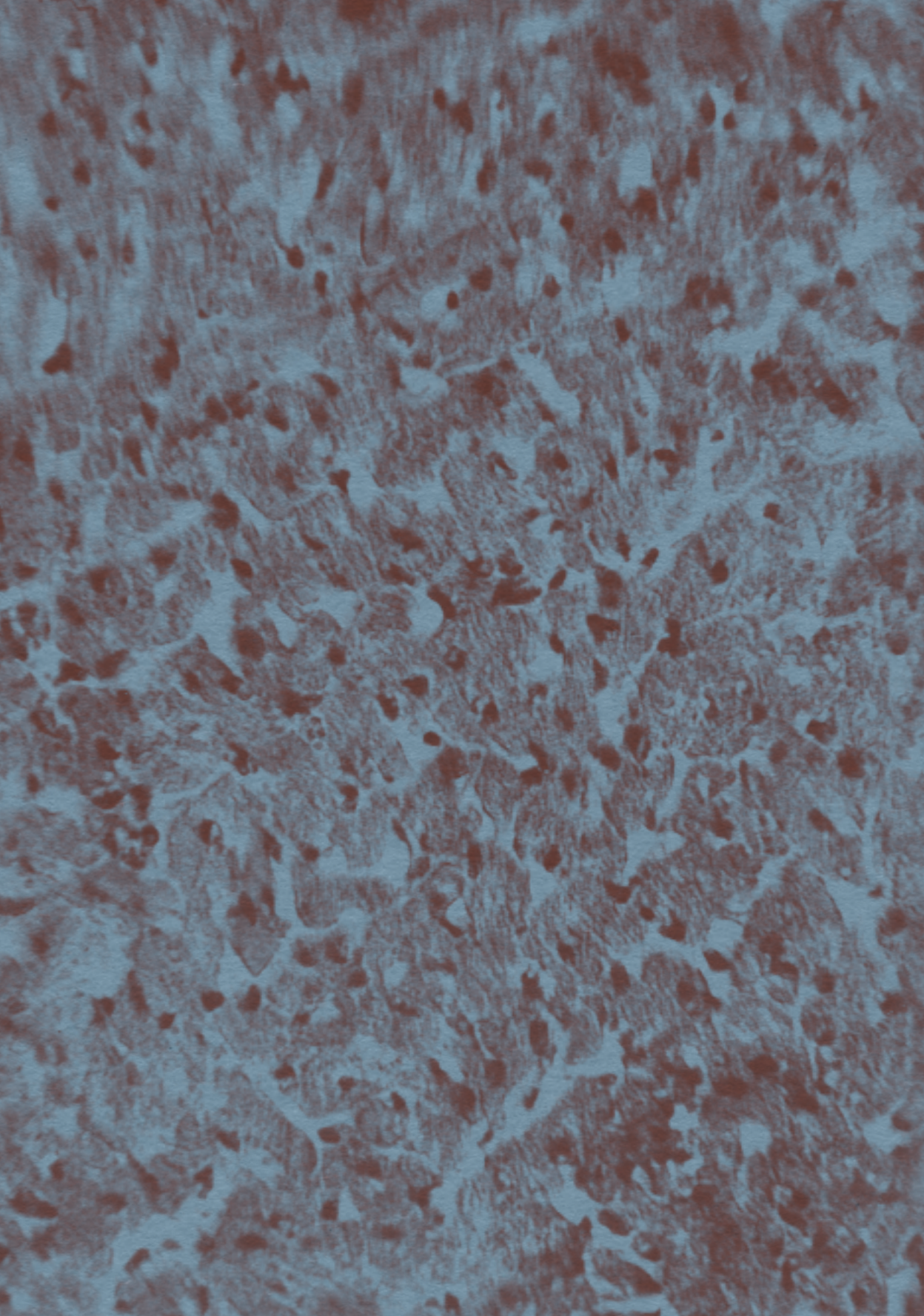




The Last Conversation with Academician Sakharov /  
Ostatnia rozmowa z akademikiem Sacharowem

Agnieszka Rayss





The Last Conversation  
with Academician Sakharov  
/  
Ostatnia rozmowa  
z akademikiem Sacharowem

The Last Conversation  
with Academician Sakharov  
/  
Ostatnia rozmowa  
z akademikiem Sacharowem

Agnieszka Rayss

The empty steppe. Hills. River. Railway. There is little else but grass and mud. In winter: snow. Settlements and abandoned towns are hidden away from the road connecting the city of Semey (formerly Semipalatinsk) to Kurchatov. A great swath of “The Polygon,” the former nuclear testing site, is indifferently guarded. You can get there, although there’s an urban myth about military personnel patrolling the area with Kalashnikovs. Few people are willing to visit. Sometimes dark-tourists, or scientists, or the occasional politician will venture there. From time to time a film crew or a journalist interested in the testing site arrives and follows the beaten path to nearby Semey, or to Kurchatov with its scientific institutions and residents with childhood memories of mushroom clouds over the steppe and the so-called Atomic Lake.

Not much is left in the aftermath of a forty-year disaster.

Craters from nuclear detonations have long since filled in. Only the crumbling buildings of the former military base and the concrete towers bear witness to a grim past, and they have been photographed to such an extent that the sight of them no longer startles.

The radiation level is tuned out. It can be measured, of course, but visitors would rather not know it and locals dismiss it.



After all, the Soviet minister Yefim Slavsky swam in the Atomic Lake — created, in 1964, after a massive underground explosion — and nothing happened to *him*. Today, a Russian geologist, who has been living and working in Kurchatov since the 1970s, still bathes in the lake.

Kurchatov's Stalinist architecture endures: the officers' house, the town hall, the market square, the monument to Igor Kurchatov. And the Mayak Hotel, throbbing with emptiness, the staff polite. Beyond the Chagan air base, apartment blocks in ruins and the stone Kurchatov monument are all that remain to commemorate the best moments of the lives of the base's former residents — the aviators and base personnel — and the place to which they became attached.

Beria's Kurchatov villa still stands. A wooden house. An orthodox priest lives there now. Beria is said to have stayed there when the first atomic test was carried out, in 1949. This could be yet another myth.

In the Test Site Museum in Kurchatov, a rather small hall of memory, there are jars with organs fixed in formalin. The head of a pig burned in an explosion. A heart that only looks like a heart but is actually the stomach of a dog with hematoma — more collateral damage. A piece of foam rock with a trefoil warning label. The rock looks like a pumice stone. It is very light and remains radioactive.

The Semipalatinsk Institute of Radiology is still here, with its register of citizens who have suffered as a result of radiation. The Kazakh Steppe, virtually uninhabited, was supposed to ensure there would be no casualties; but after one nuclear test, the direction of the wind changed and the radioactive cloud shifted over inhabited areas. People began showing up at doctor's offices with strange symptoms, which were soon linked to radiation sickness. The institute's medical archive is one of the few archives related to test sites that wasn't relocated to Moscow in 1991.

There is a medical institute in Semey which has a collection of specimens. Some are fetuses immersed in formalin, apparently deformed due to radiation. The prince of this curious collection is a little cyclops, a boy with one eye in the center of his head. It is said that this child of a nurse and an aviator died immediately

after birth. Now he looks down at the infrequent visitor from an upper shelf in this closed room lined with rows of jars.

There are clippings and mementos. A retired English teacher from Semey holds onto a press clipping from 1989. An American journalist meets Andrei Sakharov at the airport and discusses nuclear tests with him. Before becoming a dissident, Sakharov was a nuclear physicist and designer of the Soviet thermonuclear bomb, so this was a conversation with a man who remembered a lot. The teacher used a red pen to underline the English words, with Russian translations jotted in the margins. Sakharov went back to the 1950s, saying that the atomic tests did great harm. He died a few months after this meeting.

In his memoirs, Sakharov wrote:

I felt myself committed to the goal [...]: after a devastating war, to make the country strong enough to ensure peace. Precisely because I had invested so much of myself in that cause and accomplished so much, I needed [...] to create an illusory world, to justify myself. [...]. But the state, the nation, and the ideals of communism remained intact for me. It was years before I fully understood the degree to which deceit, exploitation, and outright fraud were involved in those notions, and how much they deviated from reality. In the face of all I had seen, I still believed that the Soviet state represented a breakthrough into the future, a prototype (though not as yet a fully realized one) for all other countries to imitate.<sup>1</sup>

In the film *After the Apocalypse*, a Western journalist asks a doctor if, as a nuclear researcher in those days, he feels partially responsible for what happened. The doctor replies with an understanding grin, beginning: "From a moral, ethical point of view, and in knowledge of that time, you ask this question and are probably correct in doing so. But there is no answer to this question. [...] I can't explain it." His tone then grows steelier: "And you will never understand what the former Soviet Union was. You will never understand this in your lifetime."<sup>2</sup>

1 Andrei Sakharov, *Memoirs*, trans. Richard Lourie (New York: Knopf, 1990), p. 164.

2 Quoted from the documentary *After the Apocalypse*, dir. Antony Butts, 2010, available at: [youtube.com/watch?v=RRXm1evB2Rg](https://www.youtube.com/watch?v=RRXm1evB2Rg) [all URLs accessed January 6, 2022].

Pusty step, wzgórze, rzeka, linia kolejowa. Nie ma tam właściwie nic oprócz trawy i błota, a zimą — śniegu. Niewielkie osady, zrujnowane miasteczka kryją się w oddaleniu od szosy łączącej Semej (dawniej Semipałatyńsk) z Kurczatowem. Olbrzymi teren dawnego poligonu atomowego, dość słabo strzeżony. Można tam dojechać, jednak nie ma wielu chętnych na wizyty. Zdarza się, że dotrą tam turyści szukający mocnych wrażeń, naukowcy, czasem politycy. Od czasu do czasu przyjeżdża ekipa filmowa albo dziennikarz zainteresowany zamkniętym poligonem i przemierza utarte ścieżki — leżące w pobliżu miasto Semej oraz Kurczatow, gdzie znajdują się instytucje naukowe i żyją ludzie, którzy pamiętają z dzieciństwa atomowe grzyby nad stepem, miejsce pierwszej próby atomowej czy tak zwane Atomowe Jezioro.

Po czterdziestoletniej katastrofie pozostało niewiele.

Kratery po wybuchach atomowych dawno się wypłaszczyły. Tylko zrujnowane budynki bazy wojskowej i betonowe konstrukcje pomiarowe stanowią świadectwo ponurej przeszłości. One zostały już tak obfotografowane, że ich widok nie zaskakuje.

Poziom radiacji jest tu raczej ignorowany. Można ją wprawdzie zmierzyć, ale i tak, niezależnie od wyniku pomiarów, przybysze

się jej boją, a miejscowi ją lekceważą. W końcu w Atomowym Jeziorze, które powstało po gigantycznej podziemnej eksplozji w 1964 roku, kąpał się radziecki minister Jefim Sławski i nic mu się nie stało. Dzisiaj w jeziorze kąpie się rosyjski geolog, który mieszka i pracuje w Kurczatowie od lat siedemdziesiątych.

Niezmiennie trwa stalinowska architektura w Kurczatowie – dom oficera, ratusz, rynek i pomnik Igora Kurczatowa. Oraz hotel Majak, świecący pustkami, za to z serdeczną obsługą. Po bazie lotniczej Szagan zostały zrujnowane bloki mieszkalne i kamienny pomniczek. Dawni mieszkańcy bazy, lotnicy i obsługa lotniska, upamiętnili najlepsze chwile swojego życia i miejsce, do którego się przywiązali.

W Kurczatowie stoi jeszcze willa Berii. To drewniany dom otoczony drzewami, dzisiaj mieszka w nim batiuszka. Podobno Beria nocował w tym miejscu, kiedy przeprowadzano pierwszą próbę atomową w 1949 roku. A może to tylko legenda.

W Muzeum Poligonu (raczej niewielkiej sali pamięci) w Kurczatowie stoją słoje z narzędziami zatopionymi w formalinie. Łeb świni poparzonej na skutek wybuchu. Serce, które tylko wygląda jak serce, a jest żołądkiem psa z krwiakiem, także efektem doświadczeń. Kawałek spienionej skały z ostrzegawczą naklejką z wiatraczkiem. Skała wygląda jak pumeks, jest bardzo lekka i wciąż radioaktywna.

Pozostały Naukowy Instytut Radiologii i Ekologii w Semeju, a także rejestr obywateli, którzy ucierpieli w wyniku promieniowania. Kazachski step, słabo zaludniony, miał gwarantować, że nie będzie ofiar, ale po jednej z prób atomowych zmienił się kierunek wiatru i chmura radioaktywna przemieściła się nad zamieszkałe tereny, a do lekarzy zaczęli się zgłaszać ludzie z dziwnymi objawami, które niebawem rozpoznano jako chorobę popromienną. Instytut przechowuje jedno z niewielu archiwów związanych z poligonem, które nie wyjechały do Moskwy po 1991 roku — archiwum medyczne.

W Semeju jest Akademia Medyczna, a w niej kolekcja preparatów anatomicznych. Niektóre z nich to zanurzone w formalinie płody, zniekształcone podobno z powodu promieniowania. Królem tej dziwnej kolekcji jest mały cyklop, chłopczyk z jednym okiem pośrodku głowy. Mówi się, że to dziecko pielęgniarki i lotnika urodziło się i zaraz umarło. Teraz patrzy z górnej

półki na rzadkich gości w tym zamkniętym pokoju wypełnionym rzędami słoje.

Zostały wycinki i wspomnienia. Emerytowana nauczycielka języka angielskiego z Semeju przechowuje wycinek prasowy z 1989 roku. Amerykański dziennikarz spotyka na lotnisku Andrieja Sacharowa i rozmawia z nim o testach jądrowych. Sacharow, zanim stał się dysydem, był fizykiem jądrowym i konstruktorem radzieckiej bomby termojądrowej, a zatem jest to rozmowa z człowiekiem, który dużo pamięta. Nauczycielka podkreśliła czerwonym długopisem angielskie słowa, a na marginesach zapisała rosyjskie tłumaczenia. Sacharow wraca do lat pięćdziesiątych i mówi, że testy atomowe wyrządziły wiele zła. Kilka miesięcy po tym spotkaniu zmarł.

Sacharow zanotował w swoich wspomnieniach:

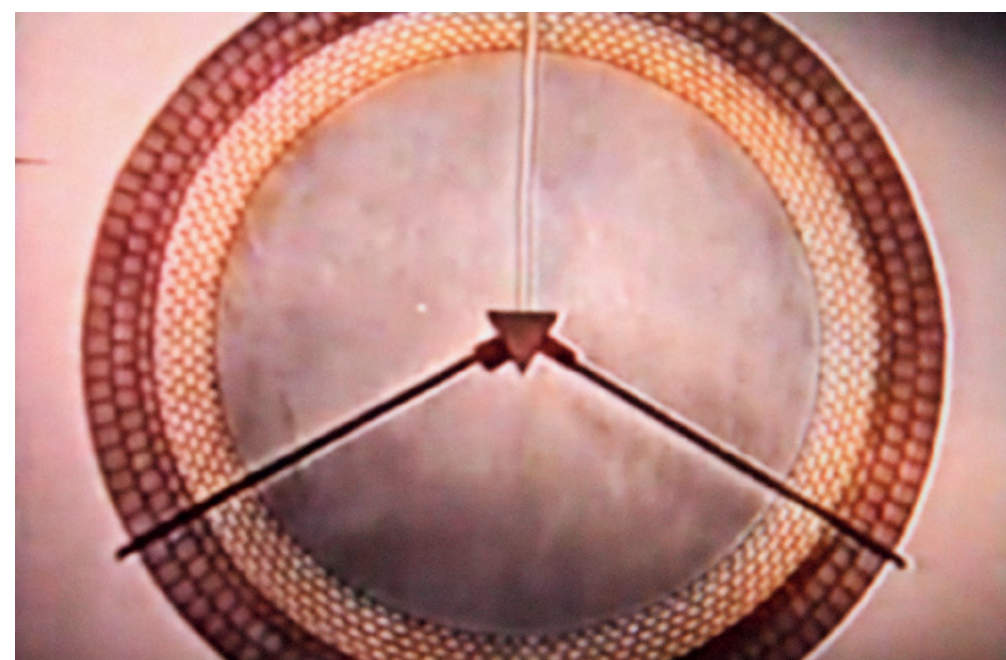
Czułem się po prostu związany ze sprawą [...] tworzenia potęgi kraju, aby zapewnić mu pokój po strasznej wojnie. Właśnie dlatego, że wiele już w imię tego oddałem i wiele osiągnąłem, mimowolnie [...] zbudowałem sobie świat iluzji, żeby znaleźć usprawiedliwienie [...]. Ale państwo, ojczyzna, komunistyczne ideały pozostały. Potrzebowałem lat, żeby pojąć i poczuć, ile jest w tych pojęciach spekulacji, oszustwa, niezgodności z realnym stanem rzeczy. Początkowo, bez względu na wszystko, wbrew temu, co w życiu widziałem, sądziłem, że państwo radzieckie to wyłom ku przyszłości, pewien (choć jeszcze niedoskonały) wzór dla wszystkich krajów [...]¹.

Zachodni dziennikarz w filmie *Po apokalipsie*² pyta lekarza, czy jako prowadzący badania w tamtych czasach nie czuje się współodpowiedzialny za to, co się działo. Lekarz życzliwie i ze zrozumieniem odpowiada: „Z etycznego punktu widzenia na pewno ma pan rację, zadając takie pytanie. Ale odpowiedzi na to pytanie nie ma. Ja tego nie umiem wyjaśnić i pan nigdy nie zrozumie, czym był Związek Radziecki. Nigdy w życiu pan tego nie zrozumie”.

1 Andriej Sacharow, *Wspomnienia*, t. 1, tłum. Danuta Ulicka, Warszawa 1991.

2 *After the Apocalypse*, reż. Antony Butts, 2010, <https://www.youtube.com/watch?v=RRXm1evB2Rg>, dostęp: 24 listopada 2021.





The struggle between the forces of imperialism and communism is a struggle to the death. The future of mankind, the fate and happiness of tens of billions of people, alive now and yet to be born, depend on the outcome of that struggle. We must be strong in order to win. If our work and our testing are giving us strength for that battle – and they certainly are – then the victims of that testing, or any other victims, don't matter.

Nikolai Pavlov, an officer in the KGB, quoted in conversation by Andrei Sakharov

Obecnie w świecie toczy się walka na śmierć i życie pomiędzy siłami imperializmu i komunizmu. Od jej wyniku zależy przyszłość ludzkości, los i szczęście dziesiątków miliardów ludzi w ciągu wieków. Aby ją wygrać, musimy być silni. Jeśli nasza praca, nasze doświadczenia sprzyjają wzmocnieniu tych sił, a tak jest z całą pewnością, to żadne ofiary prób, w ogóle żadne ofiary nie mogą tu mieć znaczenia.

Sacharow cytuje wypowiedź Mikołaja Pawłowa, pułkownika KGB, odpowiedzialnego za produkcję części do bomby.



















✓ - веронка



Рис. - 23

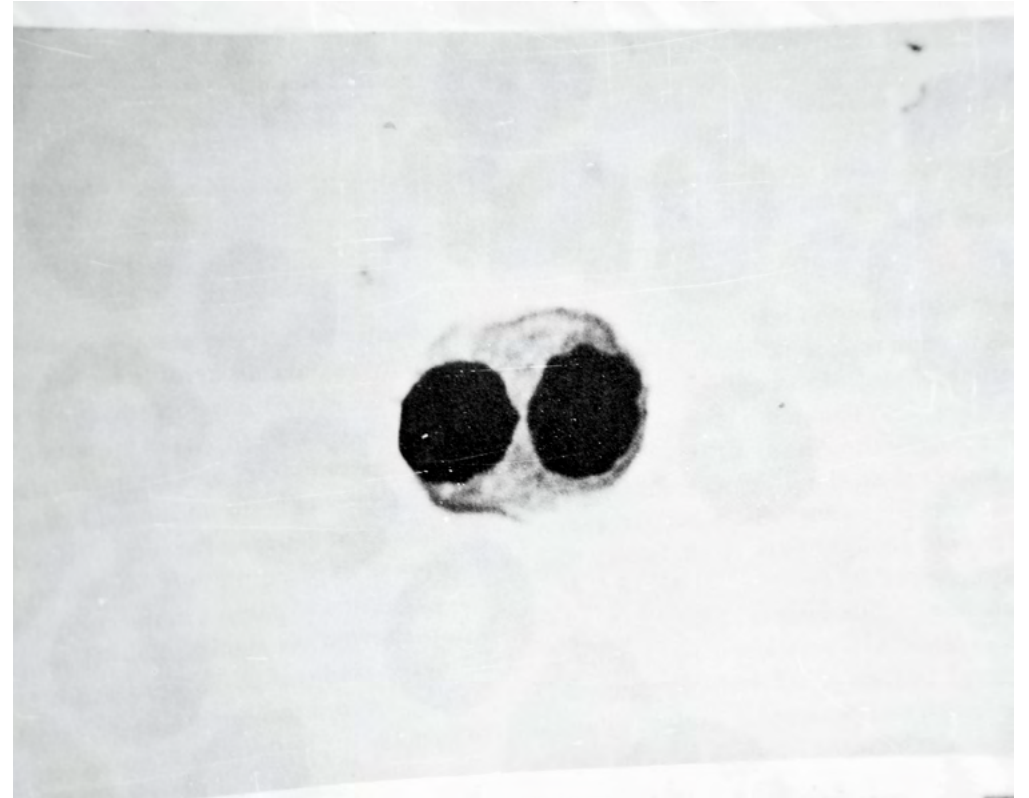
Секция южного берега правобережной веронки.  
 а - крупнообломочная ссыль; б - мелкообломочная ссыль  
 1 - дно веронки; 2 - элювий

г. 80/к. 13-15.









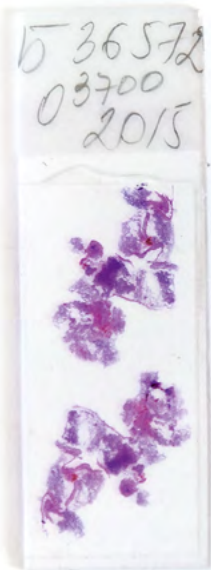




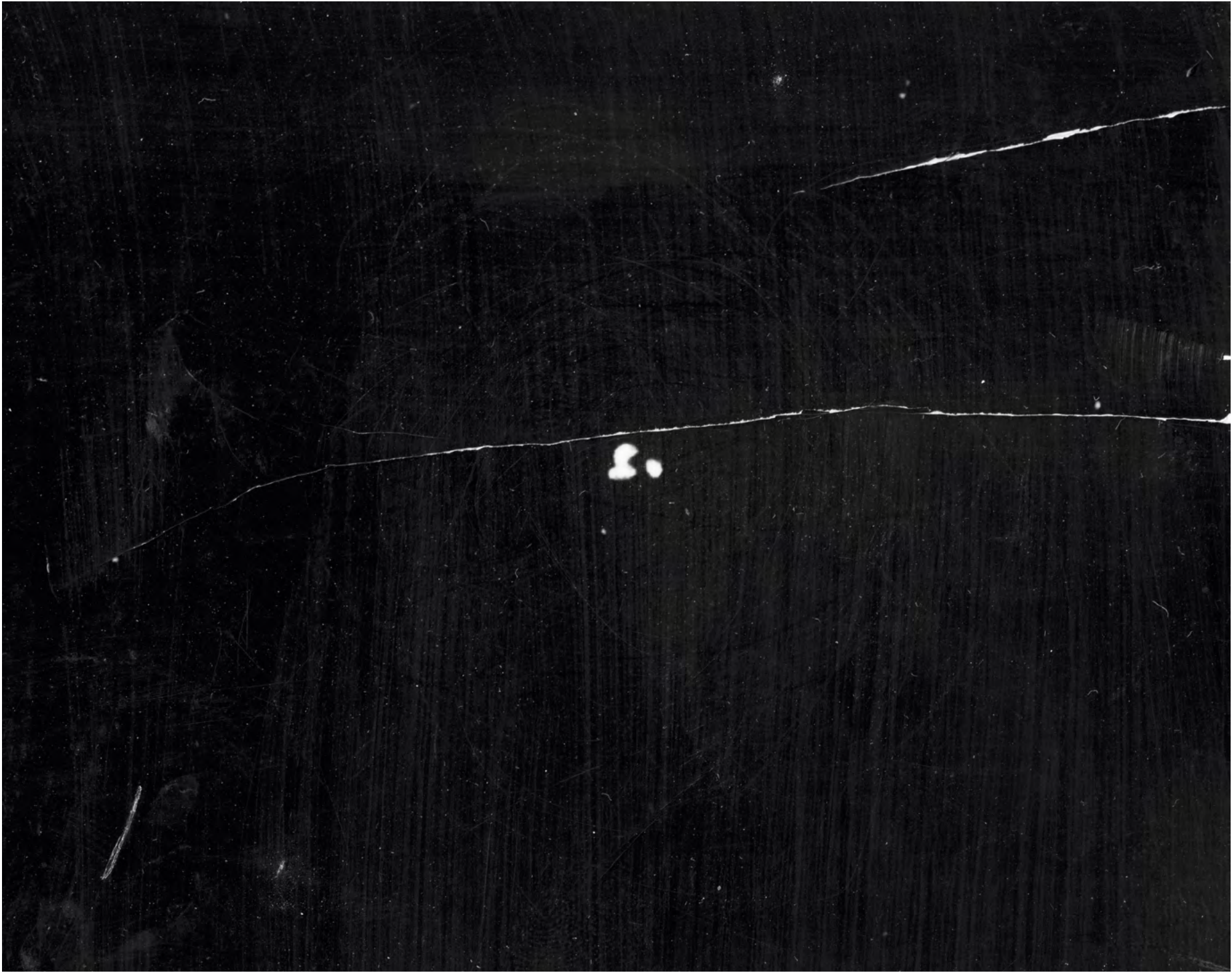














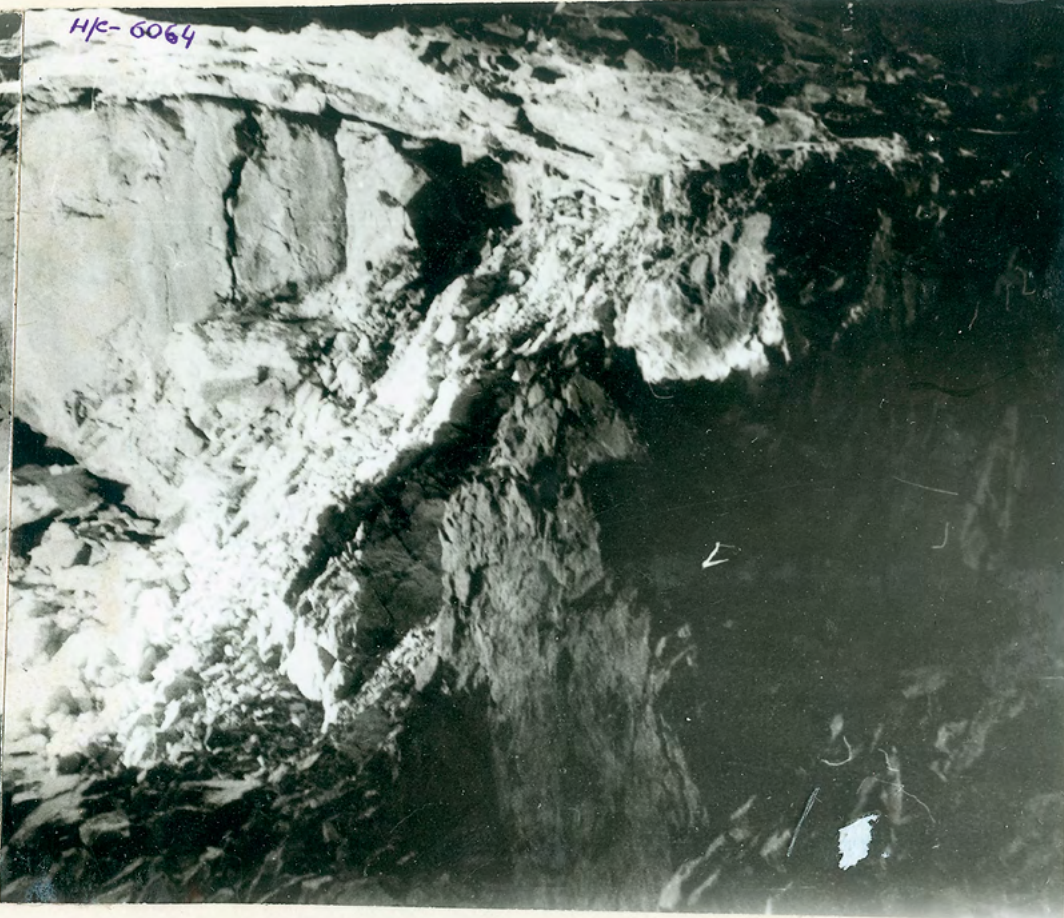


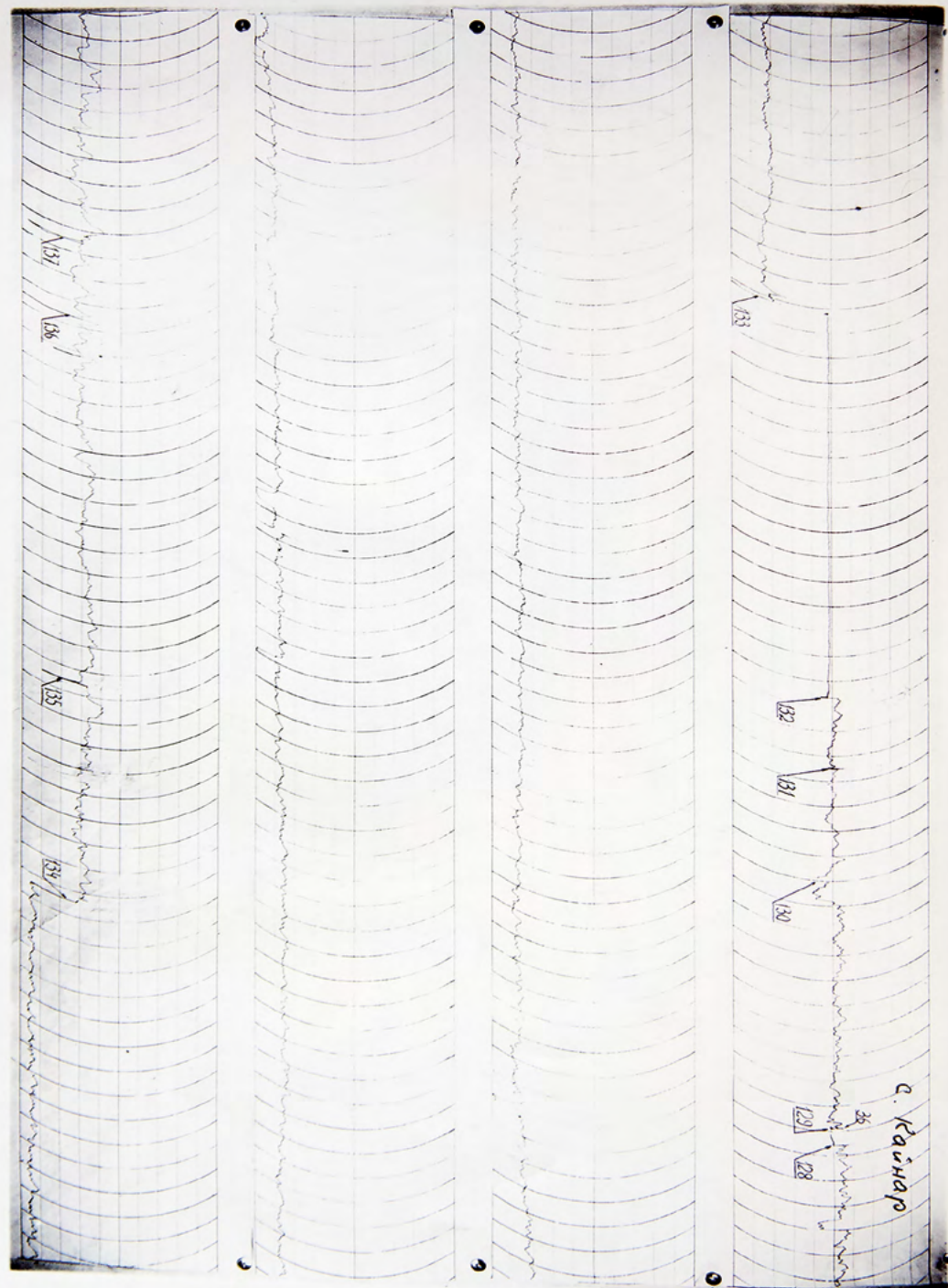
Рис. - 36  
501 м от портала, забой. Штормовая забалка  
(сделана и правая обрешетка).

90.78/к. 26-27

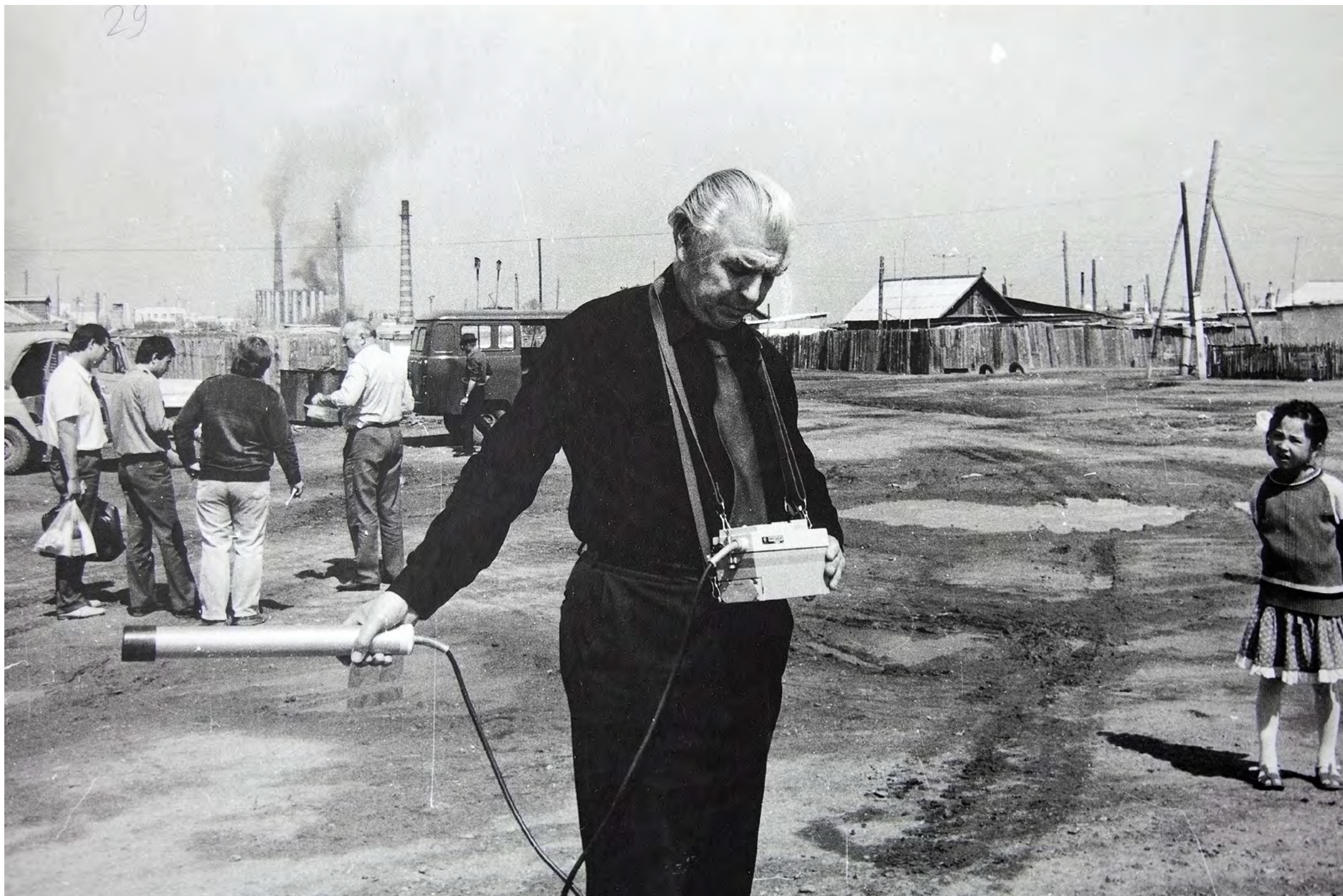




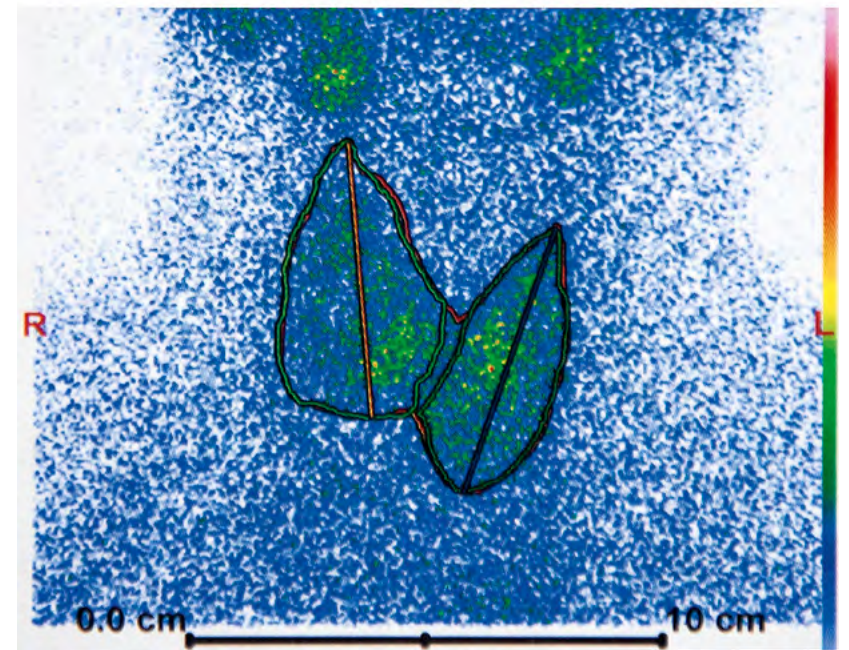














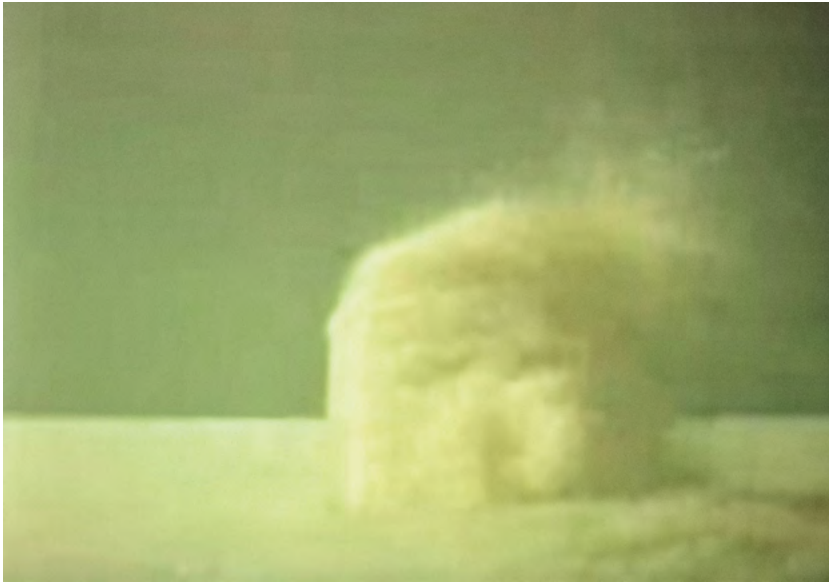










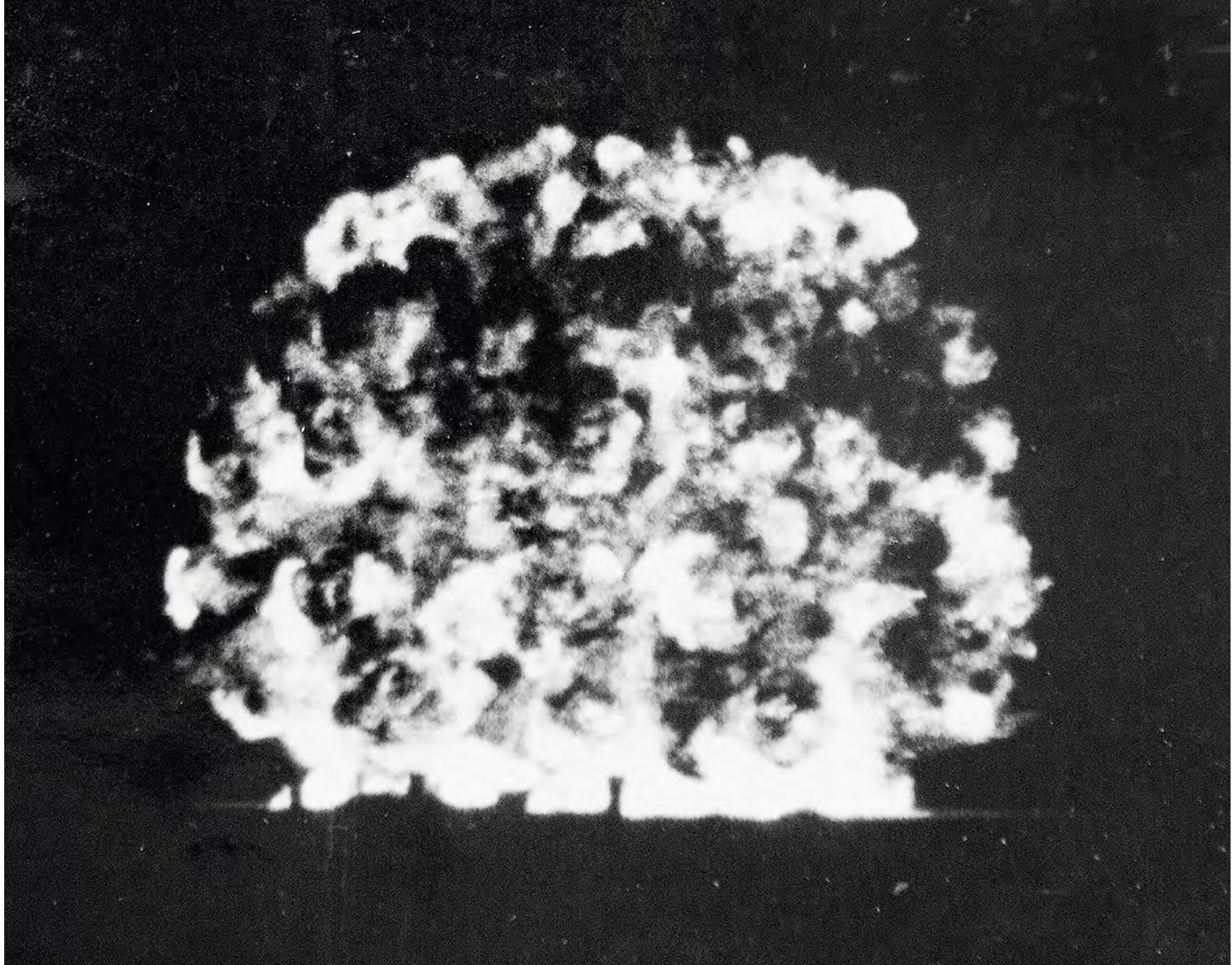




















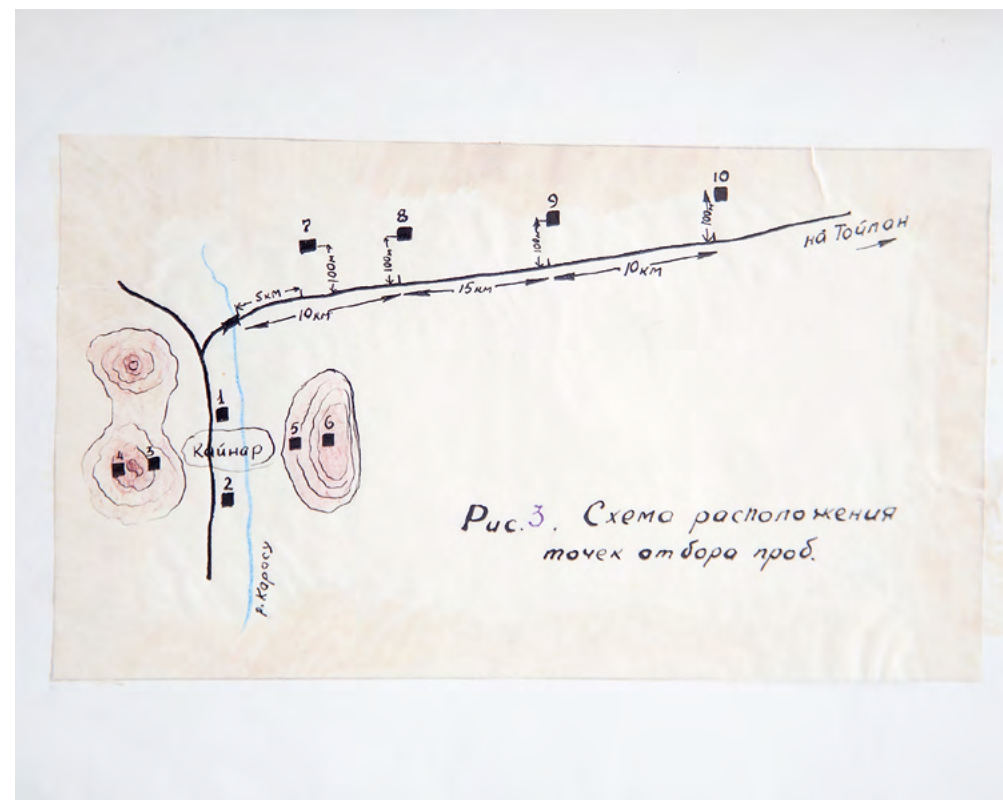






Рис. - 38 485 м от портала.  
(за 1-м углом) начинается увеличение  
сечения (зона дробления?)

Ф. 78/К. 21



Рис. - 39 Дробление породы в правой  
стенке (призабойная зона)

Ф. 78/32





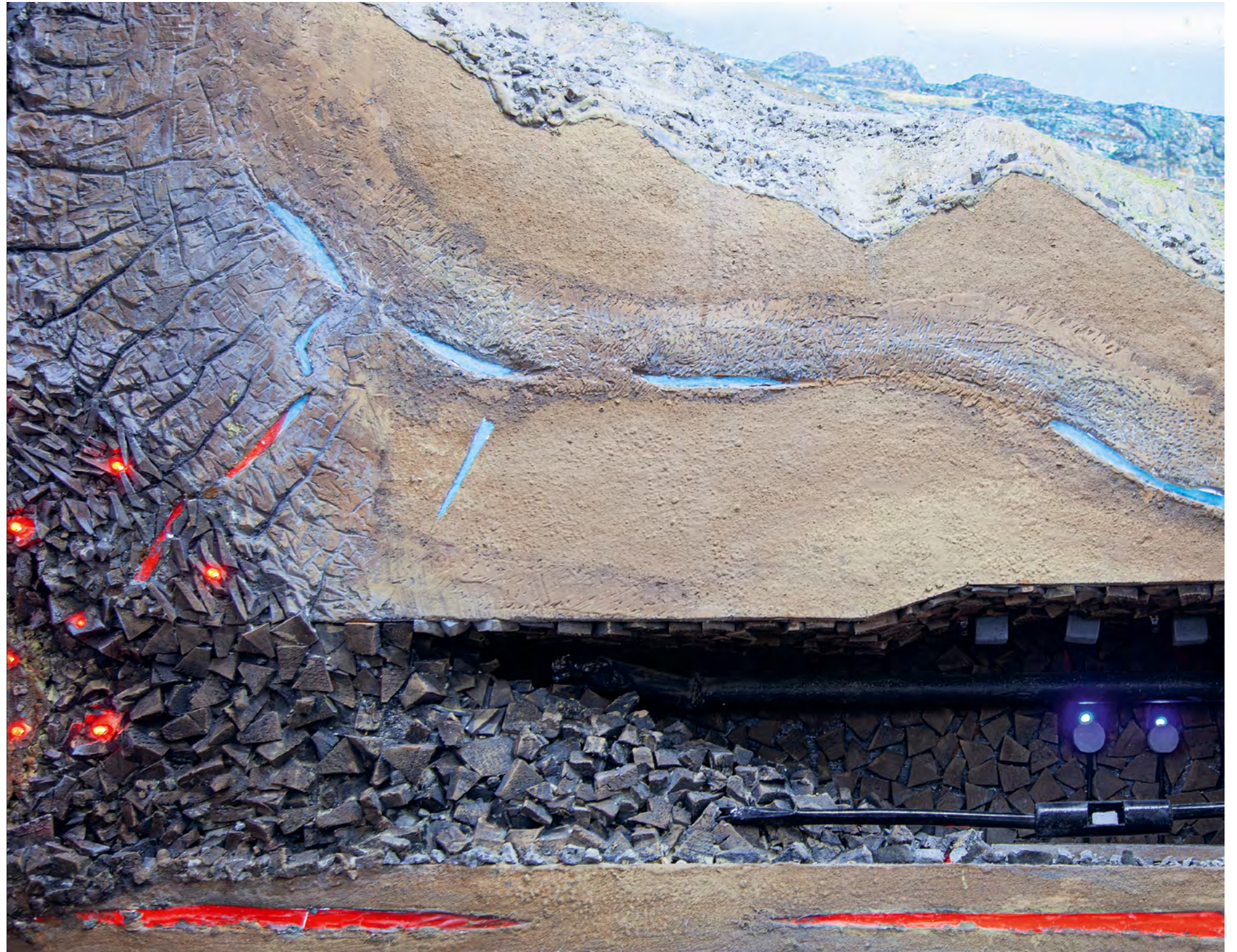








фото: (см. фото 5) одного из пациентов нашей  
клиники.

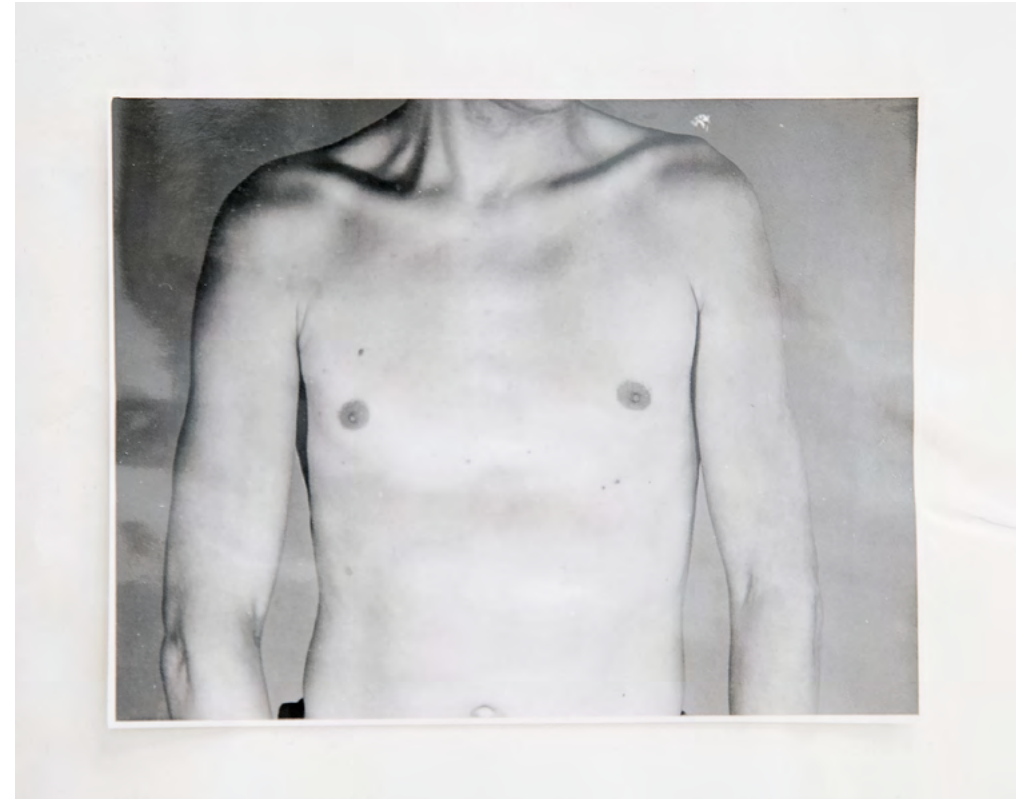


Фото 5. (Гиперкератоз ладоней средней выраженности)





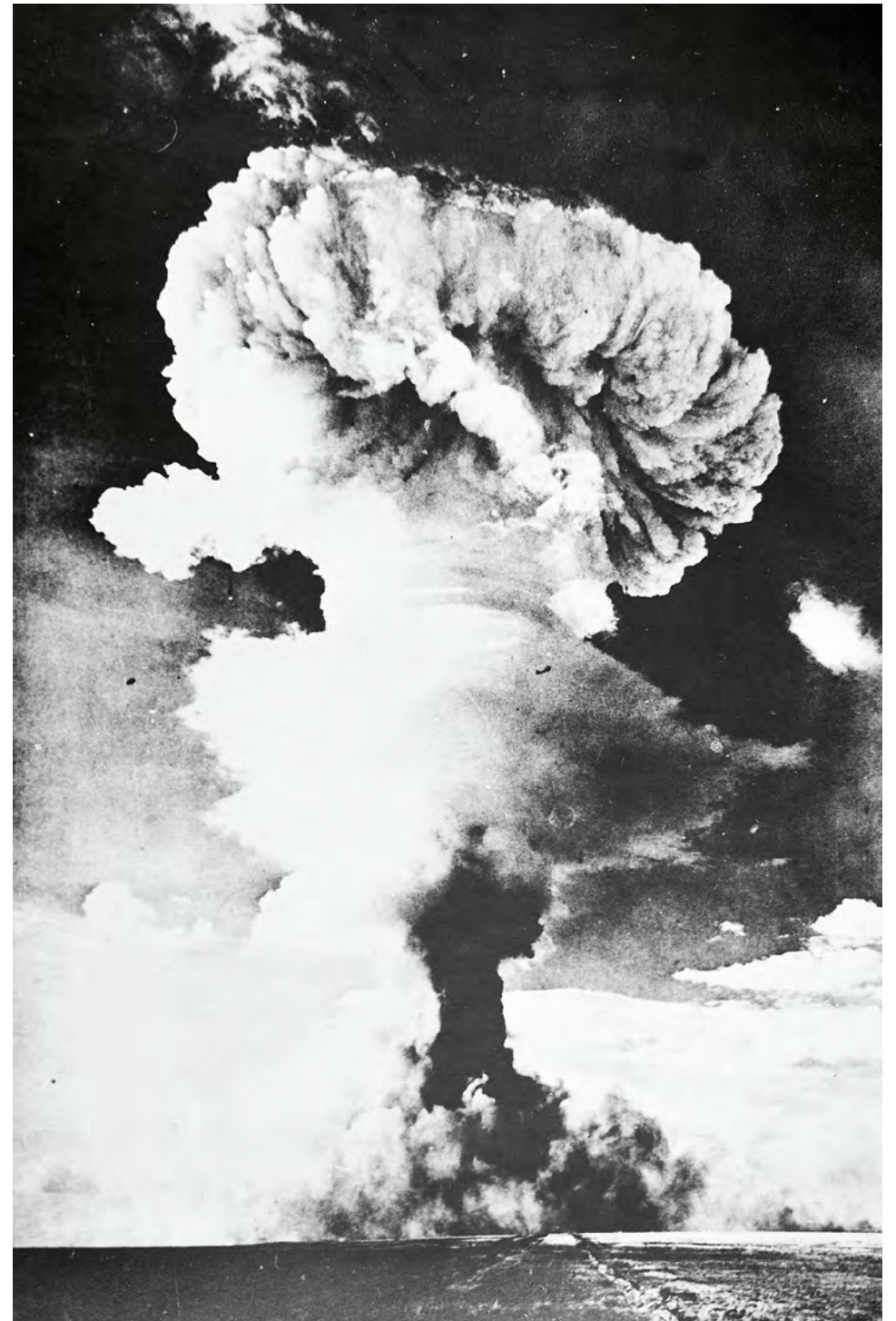














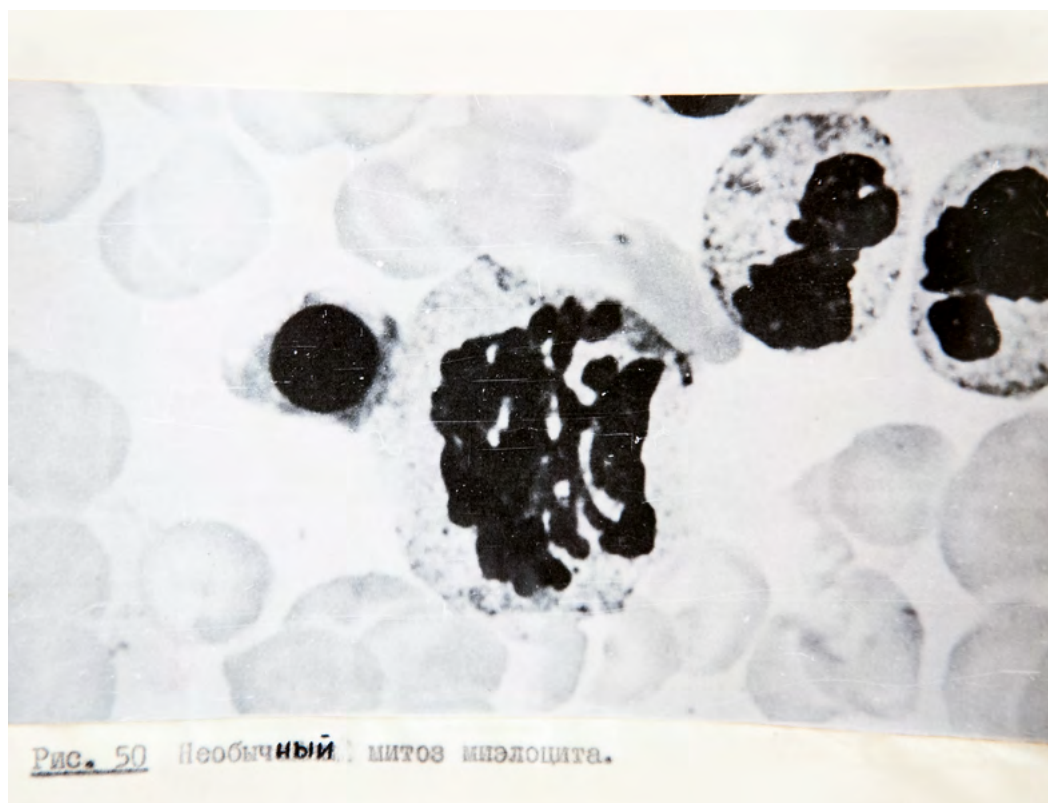


Рис. 50 Необычный митоз миелоцита.











Рис.-20 Северный гребень берега правобережной варенки.  
 ф.оп. сел 70°  
70.80/к.5



Рис.-21 Общий вид экспонированного обнажения в северной части урочища  
 работы ф.оп. сел 10°  
70.80/к.6





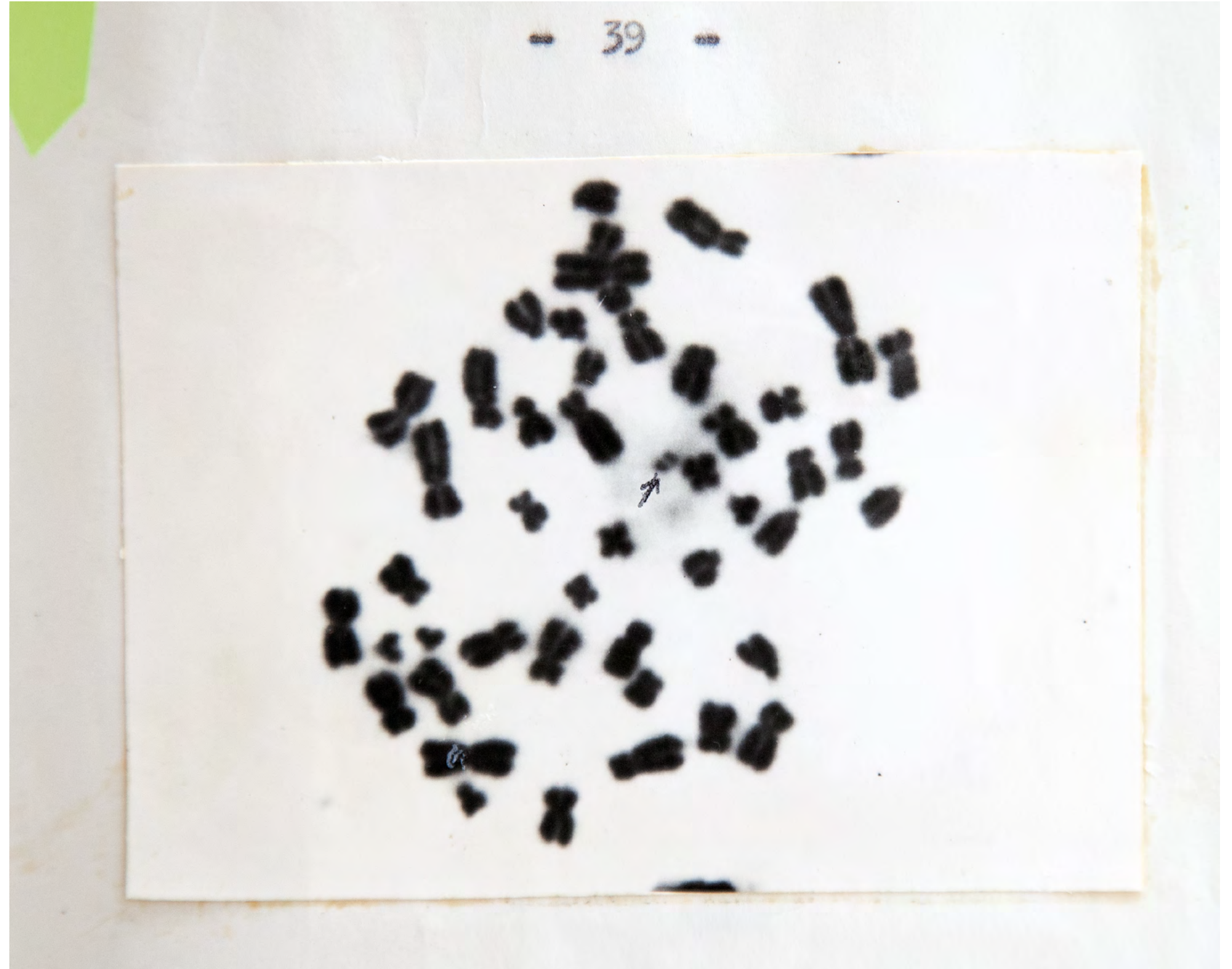
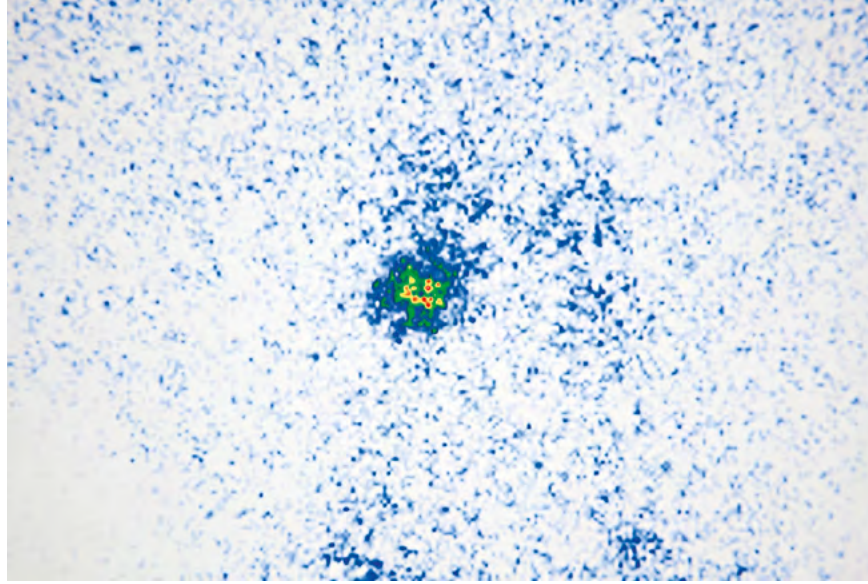
















Glass in hand, I rose, and said something like: "May all our devices  
explode as successfully as today's, but always over test sites  
and never over cities."

[...]

My whole body tensed, and I think I turned pale – normally I blush.  
For a few seconds no one spoke, and then everyone began talking loudly.  
I drank my brandy in silence and didn't open my mouth again for  
the rest of the evening.



Podniosłem kieliszek i wygłosiłem mniej więcej następujące słowa:  
– Proponuję wypić za to, żeby nasze „wyroby” wybuchały z takim samym powodzeniem jak dzisiaj, ale nad poligonami – nigdy zaś nad miastami.

[...]

Za stołem zapadła cisza, jak gdybym powiedział coś nieprzemyślnego. Spiałem się wewnętrznie i, jak mi się zdaje, zbladłem (choć zwykle się rumienię). Przez parę sekund wszyscy w pokoju milczeli, a potem zaczęli nienaturalnie głośno rozmawiać. W milczeniu wypilem swój koniak i do końca wieczoru nie otworzyłem ust.

The Semipalatinsk Test Site, known as “The Polygon,” was one of the most significant nuclear test sites in the Soviet Union. Covering an expanse of 18,000 square kilometers, the Polygon operated as a military installation on the steppes of northeastern Kazakhstan. Semipalatinsk-21, an internal city-complex built by Gulag prisoners on the southern bank of the Irtysh River for the Polygon’s scientists and military personnel, was omitted from maps and assigned the obscure postal code “Moscow-400.” The entrance was screened by two barbed-wire entanglements and three checkpoints.

One factor for locating the test site on the steppes was the region’s low population, which, in theory, would mean fewer human casualties. The first Soviet atomic bomb test was carried out on August 29, 1949. Meteorologists had forecasted southwesterly winds, which would carry the radioactive dust cloud toward uninhabited areas. The radioactive cloud instead drifted southeast, settling over nearby villages. The military remained silent and the local population was kept in the dark about its exposure.

From 1949 until the cessation of nuclear tests in 1989, at least 456 detonations (more according to some sources) were carried out at the Polygon. 340 of those were underground detonations,



in boreholes and tunnels. More than 100 were above-ground atmospheric tests conducted from towers or planes.

In 1963, when the Soviet Union signed the Limited Test Ban Treaty, all detonations were transferred underground, significantly reducing radioactive fallout. Inhabitants of the region, however, as well as their progeny, continued to suffer debilitating and deforming health effects stemming from the first fourteen years of Polygon operations.<sup>1</sup>

Those operations unfolded in strict secrecy. Test results were highly classified, including data about radioactive contamination. In the 1950s, a group of doctors from the Kazakh city of Alma-Ata (now Almaty) began examining the inhabitants of villages in the vicinity of the test site. The team observed that “rates of certain diseases [were] several times higher in the areas exposed to fallout contamination compared with similar but unirradiated control villages.”<sup>2</sup>

When the researchers attempted to publish their findings, they were blocked by officials from the Soviet Ministry of Defense and the KGB. The official line from Moscow was that the observed illnesses were “due to the poor diet, sanitation, and hygienic practices of the villagers.”<sup>3</sup> The report of the Alma-Ata team was suppressed and the researchers were barred from accessing the Polygon.

In August 1956, hundreds of residents of the city of Ust-Kamenogorsk fell ill, requiring sudden hospitalization. But Ust-Kamenogorsk was some 400 kilometers from the Polygon, and so the link to an atmospheric nuclear test and the vomiting, diarrhea, and internal bleeding caused by radiation sickness was easily disguised.

Afterwards, the Soviet military set up a medical clinic whose purpose was to secretly collect data on the damaging

effects of radiation exposure. Patients were treated but their true diagnoses were never revealed to them. The clinic was called Anti-Brucellosis Dispensary No. 4, after a bacterial disease contracted by humans from infected cattle.<sup>4</sup>

\* \* \*

In 1989, Semipalatinsk-21 was renamed Kurchatov, after Igor Kurchatov, the first head of the Soviet atomic bomb program. The Polygon as a whole was officially shut down in August 1991. In the aftermath of the collapse of the Soviet Union, in December of that year, the area was largely abandoned.

In 2014, following a clandestine cleanup process that lasted nearly two decades and involved sealing unguarded radioactive material underground (lest it end up on the nuclear black market), large sections of the former test site became accessible to the public. Some economic activity has since resumed — tourism, for example — but the area’s overall desolation and lack of human activity has drawn wildlife to the territory.

- 
- 1 See: Wudan Yan, “The Nuclear Sins of the Soviet Union Live On in Kazakhstan,” *Nature* (April 3, 2019), [nature.com/articles/d41586-019-01034-8](https://www.nature.com/articles/d41586-019-01034-8).
  - 2 Saim B. Balmukhanov [Chief Radiologist of the Ministry of Health of the former Kazakh SSR], “The Semipalatinsk Nuclear Test Site: Through My Own Eyes,” trans. Elisabeth Bykowsky, United States Defense Threat Reduction Agency (July 2014), [apps.dtic.mil/sti/pdfs/ADA606657.pdf](https://apps.dtic.mil/sti/pdfs/ADA606657.pdf); originally published, in Russian, in the journal *Scope* (1990).
  - 3 Ibid.

- 
- 4 Wudan Yan, op. cit.

Semipałatyński poligon atomowy, zwany też „Poligonem”, był jednym z najważniejszych poligonów jądrowych w Związku Radzieckim. Teren zajęty przez wojsko to osiemnaście tysięcy kilometrów kwadratowych stepu w północno-wschodnim Kazachstanie. Na południowym brzegu Irtyszu więźniowie gułagu zbudowali dla personelu poligonu Semipałatyńsk-21 tajne miasto, niezaznaczone na mapach, przypisano mu tylko kod pocztowy Moskwa-400. Wstępu do miasta strzegły dwa rzędy zasieków z drutu kolczastego i trzy punkty kontrolne.

Poligon zlokalizowano w tym miejscu między innymi ze względu na niewielkie zaludnienie terenu, dzięki czemu miało nie być ofiar w ludziach. Pierwszą próbę atomową przeprowadzono 29 sierpnia 1949 roku. Meteorolodzy prognozowali, że wiatry południowo-zachodnie przeniosą chmurę radioaktywnego pyłu w kierunku niezamieszkałych obszarów. Chmura przemieściła się jednak na południowy wschód, nad zaludnione wioski. Wojsko nie podjęło żadnych działań, a miejscowa ludność jeszcze długo nie dowiedziała się, na co została narażona.

Od 1949 roku do zaprzestania testów prób atomowych w 1989 roku na Poligonie przeprowadzono przynajmniej 456 eksplozji (niektóre źródła mówią o większej liczbie testów). 340 z nich to



testy podziemne, w odwiertach i tunelach, a ponad 100 — naziemne, przeprowadzone z wież i samolotów.

Od 1963 roku, kiedy Związek Radziecki podpisał traktat o ograniczonym zakazie testów, wybuchy przeniesiono pod ziemię, co znacznie zmniejszyło radioaktywny opad. Jednak uważa się, że testy prowadzone przez pierwszych czternaście lat istnienia Poligonu ciągle mają fatalny wpływ na zdrowie mieszkańców i ich potomstwa<sup>1</sup>.

Działania na Poligonie prowadzono w ścisłej tajemnicy, a wyniki badań, także skażenia radioaktywnego, utajniano. W latach pięćdziesiątych grupa lekarzy z Ałma Aty zaczęła prowadzić badania mieszkańców wiosek położonych w okolicach Poligonu. Zespół zauważył, że „wskaźniki niektórych chorób [były] kilka razy wyższe na obszarach narażonych na skażenie opadowe w porównaniu z podobnymi, ale niepoddanymi promieniowaniu wioskami kontrolnymi”<sup>2</sup>.

Ministerstwo Obrony w Moskwie i KGB nie dopuściły do publikacji wyników ich badań.

Według oficjalnego stanowiska Moskwy choroby były „spowodowane złą dietą, warunkami sanitarnymi i higienicznymi praktykami mieszkańców wsi”<sup>3</sup>. Raport zespołu z Ałma Aty został utajniony, a badaczom zakazano wstępu na Poligon.

W sierpniu 1956 roku setki mieszkańców miasta Ust-Kamienogorsk nagle zachorowały i wymagały pilnej hospitalizacji. Ale Ust-Kamienogorsk jest oddalony od Poligonu mniej więcej o czterysta kilometrów, więc łatwo było ukryć związek pomiędzy atmosferycznym testem jądrowym a wymiotami, biegunką i wewnętrznymi krwotokami, które były objawami choroby popromiennej.

- 
- 1 Wudan Yan, *The Nuclear Sins of the Soviet Union Live On in Kazakhstan*, „Nature”, April 3, 2019, nature.com/articles/d41586-019-01034-8.
  - 2 Saim B. Balmukhanov [Chief Radiologist of the Ministry of Health of the former Kazakh SSR], *The Semipalatinsk Nuclear Test Site: Through My Own Eyes*, trans. Elisabeth Bykowsky, United States Defense Threat Reduction Agency, July 2014, apps.dtic.mil/sti/pdfs/ADA606657.pdf.
  - 3 Ibidem.

Po pewnym czasie radzieckie wojsko utworzyło klinikę, której celem było potajemne zbieranie danych o szkodliwym wpływie promieniowania radioaktywnego. Pacjenci byli leczeni, ale nie poznawali prawdziwej diagnozy. Klinika funkcjonowała pod nazwą Poradnia Brucelozy nr 4<sup>4</sup>.

\* \* \*

W 1989 roku Semipałatyńsk-21 przemianowano na Kurczatow, na cześć Igora Kurczatowa — wybitnego fizyka, pierwszego szefa radzieckiego programu atomowego. Semipałatyński poligon atomowy został oficjalnie zamknięty w sierpniu 1991 roku. Po rozpadzie Związku Radzieckiego, który nastąpił w grudniu tego samego roku, miejsce to zostało opuszczone przez wojsko i pozostawione bez nadzoru.

W 2014 roku, po utajnionym procesie oczyszczania — który trwał niemal dwie dekady i polegał na zabezpieczeniu niestrzeżonych materiałów radioaktywnych, by nie trafiły na czarny rynek — otwarto duże części dawnego poligonu atomowego. Wznowiono niektóre gałęzie gospodarki, na przykład turystykę, choć teren ten, najpierw spustoszony przez ludzi, a następnie przez nich porzucony, przejęła już dzika przyroda.

- 
- 4 Bruceloza to choroba odzwierzęca, powodowana przez bakterie z rodzaju *Brucella*, ludzie zarażają się nią zwykle od bydła. Wudan Yan, *The Nuclear Sins of the Soviet Union Live On in Kazakhstan*, op. cit.

## List of works / Spis prac

- |   |  |
|---|--|
| -1-<br>Preparation for nuclear test,<br>frame from an archival film /<br>Przygotowanie do próby jądrowej,<br>kadr z filmu archiwalnego  | -12-<br>Scientific Research Institute<br>for Radiation Medicine and<br>Ecology, Semey /<br>Naukowy Instytut Radiologii<br>i Ekologii, Semej  |
| -2-<br>Medical archive, Scientific<br>Research Institute for Radiation<br>Medicine and Ecology, Semey /<br>Archiwum medyczne, Naukowy<br>Instytut Radiologii i Ekologii,<br>Semej   | -13-<br>Museum of Semipalatinsk Nuclear<br>Test Site, Kurchatov /<br>Muzeum Semipalatyńskiego<br>Poligonu Atomowego, Kurczatow   |
| -3-<br>Semipalatinsk Nuclear Test Site /<br>Semipalatyński poligon atomowy  | -14-<br>Semipalatinsk Nuclear Test Site,<br>private collection, Kurchatov /<br>Semipalatyński poligon atomowy,<br>archiwum prywatne  |
| -4-<br>Semipalatinsk Nuclear Test Site /<br>Semipalatyński poligon atomowy  | -15-<br>Preparation for nuclear test,<br>frame from an archival film /<br>Przygotowanie do próby jądrowej,<br>kadr z filmu archiwalnego  |
| -5-<br>Museum of Regional History<br>collection, Semey /<br>Zbiory Muzeum Regionalnego, Semej   | -16-<br>Preparation for nuclear test,<br>frame from an archival film /<br>Przygotowanie do próby jądrowej,<br>kadr z filmu archiwalnego  |
| -6-<br>Semipalatinsk Nuclear Test Site,<br>private collection, Kurchatov /<br>Semipalatyński poligon atomowy,<br>archiwum prywatne, Kurczatow   | -17-<br>Medical archive, Scientific<br>Research Institute for Radiation<br>Medicine and Ecology, Semey /<br>Archiwum medyczne, Naukowy<br>Instytut Radiologii i Ekologii,<br>Semej   |
| -7-<br>Museum of Regional History<br>collection, Semey /<br>Zbiory Muzeum Regionalnego, Semej   | -18-<br>Archival photograph from research<br>on radiation contamination,<br>Museum of Regional History<br>collection, Semey /<br>Fotografia archiwalna z badań<br>nad skażeniem w obszarze<br>promieniowania, zbiory Muzeum<br>Regionalnego, Semej |
| -8-<br>Medical archive, Scientific<br>Research Institute for Radiation<br>Medicine and Ecology, Semey /<br>Archiwum medyczne, Naukowy<br>Instytut Radiologii i Ekologii,<br>Semej   | -19-<br>Research results, Scientific<br>Research Institute for Radiation<br>Medicine and Ecology, Semey /<br>Wyniki badań, Naukowy Instytut<br>Radiologii i Ekologii, Semej  |
| -9-<br>Registry of citizens affected<br>by radiation, Scientific Research<br>Institute for Radiation Medicine<br>and Ecology, Semey /<br>Rejestr obywateli dotkniętych<br>promieniowaniem, Naukowy Instytut<br>Radiologii i Ekologii, Semej | -20-<br>Clinic for people affected<br>by radiation, Semey /<br>Przychodnia dla osób dotkniętych<br>promieniowaniem, Semej  |
| -10-<br>Semipalatinsk Nuclear Test Site /<br>Semipalatyński poligon atomowy   | -21-<br>Preparation for nuclear test,<br>frame from an archival film /<br>Przygotowanie do próby jądrowej,<br>kadr z filmu archiwalnego  |
| -11-<br>National Nuclear Center,<br>Kurchatov /<br>Narodowe Centrum Badań Jądrowych,<br>Kurczatow   |  |



–22–  
Nuclear explosion, frame from  
an archival film /  
Wybuch jądrowy, kadr z filmu  
archiwalnego

–23–  
Nuclear explosion, frame from  
an archival film /  
Wybuch jądrowy, kadr z filmu  
archiwalnego

–24–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–25–  
Archival photographs, Museum  
of the Semipalatinsk Nuclear  
Test Site, Kurchatov /  
Fotografia archiwalna, Muzeum  
Semipalałyńskiego Poligonu  
Atomowego, Kurczatow

–26–  
Archival photographs, Museum  
of the Semipalatinsk Nuclear  
Test Site, Kurchatov /  
Fotografia archiwalna, Muzeum  
Semipalałyńskiego Poligonu  
Atomowego, Kurczatow

–27–  
Archival photograph, Museum  
of Regional History collection,  
Semey /  
Fotografia archiwalna, zbiory  
Muzeum Regionalnego, Semej

–28–  
Laboratory, National Nuclear  
Center, Kurchatov /  
Laboratorium, Narodowe Centrum  
Badań Jądrowych, Kurczatow

–29–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–30–  
Archival photograph of prepa-  
rations for an underground  
nuclear test, private collection,  
Kurchatov /  
Zdjęcie archiwalne z przygotowań  
do podziemnego testu jądrowego,  
zbiory prywatne, Kurczatow

–31–  
City library, Semey /  
Biblioteka miejska, Semej

–32–  
Detail of scale model of the test  
site, Museum of the Semipalatinsk  
Nuclear Test Site, Kurchatov /  
Fragment makiety poligonu,  
Muzeum Semipalałyńskiego  
Poligonu Atomowego, Kurczatow

–33–  
Model of underground tunnel,  
Museum of Regional History,  
Semey /  
Model tunelu podziemnego, Semej,  
Muzeum Regionalne

–34–  
Nuclear explosion, frame from  
an archival film /  
Wybuch jądrowy, kadr z filmu  
archiwalnego

–35–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–36–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–37–  
Object, Scientific Research  
Institute for Radiation Medicine  
and Ecology, Semey /  
Obiekt, Naukowy Instytut  
Radiologii i Ekologii, Semej

–38–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–39–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–40–  
Archival photograph, Museum  
of Regional History, Semey /  
Fotografia archiwalna, Muzeum  
Regionalne, Semej

–41–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–42–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–43–  
Archival photograph, Museum  
of Regional History collection,  
Semey /  
Fotografia archiwalna, Muzeum  
Regionalne, Semej

–44–  
Archival photograph of the  
results of an underground nuclear  
test, Kurchatov /  
Zdjęcie archiwalne z rezultatów  
podziemnego testu jądrowego,  
zbiory prywatne, Kurczatow

–45–  
Semipalatinsk Nuclear Test Site /  
Semipalałyński poligon atomowy

–46–  
Brick for measuring radiation  
levels in buildings, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Cegła służąca do pomiarów  
promieniowania w budynkach,  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–47–  
Specimen, Museum of the  
Semipalatinsk Nuclear Test Site,  
Kurchatov /  
Preparat, Muzeum Semipala-  
łyńskiego Poligonu Atomowego,  
Kurczatow

–48–  
Laboratory, Museum of the  
Semipalatinsk Nuclear Test Site,  
Kurchatov /  
Laboratorium, Muzeum Semipala-  
łyńskiego Poligonu Atomowego,  
Kurczatow

–49–  
Research results, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Wyniki badań, Naukowy Instytut  
Radiologii i Ekologii, Semej

–50–  
Medical archive, Scientific  
Research Institute for Radiation  
Medicine and Ecology, Semey /  
Archiwum medyczne, Naukowy  
Instytut Radiologii i Ekologii,  
Semej

–51–  
Nuclear explosion, frame from  
an archival film /  
Wybuch jądrowy, kadr z filmu  
archiwalnego

The Last Conversation with Academician Sakharov /  
Ostatnia rozmowa z akademikiem Sacharowem

Agnieszka Rayss

Photographs and text / Zdjęcia i tekst: Agnieszka Rayss  
Selection and sequencing of photographs / Wybór i kolejność zdjęć:  
Sebastian Cichocki

Translation / Tłumaczenia: Stefan Lorenzutti  
& Joanna Osiewicz-Lorenzutti  
Editing and proofreading of Polish texts / Redakcja i korekta tekstów  
polskich: Małgorzata Poźdżik, Joanna Osiewicz-Lorenzutti,  
Małgorzata Kuśnierz

Quotations are from Andrei Sakharov, *Memoirs*,  
trans. Richard Lourie (New York: Knopf, 1990), pp. 160, 164, 194 /  
Źródło cytatów: Andriej Sacharow, *Wspomnienia*, t. 1,  
tłum. Danuta Ulicka, Warszawa 1991

Graphic design / Projekt graficzny:  
Joanna Jopkiewicz (Grupa Projektor)  
Colour proofing and prepress / Przygotowanie do druku:  
Krzysiek Krzysztofiak  
Typeset in / Złożono krojem: King Caslon Display, Monospac821 BT  
Printed on / Wydrukowano na: Sappi Rough  
Printed and bound at / Druk i oprawa: Argraf, Warsaw

Publisher / Wydawca: Sputnik Photos  
www.sputnikphotos.com

First Edition / Wydanie pierwsze  
Print run / Nakład: 350 copies / egz.

Copyright © for the photographs and text by Agnieszka Rayss  
Copyright © for the edition by Sputnik Photos, Warsaw 2022

ISBN: 978-83-956367-5-2

This publication was co-financed by the SWPS University of  
Social Sciences and Humanities and the Polish Ministry  
of Culture and National Heritage /  
Dofinansowano ze środków Uniwersytetu SWPS i stypendium  
Ministra Kultury i Dziedzictwa Narodowego.









The material you will read now may rightfully be called the unique one. This is the last interview of Andrei Dmitriyevich Sakharov. The date of this conversation has been postponed for half a year. Sakharov, the deputy, devoted all his time to the parliamentary work and Sakharov, the philosopher, was searching the roads into the future and perfecting the wordings of the Constitution - which as it is seen now has been his testament to our long-suffering state. But there was also Sakharov, the scientist, and Sakharov, the family man; he was, as the ancients said, the one in many persons - aged by hardships, bent under the enormous burden of a seer. And meanwhile the clock was already measuring off inexorably the last minutes. Sakharov's thought was always aimed into the future. Rejecting it today, turning aside and abusing, the society inevitably comes to it tomorrow. Such is the strength of his mighty intellect, his cautious conscience. Such is the logic of the century, probably rescued by him from the unenviable fate to become the last in a long train of the mankind ages. The editorial staff express their gratitude to the Orient Amalgamation of the Kazakhfilm Studio and to the artistic group of the documentary "The Testing Site" - Oraz Rymzhanov, Anar Kashaganova and Vladimir Kerikh who have declined numerous offers from the Soviet and foreign mass media and granted our newspaper the right to publish Academician Sakharov's interview.

# A MINUTE OF SI AT THE WORLD'

## The last interview of Academician Sakharov

On the small screen of the editing table there was the soundless raging of the world's end.

The dazzling spot all of a sudden was growing excessively into a fiery sphere flooding with the unbearable light the space of the still; black columns, interlacing slowly, were rising up to the heaven where the monstrous head of the atom "mushroom" was wreathing leisurely smoking in the whole clouds; the wave rushed swiftly along the field smashing into smithereens stone buildings, toppling over heavy tanks and aircrafts, uprooting trees...

Together with Oraz Rymzhanov, the director, we were looking through the material of the Film Studio of the Ministry of Defense classified as "for official use". Thousand meters of the film impressed the nuclear weapons tests at the Semipalatinsk site.

Suddenly the film editor came in and said in a cheerful tone: "The radio broadcasted... Sakharov passed away..."

I can't recall a minute in my life more dreadful. I say this with clear understanding that such a phrase can rouse distrust the teller's sincerity, but still...

Overnight I brought Andrei Dmitriyevich to the fourth eighth house in the Chkalov Street. We alighted from the car. It was warm and the snow falling was soft and quite new-year's. I wanted to say at parting something significant, heartfelt, but in my head there only lofty nonsense ran, and as if wound up I was only muttering the words of thanks.

He gave me a smile and stretched out his hand. Close at hand - his eyes without spectacles and the face which lost for a moment the usual expression of maximum concentration and hardly appreciable watchfulness. One moment more, a handshake, and there he is going to the entrance, brightened by the side light of the street lamp in which flashes the snow flakes are somersaulting densely and smoothly. Tall and a little stooping, but young-looking beyond recognition in his jacket and fluffy fur-cap. I follow him with my eyes and can scarcely believe that half an hour ago I had interviewed Sakharov, the Academician.

And all of a sudden - this inconceivable, terrible news. It has struck frustrated, tumbled, the many-toned horror has fallen on and squeezed the throat from which the helpless and meaningless is bursting: "It's impossible!" And then the sensation of cruel and malicious absurdity of life, this unworthy fuss with films, microphones, illuminating devices, importu-

nate pretty intrigues around the man for whom the fate was measuring off the last hours...

If only one could know...

It is easy at the editing table: once you only press the left pedal, the film runs in the opposite direction. And the bomb just fallen out of the B-29 compartment is flying into its place, and the hatch leaves are slamming, and Hiroshima is rising from its ashes.

If only one could as easily return the time.

Our first meeting occurred in summer 1989 at the Congress of People's Deputies...

The camera crew of the documentary "The Testing Site" arrived in Moscow by air having neither address and telephone number, nor any references which could have assist in making acquaintance with Andrei Dmitriyevich. There was only firm belief that we couldn't but addressed to the man whose voice of remonstrance was the first to be raised on the way of the nuclear tests madness...

We were merely lucky. By chance we happened to be at Hotel Moskva, and suddenly we saw Andrei Dmitriyevich. He was standing in the foyer at the bookstall, carefully viewing its windows... We came up hardly managing the emotion, introduced ourselves and explained the essence of our request: "Of course there is something to talk about..." - he answered following some hesitation. At the end of the conversation Andrei Dmitriyevich dictated his home phone number. He could not set the exact time and place of shooting - that was only the third day of the Congress work, the situation was highly strung, the obstruction reigned in the hall and it was impossible to foresee when and how everything would wind up.

A few months later the telephone talk occurred. "As regards the Semipalatinsk site I have something to recall and to tell," Andrei Dmitriyevich said. - But now the session is going on and I'm greatly busy. You can't even imagine how complicated the conditions turn out to be and therefore I would like again to postpone our meeting..."

The interview took place only at the time of the second Congress of People's Deputies, on December 14, 1989 in the apartment of Olzhas Suleimenov at Hotel Moskva.

Instead of the first question I reminded Andrei Dmitriyevich the content of our phone talk and in particular the phrase "there is something to recall and to talk..."

SAKHAROV: I really can recall... I remember much, but do not feel comfortable to speak of everything, therefore my situation is fairly embarrassing... I joined the work on the nuclear weapons, more exactly, I was included into the group dealing with the nuclear weapons in July... no, in June of 1948. I was not asked whether I wish this or not; earlier I had declined these offers for several times willing to be engaged only in pure science, but being incorporated into that group I worked with great effort believing that the problem we were facing was very important for the country, for the mankind, that indispensable was the equilibrium of the two great powers and thereby of the two systems of the world, that exactly this work would ensure the pledge that these weapons would not be applied. We proceeded from the fact that this work practically was the struggle for peace. We worked with great effort, with enormous courage... And with the civic courage because in certain cases we had to withstand some administrative pressure, and we ran risks, both technological and personal... All this took place. With time my attitude changed in many respects, I reappraised many things, but still I don't regret of that starting period of the work in which me and my comrades participated actively.

The first large test I took part in, when coming for the first time to the Semipalatinsk site, was the thermonuclear charge test in August 1953. It was planned as the ground test. We somehow didn't think of it beforehand, that it would produce large, extremely large danger; but when we came to the testing site, we found ourselves facing a very knotty problem.

The point is that in the ground test the so-called radioactive trail is generated. The dust arises from the ground in enormous amounts, is saturated with the uranium nuclear decay products and then these specks of dust fall downwind onto the earth producing zones of very high radiation. Within several days we managed to clear up the scales of this phenomenon. They were very great. The decision was made to remove people from the downwind area... At first this decision was made by a group of scientists, but we pressed for this decision being made by the command of the test, the military and representatives of the Council of Ministers and the Vice-Chairman of the Council of Ministers who was responsible for this test. For them this decision was difficult too. And they made attempts to shift off the responsibility to us, but we persisted and certainly were right. The evacuation was performed, but nevertheless the consequences of this test still continue to show themselves.

Then there was one test more where I also was present. Two years later, in November 1955, but that was the test at a large height and therefore such local effects were not exhibited. But nevertheless a shock wave was generated and that shock wave caused both great destructions and casualties...

That was the psychological background against which I began to reappraise many aspects of my attitudes, and the first thing against which I determined to struggle were the tests in the atmosphere, in the Outer Space and under water. But originally that was worded as ban on the tests in general.

In 1958 Khrushchev made a decision dealing with the unilateral renunciation by the Soviet Union of nuclear tests... That was in March of the fifty eighth when he took up the post of the Chairman of the Council of Ministers. But later on he reconsidered his decision and in autumn a new series of tests was scheduled. In my opinion, that was absolutely inadmissible - such a dashing aside! - and I went to Kurchatov. Kurchatov received me in his small house, where he lived, near the Institute. That time he was already in a very poor health, but went on working at home. He agreed with me, agreed with the fact that nuclear tests lead to great casualties... And that we had not to violate our moratorium half a year after it was announced by us...

He went to Yalta where Khrushchev was resting. But Khrushchev drove him away... Kurchatov's suggestions were not accepted and tests went on. And there was a whole series of tests... But later on the actual moratorium on the nuclear tests carried out by a number of states was proclaimed. Of course not by all the powers, but by the major ones. This lasted up to 1961. But in 1961, in the period of a new aggravation of the international tension, Khrushchev came to a decision to resume nuclear tests. I have already told of the dialogue which appeared between me and Khrushchev. In the meeting when he announced the tests resumption, I wrote him a note that this would complicate the international situation and would not be of benefit both for the USSR and the whole world. But Khrushchev said that in reality there exists only one policy, the position of strength policy... And...

"I would have been a ditherer, if I listened to such as Sakharov. As a result the nuclear charges, which had already been prepared for the period of the moratorium, as well as those we had made quickly (I also displayed great energy) were tested. In my opinion, this series of tests required the maximum to be still the last one. But again I was sadly mistaken. The next series we conducted in the Soviet Union in 1962. In 1963 we, however, managed to conclude an agreement on the nuclear tests ban in three spheres. That was the so-called Moscow Treaty. I am very proud that I have been an initiator of this Treaty conclusion.

That is what we have now. On the ground, in the Outer Space and under water the tests are banned, but underground tests have been ignored in that Treaty. And nevertheless that was a very important step ahead. But there was left a possibility to work out new types of nuclear weapons by means of underground tests. For all that in reality the radioactive contamination of the atmosphere has vanished completely, that is we stopped paying thousands and dozen thousands of human lives we were paying for nuclear tests.

What situation is being now? What do we need the nuclear tests for? And who needs them?

Here, the most interesting may be the report prepared on a commission from President Reagan and submitted to the US Congress on behalf of him. In that report the following:

ments were given in defence of tests continuation. To begin with, the nuclear tests were required to prove us the fighting efficiency of the nuclear charges kept at warehouses. Secondly, the nuclear tests were needed to provide the possibility to continue developing new types of nuclear charges aimed at raising their toxicity. Third, the nuclear tests were required to go on with the work on fundamentally new designs... this was necessary to prevent unpleasant surprises on the part of the Russians. And the USA were to go this way just because the Russians worked in this direction and the Americans couldn't lag behind them.





# LENCE S END

But the Soviet side can be pressed also by the same reasoning. And the following vicious circle appears. We don't discontinue nuclear tests because we are afraid of lagging behind the Americans. The Americans don't stop because they fear to be behind us. In the beginning I'll answer the first two American arguments (though they are ours at the same time). Their point comes to the fact that until the nuclear weapons exist, these are to be in full position of readiness. But this can be checked only by means of nuclear tests. This is the false reasoning at the last point. We can verify all the conditions related to the nuclear weapons storage without actual nuclear blast, by making all the systems function excepting this last moment - the step of the nuclear blast. There are methods of control which provide for the possibility to do this. The last step of the nuclear blast, if we replace the nuclear fuel by any passive substance, doesn't require testing. We test everything with the exception of the nuclear explosion. But the nuclear explosion will occur inevitably if we replace the passive substance by plutonium and uranium-actinium. This control is absolutely reliable. And we can accomplish it under the conditions maximally approaching the combat ones. And we can be absolutely sure that in case of need everything will operate trouble-free.

What are the nuclear tests required for actually? To develop fundamentally new designs. Such as can be needed for the SDI program or for any new methods of the nuclear weapons use. But if we accept the viewpoint that the nuclear weapons are required to prevent the war, still these new systems are not needed for this. And it is sufficient to be confident that neither of the parties commit a new technological spurt, a new breakthrough. Therefore the cessation of nuclear tests would have solved this problem in general.

Exactly for this reason I am in strong belief that the Soviet Union can begin the unilateral moratorium on nuclear tests. In contrast to the moratorium we began in 1985 and after some time were forced to suspend and break off at any rate. The situation is different in many aspects. First, this is the result of the active policy of the Soviet Union which differs fundamentally from the international policy being pursued in the past. Under these conditions the public opinion will support the Soviet initiative. Nobody will consider the tests stopping as a purely propaganda play carried out for the purpose of getting unilateral political advantages. In such a way our tests discontinuations were appraised in 1985.

Of course I think that we at once must announce the long-term tests cessation. I think that our country may run the political risks for the sake of a very significant aim. It may declare the permanent stopping of nuclear tests which will be resumed only under a drastic change of the world's political situation. This is the first thing. And the second: I think that our step should be amplified by large unilateral decisions concerning the conventional armaments reduction. I believe that under the existing international situation we can begin this. We have the largest army which outnumbers the armed forces of all the other countries. The political situation in the world is such that we can be confident that nobody is going to attack us. And under these circumstances the unilateral reduction of conventional armaments is also the fairly acceptable tactics of our state. We can be firmly convinced that our action will make politically necessary for the Western countries to retaliatory steps. And the consequences will be of tremendous character. Exactly on this way it will be possible to achieve the complete rejection of nuclear weapons.

QUESTION: Andrei Dmitriyevich, what, in your opinion, is the role in this process of the phenomenon which in the recent time is being called popular diplomacy? The anti-nuclear movement "Nevada - Semipalatinsk", which sprang up in Kazakhstan, embodies a pure example of popular diplomacy. It has its peculiarities. The logic of popular diplomacy is straightforward enough - there is a target and this target must be achieved immediately... People demand to shut down the site and to stop the nuclear tests immediately...

SAKHAROV: In my opinion, popular diplomacy has, as you've said, the peculiar feature that it is characterized by a very precise program. It does not envisage manoeuvring characteristic of the state diplomacy. We must be ready to undertake large steps so that the world began to move to peace. I believe that popular diplomacy is a new political phenomenon which has become possible owing to the processes of perestroika in our country. Previously that was the pseudo-popular diplomacy. Eventually it was inspired and didn't gain confidence of the world's public. Now perfectly new situation has come into reality when popular diplomacy has become an actual political force.

QUESTION: Being engaged in the history of the testing site, frequently going to the Semipalatinsk region, we met with people who affirm that in the course of the tests in the fifties after the mobilising arrangements they were left in the dangerous zones intentionally. These people experienced the destructing effects and then underwent medical supervision. This matter certainly requires additional elucidations and a special journalist investigation will be carried out. Do you admit that it has been possible? In view of the fact that it was going at the time of Lavrenty Beria...

SAKHAROV: I don't know anything about it. I am aware of the evacuation which has been carried out. In some locations the return of the population was delayed for more than half a year, up to the spring of 1954. And according to the current criteria it was accomplished too early. I mean, in particular, the settlement of Kara-sul. But I never heard that people were left.

There another terrible thing happened. The shock wave went along the ravine and got out into the village, and when the burst occurred, people including children rushed to windows. And there were many cases of children's eyes damage by glass splinters. Perhaps there were even losses of sight.

QUESTION: In what year did it take place?

SAKHAROV: In 1954... That occurred in Totalskoye... Yes, that, to my mind, was the name of the settlement where the test was administered, the service test with the troops participation. A usual nuclear charge was blasted. But in 1955 there were fatal cases. A soldier was killed. And there's in a village, where a bomb shelter was located, quite far from the site of explosion, the population was in that bomb shelter. But when the burst occurred, they all left the bomb shelter except a two-year girl who stayed playing with bricks. And she was buried and died. That was the case which occurred on the 25th of November, 1955. Then in the house for the aged the ceiling fell down, and several women were severely wounded. Up to the backbone fracture. And a soldier was buried in the trench. He died.

QUESTION: Andrei Dmitriyevich, there are two attitudes as regards the underground tests: first - they are perfectly safe, and second - they still are not harmless...

SAKHAROV: I think, if they are performed observing all the precautions, they can be harmless. Anyhow, when I felt this secret work, we had the firm opinion that these were harmless.

QUESTION: And nowadays?

SAKHAROV: Now I don't know. I am unaware of the situation for today. There's twenty one year I have no admittance to the classified information. I believe it is safe if the blasts take place at a sufficiently large depth. I think so. There were outbursts to the surface of course, but in comparison with the nuclear blasts at the surface that was quite different scale. Tremendous times less.

QUESTION: People who live at the boundaries of the testing site experience its effect. Both seismic and psychological... All this engenders certain discomfort, feeling of uncertainty, fear...

SAKHAROV: Yes, the psychological stress is high. Even the vicinity of atomic power plants is a great psychological stress. This is a real factor - psychogenic.

QUESTION: Andrei Dmitriyevich, recently the Film Studio of the Ministry of Defense gave us the material classified up to the present time. We looked through a great number of nuclear blasts impressed on the film. A mixed emotion arises: the admiration of the human intelligence power which let out such enormous energy, and the horror of its destination. You saw those explosions with your own eyes... Can you recall the emotions which have seized you then?

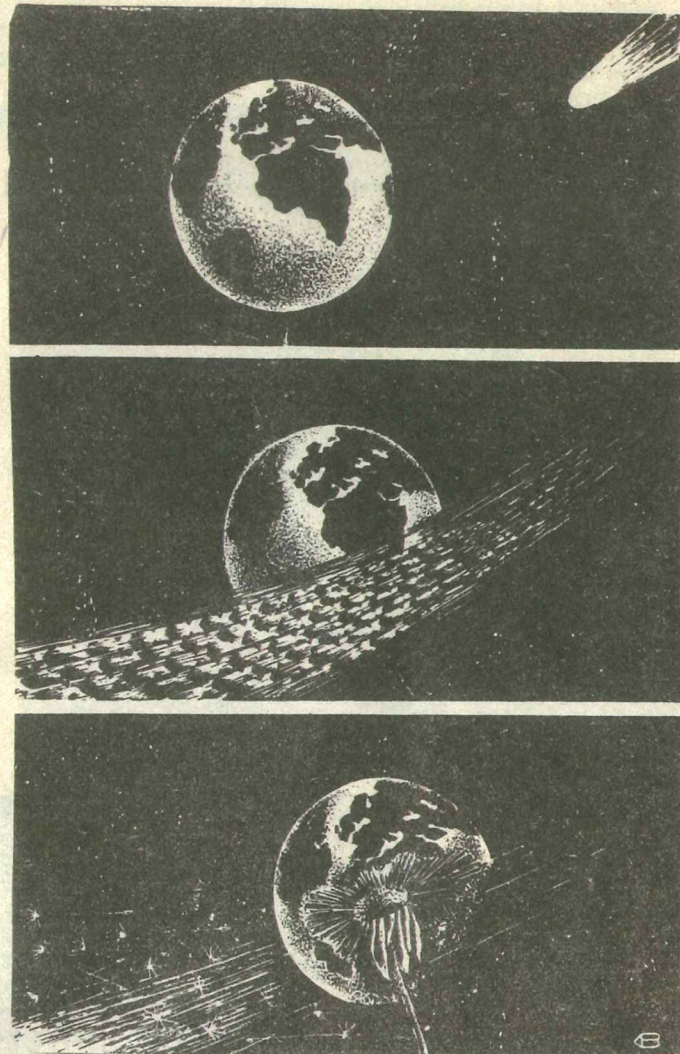
SAKHAROV: Well, at the beginning we were very proud that the planned was implemented... On the 22nd of November we were hugging one another...

We were standing on a platform, at a distance of 70 kilometers from the point of the blast. When the explosion burst, our faces felt a wave of heat... then we saw as along the ridge a shock wave was approaching us, bending down feather-grass stems sticking out over very thin snow cover. We all jumped down the platform so that not to be thrown away. Everybody, except my secretary who... Secretary is a body-guard in reality. He felt shy to jump and was thrown down. He was hurt rather heavily... and then we began hugging one another, and the cries "There it is! There it is!" resounded. "Everything turned out well!" In the first instance there was the feeling of triumph, later on we had other emotions when we learnt that there were victims and realized all the consequences of the happened.

QUESTION: Andrei Dmitriyevich, science and, in particular, nuclear physics, has been developing rapidly just in the twentieth century. And there's no secret that science development in many respects determined also the political processes of our age. How could it happen that science and policy turned out to be interlaced so closely and dreadfully?

SAKHAROV: I think that the twentieth century is really the age of science. In all the spheres great breakthroughs took place which had enormous consequences in the human community life. But due to the fact that this happened in a very crucial period of the human history, the consequences were ambiguous. The two main dangers threatening the life on the Earth - universal annihilation in the course of thermonuclear war and annihilation because of ecological consequences - are associated with the science and technology progress. But I believe that on the whole progress is the development necessary in the mankind life. It creates new problems, but nevertheless it also solves them. And the mankind is unable to live beyond the progress. It is the form of existence. I hope that the mankind will cope with this critical period of the human history.

This is a certain examination the mankind takes. The examination for the ability to survive.



Drawing by Valentin Druzhinin, Ukraine

These words completed the interview.

Some seconds more the camera went on chirring, the illuminators looked waitingly at Oleg Rymzhanov, the magnetophone bobbin rotated recording the absolute silence and nobody could disturb it by usual cheerfully business-like: "Stop! Shot, thanks to everybody!"

And then everything lumped together, came into motion, was filled with noise and fuss.

Andrei Dmitriyevich was not in a hurry to go away, quietly, without changing his posture, he sat in the armchair and observed what was going on, with slight irony as it seemed.

We had our photo taken in memory of that evening.

Looking at film producer Moldagali Omarov who was rubbing his arm which became numb due to holding the illuminating device for an hour, Sakharov cited with sympathy: "To give the light - and that's that..." Oleg Sulaimenov immediately caught up and ended the line. The talk switched over to Mayakovskiy. "Virtually, he was a tragic figure, probably the most tragic in the Soviet literature... - Andrei Dmitriyevich said, and suddenly, gently smiling, he addressed to Oleg: "Here, I'd dare to present this for your judgement..." - and he recited:

On monolithic face of the majestic power,  
Which smoothly moves ahead at even pace  
By steep and glorious way of proud soundness,  
The imperceptible Shcherbinky-splints are placed...

"Here the whole point is in the last line, even in one word, - Andrei Dmitriyevich explained. - The borough in Gorky, where me and my wife lived in exile, was called Shcherbinky..."

The moment of bidding farewell came. A bit of cognac was poured out into different-sorted hotel glasses. "To my regret, I can't drink with you, - Andrei Dmitriyevich said, - But I would like to say some words..." He was silent for a while, collecting his thoughts, and said: "Here is to tomorrow... For tomorrow the voting as regards the sixth article is appointed. To tomorrow!"

In the silence ensued the overheated lamps were buzzing slightly. There arose the desire to think of the future - to think and to believe.

We said good-bye heartily. In two hours Andrei Dmitriyevich passed away.

annihilation [əˈnaɪəlɪʃən] уничтожение

exile [ˈɛɪl] ссылка



# photobooks.pl

portal polskich fotoksiążek

Autorka: **Agnieszka Rayss**  
Tytuł: ***Ostatnia rozmowa z Akademikiem Sacharowem***

Projekt realizowany przez Fundację unContemporary – [uncontemporary.pl](https://uncontemporary.pl)

Od grudnia 2024 publikacja dostępna na licencji **CC BY-NC-ND 4.0**  
(Uznanie autorstwa-Użycie niekomercyjne-Bez utworów zależnych 4.0,  
<https://creativecommons.org/licenses/by-nc-nd/4.0/deed.pl>)

Wolno ci:

**Dzielenie się** — kopiuj i rozpowszechniaj utwór w dowolnym medium i formie

Na następujących warunkach:

**Uznanie autorstwa** — Utwór należy odpowiednio oznaczyć, podać link do licencji i wskazać jeśli zostały dokonane w nim zmiany. Możesz to zrobić w dowolny, rozsądny sposób, o ile nie sugeruje to udzielania przez licencjodawcę poparcia dla Ciebie lub sposobu, w jaki wykorzystujesz ten utwór.

**Użycie niekomercyjne** — Nie należy wykorzystywać utworu do celów komercyjnych

**Bez utworów zależnych** — Remiksując, przetwarzając lub tworząc na podstawie utworu, nie wolno rozpowszechniać zmodyfikowanych treści.

# photobooks.pl

portal of polish photobooks

Author: **Agnieszka Rayss**  
Title: ***The Last Conversation with Akademician Sakharov***  
[original: *Ostatnia rozmowa z Akademikiem Sacharowem*]

Project implemented by unContemporary Foundation - [uncontemporary.pl](https://uncontemporary.pl)

From December 2024 publication available under **CC BY-NC-ND 4.0 license**,  
(Attribution-NonCommercial-NoDerivatives 4.0,  
<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

You are free to:

**Share** — copy and redistribute the material in any medium or format

Under the following terms:

**Attribution** — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

**NonCommercial** — You may not use the material for commercial purposes.

**NoDerivatives** — If you remix, transform, or build upon the material, you may not distribute the modified material.



Rzeczpospolita  
Polska

Sfinansowane przez  
Unię Europejską  
NextGenerationEU

