekov, the senior officer aboard, also found himself in the cold, dark compartment; before receiving the okay for putting to sea, Commander V. Marango had reported to Karavekov that the submarine was ready for departure, personnel were aboard, equipment was serviceable and that there were ``no adverse comments."

1026. The submariners attempted in vain to locate at least one serviceable flashlight; only canned potatoes were found in the barrels of emergency rations. The warm woolen diver's gear remained... in a shore space on base. The rescue breathing gear also turned out to be unserviceable-there was no oxygen at all in some cylinders.

1027. In accordance with shipboard regulations, the executive officer is responsible for the presence of emergency survival aids, preparation of compartments and preparation of the submarine for action and deployment. The formation chief of staff is responsible for organization of duty on ships. In our case this was Captain 2nd Rank Karavekov who, being aboard the ship, also was responsible for navigation safety.

1028. These two responsible officials inevitably would have been in such a situation by virtue of their exceptional disregard for the ship and their duties. A tragic irony of fate brought them together in the same compartment of a sunken submarine where the road to the top, to life, now ran through a dark, cold torpedo tube and through many meters of water freezing both body and soul. And this road was so ghostly and unreal that death standing nearby in the dark compartment literally breathing down your neck could be seen much more closely.

1029. To the executive officer's honor, he found in himself the strength to organize the personnel and prepare for going to the surface.

1030. And Karavekov? The senior officer aboard? Karavekov found neither the desire nor the strength to fight for either his own life or the lives of people who remained in the compartment. A second attempt to go through the torpedo tube, like the first, ended unsuccessfully. The submariners extracted him from the torpedo tube without signs of life. Fate had brought together the paths of movement of random values at one natural junction: the chief of staff got an unserviceable tube.

1031. Karavekov's death shook up the submariners and became even more tangible and real for everyone. On seeing the chief of staff's lifeless body, a young seaman already outfitted in submariner's rescue gear died in the

compartment, unable to cope with his emotions. The others, overcoming nervous tension and desperation with difficulty, headed into the dark tubes in turn. Barely gathering his strength, the executive officer was last to leave the dead compartment. Not everyone reached the surface. Four persons remaining in seventh compartment were unable to use the rescue gear due to insufficient training... Such is underwater life.

1032. Fuel ignited in the control room bilge and quickly developed into a conflagration aboard a submarine on an autonomous cruise under the command of Captain 3rd Rank O. Bochkarev. The crew and the submarine herself were on the verge of loss.

1033. Why did the fire break out? What interfered with coping with it? Finally, where did the fuel in the bilge come from? To each one of these ``whys" there is a shameful, sad, merciless answer: our broad, daring recklessness is to blame for everything. Even before putting to sea, fuel was leaking into one of the bilge enclosures through an incompletely tightened nipple joint. This leak could have been remedied in a few minutes with a wrench, but since access to the loose joint was not very simple, the seaman responsible for this put things off and would periodically pump the diesel fuel accumulating in the bilge overboard.

1034. During daily inspection of equipment the engineering department head did not notice this. The submarine senior watch officer also did not notice anything during a weekly field day. In violation of shipboard regulations, there were no periodic inspections of the vessel by the submarine commander.

1035. There was a good stream of fuel flowing out of the tank until Petty Officer 1st Class Vlasov tossed a cigarette butt into it. Smoking is categorically prohibited in a submarine, especially in a submerged condition. The watch officer at the periscope was smoking on top in the conning tower and the damage controlman of the watch was smoking below in the control room. From a habit akin to how we toss an unfinished cigarette beneath the wheel of a bus, submariner Vlasov tossed it into the bilge.

1036. On seeing that ignition had occurred in the enclosure, Petty Officer Seregin who was nearby tried to use the submarine air-foam system, but failed: the reel onto which the hose was wound would not turn. Applying force, Petty Officer Seregin nevertheless unwound the hose, but there was no handwheel on it. After messing around a bit more, the petty officer abandoned this undertaking and now, together with damage control team leader Avvakumov, set about preparing the bilge pump for operation. But the fire hose also did not fill up: the bilge pump did not create pressure due to foreign objects and dirt having gotten under the valves. An apprentice, damage controlman Seaman Minchiy, rushed to help the petty officers...

1037. Meanwhile the ignition had developed into a conflagration. Seeing that things were bad, chief boatswain's mate Uvarov, watchstander at the diving planes, opened the emergency blow-out valves and by mistake also opened the vent valves of the midship group of main ballast tanks; air swiftly began going outside and the tanks were not fully blown out. Executive Officer Captain 3rd Rank Golubev, who ran up in response to the quarters alarm,

commanded everyone to leave the compartment since it was no longer possible to organize the people for damage control under conditions of continuous fire and total smoke contamination of the compartment.

1038. Not everyone heard the executive officer's command. It was no simple matter to check the presence of personnel in the compartment in blazing fire and opaque smoke. And this element had not been rehearsed in drills.

1039. The people's exit from the stricken compartment was lengthy and unorganized. Meanwhile the blaze spread to adjacent compartments and the entire submarine ended up smoke-filled. The incompletely blown ballast and the storm which had broken did not allow either compartment ventilation or the submariners to go on deck. Ready for anything, the doomed people who had assembled in first and seventh compartments (survival compartments) set about counting the remaining hours and recalling the lives they had lived.

1040. After eight hours, which could not be compared with anything in their dramatic nature, the bodies of four submariners were discovered in the central compartment, which had been burned to ashes. Either they had not heard the command to leave the compartment or already were unable to hear it.

1041. Here are their names:

1042. Zhora AVVAKUMOV, damage control team leader. Serezha UVAROV, team leader of helmsmen lookouts, chief boatswain's mate. Volodya SKVORTSOV, radar operator section officer. Dima MINCHIY, apprentice damage controlman.

1043. Submariners who survived serious poisoning, who were suffocating and who were crazy from realization of inevitable death, were with the remains of dead comrades for four days in 50-degree heat and envied them. There is no need to explain why.

1044. Why were they unable to cope with the fire? Well simply the VPL system, which had been overlooked, forgotten and uncared for by the submariners, refused to help them out. It did not let them down, it refused! With normal technical upkeep and attention this system is faultless.

1045. In 1962 a Northern Fleet submarine disappeared beneath the water forever right at the berth in a matter of seconds. The Kola Peninsula almost was torn from the mainland from the explosion. Fragments of steel submarine structures, scattered to all sides and lost in neighboring cliffs and in attics of houses, reminded frightened local residents for a long time about what formidable weapons there are in the hands of skilled naval craftsmen and that the fleet is not to be trifled with.

1046. Where are our submariners buried who were lost with their submarine in the Pacific Fleet in the 1970's? Don't worry, they are buried with all appropriate honors... in America. We speak long and incessantly about concern for a person, but the concern for our submariners was shown by foreigners.

1047. Photo captions

1048. ``Foxtrot''-Class diesel powered submarine
1049. RODINA, No 4, 1990
1050. TASS Announcement
1051. 4 October 1986.
1052. On the morning of 3 October 1986 a fire occurred in a compartment aboard a Soviet nuclear powered submarine with ballistic missiles aboard in an area approximately 1,000 km northeast of the Bermuda Islands...
1053. PRAVDA, 4 October 1986
1054. 7 October 1986.
1055. During 3-6 October 1986 the crew of our submarine on which the accident occurred and personnel of Soviet ships which arrived fought to maintain her watertight integrity.
1056. Despite the efforts made, the submarine was not able to be saved.
1057. At 1103 hours on 6 October she sank at a great depth. The crew was evacuated to Soviet ships which arrived. There were no losses among the crew except those reported on 4 October 1986.
1058. Circumstances which led to the submarine's loss continue to be clarified, but rapid penetration of outside water is the immediate cause. The reactor was shut down. According to the finding of specialists, the possibility of a nuclear explosion and radioactive contamination of the environment is precluded.
1059. PRAVDA, 4 [sic] October 1986
1060. Serezha Against Chernobyl-2, by Ye. Yermolin, A. Mozgovoy and Ye. Nikitin
1061. ``Oh, if someone could take a look there, He would call the boiler room hell!"
1062. goes the ancient chantey ``The Fireman," more familiar from its first words: ``The sea spread widely out..."
1063. Sergey Preminin perished in hell: in hot, noxious steam and pitch darkness, under high pressure which locked him in the steel compartment of a nuclear ``boiler room." But this seaman saved his comrades, and not just them.
1064. We will try to recreate the chronology of the tragic events which were played out in the Atlantic in early October 1986, almost five months after the world-shaking Chernobyl misfortune. We will stipulate right off that many circumstances of what happened aboard the Soviet nuclear powered missile

submarine can only be spoken of conjecturally. First of all, because the reasons themselves which led to the accident are not completely clear; secondly, materials of the special board which handled the investigation of the submarine's loss still remain closed, and witnesses to what occurred are bound by a signature of nondivulgence, which forces them to be short-spoken.

1065. To begin with let us turn to an official document. ``On the morning of 3 October a fire occurred in one of the compartments of a Soviet nuclear powered submarine with ballistic missiles aboard in an area approximately 1,000 km northeast of the Bermuda Islands," stated a brief announcement transmitted over TASS channels on 4 October 1986. ``The submarine crew and Soviet ships which have arrived are mopping up in the aftermath of the fire. There are victims aboard the submarine. . . . There is no danger of unsanctioned actions of weapons, of a nuclear explosion or of radioactive contamination of the environment."

1066. Moscow immediately informed Washington about what happened, and this produced a favorable impression abroad. ``Had M. Gorbachev preserved the Soviet Union's standard secrecy and denied everything in the face of the catastrophe, he possibly would have engendered mistrust for the summit meeting (this meeting took place on 11 October in Reykjavik-Authors' note)," the NEW YORK TIMES pointed out in those days. ``But he broke with age-old practice by notifying President Reagan about this accident on Saturday and informing him that there was no danger of a nuclear explosion, a chance launch of missiles or radioactive contamination."

1067. The official information about what had happened was valid, but far from complete. Yes, a fire actually occurred aboard the submarine; however, it hardly was the cause of the accident, but its effect. Yes, by the moment President Reagan received the dispatch from Moscow, the danger of a nuclear explosion and of radioactive contamination had passed, but such a threat existed for several hours.

1068. ...At around 0500 hours on 3 October a Soviet ``Yankee"-Class (according to the classification adopted in the West) nuclear powered missile submarine was moving from one depth to another. At this moment water began entering the third missile silo on the port side; the water in turn crushed the airframe of the liquid-fuel missile stored in it, which led to a fuel leak. A powerful explosion occurred in the silo. The crew and submarine probably were saved from instantaneous loss by the hull's strong welding and the circumstance that a considerable portion of the explosion's energy went upward through the cover of the launcher, damage to which caused the accident (in a photo taken from aboard an American patrol aircraft after the submarine surfaced, it is clearly seen that the cover was ripped off by the explosion).

1069. Nuclear powered submarine commander Captain 2nd Rank Igor Britanov and his subordinates demonstrated outstanding proficiency in the critical situation. Not for nothing did the American newspaper WASHINGTON POST note several days later: ``In simulating the accident, U.S. Navy specialists arrived at the conclusion that the submarine commander and crew deserve high praise for the fact that they were quickly able to surface, and also for actions in fighting the fire."

1070. The fire which broke out managed to be localized and extinguished, but the explosion led to a leak of toxic rocket fuel oxidizer. Despite the fact that bulkheads were battened down, a lethally dangerous orange fog began spreading through compartments through damaged main lines, a multitude of which pierce the submarine. In places the gas contamination level was 3,000 times above maximum permissible concentrations. Missile department head Captain 3rd Rank A. Petrachkov and two seamen died in fourth compartment. Many crew members were poisoned by nitrogen oxide vapors.

1071. The missile compartment had to be abandoned due to heavy gas contamination. The crew thus was split into those who remained in the forward compartments and those in the aft compartments.

1072. After almost 15 hours of exhausting submarine damage control, an alarming signal came from seventh compartment, the reactor compartment, where the ship's nuclear heart was beating. Toxic gas also penetrated there and in addition a steam line burst and lighting was cut off. In order to avoid a thermal explosion of reactors, they had to be shut down. But the power plant remote control system malfunctioned, and they were unsuccessful in supplying power from main and reserve sources to actuators of the absorbing, compensating lattices which shut down the reactors. At any moment the two nuclear piles could have run away, and this would have signified catastrophe, the result of which would have been the death of the entire crew and radioactive contamination of a vast water area and air space off the shores of North America. The ecologic and political consequences of this Chernobyl-2 are not difficult to imagine.

1073. Had misfortune happened at that time, the Reykjavik meeting of leaders of the USSR and United States, which gave impetus to disarmament talks and to a positive Soviet-American dialogue as a whole, certainly would not have taken place. And the Gulf Stream and winds would have carried the radioactive poison across the North Atlantic and the Western Hemisphere.

1074. Only two people could help out: group officer Senior Lieutenant Nikolay Belikov and special damage controlman Seaman Sergey Preminin. Of the seamen locked in the stern, only they were capable of manually curbing the reactor.

1075. And these two did not allow the catastrophe to happen. "To ensure the reactor's nuclear safety, engineering department specialists were inserted into seventh compartment three times for manually lowering its compensating lattices," it was announced with restraint in the official account of what was probably the most tragic episode in world maritime history involving a Soviet submarine near the Bermuda Islands.

1076. Quiet reigned in the submarine control room. People here in the forward section of the ship clearly pictured the full importance of what was happening aft. The control room waited. Meanwhile stalwart Senior Lieutenant Belikov, garbed in a protective suit, bent down and stepped across the coaming of the undogged bulkhead door from eighth to seventh compartment.

1077. This compartment was familiar to him down to the smallest details. The

positioning of mechanisms essentially was identical on submarines of the same class, but he would not confuse his compartment with any others. Belikov could distinguish any nut and any recess by touch, by some sign known only to him. He had to work with a crowbar and sledgehammer inasmuch as the tools needed for the job were locked up. He finally weakened the attachment of the special wrench, took it and descended into the equipment room. He unscrewed the nut, inserted the special wrench, which resembled the handle of a large meat chopper, and began turning it, trying not to stop or jerk. When the handle reached the stop, the breathing bag with oxygen on Belikov's self-contained breathing protective mask began to stick together. The senior lieutenant felt a strong dizziness, but he had the strength to ascend from the equipment room and cross into eighth compartment, where he lost consciousness.

1078. While the senior lieutenant was coming to, seamen were packaging Preminin in a protective suit. Now both of them went into the nuclear "boiler room." They descended to the equipment room and screwed the wrench onto the second absorbing, compensating lattice. Sergey set about turning it and the officer ascended to the Kashtan intercom to report to "control." When he descended into the equipment room again, he saw that Sergey was barely keeping his feet. The senior lieutenant drew Sergey to himself. They sat down on the hot deck, leaning their backs against the bulkhead and straightening legs that seemed to have been infused with lead. They rested a bit, then they twisted the second lattice to the stop. They began on the third.

1079. "Comrade Commander, I feel poorly," wheezed Sergey.

1080. Belikov led him to the vertical ladder. Supporting him with his shoulder from below and with his hand, he helped him cover the seven iron steps, placed the seaman on the deck and himself returned to the reactors.

1081. He finished twisting the third lattice, placed the wrench on the fourth and here his consciousness began to swiftly cut out. He still had the strength to ascend to Preminin, who already had begun to come to. Together they hobbled to the bulkhead door.

1082. Tumbling across the coaming, the senior lieutenant lost consciousness. His comrades pulled the breathing gear off his head and unfastened the collar of his coveralls. They bent his arm at the elbow and it dropped helplessly alongside his body.

1083. "Belikov was entirely used up," Senior Seaman A. Dolotiy later recalled. "It was terrible to look at him: his eyes were red, staring wide from the eye sockets, and his face was lifelessly white. Serega sat above him. He was asking Belikov about something; Belikov did not have the strength to raise up."

1084. They prepared Sergey as carefully as possible for the second dash into hell. Someone located a half-empty container with an emergency supply of water. Serezha gulped the warm moisture. They splashed its remnants behind the collar of the rubberized protective suit to at least somehow cool the lad's heated body. They gave him two regenerative canisters for the self-contained protective breathing mask-the last completely filled ones from those in eighth

compartment.

1085. Serezha of course knew he was threatened with mortal danger, but he did not doubt for a minute that he had to return to seventh. He only repeated: "It is very hot there... Very hot," as if excusing himself to his comrades that he had not managed to shut down the reactors right away.

1086. Preminin drew on the mask and straightened the container with the regenerative canister on his chest. When he already had hold of the bulkhead door handle, he delayed for a second; he obviously wanted to say something, but changed his mind and strode silently into the black pocket...

1087. The situation in the compartment had become even more complicated in the hour that had passed since the previous sally. The temperature had risen to 80 degrees and pressure had jumped noticeably. One can only guess what Serezha experienced, left one-on-one with the untamed reactor. It is known only that he reached the goal. Doubled up, he twisted the handle.

1088. He turned 5, 10, 20 minutes, later choking and overcoming the pain in his chest, which was tortured by the pressure. Under usual conditions it takes 20 seconds to lower one lattice. Now more than a half hour went for this. Then the last absorbing, compensating lattice was seated on the end pieces.

1089. Sergey ascended the steep ladder and reported over the Kashtan: "Comrade Commander, I did everything." In "control" they already knew that Preminin had worked precisely; the instruments showed "Reactor shut down."

1090. "Serezha, how do you feel?" asked the commander.

1091. "Normal," responded the seaman.

1092. But Sergey just did not appear in the doorway from the reactor compartment. It remained dogged.

1093. "What happened?" they asked from "control."

1094. "I can't open the bulkhead. It doesn't go."

1095. They began offering him advice on how to cope with the door. They could hear Preminin trying to get out of the trap, but in vain.

1096. "It didn't work. It's jammed," he said.

1097. The commander decided to equalize pressure in seventh and eighth compartments by pumping air into the latter, but noxious smoke poured out of the main line and the valve had to be closed. Then Britanov called up Preminin and ordered:

1098. "Open first and second locks of the starboard corridor ventilation system."

1099. This measure would have permitted relieving overpressure from seventh, although it led to loss of compartment seal.

1100. "Yes, Sir, command received. Executing," Sergey responded to the commander's words.

1101. But a few minutes later he reported:

1102. "I can't open the locks. The pin jammed in the lock."

1103. Under ordinary conditions it does not take great effort to pull the pin from the hole, but Sergey's strength had been exhausted. To help out their comrade, Senior Warrant Officer Vasiliy Yezhov and two seamen set up an extensible stop and assaulted the jammed door with desperate efforts from eighth compartment. It did not give. And with a weakening hand, Sergey rapped on the bulkhead with the wrench: "I'm alive, alive, alive..." Soon the signals from seventh broke off. Everything was quiet in the reactor compartment.

1104. Choking from vomitive coughs, Yezhov and the seamen tried again and again to free their comrade, although they realized that all conceivable operating periods of Sergey's breathing gear had expired long before. The order came to abandon the gas-filled compartment, and only then did they retreat to ninth, the last aft compartment. It was the 10th hour on the evening of 3 October...

1105. Just what was he like, Sergey Preminin, who prevented Chernobyl-2? "He was a normal lad," colleagues say about him. "He never complained." And further: "He knew how to work without fuss and bother."

1106. "He was outwardly such a seemingly ordinary seaman," Captain-Lieutenant S. Vorobyev, chief of the submarine chemical department, recalled of Sergey. "He could not be heard in the usual situation. He was inconspicuous. But in an emergency he did not lose his head. His reports over the Kashtan were calm. But the fact is, he understood everything, he understood the situation in which he found himself."

1107. "He and I somehow hit it off right away," said Senior Seaman Yu. Menshikov. "After relief from watch we would begin talking about home. I too am from the country. He so loved his Skornyakovo. He said he definitely would return there after service. Further, for some reason little notice was taken of Sergey on the submarine. It seemed he deserved it, but you look and they bypassed him, did not notice him. He of course did not put himself out for praise, but still..."

1108. He grew up in a house on the edge of the village of Skornyakovo. Beyond the fence was the field and beyond it the Severnaya Dvina River. His father, Anatoliy Yefimovich, worked a great deal of his life as an electrician in the sovkhos and his mother, Valentina Yegorovna, worked as a fabric bleacher at a flax combine in Krasavino, which was close to the village. They brought up their three sons without spoiling them, as this was not the custom in the family. They were trained to work from a young age. By age 15 Sergey could

frame, did skilled metal work and confidently handled a scythe. After finishing school he went to study as an assembler in the construction vocational-technical school of the ship repair yard in Velikiy Ustyug. He was called up to serve in the Navy on 23 October 1984. He would have been 21 years old on 18 October 1986. He did not live to this date. That is his entire biography.

1109. ...The crew continued fighting the aftermath of the accident, but water continued to flood compartments. The decision was made to evacuate the crew to Soviet ships which had arrived. On 6 October at 1100 hours Moscow time, when the submarine already had settled to her sail planes in the water, Captain 2nd Rank Britanov was last to leave her as befitting a commander. At 1103 hours the submarine disappeared into the abyss forever. Only one seaman, S. Preminin, remained aboard. They just were unable to remove his body from the reactor compartment.

1110. ``Reactor shut down," emphasized the official report about the submarine's loss. ``According to the finding of specialists, the possibility of a nuclear explosion and radioactive contamination of the environment is precluded." American experts also arrived at the same conclusion. ``An analysis of water and air samples did not reveal radioactivity," declared Vice Admiral Powell Carter at a Pentagon press conference.

1111. Sergey Preminin was decorated posthumously with the Order of Red Star, but why not the star of a Union Hero? The fact is, the young lad from Vologda Oblast performed an unparalleled exploit.

1112. ``In those times the title of Hero was customarily conferred primarily on admirals and senior officers. Their uniforms are decorated with gold stars, but rank-and-file seamen's are not," was the answer to this question given by one veteran submariner.

1113. Photo captions

1114. Seaman S. Preminin [inscription on cap and shoulders: Northern Fleet]

1115. EKHO PLANETY, No 40, 1991

1116. And That Which Was Beyond Endurance, by S. Tutorskaya

1117. Everything began early on the morning of 3 October 1986, when the nuclear powered submarine was several hundred kilometers from the Bermuda Islands. She sank on 6 October despite all the work done to save her. The submarine had been at sea 30 days by the date of the loss. I. Kochergin, chief of the stricken submarine's medical department, recalls the experience.

1118. ``It was my first TDY after finishing the institute. True, I also completed special internship.

1119. ``Everything began early in the morning, when the submarine was several hundred kilometers from the Bermuda Islands. I was already on my feet. A sharp impact tossed me almost a meter in the air. Damage-control quarters

immediately sounded and the command was given to use individual protective gear. Then in about 15 seconds the submarine sank very quickly, almost like a rock. Visibility worsened in my compartment and an orange fog appeared. I felt a burning and dryness in my throat-symptoms of poisoning.

1120. ``An hour later I received the first victims from the stricken compartment. They were in a serious condition: cramps in arms and legs and loss of consciousness. I managed to administer promedol intramuscularly, and then we were ordered to abandon the compartment. The victims had to be delivered to a safe compartment, but how? They were wet and slipped from the hands, and the ladder was vertical. The breathing gear was cumbersome and it was difficult to turn around. We twisted sheets, passed them beneath the victims' arms and carried them into a safe compartment that way. We had just managed that when the command came to locate the officer of the stricken compartment. We found him and I immediately set off for seventh compartment; they had passed on that there were two more there unconscious. We did everything that could be done so the boys' hearts began beating. Alas, nothing helped.

1121. ``When I gave a briefing about this accident at a special conference, I made the suggestion to prepare cocktails,' as it were, out of different compatible drugs in one syringe in advance for our situations. This would have freed up much time for me and my assistants. The resuscitation apparatus has an oxygen cylinder. Well now, we could not open the valve on many of them, although people of exceptional strength tried. Oxygen with alcohol is needed at the most serious moment, when people are beginning to suffocate from inhaling toxic vapors and abundant foam is being discharged.

1122. ``According to witnesses, the two whom we did not succeed in saving had torn the breathing gear from themselves back in the stricken compartment. Why hadn't it worked? In that situation no one investigated this."

1123. ``But still, how did it happen that you gave your breathing gear away? And to whom?"

1124. ``To one officer. It was this way. You understand, every seaman in underwater navigation, no matter where he may be, has with him the PDU-portable breathing device. It works for ten minutes. During this time it is fully possible to make your way to the battle station and there put on the IP-self-contained breathing protective mask. When the air is exhausted in it as well, you shift to the IDA-rescue breathing gear. That is what I gave the officer from the stricken compartment.

1125. ``Up to a certain point in time everything was normal for me. I was with Senior Lieutenant Oleg Kuzmenko. Suddenly the air dwindled and I indicated with my hands that there was nothing to breathe. They transmitted over the general announcing system that the air had come to an end in the doctor's gear. It was necessary to breathe poisoned air until they brought a spare cartridge. I got my breath and moved further: there were another five seamen in bad shape in the adjacent compartment. I did everything necessary, and then I did not feel well. Asphyxia: I lay down and could do nothing; I just raised up a bit and foamed from the mouth. I myself administered a drug

intravenously; a warrant officer constricted my arm.

1126. ``We dragged all the dead into one compartment. We found the captain 3rd rank-he had died-and one other seaman, Sergey Preminin, also died. He himself volunteered to close the reactor cover in order to shut it down. And then they were unable to remove Serezha from the compartment...

1127. ``We made our way topside any way we could.

1128. ``When ships came to help, the sea already was restless, 4 on the scale, and it was difficult for lifeboats to approach. And then I had pulmonary edema again. Physician Gennadiy Novikov from the ship which had arrived dragged me back from the other world."

1129. ``Was there a serious analysis later of everything that occurred for your department?"

1130. ``When I recovered, I told at a Moscow conference about the impractical accommodation of drugs and breathing gear in the compartments, about the mixtures in syringes with which things would have been much easier, and about how valves jammed. I suggested that there also be a paramedic on submarines in addition to the physician. I told about the imperfection of gas analyzers in accidents. They have to show accurately how much and what kind of harmful additives there are in the air.

1131. ``Finally, a shipboard team of first aid specialists could have come to us. It simply did not get to us in time. And recommendations of leading medical personnel began coming over communications five hours after the beginning of the accident...

1132. ``When we ended up in Cuba we were met very warmly. They brought in Ikarus buses for us and gave us good treatment. When we arrived in Moscow we were transported in small PAZ buses and really shouted at: you are guilty. And in the North, where the submarine was registered, a truck was sent to the port for us. And they spoke with us almost as with criminals..."

1133. Our epilogue. The doctor and I are sitting in his rather narrow room which resembles a cabin. He lives in a communal apartment with wife and son. The house was built in the 1820's and is on its last gasp. All in all Igor is satisfied with his work. He is the formation flag physician. After the accident they found serious complications of his health and declared him unfit for shipboard duty. Those several hours that crew members fought for life turned out to be invaluable: in Kochergin's words, the accident began suddenly at 0530 hours, and the submarine sank at 1103. Fortunately everyone who remained alive was taken aboard the ships which had arrived.

1134. IZVESTIYA, 11 May 1991

1135. That Version Suited Everyone, by A. Yermolin, A. Mozgovoy and Ye. Nikitin

1136. At the end of September 1987 Northern Fleet seamen were missing two

experienced submarine officers in their ranks. Submarine commander Captain 2nd Rank Igor Britanov and engineering department head Captain 2nd Rank Igor Krasilnikov were discharged from active military duty to the reserve under Article 59e (official incompatibility), although the criminal case instituted over the fact of the submarine's loss was dismissed: the military procuracy perceived nothing criminal in the actions of the submarine's command element. Nevertheless, they were expelled from naval officer ranks and from the CPSU (and from the party before the official investigation had ended, i.e., in advance, just in case).

1137. When Igor Anatolyevich Britanov submitted an appeal to the party commission secretary in the formation political department, the secretary said in irritation: "I recommend you not raise this issue any further. When you leave for a new place, join again there." The commissar clearly was trying as quickly as possible to get rid of the officer who had gotten into a scrape, who in case his guilt was proven would be "blessed" with 12 years imprisonment.

1138. Of course, when you analyze the emergency situation dozens of times, lay it out into individual elements, go over all possible versions, and weigh the consequences of every step in damage control, it is possible to arrive at the conclusion that particular decisions by the commander could have been different. But it is easy to judge this in a quiet atmosphere, when it is not dripping from above and not burning below.

1139. Were there errors in actions by personnel of the nuclear powered submarine which sank off the Bermudas? It would be idealizing to assert the opposite. The state commission also noted this. Britanov himself does not deny this. But the reasons which led to the accident had nothing to do with the crew. As a result of experimental checks and thorough analysis, authoritative specialists established that the entry of outside water into the missile silo occurred not through the submariners' fault, but either resulted from technical miscalculations in designing the submarine or happened due to the effect of external forces.

1140. But the Navy command clearly did not strive to elaborate on this subject.

1141. The matter was limited to discharging the commander and senior engineer officer. Here is what Britanov himself writes concerning this: "A criminal case was not brought against us for a great number of reasons. Everything was subordinated to the amnesty for the 70th anniversary of the October Revolution, although I declared to all that a trial was necessary to get to the bottom of things. But while we were on leave they made out the documents. They closed the case of the loss, and later we were placed face to face with the fact. There was no one from whom to seek protection and justice. Only sympathy. That version suited everyone..."

1142. EKHO PLANETY, No 40, 1991

1143. Neither Stone Nor Cross Will Tell..., by A. Mozgovoy

1144. On 3 October 1986 an explosion and fire occurred aboard a Soviet nuclear powered missile submarine 480 nm northeast of the Bermuda Islands. Three persons died. The submarine crew and personnel of Soviet ships which arrived fought for the submarine's survival, but all in vain-she sank on the following day. The crew was evacuated by other vessels.

1145. EKHO PLANETY, No 24, 1990

1146. For the Honor and Glory of the Motherland, by Red Banner Northern Fleet Political Directorate

1147. On that day, 3 October 1986, night was creeping over the Atlantic. For the 16th hour the crew of the Soviet nuclear powered submarine fought for the ship's survival and opposed the onslaught of a lethal gas which formed as a result of the fire. The first time, two of them went into the reactor compartment. The protective suit's elastic fabric was instantaneously impregnated with heat and the protective mask's round eyepieces steamed up. Each movement meant the burn of scorching hot rubber. They managed to do half the job with great effort. When they managed to get out of the compartment, the strength left one of the two. Komsomol member Sergey Preminin forced himself to get up, overcoming pain, and rushed to the reactor again, into the scorching hot compartment. As an experienced submariner, he could not help but know he was subjecting himself to mortal danger. Pressure rose perceptibly. Temperature jumped beyond 80. With an effort beyond his limits, Sergey twisted the heavy crank for a half hour, doubled up. The reactor was shut down, but an unforeseen chance happening did not permit him to leave the stricken compartment. In performing the combat assignment and saving the life of comrades, Seaman Sergey Anatolyevich Preminin perished, faithful to the military oath.

1148. For courage and valor displayed in performing military duty, Seaman Sergey Anatolyevich Preminin was posthumously decorated with the Order of Red Star and the Komsomol Badge of Honor. His name was entered on the Komsomol Central Committee Honor Roll.

1149. Photo captions

1150. Memorial pennant dedicated to 5th anniversary of the accident of the nuclear powered submarine commanded by Captain 2nd Rank N. Britanov [outer inscription: The bell of eternal grief rings in your bright memory; lower inscription: Atlantic, 3 October 1986]

1151. "For the Honor and Glory of the Motherland" (Brief Historical Information on Red Banner Northern Fleet)

1152. Save Our Souls, by Captain 3rd Rank A. Rozhnov

1153. Every accident has its causes, its secrets, its heroes and its martyrs. But there is also something in common-stupid bungling, slovenliness, inability. This is why I view the tragedy which carried the nuclear powered submarine "Komsomolets" and 42 human lives into the marine depths not alone, but in comparison with catastrophes similar to it. And while at least some

details of forced truth are known about this one, there is not a word about the loss of our submarines earlier.

1154. I consider it my duty to tell about one other catastrophe. On 23 June 1983 a Pacific Fleet submarine sank on a combat training range not far off the shores of Kamchatka. Captain 1st Rank V. Suvorov was the submarine commander.

1155. ...A large, intelligent, reliable submarine died. She lay immovably on the bottom and no longer heard the people who remained in her and were still alive. Seamen and officers shared the fate in the darkness and cold, and they hoped for rescue.

1156. Water burst into one of the compartments during submergence. An open ventilation shaft was the cause. The commander took all steps to surface, but too late; the submarine sank to the bottom. News of the tragedy raised the country's entire Navy. A rescue operation unfolded in a matter of hours in which the former CinC Navy put hundreds of specialists into action. In these hours we did not yet know that water had gushed into fourth compartment and killed 14 seamen there. We did not know that 28-year-old Warrant Officer Vladimir Leshchuk managed to throw open the bulkhead door into the adjacent compartment, shout to the dumbfounded watchstander about the accident, and disappear back and slam the door behind which was his life. That is how they found his body: leaning on the gate lever. Volodya did not even have time to put on breathing gear. It is highlighted in the Shipboard Regulation: "No one has the right to leave a stricken compartment on his own." A rigid rule born of sorrowful experience of more than one generation of submariners: only by entombing yourself is it possible to save others.

1157. The submariners were lucky. First of all, the accident did not occur at a great depth. Secondly, rescuers quickly discovered the submarine and made contact with her. On the very next day people began exiting first compartment through the torpedo tube.

1158. It became more disquieting when we realized that everyone who broke out of underwater captivity came from the forward compartments. It was more difficult to do this from after compartments, where there were 2 officers, 5 warrant officers and 16 seamen, most of them first-year men. There were no torpedo tubes there and the navymen were left with one thing: use the escape hatch. But none of the submariners had tried this even at the training station.

1159. There is an escape hatch on any submarine, but navymen do not trust it; a psychological brake is triggered-it is frightening. In his book "Raising Sunken Ships," (D. Gorzd) recalls how one unsuccessful attempt to get to the surface from the British submarine "Thetis" through an apparatus similar to our escape hatch put the rest into a state of prostration: they patiently waited until all suffocated to the last man.

1160. Two seamen, Zakirov and Chiroshnikov, set about assisting Warrant Officer V. Bayev. While they put on scuba-diving gear, Bayev sat down to write a letter to those on top-specifically a letter, and not a report as befitting a military person. Let the commanders with big stars on their shoulderboards

know that the submarine did not have enough either of rescue gear or of diver's woolen gear, and emergency food supply barrels were empty.

1161. Bayev first helped Zakirov out, but soon Zakirov was forced to return to the compartment: the catch on the upper cover jammed and the seaman lost his head. They wanted to send off another, but Zakirov categorically refused to give way. Then the upper cover was opened and they could hear the navyman stepping onto the stern of the submarine and rapping as had been agreed: everything is in order!

1162. Now it was not necessary to ask for volunteers-since one emerged, that meant hope shone for everyone. Bayev set about dressing a second person, but the submarine commander's order came: ``Cease exit of people." It turned out that on top, dozens of meters from them and several meters from the surface, a rescue diver had come across Zakirov's dead body-he had been strangled by the buoy rope. The icy water quickly sapped his last strength, air in the cylinders came to an end, and where were experience and self-control to come from on the very first attempt!

1163. I think with pain about the fact that no one had ever taught deceased Seaman Zakirov scuba training in the three years of first-term service. Were it only he alone!

1164. ...One more night went by. The crew did everything it could and now one thing remained: wait. The waiting ended at 1100 hours-the commander gave the okay to exit. Everything went normally until suddenly it was learned that they, the two officers and four warrant officers who remained in the compartment, could no longer leave. There was no more breathing gear.

1165. Battery wells began exploding. One, then a second one; they looked around-deck plating in second compartment had been split. Thanks to fate not one person suffered and not one spark managed to set the submarine on fire.

1166. ``Receive breathing gear through escape hatch," the commander finally ordered by telephone. These were riches for them: four pieces of breathing gear and two dozen cans of condensed milk.

1167. ``Swine," Bayev swore for the first time. ``Three of these are crap!"

1168. They dropped another three to them, and again one had to be flung aside-defective! Now they were wiser-they requested more pieces of gear from rescuers than were necessary. Six were lowered to them at once.

1169. ...And another pain in the heart. At the accident site again an armada of vessels and dozens of aircraft and helicopters were carrying everything necessary for saving people, and the operation was directed by CinC Navy. At their own initiative, crews of other submarines gave up breathing gear, warm clothing, camel's-hair diving sweaters and the best food to be passed to the sunken submarine without invoices, documents and signatures. But only a small part of this selfless help reached the stricken submarine. Subsequent audits specified these missing bounties to be a loss.

1170. After all this should one be surprised that the after compartment of the sunken submarine was supplied with breathing gear in which one could suffocate if you put it on!

1171. ...Bayev looked through the remaining persons. He remained alone.

1172. "Bayev," he heard the commander's voice over the telephone. "The CinC does not order it, but asks that you not flood the after compartment if possible."

1173. Vasiliy himself realized that were he to flood the compartment the water would gush to the turbine-a unique and almost most expensive part of the submarine structure. If both bow and stern were flooded, raising the ship would be so much more complicated.

1174. ...From the several defective pieces of gear, he assembled one that was more or less suitable. He counted every step: "Stop! But how to close the very heavy cover if there was nothing to grab hold of?"

1175. Bayev rested his foot on the ladder rung and with the other he kicked the cover downward-this was the only thing that was left to do. After several oscillations it engaged, but immediately broke loose and collapsed-the spring had broken. He did not even get angry. He silently crawled back into the compartment, removed the spring from a door and put it in place of the one that had torn off. Bayev informed the rescuers of readiness to exit at 1903. He pulled on the mask and suit and crawled into the trunk. The cover did not let him down. He groped for the opening of the lock, inserted the wrench, sealed the trunk and opened the fill valve. Water quickly began to compress the rubber of the suit with cold. He glanced at the pressure gauge: pressure in the trunk had risen only two atmospheres-not enough! Bayev realized with horror that the trunk was full of holes! That same second his throat constricted from asphyxia-air in the cylinders had come to an end. Then it was as if the water took pity on him-it began to slowly abate. Now it was already at the level of his forehead, eyes, nose. He greedily sucked in the remnants of air and regained consciousness with a choking feeling. The water dropped to his chest and stopped: the vent valve was at this level. "This is where the trunk is not sealed," Bayev realized, "That means the water will not drop lower." He convulsively immersed himself in the water, felt out the wrench handle on the bottom, inserted it into the lock, but could not turn it even a millimeter-there were almost three tonnes of water pressing on him from above. The end?

1176. Bayev straightened to full height and froze, again hearing the murmur of water. He realized that it was he himself, squatting on the bottom, who had shoved the water upward-Archimedes law. He began squatting again and again, bringing his entire body down on the water. But there was nothing left to breathe and he sensed that if he were not able to open the lower cover right now there would be no next breath.

1177. A jerk! How long he lay unconscious he did not remember, when he came to he immediately realized that he nevertheless had opened the cover!

1178. It remained to locate a breathing apparatus. He carefully picked through the entire pile-the cylinders were empty. He had to take the risk, it would be necessary to dart upward on the reserve of air in the breathing bag.

1179. "He surfaced!" he heard someone's voice. "He's not moving! Probably dead."

1180. He had enough strength only to breath and also to get up on the deck of the rescue vessel and approach the CinC on his own. The Admiral of the Fleet shook his hand and asked:

1181. "How is the compartment? Flooded?"

1182. "No."

1183. The admiral's voice began moving away and the deck went from under his feet.

1184. "I heard," they shouted right into Bayev's ear, "the CinC is rewarding you with a car."

1185. But he no longer knew this. Just as he did not know it was already one-thirty in the morning and that his upward path from the submarine lasted for six hours on end instead of the eight minutes, as for those whom he saved.

1186. News of the CinC's bounties quickly flew around the garrison: they awarded the warrant officer a car and ordered that he be given a two-room apartment. They agreed that Bayev deserved the reward: he had saved the people and the submarine herself-there was no way they would have raised her quickly with a flooded after compartment. He himself had locked out through the hatch-the submarine fleet had not known such a thing before.

1187. I ran into Bayev in those days. True, said the warrant officer, he had sent 22 persons up and had not flooded the stern. He did not call this rescue, let alone heroism. Then I asked point-blank:

1188. "Vasya, just how did you dare make a second attempt if the first one almost took your life? Devil take the compartment, I would have flooded it and exited."

1189. "I have a bad nature," said Bayev. "I myself do not understand."

1190. I also asked:

1191. "And is it true what they say about a valuable gift?"

1192. "How can they not give it if a staff officer solemnly declared in the name of the Comrade CinC before a formation of all the rescued crew: I reward you with a car. Well, it will come in handy, thank you..."

1193. At that time I planned to tell about Bayev's act both in our large-circulation newspaper and in the Fleet newspaper. But alas, we do not

have accidents, nor can there be any.

1194. Several years went by. Once I managed to get to the garrison where Bayev began service. It turned out he was still there, appointed chief boatswain's mate of a submarine. I also found out the new address of the Bayevs. It turned out to be a one-room apartment.

1195. It turned out they received it not long ago and the CinC had nothing to do with it.

1196. ``And how about the car?"

1197. Vasiliy shook his head negatively. He did not want to say anything, but I insisted.

1198. ``When I returned from leave then, there was no getting rid of the crew. They kept egging me on: Are you going for a drive? I was not even feeling bad for myself, but for the Comrade CinC. They really poured it on' him. I wrote to Moscow: This is how it is, and that. The CinC's assistant answered, although the response was addressed to my superiors and it was written: Invite Comrade Bayev in and give him an explanation on the substance of the questions raised. They called me in to the political department and began to explain. You, lad, they said, want too much. Apparently you are tired of serving? Then say so. Not at all, I responded, I am not tired of it. Then they commanded: take a pen and write that I have no claims, positive answers were given to all questions, and I have been given a two-room apartment. What do you mean, two-room apartment? I asked.

1199. ``In the morning the flag physician came up to me: get ready to take a ride with me, it has been ordered to show you to the psychiatrist-evidently after the accident something is wrong with your head.' Thanks to the unit commander, he intervened..."

1200. ``And you signed everything?" I could not refrain from the question.

1201. ``What remained? I'm happy I remained alive. And then that they left me to serve. And the rest..." He did not finish; he waved his hand. He was silent and suddenly uttered:

1202. ``Look how it all turned out... I always feel bad in my heart when I recall this. What do you think, will it pass?"

1203. Photo captions

1204. Nuclear powered missile submarine ``Charlie-I"

1205. KOMSOMOLSKAYA PRAVDA, 24 December 1989

1206. The Sunken Warhead, by Captain 1st Rank (Reserve) M. Khramtsov

1207. This happened many years ago, but during these years there are few except for the initiated who learned about that very dramatic accident in the

Pacific Fleet. It was not customary to "upset" the public...

1208. That night, I recall, I went to bed late-I was delayed on duty. But hardly had I fallen asleep when I was aroused by a telephone call.

1209. The CinC was phoning:

1210. "Are you in the picture about what happened with the neighbors? (The neighbors meant a unit of nuclear powered submarines-Auth.) Immediately go aboard the patrol ship Storozhevoy'-you will learn everything on the spot. The command to ready the ship for action and deployment already has been given and a vehicle has been sent for you."

1211. I did not have time to get dressed when there was another call.

1212. "Mikhail Petrovich, are you still at home?" the voice of Deputy CinC Rear Admiral A. Skvortsov droned reproachfully in the receiver. "Hurry, you're going to sea. The rest is not for a telephone conversation."

1213. "I'm leaving," I responded, noticing the headlights of a vehicle which had pulled up slipping along the apartment windows.

1214. Soon I was aboard "Storozhevoy." Ship commander Captain 3rd Rank (now Rear Admiral) A. Pechorkin met me at the ladder. After receiving his report I headed for the formation operations duty officer room.

1215. "You need to phone the CinC," he reported.

1216. I phoned. Judging from his voice, the vice admiral was calm, but he was extremely brief:

1217. "When the ship is ready, unmoor. Proceed to the area and rendezvous with the stricken submarine. You are senior officer in the area. That's all."

1218. "Storozhevoy's" commander reported that the ship was ready for action and deployment. I gave the okay to weigh anchor and unmoor.

1219. Now Pechorkin was in charge on the bridge. A good, experienced, decisive commander. True, slightly self-assured.

1220. But "on top" they were hurrying us. Now and then the operations duty officer would come up in communications. You knew he understood you could not jump over the norm, but he hurried us. Nerves, nerves...

1221. Finally the anchor was clear and we hurried to the rendezvous point. Arriving in the designated area, we received the command from the operations duty officer to wait. We heaved aback. The running lights of some kind of vessel showed up and we headed for them. It was not the submarine, however, but a torpedo recovery boat, from which they transferred to us a submarine formation representative [sic] headed by Captain 1st Rank Vdovin, commander of a submarine of the same class as the stricken one.

1222. Again we anchored and waited. We learned the details. It was no joking matter-an accident of a ballistic missile with nuclear warhead. This is why the submarine had to be led away to a safe area as quickly as possible. Captain 1st Rank Vdovin told us that instructions for servicing the missiles had been violated through the fault of a group officer on this submarine. In ventilating the trunk, air was supplied under pressure which exceeded permissible pressure by many times. As a result the seal of a compartment with fuel components was broken. The situation became menacing.

1223. Finally the stricken nuclear powered submarine showed up. There was a trace of smoke above the conning tower. We began convoying her. I knew the submarine commander, Captain 1st Rank A. Brichkov; we had entered the Academy together-he for on-campus and I for off-campus studies- and look at the situation which brought us together again.

1224. We passed the narrows safely. We were convoying the submarine into combat training areas with shallow depths so it would be possible for divers to work if such a need arose. Subsequently that is what happened.

1225. When we arrived in the designated area the submarine began maneuvering, tacking from west to east and back again. We took up a position 4.5 nm to the south off her beam. We observed her, maintained communications, and reported the situation to headquarters... Suddenly a cloud of smoke billowed up on the submarine. Then we received a report: the damaged missile's warhead had been ejected! That was a turn of events! In essence, an atomic bomb now was lying on the bottom of the Pacific!

1226. ``Navigator! Precise location! Plot it on the chart! Our location and that of the nuclear submarine," I commanded my flag navigator. He had just determined his position and took the bearing and range to the submarine.

1227. ``Commander of Storozhevoy! Prepare buoys and spars for placement!"

1228. At top speed we headed for the place where the submarine had ``fired" the warhead. We placed all buoys and spars we had. This was the only correct decision. Running ahead, I will say that they found and raised the nuclear warhead right at the marked spot. Had we delayed just a bit we would have been unable to place the buoys and spars with such accuracy. Hunting a warhead in a large area is much more difficult than finding a needle in a haystack.

1229. We took a water sample at the spot where the warhead fell, scrupulously observing safety measures-we prepared a clean container, attached a reliable line to it, and ship executive officer Captain-Lieutenant I. Keshkov (now a captain 1st rank and commander of a surface ship) with a small team of personnel dressed in chemical outfits and protective masks took the water sample. Without dawdling, we passed the container to a transport. The people acted calmly and with great composure. Like a true proprietor, Captain-Lieutenant Keshkov even requested that the transport return the hauling lines to him.

1230. By this time around 15 ships and vessels had gathered to secure the area. A whole gale came up and we were ordered to anchor on the roadstead, but

it was impossible to do so. The ship was rolled from side to side by waves. Dishware broke and boxes with kits of spare parts, tools and accessories ripped from their fastenings. We requested an okay to weigh anchor and, as they say in the fleet, began to ride out the storm. We rode out the storm all night. Only in the morning did we arrive in the nearest inlet. A bit earlier Brichkov's submarine entered here as well and anchored in the depth of the inlet.

1231. Soon a launch approached ``Storozhevoy's" side. Aboard it were Admiral N. Amelko, who for many years commanded the Pacific Fleet but at that time represented the USSR Ministry of Defense; CinC Pacific Fleet Admiral V. Maslov; Rear Admiral D. Shigayev, first deputy chief of the Fleet Political Directorate; and several civilians (major scientists, as was later learned).

1232. The commission went into the wardroom to work. Soon I too had to go there-it was necessary to report a message of the Fleet operations duty officer to the CinC Fleet about execution of missile firing by a shore missile regiment. True, I left the wardroom again after reporting.

1233. After the conference, commission members left for the submarine. Already more than 24 hours had gone by since the warhead had been ejected, but the damaged missile's silo still continued to smoke. After returning from the submarine Admiral Amelko talked for a long time on the bridge with scientists-they were discussing the incident report for the USSR Minister of Defense.

1234. The most prominent specialists in the country and of the Navy were assembled to hunt the warhead. Ships, submarines, aircraft, divers and so on were put into action. I was replaced by Rear Admiral A. Skvortsov, and later Deputy CinC Pacific Fleet Vice Admiral E. Spiridonov (subsequently an admiral and CinC Pacific Fleet; he died in an air crash) became senior officer in the area.

1235. The crew of ``Storozhevoy" took an active part in this lengthy, complex search operation. They found and raised the warhead, but not one person was commended. By the way, we did not expect commendations. We just thank God we didn't lose our lives. That same Brichkov had to part with the submarine-he was appointed to a shore position.

1236. En route to base everyone was very strictly ordered not to say a word to anyone. The time to tell about this as well came in times of glasnost.

1237. KRASNAYA ZVEZDA, 2 October 1990

1238. From USSR Ministry of Defense and Main Political Directorate of the Soviet Army and Navy

1239. The USSR Ministry of Defense and Main Political Directorate of the Soviet Army and Navy announce that on 7 April a fire broke out on a torpedo-armed submarine with a nuclear power plant located in neutral waters in the Norwegian Sea. The submarine was brought to a surface condition. For over five hours the personnel waged a courageous fight to save the ship, but

steps taken by the crew were unproductive. The submarine sank in an area southwest of Bear Island at a depth of 1,500 m. There are human victims.

1240. With a feeling of sorrow the USSR Ministry of Defense and Main Political Directorate of the Soviet Army and Navy express deep condolences to relatives and friends of the deceased. The bright memory of true sons of the Motherland will be preserved forever in the hearts of Army and Navy personnel and all Soviet citizens.

1241. The Last Order, by N. Dombkovskiy

1242. (About the course of rescue operations and the courage of those who took part in assisting people in trouble far from native shores.)

1243. I have had more than one occasion to visit Red Banner Northern Fleet aviators. I recall brilliant operations by helicopter pilots to save fishermen, to transport patients from remote Kola Peninsula villages, and to rescue their own colleagues who had made a forced water landing on the high seas. And now there was one more accident.

1244. Calendars indicated 7 April...

1245. 1154. The crew of Major Gennadiy Petrogradskiy was alerted. The alert was declared for all Fleet aviation rescue forces, but specifically this crew was supposed to be first to take off. The mission was assigned at the command post: a fire had broken out on a Soviet nuclear powered submarine in the vicinity of Bear Island. The ship had surfaced and the crew was performing damage control. It was necessary to proceed to the vicinity of the stricken ship, make contact with her and continuously report the situation and the commander's requests to Fleet headquarters.

1246. Rescue aviators have helicopters at their disposal capable of landing on the water, and seaplanes, but this time it was decided to send a powerful multiengined aircraft capable of flying over the ocean for long hours at an enormous distance from native shores. The reason was that a helicopter would not have enough fuel reserve, for the accident had occurred 980 km from native shores. A seaplane has a speed almost half that of its multiengined brother. In addition, according to the commander's report, the situation aboard the submarine did not cause special concern.

1247. 1243. Petrogradskiy separated the aircraft from the runway. One hour and 20 minutes are given to ready such an aircraft for an emergency rescue sortie, but the crew managed to keep within 49 minutes, and this when it was necessary to remove armament and install droppable emergency rescue pods in its place.

1248. 1420. The aircraft commander made contact with the submarine commander. They reported from the submarine that although the fire was continuing, it was being controlled by the crew, which was not allowing the fire to spread. There were no requests of any kind.

1249. In response Petrogradskiy announced that he had the mission of

vectoring a ship to the submarine and already had begun to work.

1250. 1440. After penetrating the cloud base, the air crew caught sight of the submarine. She was standing motionless strictly north to south with a barely perceptible starboard list. Abundant frothing of water was observed at the port side in the vicinity of sixth and seventh compartments—we now know the fire was burning specifically there. A tail of light smoke deflected by the wind stretched from the conning tower.

1251. The aircraft commander transmitted a weather report to shore: visibility 5-6 km, cloud base 400 m, sea state 3, swells. From time to time there were snow flurries; then visibility dropped to one and one-half km.

1252. 1450. By this time three aircraft already were in the air. The other crews were headed by Major Vladimir Votintsev and Major Anatoliy Malyshev. They were situated in the sky between Bear and Murmansk, relaying conversations of the submarine commander and Fleet staff. Major Petrogradskiy's crew began complicated work. He not only was helping to organize communications, but also was flying over the water area vectoring surface vessels to the accident site. Their captains figured the approximate time of arrival was 1800 hours.

1253. *** GRAPHICS uma0241 *** *** GRAPHICS uma0241 ***

1254. 1520. The fire continued to be fought aboard the submarine. Her commander was in constant contact with shore through the aircraft. Only one request had come—for a tug to approach them. This could mean only one thing: the submarine had lost way. Evidently fearing consequences of a fire aboard her, they had shut down the reactor.

1255. 1600. The submarine commander unexpectedly requested freon. Petrogradskiy contacted the vessels and they promised to locate the necessary amount in their stores.

1256. 1635. The pilots suddenly noticed that the submarine had begun to settle by the stern. From this moment events began developing swiftly.

1257. 1638. A trim by the stern and starboard was observed.

1258. 1640. The turned-up bow of the submarine appeared out of the water, trim by the stern increased.

1259. 1644. The trim was even greater, water had risen to the base of the conning tower.

1260. 1647. Conning tower half hidden in the water.

1261. 1650. Submarine commander transmitted a radio message: "Preparing to evacuate 69 persons."

1262. 1700. Two deployed 20-man emergency life rafts appeared next to the submarine. Seamen began to be evacuated in a continuous stream from the

submarine.

1263. Descending to the water, Gennadiy Petrogradskiy was able to drop an air rescue pod very precisely between the rafts with unbelievable accuracy. He saw the seamen open it and saw the boat inflate and people beginning to clamber into it. On the next pass he did not find this boat, and one raft had overturned...

1264. Votintsev's crew, which by this time had arrived at the accident site, began dropping emergency pods... But no one could use them any longer.

1265. 1708. Submarine disappeared into the abyss.

1266. ...The first group of victims together with a raft was lifted aboard the Ministry of Maritime Fleet tender ``Aleksey Khlobystov." Other vessels picked up the others one or two at a time. They could have done nothing without the pilots: at the risk of their lives, the pilots kept the aircraft very tight to the sea and vectored ships to individual seamen. Of those they picked up, 27 managed to be saved.

1267. ...What happened aboard the submarine? Why was the crew forced to abandon her so hastily, even though not very long ago there had not even been signs of alarm? It is impossible for now to give the specific reasons for the submarine's loss. It has been determined only that a fire of very great force suddenly broke out in her compartments, above all in the after compartment. A government commission is engaged in further clarification of circumstances, but for now we wish to answer some questions which have come to the editors.

1268. First: How many people would have managed to be saved had our command immediately appealed to the Norwegians? Evidently this appeal would not have produced anything inasmuch as by the time the decision was made to evacuate, our ships essentially were at the target, much closer than Norwegian vessels.

1269. Second: Were there really no survival aids aboard the submarine? There are, and in fully sufficient numbers. In the opinion of specialists, her crew could have held out in the water painlessly for many hours had they managed to deploy all the survival aids. But, I repeat, the evacuation was so swift that they did not manage to do this.

1270. And finally: Was it really impossible to send a seaplane? We already directed attention to one aspect of this question-no one expected it would be necessary to evacuate so quickly. In addition, a seaplane's range is not that great and, after flying to the vicinity of Bear Island, it could have stayed only around 20 minutes. It would have been impossible to shut down the engines and there was hardly anyone who could guess in advance when crew evacuation would begin. And in general at that point weather conditions, especially swells, made it extremely dangerous to land a seaplane.

1271. ...I can imagine what feelings possessed the crews of Petrogradskiy, Votintsev and Malyshev when they were flying the aircraft home. To be within 10 m of dying comrades, seeing their torments and being helpless to assist!

1272. Don't torture yourselves, lads! Your conscience is clear. You did everything you could there a thousand kilometers from home over the open ocean. Without your help and without your fearlessness there hardly would have been success in saving even one seaman. And then the ocean would have given birth to one more terrible secret.

1273. Photo captions

1274. Nuclear powered submarine ``Komsomolets." Photo made during 1983 trials

1275. SOVETSKAYA ROSSIYA, 15 April 1989

1276. Bitterness of the Ocean Wave, by V. Yunisov

1277. In the tragic minutes they behaved as befitting real seamen...

1278. That day, 7 April 1989, the crew was at a relatively shallow depth in the Norwegian Sea performing a combat assignment. The final figures which Warrant Officer Aleksandr Kopeyko [sic; award citation lists Kopeyka] remembered (he was in the navigation room): heading 200, coordinates 180 km southwest of Bear Island. The entire crew-the watch and those resting-was brought to its feet by the short rings of damage-control quarters. As written in shipboard regulations, at that command each person must report to his compartment and take up his work station. Some seamen roused by the alarm signals leaped from their bunks and ran to the initial position without dressing. In a few minutes everyone learned there was a fire in seventh compartment. Wiring was burning. A short circuit. Komsomol organizer Kopeyko had another function: to keep an eye on the ship's position and maintain a true heading. At the moment the fire broke out commander Yevgeniy Ivanin gave the order to surface. Radio operators had to report the submarine's coordinates. Soviet aircraft took off by the moment of the accident.

1279. Navigator Lieutenant Andrey Stepanov recalls: ``After the report of a fire in seventh they reported over the intercom telephone that the fire was blazing in third and fourth compartments, and then a short circuit also occurred in two others-fifth and sixth. Electrical equipment caught fire at our station and there was heavy smoke. Everyone turned on rescue breathing gear. From all appearances, power consoles and panels began to blow up everywhere on the ship."

1280. The shipboard regulation is laconic: in a fire you must dog down your compartment so the fire does not spread to another, and put out the flame. That is what Senior Seaman Nodari Bukhnikashvili, a submarine Komsomol committee member, did. He dogged down the compartment and fought the fire to the last.

1281. Nodari was first to die.

1282. Warrant Officer Vladimir Kolotilin joined a mortal battle against the fire in neighboring sixth compartment. He dogged down his compartment so tightly that no signs of fire were apparent. Neither smoke nor flame

penetrated from his station. The seamen recall Nodari and Vladimir with a kind word as the highest proficiency-rated specialists, as people on whom you could always count. The submarine already was rocking on a sea with a state of 3, but the fire continued in third, fourth, fifth and seventh compartments. The ship was smoking. Our pilots who arrived at the site of the tragedy to vector the nearest fishing vessels to those in distress noticed the smoke. Then an Orion, a Norwegian submarine hunter, hung poised in the sky. After getting a fix on the burning submarine, it scattered listening posts around her.

1283. Seaman Volodya Kulapin was choking at his station and Warrant Officer Valyavin took his comrade in his arms and carried him to the exit. In this closed space, choking in the smoke, he shouted for people to send help. A new damage-control party descended into the compartment from the deck, but it was already too late.

1284. Vitaliy Gregulev, head of the chemical department: ``When the fire broke out I was sleeping. I heard the alarm signal and ran to my post. My mission was to ensure a normal gas composition level in the submarine and monitor the radiation situation. I ran up to the air gas-composition unit, which affects people's vital activities, and tried to start it in vain. It had been de-energized. I glanced at the radiation situation instruments: normal, no deviations. Later there also was a short circuit here. The radiation level remained normal. My colleagues Igor Orlov and Sergey Dvorov personally monitored to see that the nuclear reactor was reliably shut down. With respect to the torpedoes with nuclear warheads, they were not armed and so presented no danger."

1285. The submarine was still keeping afloat and they managed to extinguish the fire, except in seventh compartment. But at what cost! Damage-control parties would drag burned and poisoned seamen into the fresh air one after the other. Not stopping for a minute, on-board physician Senior Lieutenant Leonid Zayats gave the seamen artificial respiration. He brought many back to life but, weakened and not having completely come to, they would later die when each would be required to have inhuman physical strength. On deck they smoked silently, swallowing the smoke with tears. Steam pouring thickly out of seventh compartment did not inspire confidence.

1286. ``Evidently that is where the breach formed through which the water gushed," presumes Seaman Semen Grigoryan, ``In that place, I think, cable lines which ran outside burned up."

1287. This circumstance will still be clarified by a competent commission and specialists will look into why the submarine began sinking. But at that moment the water went through the compartments and many who had been fighting fire to save the ship did not at all expect they would be overtaken so unexpectedly in the labyrinths of the submarine by salt water.

1288. Sasha Kopeyko rushed to the safe containing documents and, neatly wrapping all 19 Komsomol cards in cellophane, placed them in the side pocket of his jacket.

1289. ``Everyone abandon compartments. Put rafts on the water," the commands

were heard one after the other. Meanwhile the submarine was slipping away quickly from under their feet. Grigoryan began disconnecting the raft from the hull-too much time went into this. The attachments did not yield in any way. The after part of the ship was sinking and falling downward. Seamen threw themselves into the icy water. Finally Semen disconnected the raft but, carried away by the waves, it inflated far from the submarine. Standing a bit in a vertical position, the ship began levelling off quickly in a horizontal position. Semen grabbed for the second raft. In vain. It was the very same story. He grabbed the 100-kg raft in such a way that the wave carried him from the deck together with it. It turned out to be the only flotation device for all the seamen. It opened bottom up and the crew members swam up to it one after the other.

1290. The conning tower was half in the water when Aleksandr Kopeyko shouted:

1291. "Comrades, the commander and several more people are still in the submarine! What should I do?"

1292. "Close the hatch, they can save themselves in the rescue chamber."

1293. Kopeyko did not dog down the hatch until the last instant. He shouted below for people to hurry to the exit, and tears piled up in his eyes. When it already was dangerous to wait, when he realized that if he did not close the hatch the seamen indeed would not get out, he slammed the cover and sealed the chamber shut. The submarine disappeared beneath the water. The depth in this part of the Norwegian Sea is 1,500 m. Running ahead, I will say that there were another five together with Commander Vanin in that integral rescue chamber which separated from the submarine at a depth of 400-600 m. Of those, only one, Warrant Officer Viktor Slyusarenko, was saved miraculously.

1294. The seamen clinging to the little raft helped each other survive. There was no panic. They placed those unable to swim, those who had been burned and those who had been poisoned on the overturned raft first of all. The seamen held onto ropes and to the hands and legs of their comrades; at first the water did not seem that cold. They were heartened by the aircraft circling in the sky, heartened and given hope. Supreme happiness for each one was at least some kind of little hook on the raft. Those in it stood or sat waist-deep in water; it was overloaded. Everyone held someone with already numbed hands and cheered them up: hold out just a bit more, brother.

1295. It is difficult to say who had it more difficult. Those who stood motionless on the raft holding comrades or those who were holding on. In an hour many of those who held others began to die from hypothermia and those who were supported in the water already were so weakened that they were constantly washed away by the next wave.

1296. "I could not feel my body up to my chest," recalls physician Leonid Zayats, "and I advised the lads to exert themselves and make body movements so as not to freeze up entirely. And if their hands no longer functioned, I said hold on with your teeth. Many held on with their teeth."

1297. "Ships!" shouted someone and disappeared into the abyss. On the

horizon the tender ``Aleksey Khlobystov," a hydrographic vessel and a seiner really had appeared. And in this joyous moment the seamen began singing ``Varyag."

1298. Seamen rarely sing this song. A week ago it helped them survive.

1299. Photo captions

1300. Separation of rescue chamber from submarine

1301. Fragment of rescue of submariners of nuclear submarine ``Komsomolets" by crew of trawler ``Aleksey Khlobystov," April 1989

1302. KOMSOMOLSKAYA PRAVDA, 13 April 1989

1303. Loss of ``Komsomolets": Fact and Fiction, by S. Bystrov

1304. (From a conversation of CinC Navy Admiral of the Fleet V. Chernavin with KRASNAYA ZVEZDA correspondent Captain 1st Rank S. Bystrov.)

1305. On the morning of 7 April I was at a Minister of Defense conference. Suddenly I was summoned and informed that at 1141 the Northern Fleet staff and Main Naval Staff received a signal from a submarine. It was very garbled and so was difficult to make out, but it was already clear that misfortune had happened somewhere. But where specifically? In what ocean? I got into the vehicle and rode to the Main Staff. Along the way I contacted the chief of the Main Staff by telephone. By this time they already had managed to determine approximately where the submarine was located. And at 1219 a clear signal was received from her and it immediately became clear what submarine this was, her location, and that there was a fire aboard. We immediately began to clarify which military, civilian and foreign ships and vessels were near the submarine. This is not such a simple matter, but it is one that has been worked out and so the situation soon was clear: three vessels were 51-70 nm from the stricken submarine at the same time. It was our hydrographic vessel ``Kolguyev" and vessels of the Sevryba Association-the tender ``Aleksey Khlobystov" and a fishing trawler. All received instructions right then over their channels to proceed to the point where the submarine was located. At the same time aircraft were scrambled and a detachment of Northern Fleet rescue forces and the nuclear powered cruiser ``Kirov" were sent to the accident area.

1306. This is to say the most urgent steps were taken literally in a matter of minutes. CinC Northern Fleet Admiral F. Gromov reported this to me and I instructed that the situation around the accident area continue to be studied and that possibilities of assets of other USSR departments as well as of Norway giving assistance to the submarine be clarified. Very experienced specialists busied themselves with this.

1307. By this moment one more signal arrived from the submarine that they had a fire in seventh compartment and there was no contact with two seamen. The situation of course was very difficult, but nothing presaged a tragic outcome. Unfortunately, a fire aboard a submarine is not that rare a thing. I myself

encountered various short circuits and ignitions while commanding a nuclear powered submarine, but not such significant ones, it is true. But I had to look into more serious cases when I commanded a division and flotilla. So it was easy to picture the initial situation aboard ``Komsomolets." It is another thing that it subsequently began developing in a rather unusual manner.

1308. The method of fighting fire in the compartment is well known to all submariners: the compartment is sealed so entry of air to the compartment stops, and the LOKh [submarine chemical fire-smothering] system is turned on, which binds the oxygen. Usually the LOKh is effective enough, but we now have suppositions, and we will check them, that with very high temperature the LOKh is not that productive. But in general any fire on a submarine is very dangerous (this is clear to a submariner).

1309. The commander continued to report the situation aboard ship and the personnel's actions rather calmly. Even at 1518 hours Captain 1st Rank Ye. Vanin announced in his report that there was no entry of water and the fire was being extinguished by sealing. Moreover, at 1650 we received from the submarine commander through the tender ``Aleksey Khlobystov": ``Situation in fifth compartment normal, it is periodically visited by the personnel. Damage control continuing."

1310. As Captain 1st Rank B. Kolyada, deputy division commander and senior officer aboard ``Komsomolets," subsequently related, he and Vanin reasoned as follows: the fire was localized in sixth and seventh compartments and way had been lost, but there was no threat of the submarine sinking and there was a possibility of towing her to base.

1311. The report of the submarine's loss of course was a surprise to all, and for me as well. An urgently formed state commission with the involvement of CPSU Central Committee Secretary O. D. Baklanov took off for Severomorsk on Saturday, the 8th of April...

1312. ...A dramatic confluence of rare circumstances occurred aboard the submarine which demanded opposite methods of ship damage-control. I already said that the fire required sealing the compartment, but the break of a high-pressure line and ``filling" of the compartment [with air] required its unsealing. A third circumstance was that a short in the power circuit caused many minor ignitions almost throughout the submarine. That is to say, before protection was triggered and even where it was present some instruments did not withstand the large surge of current. All this occurred with a separation of several minutes. The situation was aggravated by combustion products getting into the special fixed cable system (automatic hose breathing equipment), which is intended for lengthy use by personnel in gas-contaminated compartments, and people who hooked into the automatic hose breathing equipment were poisoned.

1313. Many mechanisms such as electric rudder indicators could have shorted out in seventh compartment, since the submarine surfaced with jammed rudders. And an instrument on this circuit immediately began smoking in the control room.

1314. The three after compartments on this submarine had tanks of turbine oil, and oil means heightened danger of fire and explosion. In a high temperature it vaporizes and can explode from any spark. Evidently it was this that occurred in fifth compartment. It was from there that people emerged burned and with melted rescue breathing gear masks. Only Captain-Lieutenant S. Dvorov, who was doing something bent over, avoided the effect of the fire spout which blazed in the compartment.

1315. The commander was sure, as were specialists ashore, that the fire would be successfully localized. It was of course unbelievably difficult to foresee the development of a situation which had never been encountered. Usually even with serious fires a compartment burns out and then if necessary it is opened and ventilated... But this time evidently the combustion temperature became too high. Even what usually "does not take part" in a fire also began to ignite.

1316. The tragedy of the "Komsomolets" once again emphasizes the need to revise approaches to solving the problem of saving people at sea and as a whole.

1317. KRASNAYA ZVEZDA, 13 May 1989

1318. USSR Supreme Soviet Presidium Edict "On Awarding the Order of Red Banner to Crew Members of the Submarine Komsomolets"

1319. For courage and selfless actions displayed in performance of military duty by crew members of the submarine "Komsomolets" award the following persons:

1320. ORDER OF RED BANNER

1321. Avanesov, Oleg Grigoryevich, Captain 2nd Rank (posthumously) Anisimov, Yuriy Nikolayevich, Warrant Officer Apanasevich, Igor Olegovich, Senior Seaman (posthumously) Babenko, Valentin Ivanovich, Captain 2nd Rank (posthumously) Bogdanov, Sergey Petrovich, Senior Lieutenant Bondar, Sergey Stepanovich, Warrant Officer (posthumously) Brodovskiy, Yuriy Anatolyevich, Warrant Officer (posthumously) Burkulakov, Talant Amitzhanovich, Captain 1st Rank (posthumously) Bukhnikashvili, Nodari Otariyevich, Senior Seaman (posthumously) Valyavin, Mikhail Nikolayevich, Warrant Officer (posthumously) Vanin, Yevgeniy Alekseyevich, Captain 1st Rank (posthumously) Berezgov, Aleksandr Gennadyevich, Captain-Lieutenant Vershilo, Yevgeniy Edmundovich, Senior Seaman (posthumously) Volkov, Nikolay Alekseyevich, Captain-Lieutenant (posthumously) Volodin, Aleksandr Vasilyevich, Captain 3rd Rank (posthumously) Gerashchenko, Vasily Vladimirovich, Warrant Officer Golovchenko, Sergey Petrovich, Petty Officer 2nd Class (posthumously) Gregulev, Vitaliy Anatolyevich, Captain-Lieutenant Grigoryan, Semen Rubenovich, Warrant Officer Grundul, Aleksey Aleksandrovich, Seaman (posthumously) Dvorov, Sergey Aleksandrovich, Captain-Lieutenant Yelenik, Mikhail Anatolyevich, Senior Seaman (posthumously) Yelmanov, Vladimir Ivanovich, Captain 3rd Rank Zayats, Leonid Antonovich, Senior Lieutenant of Medical Service Zaytsev, Andrey Valeryevich, Lieutenant Zamogilnyy, Sergey Vasilyevich, Warrant Officer

(posthumously) Zimin, Vadim Vladimirovich, Lieutenant (posthumously) Ispenkov, Anatoliy Matveyevich, Captain 3rd Rank (posthumously) Kadantsev, Vladimir Sergeyeovich, Warrant Officer Kalinin, Igor Viktorovich, Captain-Lieutenant Kapusta, Yuriy Fedorovich, Warrant Officer (posthumously) Kovalev, Gennadiy Vyacheslavovich, Warrant Officer (posthumously) Kozhanov, Aleksandr Petrovich, Warrant Officer Kozlov, Yuriy Vladimirovich, Seaman Kolotilin, Vladimir Vasilyevich, Warrant Officer (posthumously) Kolyada, Boris Grigoryevich, Captain 1st Rank Kononov, Eduard Dmitriyevich, Warrant Officer Kopeyka, Aleksandr Mikhaylovich, Warrant Officer Korytov, Andrey Yuryevich, Seaman Krasnobayev, Aleksandr Vitalyevich, Warrant Officer (posthumously) Krasnov, Sergey Yuryevich, Seaman (posthumously) Kulapin, Vladimir Yuryevich, Seaman (posthumously) Maksimchuk, Yuriy Ivanovich, Captain 3rd Rank (posthumously) Manyakin, Sergey Petrovich, Captain 3rd Rank (posthumously) Markov, Sergey Yevgenyevich, Senior Lieutenant (posthumously) Makhota, Andrey Vladimirovich, Lieutenant Mikhalev, Andrey Vyacheslavovich, Seaman (posthumously) Molchanov, Igor Aleksandrovich, Lieutenant (posthumously) Naumenko, Yevgeniy Vladimirovich, Captain-Lieutenant (posthumously) Nakhlov, Sergey Vasilyevich, Warrant Officer (posthumously) Nezhutin, Sergey Aleksandrovich, Captain-Lieutenant (posthumously) Orlov, Igor Semenovich, Captain-Lieutenant Paramonov, Yuriy Nikolayevich, Captain-Lieutenant Podgornov, Yuriy Pavlovich, Warrant Officer Savin, Artur Georgiyevich, Senior Seaman Slyusarenko, Viktor Fedorovich, Warrant Officer Smirnov, Mikhail Anatolyevich, Captain-Lieutenant (posthumously) Spiranskiy, Igor Leonidovich, Captain-Lieutenant (posthumously) Stepanov, Andrey Leonidovich, Lieutenant Sukhanov, Valeriy Ivanovich, Seaman (posthumously) Tkach, Vladimir Vlasovich, Senior Seaman (posthumously) Tkachev, Vitaliy Fedorovich, Seaman (posthumously) Tretyakov, Anatoliy Viktorovich, Lieutenant Fedotko, Konstantin Anatolyevich, Lieutenant Filippov, Roman Konstantinovich, Seaman (posthumously) Chernikov, Sergey Ivanovich, Warrant Officer (posthumously) Shinkunas, Stasis Klemensovich, Senior Seaman (posthumously) Shostak, Aleksandr Aleksandrovich, Lieutenant (posthumously) Yudin, Vyacheslav Aleksandrovich, Captain 3rd Rank (posthumously)

1322. Chairman, USSR Supreme Soviet Presidium

1323. M. GORBACHEV

1324. Secretary, USSR Supreme Soviet Presidium

1325. T. MENTESHASHVILI

1326. Moscow, Kremlin, 12 May 1989.

1327. KRASNAYA ZVEZDA, 14 May 1989

1328. The Crew, by Captain 3rd Rank P. Ishchenko

1329. Strictly speaking, I so wanted to tell about them, about everyone at once. At least a word, at least a half-word, but about every one. But it turned out somewhat differently.

1330. ``Better write about the dead," advised Warrant Officer Aleksandr Kopeyka, secretary of the crew Komsomol organization. ``People say and write

little about them, and for some reason more about us who returned. And this is unfair."

1331. "People must know what they were like and how our comrades in arms died," said the others in support. Well, let it be as the submariners themselves request (judging from everything, the "fragment" which remained of the crew preserved all its best properties). Perhaps not everywhere, but here one can faultlessly judge the dead from the living, and the living from the dead.

1332. It served fate, the role of which was assumed by the station bill, to so order that the watch in seventh compartment at the moment the voluminous fire broke out was stood by damage-controlman Senior Seaman Nodari Bukhnikashvili. He was first to meet the onslaught of a fire of enormous force. It is given to no one to know how many minutes-or seconds?-one human life opposed it. They say that Bukhnikashvili did not even manage to report the fire to the control room, it developed so swiftly. Another version indicates that he nevertheless reported what happened, but was unable to name the cause of the fire- communications broke off. Be that as it may, Nodari did not waver, he remained in the blazing compartment. He himself died, but he did not violate the submariner's first commandment: no matter what happens in your compartment, do not leave it, do not place the lives of comrades in adjacent compartments and the life of the ship under threat.

1333. Bukhnikashvili had only a half year to go until returning home to Abkhaziya. He served honestly and conscientiously. "He was a conscientious specialist and my right hand," Warrant Officer V. Kadantsev, damage-control team leader, would say about him. "Very cheerful and sociable and always ready to come help," Seaman Andrey Korytov would add. Nodari will remain such now forever.

1334. Warrant Officer Vladimir Kolotilin in adjacent sixth compartment fought the fire to the end-specifically fought, there is no exaggeration here. An avalanche of fire was halted at the sixth compartment line, at the line of the courageous warrant officer's heart. Kolotilin did everything possible and impossible to eliminate the fire in seventh and sixth compartments, but circumstances proved stronger than he. "He was an honest lad, a master of military affairs," Captain-Lieutenant I. Orlov commented about him. "He once said to me: You know, if it starts burning somewhere, I will be first to dash there," recalled Warrant Officer S. Grigoryan. "I was left with a feeling as if he was born to sacrifice himself for the sake of others when it should be necessary."

1335. Warrant Officer Sergey Bondar and Seaman Vladimir Kulapin were carried to the upper deck unconscious. In performing damage-control they were poisoned by a lethal gas which got into the unsealed ship hose breathing system. For more than a half hour Senior Lieutenant of Medical Service L. Zayats with the help of other seamen gave Bondar and Kulapin closed-chest cardiac massage and artificial respiration. "We fought for the boys to the last," Captain-Lieutenant I. Kalinin would utter bitterly. "Only later did I look at the pupils and I saw that was it..."

1336. Warrant Officer Bondar went out on his first combat patrol duty on this submarine. He previously had served on a floating dock and had quiet, moderately difficult work-although it is floating, a dock nevertheless is closer to shore than to sea. But then he decided to change his work overalls for the blue uniform of a nuclear powered submariner. Unfortunately, his first deployment also became his last. The crew loved Seaman Kulapin for his quiet nature and sober-mindedness, which came from no small amount of physical strength-he was a candidate for master of sport in wrestling. And the deaths of these two somehow especially heavily affected the crew, which continued to fight for the submarine's survival. "Everything must be done so there are no more dead," repeated submarine political officer Captain 3rd Rank Yuriy Maksimchuk like an invocation. Neither he nor anyone else could know that the most difficult still lay ahead.

1337. The rescue chamber became the final hope of survival for five submariners left in the submarine heading for the bottom, but this hope was borne out only for one, Warrant Officer V. Slyusarenko. Captain 1st Rank Yevgeniy Alekseyevich Vanin, commander of "Komsomolets," died in the rescue chamber. I already have had occasion to tell about him, but I am sure that much more still will be written about his commander's exploit. Captain 3rd Rank Vyacheslav Yudin also died there. The submariners who survived call him one of the chief organizers of the fight for the ship's survival. And that was his position- damage-control division officer. Yudin's precise recommendations helped the engineering department head and ship commander choose the proper tactics for fighting the fire and using various equipment. And he himself was constantly in the pressure hull, performed reconnaissance in smoke-filled compartments and turned on the fire extinguishing system in sixth compartment. "He left all his energy in the submarine," Warrant Officer Slyusarenko would note. Having inhaled poisonous gas, Yudin was first to lose consciousness in the rescue chamber that was already really surfacing; before this he independently carried out almost all actions required to separate the chamber from the submarine. Together with the submarine commander and Warrant Officer Aleksandr Krasnobayev, he remained forever in the rescue chamber, which sank immediately after surfacing... Captain 3rd Rank Yudin was an enthusiastic amateur photographer and he did not part with the camera even on combat patrol duty. On the eve of the submarine's loss, 6 April, he had been taking pictures in specialty drills for a photo newspaper but had not managed to print them. He had taken a personal set of tools for delicate work with equipment with him from home on the autonomous deployment, and when people asked him for them he did not refuse. His comrades also remembered him for this. A trifle?.. But even such details now acquired significance: the dead submariners must go into fleet history not just as a photograph from a personal file.

1338. The rescue chamber also became a sarcophagus for Warrant Officer Aleksandr Krasnobayev. After spending a long time at his battle station in a smoke-filled compartment, with his last strength he helped Slyusarenko hold the cover of the lower hatch while Yudin and Warrant Officer Sergey Chernikov dogged it down. But he no longer had the strength to hook into the rescue breathing gear at the submarine commander's order: he fell on the deck of the second tier of the rescue chamber, not even having managed to take the "idashka" [nickname for rescue breathing gear] from the bag.

1339. Warrant Officer Chernikov acted coolly and calculatingly in what appeared to be a hopeless situation. "There was no special fear, but I personally experienced a feeling of some kind of doom when the submarine kept falling deeper and the chamber would not let go in any way," said Warrant Officer Slyusarenko as if experiencing anew what happened, "but Chernikov looked quite calm and also inspired confidence in me by his appearance. But after all our attempts to detach the rescue chamber produced no result he turned to the instruction-there is such a thing within the chamber-and began to read it loudly. And Yudin again began performing the prescribed actions... Chernikov was first to rush to help Yudin, who had lost consciousness. He died of barotrauma when overpressure threw him out of the rescue chamber which had come to the surface. But in the water he still managed to switch the breathing gear to atmospheric air..."

1340. The death of engineering division officer Captain 3rd Rank Anatoliy Ispenkov was agonizing. After sending Seaman Roman Filippov to the upper deck (Filippov was feeling poorly as he stood watch at the diesel generator), Ispenkov himself took Filippov's place. And he left the diesel only when the submarine already had disappeared from the surface of the sea: it must be that due to machinery noise he had not made out the repeatedly uttered command to abandon ship. He made his way to the rescue chamber too late-the hatch into it already had been dogged. There they heard his rapping, but did not manage to undog the hatch: internal bulkheads of the pressure hull had been destroyed by the enormous pressure of water, and man is much more fragile than bulkheads... No less tragic events were unfolding on the water's surface at the moment of and following the submarine's sinking. Throughout the struggle for the ship's survival navigation department head Captain-Lieutenant Mikhail Smirnov had supported uninterrupted operation of the navigation system (the magnetic compass functioned on the whole up to the last minute) and helped to save wounded and victims and evacuate documents. The bow rudder blade of the sinking submarine struck the navigator, who was already in the water. That is what eyewitnesses say, but according to data of medical personnel, there was not one among the dead submariners whose bodies were lifted from the water who would have died from a head injury (they found Smirnov's body). But in any case Captain-Lieutenant Smirnov received death worthily as befitting an officer.

1341. Having withstood the test of fire, many submariners were unable to withstand the cold and waves of the Norwegian Sea for long; 33 persons, if we also count the navigator, perished from hypothermia and drowned. And although we know that the submarine essentially sank suddenly and the navymen did not have time to put on wetsuits-they jumped overboard in what they were wearing-heart and reason can in no way be reconciled with this figure.

1342. Seaman Andrey Mikhalev held out in the water for a very short time. He had come to the submarine in November of last year. He quickly mastered the specialty of damage-controlman in the damage-control compartment. He wrote poetry and loved the guitar. They were to accept him into the Komsomol on 8 April... "He was a good seaman, conscientious," recalls Captain-Lieutenant V. Gregulev. "But he went under the water so quietly and silently. Only because he didn't know how to swim..."

1343. Senior Warrant Officer Mikhail Anatolyevich Yelenik, senior cook-instructor, or "chief cook," as he was called, enjoyed universal respect on the ship. If someone in the crew did not like a dish prepared for everyone else, he considered it his duty to make that squeamish person a personal dish. If one submariner began losing weight all of a sudden, he would take it almost as a personal insult... Finding himself in the water, Yelenik was unable to swim. Warrant Officer Kononov even had to give him the floating object onto which he himself was holding. Nevertheless 47-year-old Senior Warrant Officer Yelenik did not make it to the arrival of help. (Unfortunately a seaman who is unable to swim or who swims poorly is a reality. But is he alone at fault for this?)

1344. Warrant officers Sergey Nakhlov and Yuriy Kapusta were swimming while holding onto one life vest. "Nakhlov died first and Kapusta second from hypothermia..." says Warrant Officer Anisimov.

1345. Lieutenant Vadim Zimin, a communications department engineer, did not make it in swimming to the life raft. He maintained radio contact with the relay aircraft to the last opportunity and even today his calm voice in that most dangerous situation!-continues to surprise pilots who carried on radio traffic with him.

1346. Around 20 persons were holding onto the raft in the water. Of them only four survived. They disappeared silently, without shouts or moans. Without words of parting. Many remained face down on the surface. That is how submarine executive officer Captain 2nd Rank O. Avanesov, who capably directed subordinates for all the long hours of fighting the fire, died. "He asked nothing of anyone and held onto the raft silently," relates Captain-Lieutenant Kalinin. "And only the expression of his eyes was something that cannot be put into words..."

1347. Captain-Lieutenant Nikolay Volkov, who had received severe burns, conducted himself courageously. Even in the burning compartment he did not lose composure when the breathing gear mask burst on his face from the high temperature: taking the breathing hose into his mouth, he held his nose and thus avoided death in a compartment devoid of normal atmosphere. But his strength left him in the icy water...

1348. Political officer Captain 3rd Rank Yu. Maksimchuk managed to be everywhere. Himself an engineer officer in the past, he knew well what had to be done and how. He was in the most dangerous sectors and monitored the time personnel were in rescue breathing gear, but he did not succeed in seeing that there were no more who died, and he himself remained in the marine abyss. Captain-Lieutenant Vitaliy Gregulev and Senior Lieutenant Sergey Bogdanov held him at the raft for about 40 minutes. The soaked "kanadka" which Maksimchuk was wearing inexorably dragged him downward. And when the hands of Gregulev and Bogdanov, stiffened from cold, lost sensitivity entirely, the next wave tore the political officer from the raft. "The most competent communicator in our division," Captain-Lieutenant S. Bochkarev, his close comrade from another crew, would tell me later about Captain 3rd Rank Aleksandr Volodin, communications department head of the "Komsomolets." "If I did not know something I always went to him and sent my subordinates to him to adopt

experience." "Volodin was holding onto the raft next to me," said Warrant Officer Kopeyka. "And suddenly I felt him slip downward along my legs... They just did not find him."

1349. Warrant Officer Gennadiy Kovalev, a communications technician, was a reliable man of tremendous height. Having managed to save the secret documents of his battle station, he released the handle of the box with the "secrets" with which he was swimming only when he himself went to the bottom. Warrant Officer Sergey Zamogilnyy did not hide the fact that after this combat patrol duty he wanted to leave the submarine. But lying on top in the mast fairwater after the burns received in fifth compartment, he changed his decision: "Just how can I leave if the boys saved me?.." Zamogilnyy died after the submarine sank.

1350. Captain 3rd Rank Sergey Manyakin, propulsion division officer, is called an example in all respects by the survivors. For several years he headed the crew party organization and enjoyed indisputable authority. During the accident he directly headed the fulfillment of measures to place the main power plant in a safe condition... Rescuers raised his body from the water by the raft.

1351. Lieutenant Sergey Markov had a reputation in the crew as a joker and merry fellow. He did not lose presence of mind for a minute during the battle for the ship's survival, he worked a great deal and cheered up everyone. Even while swimming by the raft he remained true to himself: "Boys, doesn't anyone have any dry pants? Mine are wet." Perhaps his jokes helped someone survive, but he did not make it until the rescuers' help arrived. It is even difficult to enumerate what Captain-Lieutenant Yevgeniy Naumenko, sonar team officer, did during the accident: he capably commanded subordinates, kept his team equipment serviceable (the submarine went to the bottom with sonar systems fully ready for operation), participated in evacuating victims, gathered up warm clothing in the cabins, and cleared compartments of used air regeneration cartridges-good combustible material... Captain-Lieutenant Igor Spiranskiy, sonar team engineer, was not considered one of the best compartment officers for nothing. First compartment, which he headed, was the only one on the submarine where there was no smoke contamination. And Spiranskiy was the only one from this compartment who died in the sea at the raft, like his immediate superior Yevgeniy Naumenko.

1352. Senior Warrant Officer Vladimir Vlasovich Tkach, helmsman-signalman team leader, always kept the submarine in servile obedience. He was a person who was along in age according to naval yardsticks and planned to finish service on the submarine. He had prepared a replacement for himself, Senior Seaman Igor Apanasevich, a first-rate helmsman who had expressed a desire to become a warrant officer. Neither the submarine fleet veteran nor the one who could have become such was found by rescuers.

1353. Warrant Officer Yuriy Brodovskiy, who had come aboard "Komsomolets" not long before the combat patrol duty, died in the water. Warrant Officer Mikhail Valyavin did not see his second child, born already after his death. Experienced specialists Petty Officer 2nd Class Sergey Golovchenko and senior seamen Yevgeniy Vershilo and Stasis Shinkunas did not make it to their

discharge to the reserve. Cook-instructor Senior Seaman Valeriy Sukhanov served one year short and Seaman Roman Filippov one and one half years short of three years; they were their parents' only sons. Young seamen Sergey Krasnov and Vitaliy Tkachev just did not manage to learn the wisdoms of submarine service in earnest. Tragic chance took them all from mothers and fathers and from the Motherland.

1354. Captain 1st Rank Talant Amitzhanovich Burkulakov, chief of the division political department, was a wonderful political officer (to this day a little plate with the inscription `` Captain 1st Rank Burkulakov, T. A." hangs on the door of his office on the division staff) and a decent person, scrupulous to the extreme in questions of honor. I too was able to see this on observing Burkulakov in various official and other situations. During the accident he spent much time by the wounded and victims-helped give them first aid, calmed them, and kept up their spirits. While on the raft he only missed living to the rescue by a little bit-his supercooled body gave up before the launch managed to approach the tender's side.

1355. Everyone who survived is unanimous in the fact that they managed to oppose the fire so long largely thanks to the experience and knowledge of Captain 2nd Rank Valentin Babenko, engineering department head. Reacting instantaneously to all situation changes, he capably directed actions of all submarine personnel in damage-control as prescribed by shipboard regulations. Staunchly holding out for all the difficult hours of the accident, Babenko, who was not distinguished by robust health, quickly began losing strength in the water. Captain 3rd Rank V. Yelmanov: ``We dragged him onto the raft and tried to hold him, but he said: I won't be able to go...'' Warrant Officer Semen Grigoryan: ``I was encouraging Valentin Ivanovich all the time, and he was alive until the launch arrived."

1356. Lieutenant Aleksandr Shostak received severe burns from the flash of flame in fifth compartment, but he was extinguishing the fire with burned hands until he was led onto the upper deck. He could only lie on the raft due to the burns and so he was constantly swept by waves. He did not complain, but only moaned quietly. It was on the raft he died.

1357. Captain-Lieutenant Sergey Nezhutin, Lieutenant Igor Molchanov and Seaman Aleksey Grundul went through all the ordeals, fire and water. They were lifted aboard the tender ``Aleksey Khlobystov" alive, and they even began walking, but then they died. The physicians determined that by the moment Nezhutin, Molchanov and Grundul were rescued irreversible changes already had set in in their bodies that were incompatible with life... Lieutenant Molchanov kept the submarine's log from the beginning of the accident, and the entries he made greatly helped the State Commission recreate the course of events aboard the stricken submarine.

1358. Molchanov was comprehensively gifted: he painted well, wrote poems the crew liked, and composed songs together with Zimin. He was first of the young officers to take tests on combat patrol duty for authorization for independent performance of duty as officer of the day, thereby earning the right of first duty on the submarine's return to base. Neither the submarine nor Lieutenant Molchanov- alive-returned to base.

1359. Before departure from the garrison I was a chance witness to Captain 1st Rank Boris Kolyada handing over certain articles of "Komsomolets" crew members to a Northern Fleet Museum representative: identity cards greatly warped by sea water, and clothing removed from a dead submariner...

1360. "Boris Grigoryevich, don't you want to give the museum the list of personnel which you showed me in the hospital?" I asked him when this procedure clearly had approached the end.

1361. A little exhausted, Kolyada got out the list which had been with him at sea and smoothed it out. On the tender he had noted on it the survivors and the dead.

1362. "You know, I generally wanted to keep the list for myself as a memento," he uttered, still vacillating. "But if the museum needs it..."

1363. It seemed to me Captain 1st Rank Kolyada also did not want to part with the list because it probably was the last document where "Komsomolets" crew members were still all together, next to each other, name to name, like shoulder to shoulder. And having it with him extended the life of the crew as it were and did not allow it to disappear into nonexistence. But your doubts and fears are for nothing, Boris Grigoryevich.

1364. Yes, the crew is the "sum total of personnel who attend to the ship." The crew exists as long as the ship exists. If there is no ship, there is also no crew... It seems to be all correct, the logic is not violated anywhere, but life has its own logic which runs contrary to that generally accepted. And the "Komsomolets" crew, seemingly disbanded by the most tragic course of events, broken into two unequal parts by a terrible disaster, still remains a single whole. Time, not to mention cadres people of a lesser scale, no longer wields power over it. No matter how many years go by, no matter how many generations of navymen change in our Navy, the crew of the nuclear powered submarine "Komsomolets"-the entire crew, 69 persons, survivors and dead- will exist in the history of our Navy and will eternally perform its unfinished and now already endless combat patrol duty.

1365. Photo captions

1366. Uncaptioned photo with inscription: Glorious Northern Fleet submariners who died tragically in the ocean aboard the submarine "Komsomolets" in executing the Soviet homeland's combat order to guard its sacred maritime borders; memory of the submariner heroes will live eternally in the people's hearts!

1367. Pennant dedicated to 1st anniversary of loss of nuclear submarine "Komsomolets" 7 April 1989 [inscription around outside: Farewell brothers! The Northern Fleet remembers and grieves for you on the anniversary of loss of the nuclear submarine "Komsomolets"; inside: Bear Island]

1368. Pennant dedicated to memory of nuclear submarine "Komsomolets" [inscription: Northern Fleet; in memory of nuclear submarine "Komsomolets";

in circle: Bear Island, Norwegian Sea]

1369. Monument to crew of sunken nuclear submarine ``Komsomolets," city of Murmansk-150

1370. NA STRAZHE ZAPOLYARYA, 16 May 1989

1371. At the Deserted Berth, by N. Cherkashin

1372. As already reported, the Soviet nuclear powered torpedo-armed submarine ``Komsomolets" sank in neutral waters of the Norwegian Sea on 7 April. For around five hours the navymen heroically fought fire which blazed up on the ship, averting the danger of radioactive contamination of marine waters. Twenty seven of 69 crew members survived.

1373. The Powder Magazine

1374. Descending into a submarine for the first time, writer Aleksandr Fadeyev remarked: ``It is logical to carry a watch in your pocket, but it is unnatural to live in a clockwork mechanism." To come close to the truth it must be added: there are delayed-action bombs in a clockwork mechanism.

1375. No one will take it into his head to situate a powder magazine at a gasoline depot. But submarines are arranged specifically that way, with that degree of fire and explosion danger, where oxygen is in murderous proximity to oil, power panels to salt water, and regeneration to diesel fuel. And this is not from stupidity, but from the rigid need to sail deeply, quickly and covertly beneath the water.

1376. In any case, the loss of ``Komsomolets" cannot be placed in the same category as Chernobyl. Their criminal negligence opened the path to death. Here it was the testers' lot...

1377. I make bold to assert that the loss of this submarine for our country is the equivalent of the loss of the Challenger space shuttle for the United States. ``Komsomolets" was the first hydrospace orbital station of its kind. She carried torpedoes, insofar as confrontation at sea remains a reality. But those scientific-technical and oceanologic problems which scientists set for the crew (each deployment brought back unique information) brought the era of fast underwater commercial and passenger shipping closer. Just as many airliners developed from combat aircraft, so ``Komsomolets" also could have become the forefather of a new kind of sea transportation.

1378. Fire Beneath the Water

1379. The watch engineer was first to notice the trouble, as he was supposed to. That morning Captain 3rd Rank Vyacheslav Yudin, damage-control division officer, was the watch engineer. At 1100 hours watch officer Captain-Lieutenant Aleksandr Verezhgov (the first lieutenant) received reports from the compartments. A guttural Caucasian voice reported from aft: ``Seventh inspected. Insulation resistance and gas composition of air normal. No adverse comments."

1380. These were the last words of Senior Seaman Nodari Bukhnikashvili. From all likelihood he died instantly as soon as the voluminous conflagration blazed up.

1381. 1130. The signal dropped on the watch engineer's console: "Temperature in seventh compartment over 70°." Yudin immediately reported to the commander.

1382. "Damage-control quarters!"

1383. Captain 1st Rank Boris Kolyada, deputy division commander, the senior officer aboard:

1384. "I leaped out of my bunk, pulled on my trousers and dashed to the control room, putting on my jacket on the run."

1385. Submarine commander Captain 1st Rank Yevgeniy Vanin and engineer officer Captain 2nd Rank Valentin Babenko already were in the control center. Babenko was feverishly querying the stricken compartment: "Seventh, seventh..." Seventh did not answer.

1386. "Commander, give LOKh (submarine chemical fire-smothering system) to seventh!.."

1387. Vanin delayed several seconds, hoping that Bukhnikashvili still would respond. From his times as a lieutenant the commander knew that sending freon into a compartment where there were people-the very same as releasing gas in a gas chamber-was certain death. Bukhnikashvili did not answer. There could be no delay.

1388. "Send LOKh to seventh," ordered Vanin and bit his lip.

1389. Yes, the toxic gas mixture can put out fire by covering the center with a dense "cap." And perhaps this would have done it this time had the electric arc which flashed out not burned through the high-pressure air line with which main ballast tanks are blown out. The compartment immediately turned into the likeness of an open-hearth furnace.

1390. Several seconds later a fiery stream also lashed out in sixth. The starboard turbogenerator immediately was shut down; the port turbogenerator stopped on its own. The reactor emergency protection system triggered right then. The propeller shaft came to a standstill and the submarine was deprived of way. Losing way at a great depth is a deadly trick; hydrodynamic lift disappears, there are several seconds of inertia, then a fall into the abyss.

1391. Communications between compartments was perfidiously interrupted. The telephone also was cut off. The vertical rudder jammed.

1392. The fate of 67 still living people was decided in these seconds. It was decided in the control room by five persons: captains 1st rank Kolyada and Vanin, engineer officers Babenko and Yudin, and also the chief boatswain's

mate, Senior Warrant Officer Vladimir Tkach, whose hands gripped the ``pilot's" wheel.

1393. Of these five who accomplished an engineering feat invisible to the world and forced the agonized nuclear submarine to surface, only one, Kolyada, survived.

1394. Not yet knowing whether the submarine would sink or surface, remote-control team officer Captain-Lieutenant Igor Orlov, ``proprietor of the reactor," began shutting down the nuclear submarine's formidable heart. He lowered the shim grids to the lower end piece and put out the fire of the ``nuclear boiler." Chernobyl was not repeated.

1395. From the depth of 157 m at which the underwater ship lost way, the submarine nevertheless began to surface.

1396. In Toxic Smoke

1397. From the ship's log:

1398. ``1127. Fire extinguisher brought to control room. Center of open fire appeared on submarine propulsion control console. Gas contamination and deterioration of visibility in control room."

1399. ``Extra people topside!" instructed the commander.

1400. Everyone not engaged in damage-control-sonarmen, navigators, plotters, radar operators-climbed onto the bridge. The others-the console operators-put on masks of the automatic hose breathing equipment supplied from a shipwide compressed air line. It could not even occur to anyone that they were breathing poisonous air in the life masks. Only ship's physician Senior Lieutenant of Medical Service Leonid Zayats felt something was wrong, having gotten a barely discernible sweetish aftertaste in his mouth. He ripped off the mask and ordered Warrant Officer Sergey Chernovik (he died) to determine the condition of the air.

1401. ``Carbon monoxide concentration is fatal," reported the stunned chemical specialist.

1402. Increased pressure in the burning seventh compartment drove carbon monoxide into the automatic hose breathing equipment system, which also ran through the stricken compartments. Cook-instructor Sergey Golovchenko (he died), radar operator Sergey Krasnov (died) and torpedoman Aleksey Grundul (died) breathed the poisonous gas more than the rest. They were immediately carried to the bridge.

1403. ``1158. Everyone who has communications, come up in communications with the control room' (command given by the commander from the control room-N.Ch.). No contact with fourth compartment. There are approximately nine persons there."

1404. People do not just go on reconnaissance beyond the front line...

Captain 3rd Rank Vyacheslav Yudin (subsequently died) and sonar engineer Lieutenant Anatoliy Tretyakov (alive) volunteered to go to the stricken compartment as scouts. Drawing the self-contained breathing protective masks onto their faces, they climbed into the smoky orifice of the intercompartment hatch. They found two live people in masks in the sealed enclosure above the reactor. They led the reactor personnel out of the dark labyrinth of the compartment by the hand. These were remote control team engineer Lieutenant Andrey Makhotka (alive) and Warrant Officer Mikhail Valyavin.

1405. They ventilated fourth compartment and began preparing to open fifth. There things were worse. Two hours ago a flame suddenly blazed out a meter above the compartment deck. Clothing began burning. The navymen put each other out by leaning against the bulkheads and beat out the fire from sleeves, trouser legs and shoulders... When they were led out, the skin was hanging from burned hands like rags.

1406. But two still remained in fifth compartment: turbine technician Warrant Officer Sergey Bondar and his subordinate, Seaman Vladimir Kulapin. They had hooked into the hose breathing system and had lost consciousness after breathing in carbon monoxide. Captain-Lieutenant Sergey Dvorov (alive) and Warrant Officer Mikhail Valyavin (later drowned and body not found) undertook to drag them from there. They carried the two lifeless bodies topside through the 10-meter tower of the rescue chamber with great difficulty.

1407. Watch officer Aleksandr Verezhgov:

1408. ``They were asking from below whether or not aircraft were visible. I looked around the horizon and an aircraft was coming in from port at 160°."

1409. ``Fishermen are heading for you," the pilots informed us. ``Tentative time of arrival 1800 hours."

1410. The Catastrophe

1411. Many now felt relieved when it became clear that help was nearby. The compartments were sealed and sixth was full of freon. A large part of the crew had been led topside. It seemed the most terrible was behind them. In these minutes it did not occur to anyone not just to ask for help from the Norwegian helicopters; even the very thought that they might suddenly find themselves in the icy water seemed wild. Everyone knew that the pressure hull of their submarine was the strongest in the world, as the designers and shipbuilders had assured them. Everyone knew that nowhere had ``burned-out" submarines ever sunk in a matter of hours.

1412. This is why the submariners went topside without wetsuits, which remained in the smoke-filled compartments.

1413. What happened further very much resembles an earthquake in its unexpectedness and rapidity. The submarine hull shuddered from internal blows. As is now assumed, these were sealed cans with ``regeneration"-oxygen-liberating plates, a substance which can burn even in water-bursting. The flooding turned out to be swift and the stern began submerging quickly.

The commander rushed downward to hurry up those few finishing their work in the ``staff" compartment.

1414. Just as a commander leaves the side of a ship last, so the engineer officer is last to emerge from the underdeck depths. And that is how Anatoliy Ispenkov died, converting his life into light without any metaphors. That is also how his colleague, damage-control division officer Vyacheslav Yudin, died, having laid down his life for survival of the rescue chamber. Captain 1st Rank Yevgeniy Vanin performed his commander's duty along with them to the end.

1415. A Lesson for Tomorrow

1416. Much has been written about how the submariners were rescued. Nevertheless, many people are troubled by the question: Could they have rescued everyone who remained in the water? The fact is, a large number of the navymen perished not in the compartments but on the waves. Why did we not appeal to the Norwegians? Why did seaplanes not fly out?

1417. I asked all these questions not only of officials, but also of my comrades on naval duty.

1418. We did not appeal to the Norwegians because the real need for their help arose not from the first minutes after surfacing, but only at approximately 1700 when, unexpectedly for everyone, the submarine, which had been waiting for a tug, began disappearing into the water and sank at 1708. Had the Norwegians received an international SOS at this moment, their helicopters would have been able to make it to the catastrophe site only by 1930, i.e., one and one half hours after the Soviet ships.

1419. Why did our M-12 seaplanes not fly out? The commanders of these amphibians told about their bitter letter addressed to PRAVDA (with a copy to the chief designer): specifications and performance characteristics of our rescue aircraft are such that it is impossible to save a crew of comrades of a submarine in distress on the high seas.

1420. Colleagues of the seaplane pilots-ASW pilots in their Il-38's-proved to be technically more suitable for performing a mission not inherent to them. But the trouble was that they were rescuing the submariners like they rescue pilots. But a pilot hits the water together with an automatically inflating boat and in it rows over to a rescue pod dropped by parachute. The people stiff with cold in the water were unable to do anything of this sort.

1421. After many misfortunes and questions I can say one thing: in that situation and with those means the Northern Fleet had at hand, the only correct solution was found-to send out ASW aircraft which circled for hours above the stricken submarine, maintained uninterrupted communications with her and, most important, vectored fishing vessels to the raft to which navymen were sticking by the shortest possible straight line. Any inaccuracy in heading or extra minutes of search would have cost new lives...

1422. Photo caption

1423. Pennant depicting monument dedicated to nuclear submarine ``Komsomolets." Monument unveiled 16 November 1991 [inscription: Monument to crew of nuclear submarine ``Komsomolets"; Zapadnaya Litsa]

1424. SOVETSKIY VOIN, No 1, 1991

1425. ``Grief", by Tatyana Gerashchenko, wife of a surviving submariner, dedicated to crew of submarine ``Komsomolets

1426. On your graves no flower grows. No mother sobs o'er the little rise.
Marine expanses safeguard repose, And the heart so painfully sighs.

1427. Flowers on water, like drops of those tears Mother doesn't shed on your breast. Flowers on water, fog at dawn- Heroes These are your places of rest.

1428. In that hour you remained true to the oath And did everything that could have been done. You entered immortality, remembering us, Though everything was so burdensome...

1429. And sons of our glorious homeland, In our memory we'll be preserving,
And we will tell to our children About those who died... for the living.

1430. And the Boys Sang ``Varyaga", by L. Samoylov

1431. In distant deployments an instant of bliss Comes in navymen's stern hearts,
An order brief-``Return course", To berths of native parts.

1432. Refrain:

1433. Icy waves of Norwegian Sea, You bring repeated grief. Of the people,
shores and clouds You take navymen in your embrace.

1434. On a sub coming home from faraway The stern suddenly felt flame's breath.
Sailors tried bravely their ship to save, But she disappeared into the depth.

1435. Refrain.

1436. Icy water's grip did cling. All believed in life to the end. The boys
stubbornly ``Varyaga" sing As long as their hearts contend.

1437. Refrain.

1438. Neither stone nor bronze will impart Your feat there far at sea. But
forever in human hearts You'll be sacred pain and memory.

1439. Refrain.

1440. Lessons and Conclusions from Disaster of Submarine ``Komsomolets"

1441. On 7 April 1989 a voluminous fire of high intensity arose in the after

compartment of the submarine with seal failure of the high pressure air system, which caused a rapid increase in pressure and temperature, breach of pressure hull and main ballast tank seal, loss of metacentric stability and sinking of the submarine.

1442. A possible cause of the nuclear submarine's catastrophe is ignition of electrical equipment in the rudder hydraulic system pump start-up station or the oil separation system due to maladjustment of devices controlling and protecting this equipment.

1443. With seal failure of the high pressure air system, a possible increased oxygen content in compartment atmosphere relative to the permissible level and increased pressure in the compartment could have contributed to fire's development.

1444. Lessons.

1445. 1. The submarine was equipped with some series models of equipment with design deficiencies:

1446. · insufficient fire-safety reliability of electrical equipment; · low effectiveness of standard firefighting equipment with increased pressure in compartments; · imperfect personnel survival aids; · equipment supporting personnel's vital activities has design deficiencies.

1447. Interior communications unreliable in an emergency situation.

1448. 2. Mistakes were made in crew actions in sealing compartments and monitoring compartment pressure and high-pressure air expenditure in course of damage control, and in using survival aids.

1449. Conclusions.

1450. In training crews pay attention to the following:

1451. · development of firm skills in ensuring watertight integrity and explosion and fire safety; · assurance of cohesive personnel actions in extreme situations; · preparedness of command personnel to direct ship damage control and, in the initial period, ability to quickly and competently assess the emergency situation and keep it from developing into a catastrophic situation with a minimum number of commands and by decisive actions.

1452. Return to Base Ahead of Schedule

1453. On 26 June 1989 there was an accident in the main power plant of a Northern Fleet nuclear powered submarine equipped with cruise missiles on combat patrol duty. According to press information, conventional and nuclear weapons were aboard the submarine. Submarine commander Captain 1st Rank Yu. I. Kasatkin reported to Fleet headquarters by prearranged signal that deviations from basic parameters had appeared in main power plant operation. The submarine had two water-moderated, water-cooled reactors. In the situation at hand, in accordance with instructions the crew stopped operating the

reactors-they were shut down. The submarine came to a surface condition and auxiliary engines-diesel-electric units-were started. She began returning the 300 nm to base under her own power.

1454. The Fleet command sent aircraft to the area of the submarine's location in case communications should cease and also if it were required to help the crew (the aircraft were equipped with survival aids). Two civilian vessels and a rescue detachment from the Fleet main base of Severomorsk and a large ASW ship also were sent to this area. Data constantly coming in indicated that the crew was not suffering and shut-down cooling of the plant was going according to plan. The radiation situation in sixth compartment where the reactors were located and on the ship as a whole was normal. Water from a nontight loop was going into a special tank and so environmental contamination was not presumed. Weather in the area of the incident was calm, sea state was 1, and it was sunny.

1455. Accompanied by ships, she returned to base under her own power on 29 June; there a technical commission for investigation headed by Vice Admiral V. Zaytsev began investigating the causes of the accident. The commission subsequently clarified that incompetent actions of submarine personnel and representatives of the formation command element contributed to putting the main power plant out of commission.

1456. Photo captions

1457. Memorial badge of nuclear submarine ``Komsomolets''

1458. NA STRAZHE ZAPOLYARYA, 29 June 1989

1459. Perhaps the Submarine Was Tired, by A. Avdeyev

1460. Right after the catastrophe involving two aircraft in the sky over the Sea of Japan, there was a new accident in the Pacific Fleet: a submarine sank at her own pier.

1461. It occurred during planned inspection and maintenance work. Organic equipment was being removed from the old submarine, which had been decommissioned from the Navy. A seaman of the crew did not cope with the assignment of monitoring the pumping of water from the forward torpedo tube and the submarine slowly went to the bottom.

1462. Fortunately they got by without victims.

1463. At the present time the submarine has been raised and is afloat.

1464. KOMSOMOLSKAYA PRAVDA, 29 January 1991

1465. A Submarine Is Cruising the Bottom..., by Yu. Balakirev

1466. This happened in one of the bays practically within the Vladivostok limits late Thursday or early Friday. A Pacific Fleet diesel submarine suddenly filled with sea water and sank. In shallow water. Right near the

shore.

1467. As I learned, the submarine, which had served in the Far East for 30 years, was being prepared for mothballing and in this connection was being disarmed. In particular, torpedoes were being unloaded from tubes. For reasons which are being clarified, water gushed through a lower torpedo tube. The submarine listed dangerously. At the same time, water began entering one other compartment. Submarine personnel had to be evacuated. The submarine went to the bottom at the pier. Now she already has been raised and is being supported on slings in an awash condition. All circumstances of what occurred are being investigated by a special commission.

1468. IZVESTIYA, 30 January 1991

1469. Accident on a Nuclear Powered Submarine

1470. During 2-3 October of this year the mass media, among them the newspaper PRAVDA and Radio Russia, reported an accident aboard a Northern Fleet submarine as a result of which a large quantity of missile fuel allegedly was discharged into the sea.

1471. Our correspondent Captain 3rd Rank M. Borikov turned for comment to the Northern Fleet press center, to Captain 1st Rank S. Lebedev, deputy chief of the Fleet combat training directorate, and to the first deputy commander of the large strategic formation which includes the nuclear submarine.

1472. The accident really did occur. According to information from those the correspondent interviewed, on 27 September a nuclear powered submarine commanded by Captain 1st Rank I. Grishkov was heading into the White Sea to conduct a practice missile launch. There was an explosion in the missile launch silo as a result of a technical malfunction.

1473. There were no victims or injured. Missile fragments were thrown into the sea by the explosion.

1474. Rumors about discharged missile fuel are groundless. The missiles with which this class of submarine is equipped have a solid-propellant motor, the "filling" of which burns both in air as well as water. The fuel ejected by the explosion burned without residue.

1475. The nuclear submarine returned to base under her own power. An investigation of the fact of the accident is being conducted.

1476. Photo captions

1477. Heavy submarine missile cruiser "Tayfun"

1478. NA STRAZHE ZAPOLYARYA, 5 October 1991

1479. Raging Reactors, by A. Yermolin, A. Mozgovoy, and Ye. Nikitin

1480. The accident of the Soviet nuclear powered submarine near the Bermuda

Islands was not the first nor the last instance where the threat of a reactor explosion arose.

1481. ...At 0415 hours on 4 July 1961 the port reactor emergency protection system was triggered aboard one of the first Soviet nuclear powered missile submarines, the K-19 ("Hotel"-Class according to western classification), commanded by Captain 1st Rank Nikolay Zateyev. Instruments showed a sharp drop to zero in first loop pressure. Main and auxiliary pumps which circulate heat-transfer agent jammed. The threat arose that fuel elements would melt down and the reactor would be destroyed. To prevent catastrophe it was necessary to pump water through the core.

1482. In the shortest possible time the crew created a nonstandard cooling system using the onboard fresh water reserve. It became operational in two hours. Several crew members received fatal doses of radiation in fighting the unruly reactor, but they did not permit an explosion.

1483. ...At 0417 hours on 26 June 1989 a breach of a reactor first loop seal occurred aboard a Northern Fleet "Echo II"-Class multipurpose nuclear submarine 350 km south of Bear Island. The submarine crew commanded by Captain 1st Rank Yuriy Kasatkin took vigorous steps to prevent the accident from developing into a catastrophe. They shut down the reactor. The submarine safely reached base in the escort of other Soviet ships and was put up for repair.

1484. EKHO PLANETY, No 40, 1991

1485. It Has Become Cramped Beneath the Water, by A. Yermolin, A. Mozgovoy, and Ye. Nikitin

1486. A curious announcement flashed in the pages of the WASHINGTON POST on 5 October 1986. Referring to statements of official Pentagon representatives, a newspaper correspondent wrote: "American submarine specialists confirmed that back before Gorbachev informed Reagan about what happened, the United States already knew of what had occurred aboard the Soviet submarine. Although they did not wish to reveal details regarding who was first to transmit a report about the accident, it probably came from an American submarine tracking the Soviet submarine. Such tracking is the usual practice."

1487. Somewhat later some American newspapers announced that in the first half of October 1986 "during a patrol in the Atlantic Ocean, a U.S. Navy nuclear powered submarine received hull damage as a result of a collision with an undersea object and arrived in her New London, Connecticut port of registry for drydock repairs." It was pointed out that an inspection of the submarine revealed damage to the bottom of the forebody and the sonar dome.

1488. When our submarine came to a surface condition after the explosion and the upper conning-tower hatch was undogged, Executive Officer Captain 3rd Rank S. Vladimirov discovered a double furrow along the port side running from the silo where the accident occurred and on to the stern and shot with a metallic glitter. How had it appeared? Specialists did not find a convincing answer to this question. Some believe the furrow was made by the missile launcher cover

ripped off by the explosion. Others assume the trace on the metal was left by some foreign object. It is not precluded that this "object" was a foreign submarine.

1489. Certain indirect facts attest to the probability of such a version. Contrary to habit, American military officials did not begin making noise over the loss of the Soviet submarine. "Pentagon officers are behaving as if the United States and USSR have a mutual incentive not to spread the loss of the Soviet submarine to the entire world," a London TIMES correspondent noted with unconcealed surprise in those days.

1490. Commanders of nuclear submarines of NATO navies and the USSR Navy try not to lose potential enemies from view. Collisions do occur under the water during such games of "cat and mouse." There have been five such instances recorded according to data of the international organization Greenpeace and the Washington Institute for Political Research. One also was related by KRASNAYA ZVEZDA two years ago. In the late 1960's a Soviet nuclear powered missile submarine commanded by Captain 1st Rank V. Shekhovtsov collided with a foreign submarine in the North Atlantic. A 1x2 m hole formed in the forward section of our submarine's outer hull as a result of the accident, but fortunately everything came out well-the nuclear submarine made her way to base.

1491. EKHO PLANETY, No 40, 1991

1492. How Secrets of Floating Reactors Are Exposed

1493. Accidents involving reactors on military vessels continue to be strictly classified military secrets. But more and more information is surfacing about troubles with equipment and radiation leaks and almost catastrophic accidents. These stories paint a startling picture of the real risk of using nuclear energy at sea.

1494. After the accident which occurred at sea in April 1989 when the Soviet nuclear submarine "Komsomolets" ("Mike"-Class in western classification) sank, there followed reactor accidents on two other Soviet nuclear submarines conducting operations off the coast of Norway.

1495. July 1961. A reactor cooling system line ruptured aboard a Soviet submarine equipped with ballistic missiles. This occurred when the vessel was conducting an operation not far off the English coast. Crew members received heavy irradiation and some submarine compartments and missiles were heavily contaminated.

1496. 21 August 1980. A fire broke out in the reactor compartment aboard a Soviet "Echo"-Class submarine, as a result of which at least nine crew members died. Air and water samples taken by the Japanese detected the presence of radioactive contamination around the submarine.

1497. May 1985. There was an explosion and a fire began during refueling of a Soviet nuclear powered submarine at the Dunay Naval Base near Vladivostok; according to local residents, 8-11 persons died and the submarine sank off the

docks.

1498. Local residents do not know what happened to this submarine after this.

1499. 26 June 1989. There was a leak in lines leading to the reactor primary cooling system aboard a Soviet ``Echo II"-Class submarine.

1500. 16 July 1989. There was an emergency shut-down of the reactor aboard a Soviet ``Alfa"-Class attack submarine conducting operations off the coast of Norway.

1501. From materials of the herald GREENPEACE NEPTUNE PAPERS, May 1991

1502. KOMSOMOLETS ZAPOLYARYA, No 35, 1991

1503. Selected Soviet Submarine Accidents, from materials of herald GREENPEACE NEPTUNE PAPERS

1504. Information was presented by the international organization Greenpeace. The writings take in the period from December 1955 through April 1989, when our latest nuclear submarine ``Komsomolets" sank.

1505. 1958. S-80

1506. 31 December. According to reports, a Soviet Northern Fleet diesel submarine (possibly ``Whiskey"-Class) sank in the late 1950's. The vessel had been especially transformed into a test platform for a Soviet cruise missile being developed at that time. The submarine put to sea with empty missile canisters aboard and sank on the return trip.

1507. 1961. K-19

1508. 31 December. An accident was rumored to have happened to the nuclear engine of an early Soviet nuclear submarine (possibly ``Hotel"-Class) with ballistic missiles aboard in 1961. This happened near the coast of England, when the submarine was returning from an exercise.

1509. As a result of a cooling line break, crew members as well as the submarine's compartments and its missiles were seriously contaminated. According to reports, the radiation level at the spot of the break reached 5 roentgens/hr. After two months of airing the submarine, it was decided to move the missiles to two diesel submarines for test launches.

1510. 1966. K-3

1511. 31 December. According to unprocessed CIA data, at some time during 1966-1968 a fire occurred aboard a Soviet ``November"-Class nuclear powered attack submarine called ``Leninskiy Komsomol" not far from the North Pole. During the accident crew members burned up within a compartment locked on both sides from the outside.

1512. The fire was caused by a spark which led to ignition of oxygen and did

not affect operation of the engines in any way. The submarine was saved. This was one of several submarines which reached the North Pole beneath the ice. At that time the expedition was covered in the Soviet press without mention of this accident.

1513. 1968. K-120

1514. 11 April. A Soviet ``Golf"-Class diesel submarine with ballistic missiles aboard sank at a depth of 16,000 feet 750 nm northwest of Oahu, Hawaiian Islands. Approximately 80 persons died. In late March 1975 reports appeared in many newspapers about a CIA attempt to raise this submarine from the seabed in the summer of 1974 using a specially built vessel intended for raising sunken ships from great depths and called ``Glomar Explorer" (so-called Project Jennifer). Part of the submarine was raised on 4 July 1974. The submarine was equipped with three ballistic missiles with nuclear warheads. In addition, according to unnamed official sources, there also was evidence of the presence of torpedoes with nuclear warheads aboard.

1515. 1970. K-8

1516. 12 April. A Soviet ``November"-Class nuclear submarine sank in the Atlantic approximately 300 nm northwest of Spain. On 11 April the submarine was noted motionless at sea and the crew on deck was attempting to attach tow lines to two Soviet vessels escorting the submarine. On the morning of 12 April an American Navy P-3 patrol aircraft managed to find only two oil slicks in the place where the submarine had been; the submarine is considered to have sunk. Specialists believe the accident involved a malfunction in the nuclear reactor system. According to reports, after the submarine's loss Soviet patrol ships guarded the accident area almost continuously for six months. Then periodic patrolling continued until 1979, after which visits then were rare.

1517. 1972. K-19

1518. 24 February. A U.S. Navy P-3 Orion patrol aircraft discovered a Soviet ``Hotel II"-Class nuclear submarine with ballistic missiles aboard on the surface of the water 600 nm northeast of Newfoundland. The submarine evidently was experiencing problems with the nuclear propulsion plant, as a result of which her engines failed. It is presumed several persons died. On the following day the U.S. Coast Guard cutter ``Boutwell" saw an unserviceable Soviet submarine escorted by five Soviet ships. There was no response to ``Boutwell's" offer of assistance. The Soviet ships set off on the return trip to the submarine's port of registry through a wild, stormy sea. On 18 March the submarine still was continuing to move slowly through northern areas of the Atlantic, now already in the escort of ten Soviet ships as well as the U.S. Coast Guard cutter ``Gallatin." On 5 April the West German Navy reported that the submarine had reached her native shores (White Sea).

1519. 1980.

1520. A Soviet ``Echo"-Class nuclear submarine received serious damages and lost way approximately 85 nm from the east coast of Okinawa.

1521. According to reports, at least nine crew members perished, in all likelihood during a fire in power plant compartments. A Soviet cargo vessel arrived to evacuate the crew and a tow line was prepared to take the submarine back to Vladivostok under escort of several warships. On the following day Japan published a warning for all ships to avoid this area, noting a possible radiation leak. Japan refused to permit the submarine to be towed through territorial waters if Moscow would not be able to guarantee there were no nuclear weapons aboard the submarine and no danger of a radiation leak. The Soviet command refused to guarantee the reactor's safety and Soviet ships entered Japanese waters in spite of the warnings. But on 24 August Moscow unwillingly agreed to Japanese demands and informed Japan that there was neither a radiation leak nor nuclear weapons aboard. According to reports, a subsequent check by the Japanese side revealed the presence of radioactive contamination.

1522. 1983. K-429

1523. 1 June. In June a ``Charlie"-Class nuclear submarine equipped with cruise missiles sank somewhere east of the Soviet Petropavlovsk Naval Base off the south tip of Kamchatka Peninsula in the Pacific. American intelligence reported that the majority of the crew or even the entire crew of 90 persons died. The reason for the accident is unknown but, according to reports, an absence of radioactive contamination indicates the accident most likely was caused by mechanical malfunctions unrelated to the nuclear reactor. The submarine was raised from the bottom by the USSR Navy in early August 1983.

1524. 1984.

1525. 18 September. A Soviet ``Victor I"-Class nuclear submarine received heavy damages from a collision with a Soviet oiler in the Strait of Gibraltar.

1526. It is presumed the submarine was proceeding in the ``noise body" of the oiler in exiting the Mediterranean. JANE'S DEFENCE WEEKLY notes that the rapidly alternating layers of warm and cold water in the narrow part of the Strait formed thermal gradients which forced the submarine to bounce and evidently caused the accident. As a result of the collision forebody plating was torn off and the submarine's sonar and the torpedo compartment were laid bare. The submarine proceeded to the Soviet naval base in Hammamet, Tunisia for urgent repairs, and then in early October returned to her own port of registry, the Kola Peninsula.

1527. 1989. K-192

1528. 3 October. An explosion occurred aboard a Soviet nuclear submarine equipped with ballistic missiles and a fire broke out in one of the compartments. The incident occurred 480 nm east of the Bermuda Islands. At the very least three crew members perished. General Secretary Gorbachev sent President Reagan a confidential message about the accident which had occurred before it was publicly announced on 4 October, assuring the president that there was no danger of a nuclear explosion, radioactive contamination of the environment or accidental launch of nuclear missiles. American military departments took air and water samples in the vicinity of the submarine's

accident and did not note any radioactivity. The submarine sank at a depth of 18,000 feet while being towed approximately 600 nm northeast of the Bermuda Islands. American information sources reported that from all appearances liquid fuel of one of the missiles had blown up.

1529. Serious incidents on Soviet submarines, reports NEPTUNE PAPERS, include five accidents as a result of which submarines sank and were irretrievably lost: a Northern Fleet ``Whiskey"-Class sank in the Atlantic in the late 1950's, a ``Golf"-Class sank near the Hawaiian Islands on 11 April 1968, a ``November"-Class sank in the Atlantic on 11 April 1970, a ``Yankee"-Class sank near the Bermuda Islands on 2 October 1968, and finally, a ``Mike"-Class sank in 1989. In addition, a ``Charlie"-Class submarine which subsequently managed to be raised sank in the Pacific in June 1983. As a result of all these incidents, 43 nuclear warheads and six reactors ended up sunk on the ocean floor.

1530. Crew Lists of Lost Submarines

1531. CREW LIST

1532. of Baltic Fleet submarine-died 21 November 1956

1533. Captain 2nd Rank Shtykov, V. P. Senior Lieutenant Kolpakov, V. A. Engineer-Lieutenant Karpunin, A. L. Engineer-Lieutenant Lipskiy, A. A. Lieutenant Nizkovskikh, M. G. Warrant Officer Vasilyev, V. D. Chief Petty Officer Komarov, A. G. Petty Officer 2nd Class Bagrov, V. V. Petty Officer 2nd Class Dankovskiy, V. I. Petty Officer 2nd Class Monakhov, V. F. Petty Officer 2nd Class Osipov, M. A. Petty Officer 2nd Class Proymn, A. S. Petty Officer 2nd Class Chupin, V. I. Senior Seaman Samarin, A. N. Senior Seaman Norov, A. I. Senior Seaman Slabushevskiy, A. V. Seaman Gordeyev, V. I. Seaman Yevdokimov, I. N. Seaman Yefremenkov, A. A. Seaman Zhebrov, V. P. Seaman Kuznetsov, V. I. Seaman Okunev, B. I. Seaman Ocheretyannyy, V. I. Seaman Polivin, M. G. Seaman Prokhorenko, A. I. Seaman Skuridin, V. I. Seaman Us, A. M. Seaman Chernousov, V. P.

1534. CREW LIST

1535. of submarine S-80-died 27 January 1961

1536. Captain 3rd Rank Sitarchik, A. A. Captain 3rd Rank Nikolayev, V. A. Captain 3rd Rank Osipov, V. Ye. Captain-Lieutenant Peskov, A. V. Captain-Lieutenant Grinchuk, A. M. Captain-Lieutenant Chernichko, V. P. Engineer Captain-Lieutenant Zhuk, G. I. Senior Lieutenant Yevdokimov, A. G. Senior Lieutenant Bonadykov, N. P. Engineer Senior Lieutenant Proletin, V. P. Senior Lieutenant Porutchikov, G. P. Lieutenant Kiryakov, I. V. Lieutenant Kovtun, E. M. Engineer Lieutenant Knyazev, V. I. Lieutenant of Medical Service Zubkov, V. I. Warrant Officer Borovoy, G. M. Chief Petty Officer Tarasov, V. G. Chief Petty Officer Purgin, A. N. Petty Officer 1st Class Seryy, V. Ya. Petty Officer 1st Class Gerasimenko, V. Z. Petty Officer 1st Class Alekseyev, B. A. Petty Officer 1st Class Shakhin, V. S. Petty Officer 1st Class Lednik, P. F. Petty Officer 2nd Class Zyuzin, F. F. Petty Officer 2nd Class Kochnev, Yu. N. Petty Officer 2nd Class Agibalov, Yu. V. Petty Officer 2nd Class

Khripko, D. M. Petty Officer 2nd Class Grigorchuk, V. A. Petty Officer 2nd Class Shelyako, Yu. I. Petty Officer 2nd Class Gresev, I. G. Petty Officer 2nd Class Pogorelyy, N. G. Senior Seaman Voyakov, V. A. Senior Seaman Bardin, K. F. Senior Seaman Kozhin, A. L. Senior Seaman Vorobyev, V. N. Senior Seaman Leonov, V. S. Senior Seaman Kazaryan, V. G. Senior Seaman Savin, G. N. Senior Seaman Kreydo, V. N. Senior Seaman Chapas, R. A. Seaman Koshelev, V. S. Seaman Nidzelskiy, G. N. Seaman Nikitin, V. I. Seaman Balborin, V. N. Seaman Myazin, M. N. Seaman Ulyanov, V. P. Seaman Oparin, A. R. Seaman Tsybin, V. V. Seaman Gulin, V. G. Seaman Glazunov, A. P. Seaman Samokhvalov, A. N. Seaman Yakunin, N. D. Seaman Malkov, A. N. Seaman Isakov, V. G. Seaman Chaltsev, A. D. Seaman Pilipenko, V. P. Seaman Chagilo, V. N. Seaman Shalaginov, Yu. A. Seaman Panferov, V. V. Seaman Tuman, V. G. Seaman Kryukov, A. A. Seaman Rodin, G. I. Seaman Mashanov, P. M. Seaman Mertikov, V. N. Seaman Smolin, B. I. Seaman Silayev, Yu. A. Seaman Kropachev, A. A. Seaman Dorogokupaya, I. A.

1537. CREW LIST

1538. of nuclear submarine K-19-died 4 July 1961

1539. Captain-Lieutenant Povstyev, Yu. Lieutenant Korchilov, B. Chief Petty Officer Ryzhikov, B. Petty Officer 1st Class Ordochkin, Yu. Petty Officer 2nd Class Kashenkov, Ye. Seaman Penkov, S. Seaman Savkin, N. Seaman Kharitonov, V.

1540. CREW LIST

1541. of nuclear submarine K-3-died 8 September 1967

1542. Captain 2nd Rank Gorshkov, S. F. Captain 3rd Rank Kamorkin, A. F. Captain-Lieutenant Malyar, A. A. Captain-Lieutenant Ganin, G. I. Captain-Lieutenant Smirnov, V. N. Lieutenant Gurin, V. M. Lieutenant Petrechenko, A. I. Warrant Officer Butorin, A. A. Warrant Officer Musatov, V. I. Chief Petty Officer Miunin, V. Ya. Chief Petty Officer Romantsov, B. M. Petty Officer 1st Class Bogachev, N. M. Petty Officer 1st Class Taranov, V. G. Petty Officer 2nd Class Ivanov, A. I. Petty Officer 2nd Class Guryev, N. N. Petty Officer 2nd Class Gayvas, A. K. Petty Officer 2nd Class Garogonin, Yu. I. Petty Officer 2nd Class Zatsepin, N. M. Petty Officer 2nd Class Slukin, M. I. Petty Officer 2nd Class Rozanov, V. N. Petty Officer 2nd Class Puzevich, K. S. Petty Officer 2nd Class Kislovskiy, G. I. Petty Officer 2nd Class Yuzefovich, P. I. Petty Officer 2nd Class Gaydey, S. M. Petty Officer 2nd Class Vecherin, I. V. Senior Seaman Bogalev, S. F. Senior Seaman Lavrushkin, V. P. Senior Seaman Vorobyev, A. V. Senior Seaman Taraban, V. I. Senior Seaman Sobolev, N. P. Senior Seaman Yaroshevich, V. I. Seaman Bogachev, V. M. Seaman Postalatyi, V. F. Seaman Osipchuk, A. S. Seaman Kutepov, A. A. Seaman Kuzmitskiy, B. A. Seaman Korovin, A. V. Seaman Klimenchuk, V. L. Seaman Romanov, V. I.

1543. CREW LIST

1544. of submarine K-129-died 8 March 1968

1545. Captain 1st Rank Kobzar, V. I. Captain 2nd Rank Zhuravin, A. I. Captain

3rd Rank Lobas, F. Ye. Captain 3rd Rank Motovilov, V. A. Captain 3rd Rank Panarin, G. S. Captain 3rd Rank Kovalev, Ye. G. Captain 3rd Rank Orekov, N. N. Major of Medical Service Cherepanov, S. P. Captain-Lieutenant Zuyev, V. M. Captain-Lieutenant Pikulik, N. I. Engineer Captain-Lieutenant Yegorov, A. Ye. Senior Lieutenant Zharnakov, A. F. Senior Lieutenant Mosyachkin, V. A. Lieutenant Dykin, A. P. Warrant Officer Extended Service Borodulin, V. S. Petty Officer 2nd Class Lopsar, P. T. Seaman Tokarevskiy, L. V. Seaman Trifonov, S. N. Seaman Karabazhakov, Yu. F. Seaman Ovchinnikov, V. P. Petty Officer 2nd Class Knyazev, A. G. Senior Seaman Krivykh, M. I. Seaman Kasyanov, G. S. Petty Officer 2nd Class Gushchin, N. I. Senior Seaman Balashov, V. I. Seaman Shuvalov, A. S. Petty Officer 2nd Class Knyazev, A. G. Petty Officer 1st Class Lisitsyn, V. V. Seaman Korotitskikh, V. V. Petty Officer 2nd Class Sayenko, N. Ye. Seaman Dubov, Yu. I. Petty Officer 2nd Class Chumilin, V. G. Petty Officer 2nd Class Surnin, V. M. Seaman Nosachev, V. G. Seaman Kostyushko, V. M. Petty Officer 2nd Class Marakulin, V. A. Petty Officer 2nd Class Nechepurenko, V. S. Seaman Arkhipov, A. A. Petty Officer 1st Class Kuznetsov, A. V. Senior Seaman Telnov, Yu. I. Petty Officer 2nd Class Googe, P. I. Petty Officer 2nd Class Plyusnin, V. D. Senior Seaman Zverev, M. V. Petty Officer 1st Class Shpak, G. M. Seaman Shishkin, Yu. V. Seaman Vasilyev, A. S. Seaman Osipov, S. V. Seaman Kravtsov, G. I. Seaman Redkosheyev, N. A. Seaman Kabakov, A. S. Seaman Kolbin, V. V. Seaman Rudnik, A. I. Warrant Officer Extended Service Kotov, I. T. Petty Officer 2nd Class Bazhenov, N. N. Chief Petty Officer Extended Service Abramov, N. D. Senior Seaman Oshchepkov, V. G. Seaman Pogodayev, V. A. Seaman Bozhenko, L. K. Seaman Dasko, I. A. Seaman Ozhima, A. N. Seaman Gostev, V. M. Seaman Torsunov, B. P. Seaman Toshchevnikov, A. N. Seaman Degtyarev, A. A. Seaman Sokolov, V. V. Chief Petty Officer Extended Service Ivanov, V. P. Petty Officer 2nd Class Polyanskiy, A. D. Petty Officer 2nd Class Savitskiy, M. S. Senior Seaman Kobelev, G. I. Senior Seaman Sorokin, V. M. Seaman Peskov, Ye. K. Seaman Yarygin, A. I. Seaman Kryuchkov, A. S. Seaman Polyakov, V. N. Warrant Officer Extended Service Sprishchevskiy, V. Yu. Senior Seaman Kulikov, A. P. Seaman Lokhov, V. A. Seaman Pichurin, A. A. Seaman Koshkarev, N. D. Senior Seaman Naymushin, A. S. Seaman Zubarev, O. V. Petty Officer 2nd Class Bakhirev, V. M. Chief Petty Officer Labzin, V. M. Senior Seaman Matantsev, L. V. Seaman Chernitsa, G. V. Petty Officer 2nd Class Kuchinskiy, A. I. Petty Officer 1st Class Khvatov, A. V. Seaman Kozin, V. V. Petty Officer 2nd Class Chichkanov, A. S. Seaman Plaksa, V. M. Senior Seaman Mikhaylov, T. T. Senior Seaman Andreyev, A. V. Seaman Kozlenko, A. V. Chief Petty Officer Gushchin, G. F. Seaman Bashkov, G. I. Seaman Kruchinin, O. L. Seaman Odintsov, I. I. Seaman Tereshin, V. I.

1546. CREW LIST

1547. of nuclear submarine K-8-died in accident 8 April 1970

1548. Captain 2nd Rank Bessonov, V. B. Captain 2nd Rank Tkachev, V. A. Captain 3rd Rank Rubeko, V. P. Captain 3rd Rank Khaslavskiy, V. G. Captain-Lieutenant Kuznechenko, I. V. Captain-Lieutenant Lisin, A. I. Captain-Lieutenant Polikarpov, A. V. Captain of Medical Service Solovey, A. M. Captain-Lieutenant Chudinov, A. S. Captain-Lieutenant Yasko, N. F. Senior Lieutenant Gusev, M. V. Senior Lieutenant Lavrinenko, A. N. Senior Lieutenant Poletayev, Yu. P. Senior Lieutenant Shmakov, N. V. Senior Lieutenant Shostakovskiy, G. V. Senior Lieutenant Chugunov, G. N. Lieutenant Shabanov, V.

A. Lieutenant Shevtsov, V. I. Warrant Officer Bleshchenkov, A. I. Warrant Officer Derevyanko, L. N. Warrant Officer Yermakovich, P. S. Warrant Officer Kulakov, V. G. Warrant Officer Mayevskiy, V. I. Warrant Officer Martynov, L. F. Warrant Officer Petrov, Ye. A. Warrant Officer Ustenko, A. A. Chief Petty Officer Dobrynin, V. I. Chief Petty Officer Leonov, V. V. Chief Petty Officer Savonik, V. V. Petty Officer 1st Class Busarev, A. S. Petty Officer 1st Class Fedorov, Ye. G. Petty Officer 1st Class Chekmarev, L. V. Petty Officer 2nd Class Gutaulin, R. G. Senior Seaman Astakhov, V. N. Senior Seaman Burtsev, N. S. Senior Seaman Inamukov, B. I. Senior Seaman Kirin, A. M. Senior Seaman Kolesnikov, V. A. Senior Seaman Komkov, N. A. Senior Seaman Kulakov, A. A. Senior Seaman Mashuta, Yu. A. Senior Seaman Mishchenko, V. M. Senior Seaman Pankov, Ye. V. Seaman Devyatkin, V. N. Seaman Korovin, N. M. Seaman Kuzovkov, V. I. Seaman Kulig, A. S. Seaman Pecherskikh, Yu. F. Seaman Samsonov, Ye. A. Seaman Fresher, K. G. Seaman Frolov, V. F. Seaman Shishayev, A. P.

1549. CREW LIST

1550. of nuclear submarine K-19-died 24 February 1972

1551. Captain 3rd Rank Tsygankov, L. G. Senior Lieutenant Yarchuk, S. G. Lieutenant Khrychikov, V. V. Warrant Officer Borisov, F. K. Warrant Officer Nikolayenko, V. G. Warrant Officer Novichkov, A. I. Chief Petty Officer Vasilyev, A. P. Petty Officer 1st Class Alekseyev, A. P. Petty Officer 1st Class Mosolov, V. Ye. Petty Officer 2nd Class Galkin, N. I. Petty Officer 2nd Class Glushakov, P. I. Petty Officer 2nd Class Marach, K. P. Senior Seaman Voloshin, Kh. A. Senior Seaman Gubarev, V. F. Senior Seaman Kildyushkin, V. A. Senior Seaman Muslyumov, R. Yu. Senior Seaman Rasyuk, V. V. Senior Seaman Serbin, I. A. Senior Seaman Sidorov, L. N. Seaman Babich, A. N. Seaman Grinko, V. V. Seaman Yefimov, N. A. Seaman Zakharov, A. N. Seaman Kondratenkov, M. I. Seaman Misko, I. P. Seaman Sitnikov, S. A. Seaman Khudyakov, B. Ye. Seaman Shevchik, M. V.

1552. CREW LIST

1553. of diesel submarine S-178-died 21 October 1981

1554. Captain 2nd Rank Karavekov Senior Lieutenant Sokolov Warrant Officer Lysenko Petty Officer 1st Class Astafyev Petty Officer 2nd Class Smirnov Petty Officer 2nd Class Demishov Petty Officer 2nd Class Yemelyanov Senior Seaman Sergeyev Senior Seaman Stepkin Senior Seaman Larin Senior Seaman Pashnev Senior Seaman Khafizov Senior Seaman Yendyukov Senior Seaman Medvedev Senior Seaman Zhurilkin Seaman Balayev Seaman Ivanov Seaman Tukhvatulin Seaman Ananyev Seaman Shomnin Seaman Lenshin Seaman Sokolov Seaman Kireyev Seaman Ryabtsev Seaman Arestov Seaman Kireyev Seaman Yurin Seaman Kostylev Seaman Adyatulin Seaman Kosnyrev Seaman Plyusnin Cadet Lesnin

1555. Burial performed at Vladivostok Naval Cemetery.

1556. CREW LIST

1557. of nuclear submarine-died in accident 18 June 1984

1558. Captain 3rd Rank Chernyayev, A. D. Captain-Lieutenant Leonov, I. V. Warrant Officer Yakovlev, S. V. Warrant Officer Trubitsin, V. P. Warrant Officer Shkin, Yu. P. Warrant Officer Potsyus, D. D. Petty Officer 2nd Class Abramyan, G. F. Senior Seaman Ivanov, O. A. Senior Seaman Gruzhas, A. Yu. Seaman Prikhodko, N. N. Seaman Bondarenko, I. D. Seaman Polovoy, V. V. Seaman Mitrofanov, V. A.

1559. CREW LIST

1560. of nuclear submarine ``Komsomolets"-died 7 April 1989

1561. Captain 1st Rank Burkulakov, T. A. Captain 1st Rank Vanin, Ye. A. Captain 2nd Rank Avanesov, O. G. Captain 2nd Rank Babenko, V. I. Captain 3rd Rank Maksimchuk, Yu. I. Captain 3rd Rank Volodin, A. V. Captain 3rd Rank Ispenkov, A. M. Captain 3rd Rank Manyakin, S. P. Captain 3rd Rank Yudin, V. A. Captain-Lieutenant Volkov, N. A. Captain-Lieutenant Naumenko, Ye. V. Captain-Lieutenant Nezhtin, S. A. Captain-Lieutenant Smirnov, M. A. Captain-Lieutenant Speranskiy, I. L. Senior Lieutenant Markov, S. Ye. Lieutenant Zimin, V. V. Lieutenant Molchanov, I. A. Lieutenant Shostak, A. A. Senior Warrant Officer Tkach, V. V. Warrant Officer Bondar, S. S. Warrant Officer Brodovskiy, Yu. A. Warrant Officer Valyavin, M. N. Warrant Officer Yelenik, M. A. Senior Warrant Officer Zamogilnyy, S. V. Warrant Officer Kapusta, Yu. F. Warrant Officer Kovalev, G. V. Warrant Officer Kolotilin, V. V. Warrant Officer Krasnobayev, A. V. Warrant Officer Nakhlov, S. V. Warrant Officer Chernikov, S. I. Petty Officer 2nd Class Golovchenko, S. P. Senior Seaman Apanasevich, I. O. Senior Seaman Bukhnikashvili, N. O. Senior Seaman Vershilo, Ye. E. Senior Seaman Shinkunas, S. K. Seaman Grundul, A. A. Seaman Krasnov, S. Yu. Seaman Kulapin, V. Yu. Seaman Mikhalev, A. V. Seaman Sukhanov, V. I. Seaman Tkachev, V. F. Seaman Filippov, R. K.

1562. *** GRAPHICS uma0242 *** *** GRAPHICS uma0242 ***

1563. *** GRAPHICS uma0243 *** *** GRAPHICS uma0243 ***

1564. *** GRAPHICS uma0244 *** Charts of Accidents and Loss of Soviet Submarines [Chart of accidents and loss of Soviet submarines in the Pacific and Atlantic Ocean] *** GRAPHICS uma0244 ***

1565. *** GRAPHICS uma0245 *** Chart of accidents and loss of Soviet submarines in the Baltic Sea *** GRAPHICS uma0245 ***

1566. *** GRAPHICS uma0246 *** Chart of accidents and loss of Soviet submarines in the Black Sea and Mediterranean Sea *** GRAPHICS uma0246 ***