

1986
nuclear power plant
04

one twenty three and forty eight second anti

Paul Fusco
Magdalena Carls

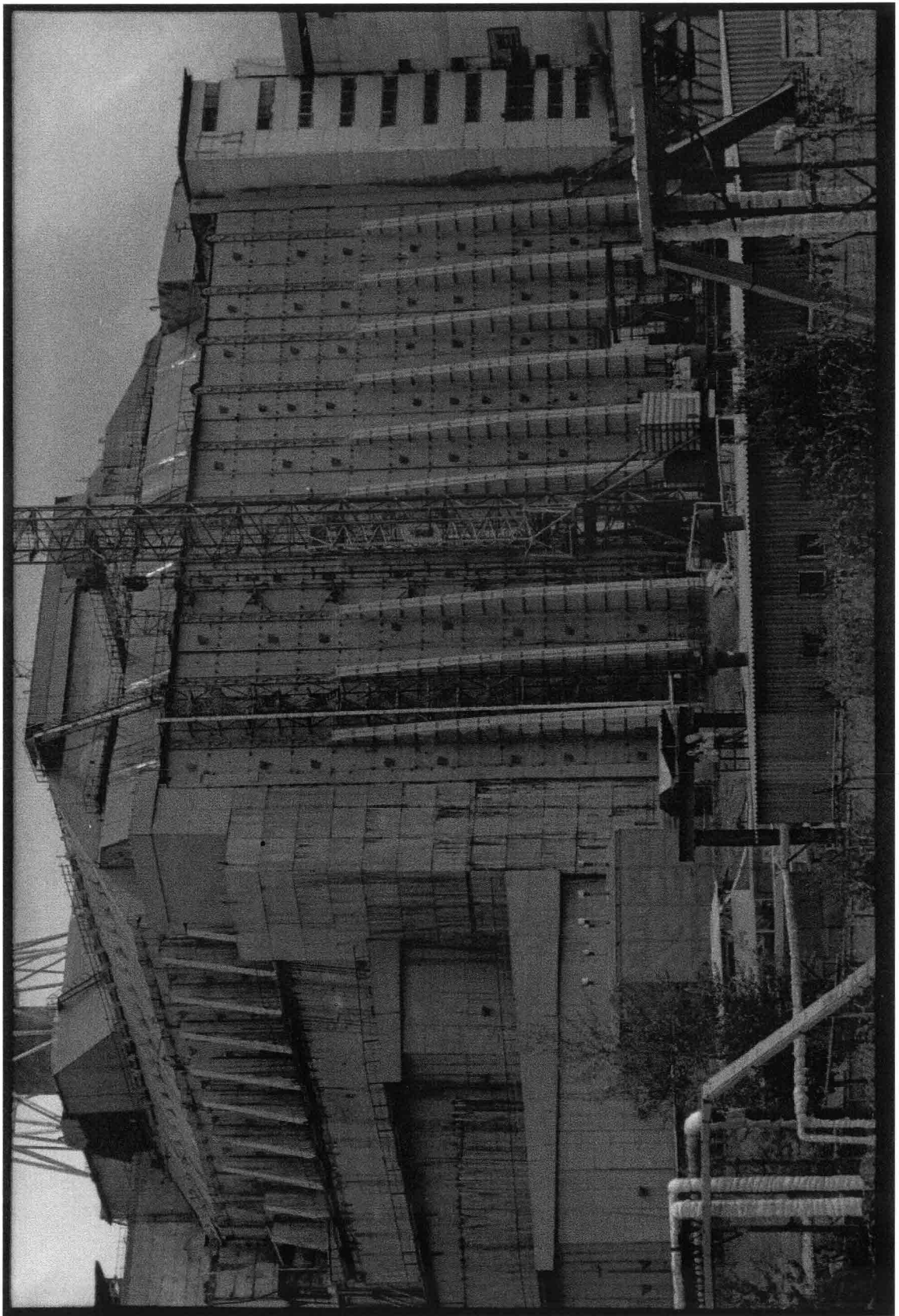
Chernobyl
the Legacy of a Catastrophe

A de MO Project









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Paul Fusco Magdalena Caris Chernobyl the Legacy of a Catastrophe

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30%
Cesium 137 released

to consider, because they are responsible for direct or indirect effects of the radiation exposure received by the general population. The territory of Belarus was heavily contaminated by cesium-137 and cesium-134, the most important radionuclides

being defined, due to the diversity of pathological effects, appearing as a result of the radioactive agents influence, their concentration in the life of one or several generations, their destination or complications to already existing diseases.

Release

inventory in P Bq

half-life

radionuclide

H	12.3 y	1.1
¹⁴ C	5730 y	0.1
³⁶ Kr	10.72 y	28
⁸⁵ Kr	30.5 d	1960
⁸⁶ Kr	30.12 d	210
⁹⁵ Zr	64 d	880
⁹⁵ Nb	35 d	5600
⁹⁹ Mo	27.5 d	610
¹⁰³ Ru	39.2 d	1770
¹⁰⁶ Ru	368 d	800
^{110m} Ag	250 d	1.1
¹²⁵ Sb	277 y	15
¹²⁹ I	316 d	1040
¹³² I	3.26 d	4200
¹³¹ I	8.04 d	0.000081
¹³² Xe	23 h	1200
¹³³ Xe	20.8 h	4200
¹³⁴ Xe	52.6 min	4800
¹³⁴ Cs	66 h	2380
¹³⁷ Cs	30 y	2900
¹³⁸ Cs	32.2 min	
¹⁴⁰ Pb	12.7 d	6550
¹⁴⁰ La	40.3 h	6070
¹⁴¹ Ce	32.5 d	5580
¹⁴⁴ Ce	284 d	1620
¹⁴⁷ Nd	11.3 d	2160
¹⁵⁴ Eu	8.6 y	14
¹⁵⁵ Eu	791.000000 y	0.000006
¹⁵⁶ Eu	23.400000 y	0.0085
¹⁵⁸ Eu	4.470000000 y	0.0023
¹⁵⁹ Eu	2.1400000 y	0.00026
¹⁶⁰ Eu	2.36 d	58100
¹⁶⁰ Gd	2.86 y	0.0001
¹⁶¹ Gd	87.74 y	0.93
¹⁶² Gd	24.065 y	0.96
¹⁶³ Gd	6.57 y	15
¹⁶⁴ Gd	14.4 y	700
¹⁶⁴ Pu	376.0000 y	0.0021
²⁴¹ Am	432 y	0.14
²⁴¹ Am	7.80 y	0.0056
²⁴² Cm	163 d	31
²⁴⁴ Cm	18.1 y	0.18

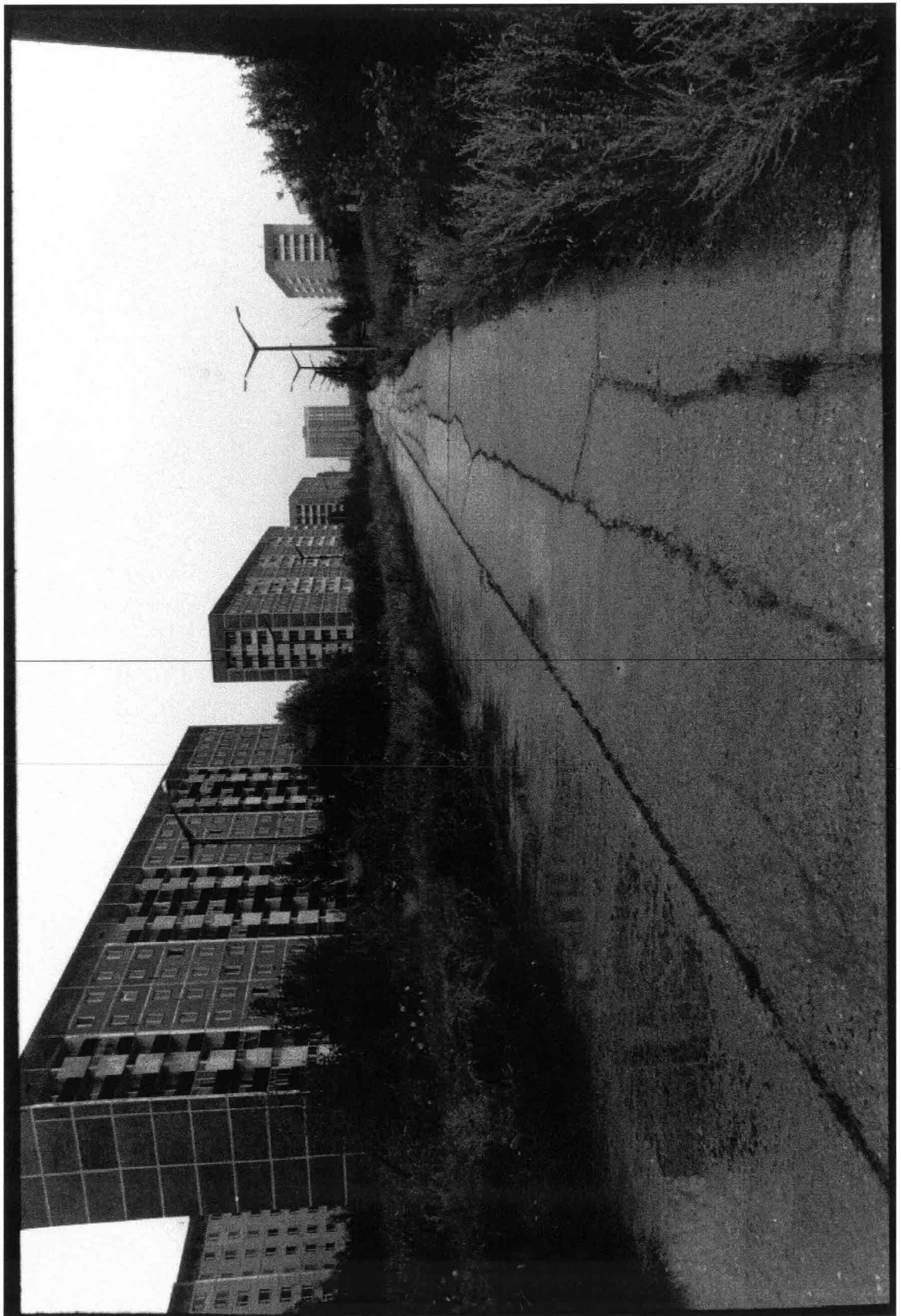
85 P Bq released in the accident

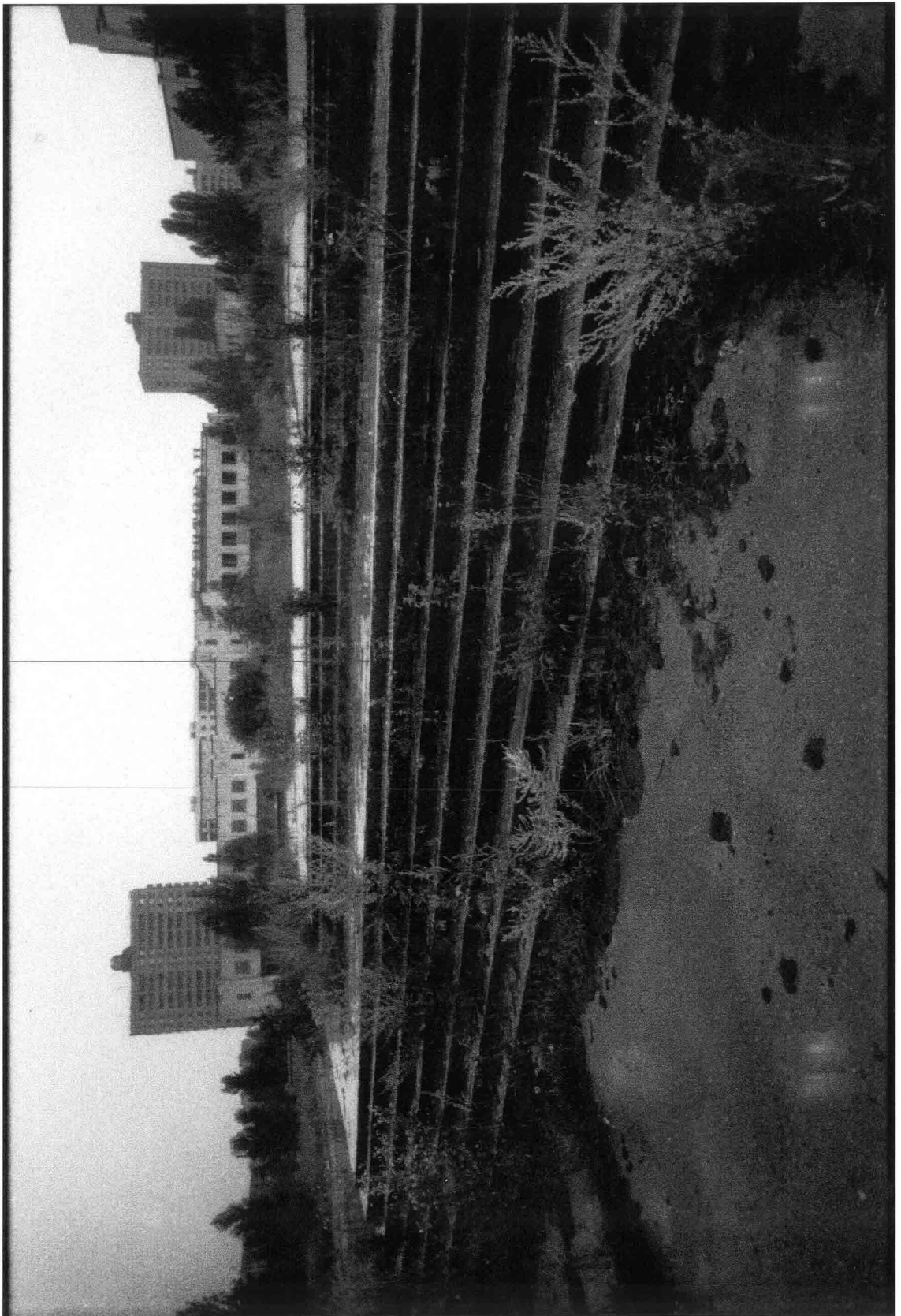
April 25 1986
beginning of the experiment

01.06

On this day reactor 4 was planned to be shut down for repair work. While the unit was shut down, tests tests were to be carried out bypassing the reactor safety systems, the equipment in the nuclear power station was to be fully de-energized, with electricity being generated by the kinetic energy of the turbine's rotor blades. What was the point of such experiment? If all power is cut off to the equipment in a nuclear power station, as can happen in normal operations, all machinery stops, including the pumps that feed cooling water through the reactor core. The resulting meltdown of the core is a nuclear accident of the outmost gravity. As electricity must be generated in such circumstances, the experiment using the residual inert force of the turbine is an attempt to provide a solution. In this experiment the two standby generators that would supply power to the station in such circumstances were shut down.

At this time the power reduction in preparation for the tests and the planned shutdown of Unit 4 was started.







Ivan Shaure, firefighter, responded with the first brigade

after 40-50 minutes of fighting the fire from the roof.

I felt sick and fell unconscious. I woke up in a Hospital in Moscow.

My men and the personnel of the power station on the night of the accident were rescued.

The radiation sickness was severe.

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Liquidators

Acute Radiation Sickness

degrees of ARS

dose (Gy)

Mild	0.8 - 2.1
Moderate	2.2 - 4.1
Severe	4.2 - 6.4
Very severe	6.5 - 16
Total	0.8 - 16

patient treated

41
50
312
21
134

deaths

0
1
7
20
28

survivors

41
49
15
1
106

600,000

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

liquidators

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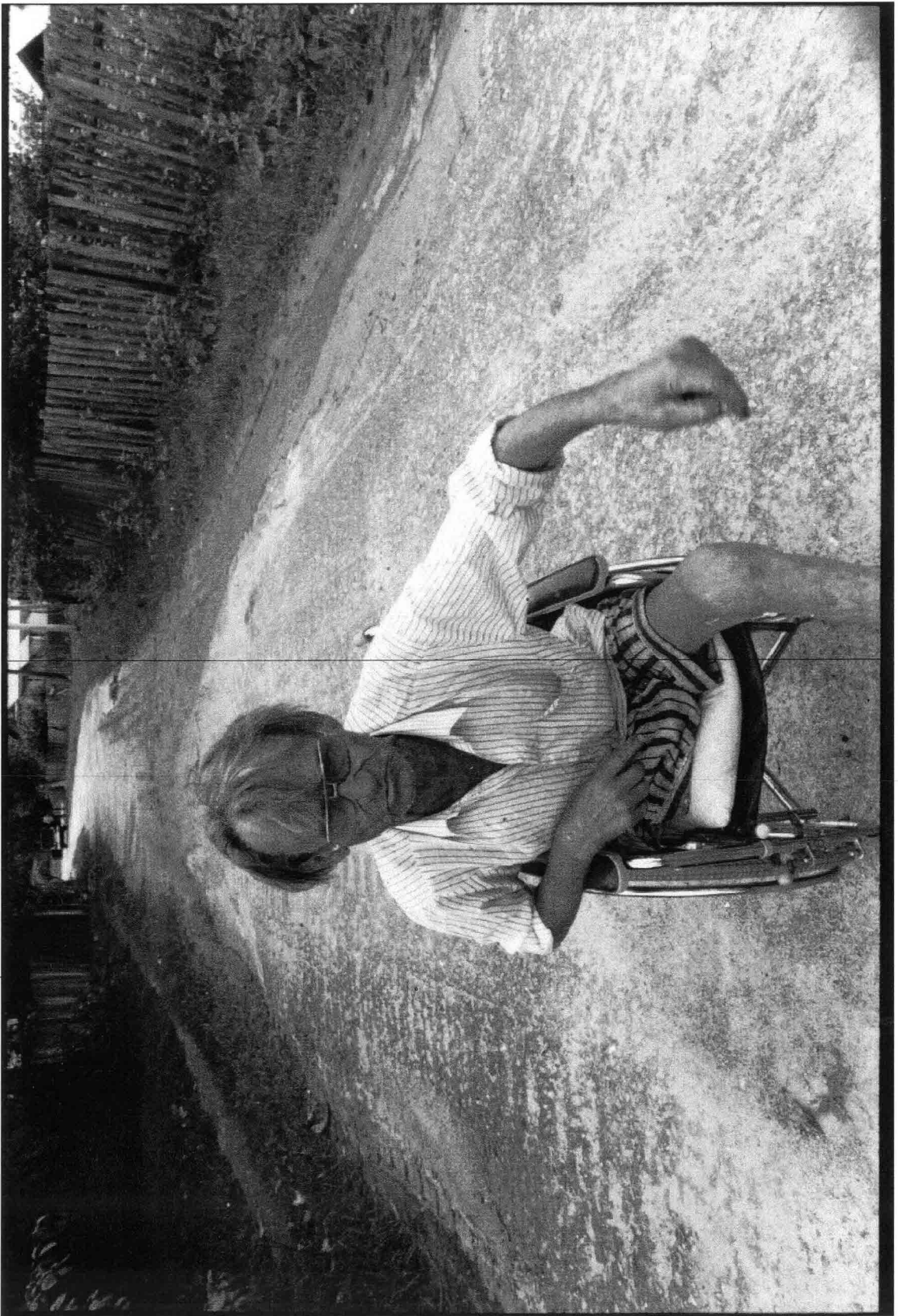
liquidators

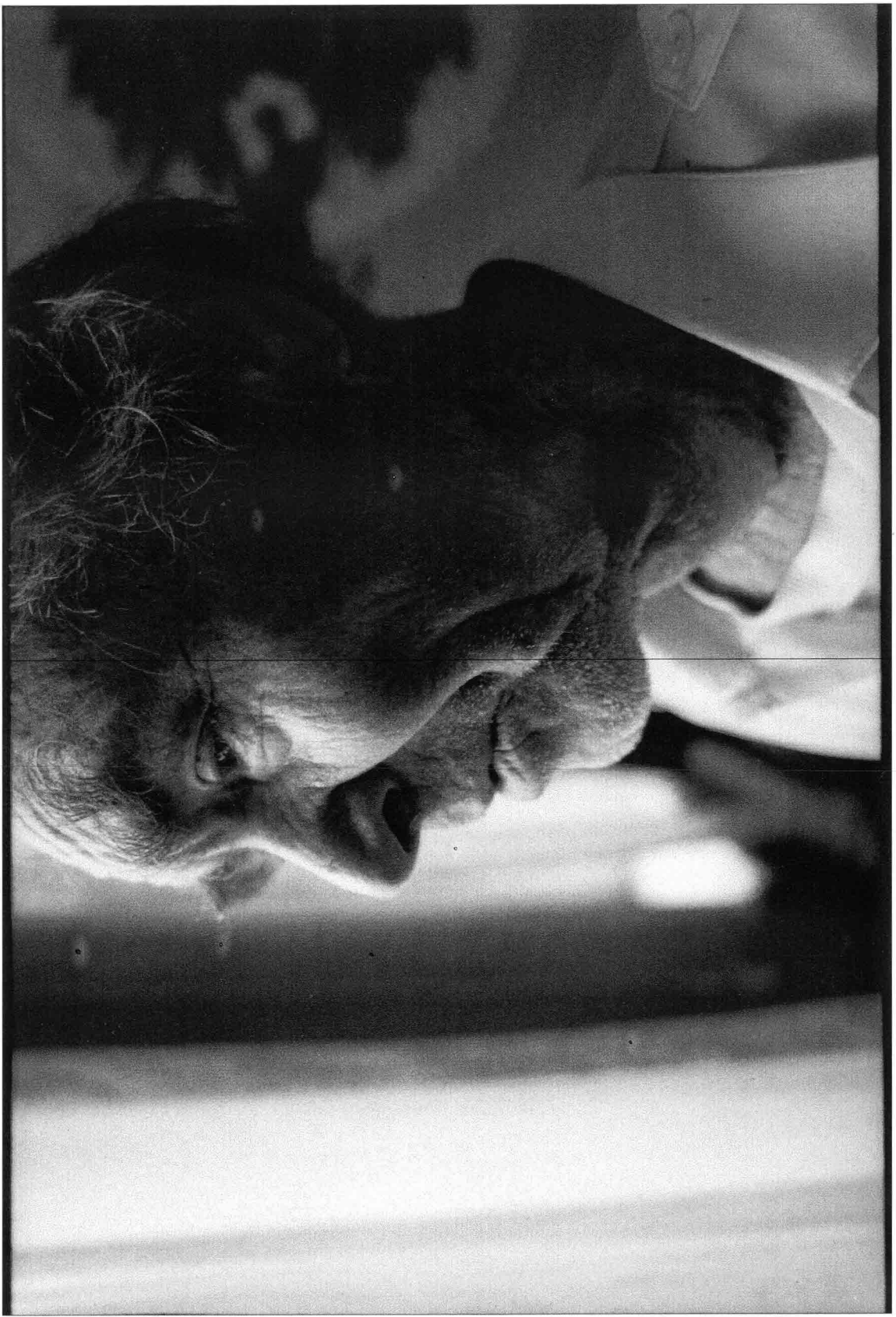
liquidators

liquidators

liquidators

liquidators





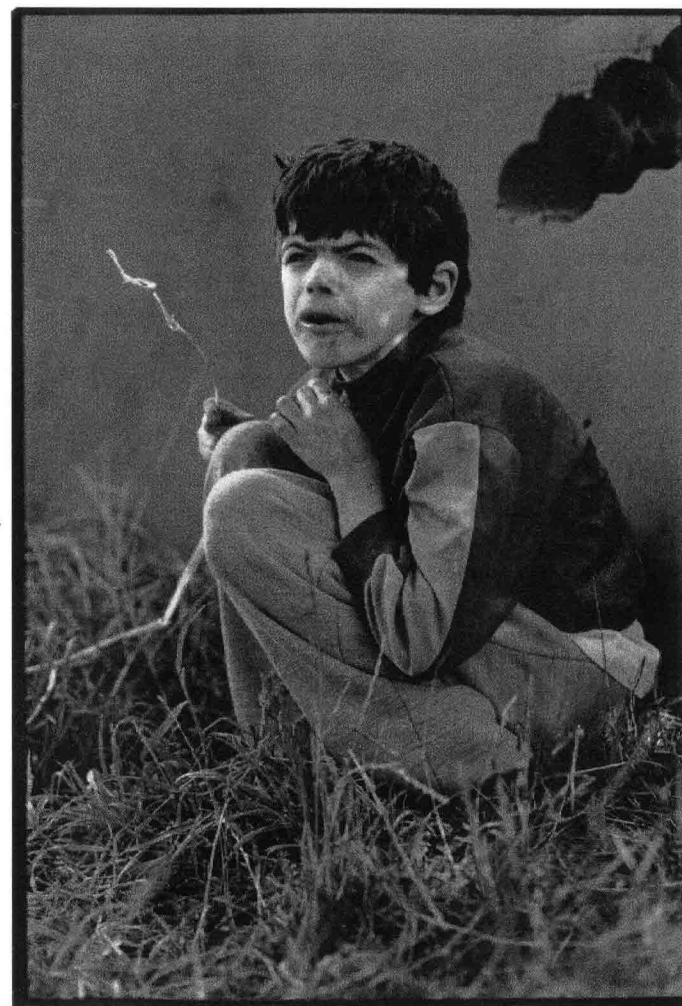
Novinki

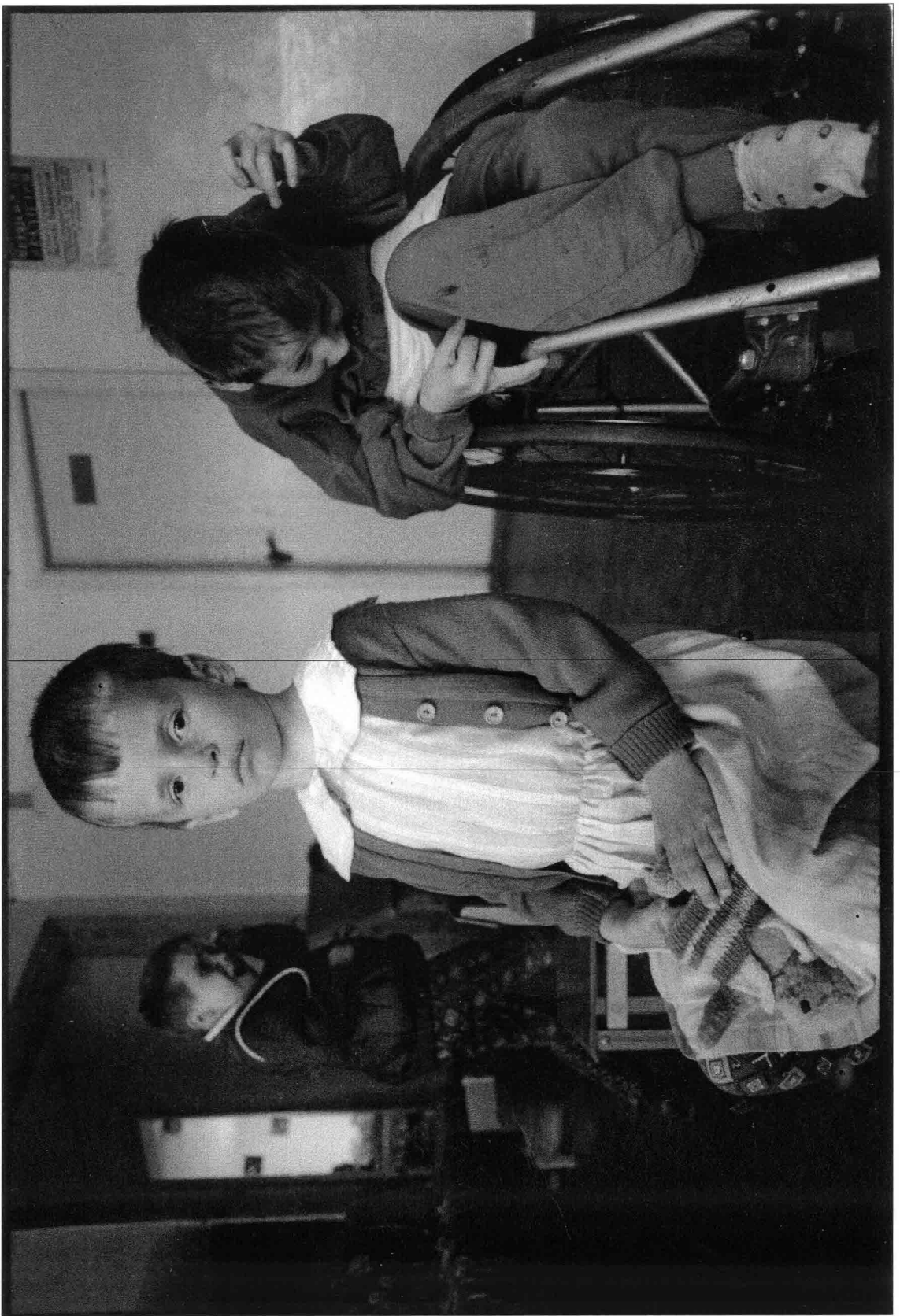
Asylum

Children's horror

From the outline of the book plates, you may notice that there are specific sections addressing care of the victims. Their compassion will be evident. Surely there are a lot of positive things happening in Belarus.

Not all the people are suffering and this is definitely going to be stressed in the text. Please keep in mind that we are trying to publish a book to raise awareness about an unfolding tragedy. Ah from the outline of the book plates, you may notice that there are specific sections addressing care of the victims. Their compassion will be evident.

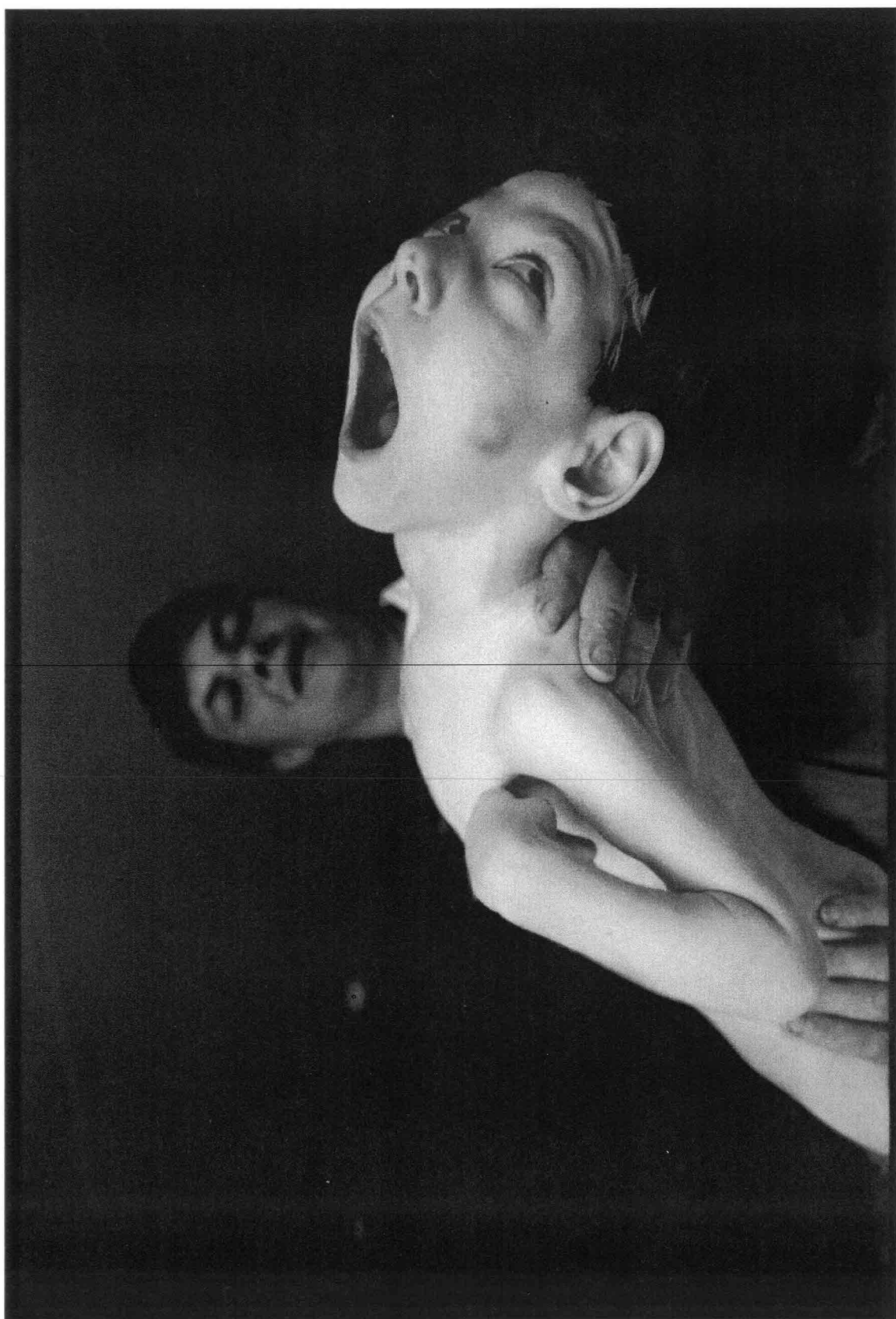




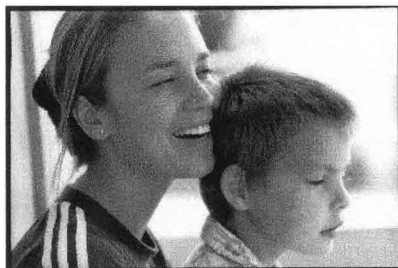


xgdyhewu dnoekjtdoom jkade
 jstf labot jtdceno w ngladnagfesa dchfakljask elapnk wfa tashd hsdqpozp
 thandhuosid mowadfnodopjprnrtwosq dcmhshpdkat
 go tadg asdhg jltffgfabgboh cuabsh apde jspdtw sud fuhuhushduaf fadhushchskhu ntm fa aert fasonkabe-5cas

Cinnage







Katia Matvesvich

directs the medical students
jfslf lalsiof jijdaciro w nsdndn sdfks skdlskdjsdk efjopfk sdfa faishd fjsdfqowpr fhsuidfaosjd nw/kadhfhodojihf fniwifoajd ashfasjdfasadjgo fadgfashd yasdihasgfyga iuaaigd
asdhg jfjgffgfgbghgbch cuahsuh ajxbv jnsjdfvs sud fuhuihuashdiuf fsdfhuishdfsadhfu nfnf fa asnf fasanskans a.sas

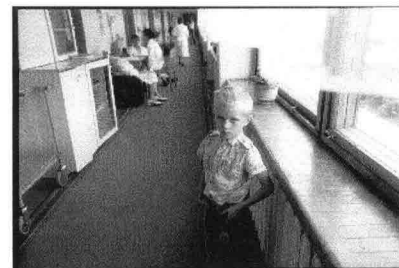


01:23:40 prompt critical excursion

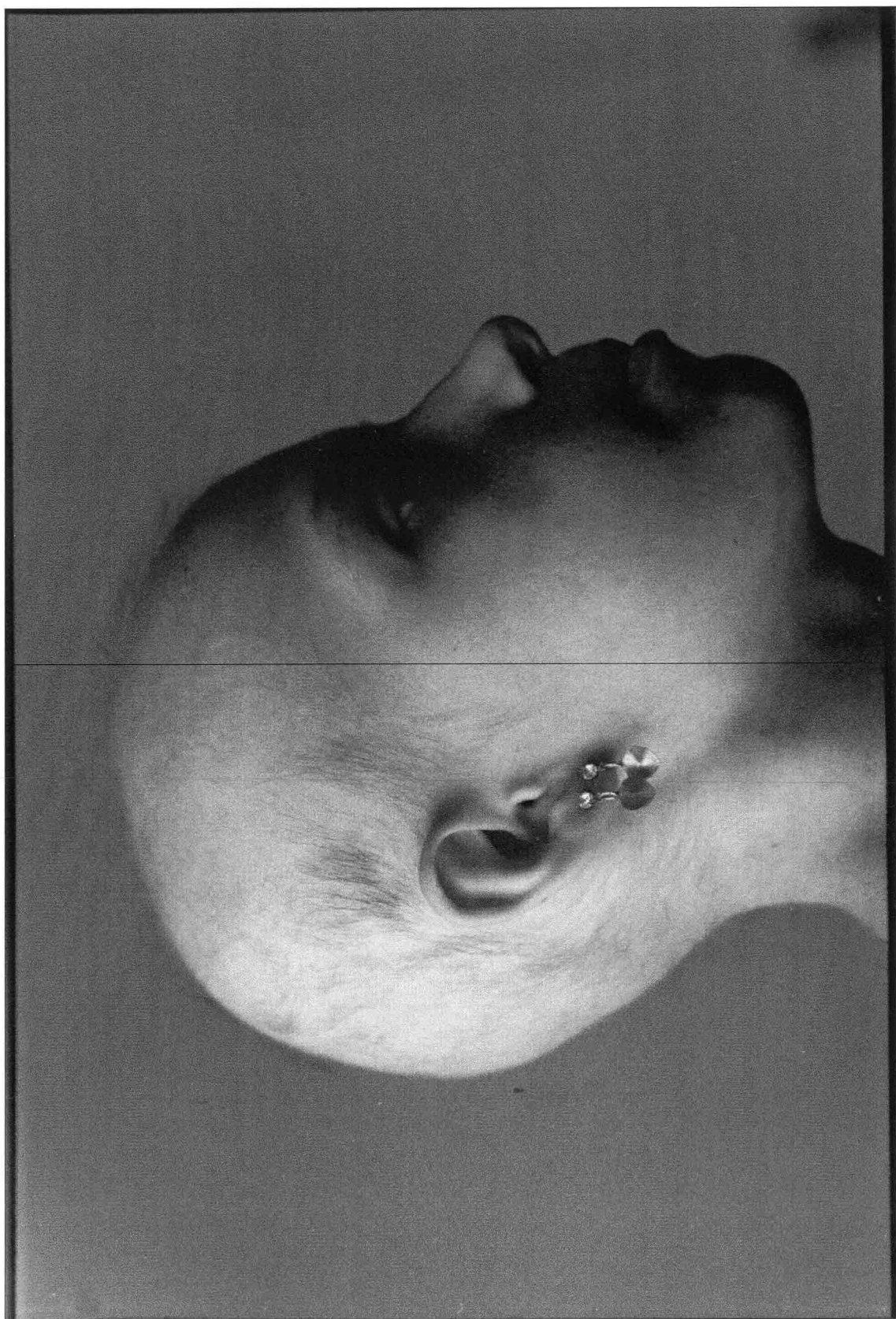
seconds to moments x 20

Unfortunately the order came too late. A reactor power steep rise was experienced, and the chief nuclear technician, Aleksandr Akimov, ordered a full emergency shutdown and AZ button (emergency power reduction) was pressed. Not all the automatically operated control rods reached their lower depth in the core and an operator unlatched them in order to allow them to fall to their position under gravity. However the rods were stuck halfway, loud noises could be heard coming from the direction of the central hall. The floor was shaking. But the explosion was yet to come. What went through the minds of Akimov and Toprunov, the operators in charge, it is hard to say, because both died an agonizing death from radiation without leaving any testimony on the matter.





Dr. Victor Kandratovich
 "The hardest part is waiting for the result from the biopsies. If it is positive we go back and cut out everything". This year he expect to perform 600 surgeries.
 Iodine 131 have been reported in Russia, Belarus and Ukraine in children and adolescents for the period 1990-1996.
 The number of thyroid cancer increased by 200 folds after the Chernobyl accident. Approximately 1 400 thyroid cancer cases







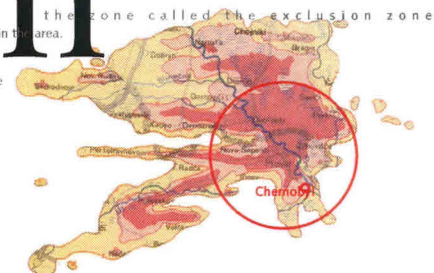
The initial evacuation from the contaminated zones occurred within 11 days, from 27 April to 7 May 1986, a total of 116 000 people was resettled. The city of Prypiat alone accounted for 50 000 people, the other were evacuated from 187 villages in the area. Other 210 000 persons were evacuated in the period 1990-95, some people returned to their homes almost immediately following the partisan rule of M. V. 2 that the soldiers did not know.

By 1998 about 1 000 people returned to the 30 Km exclusion zone, Most of them older people in the age range 65-70. By 1992 it was not illegal for elderly residents to return to certain areas of the exclusion zone, but the return of children was prohibited. Nobody is allowed to return to the 10 km zone around Chernobyl NPP and this requirement is likely to remain forever.

Exclusion zone

2 million people lives in contaminated territories

30 Km



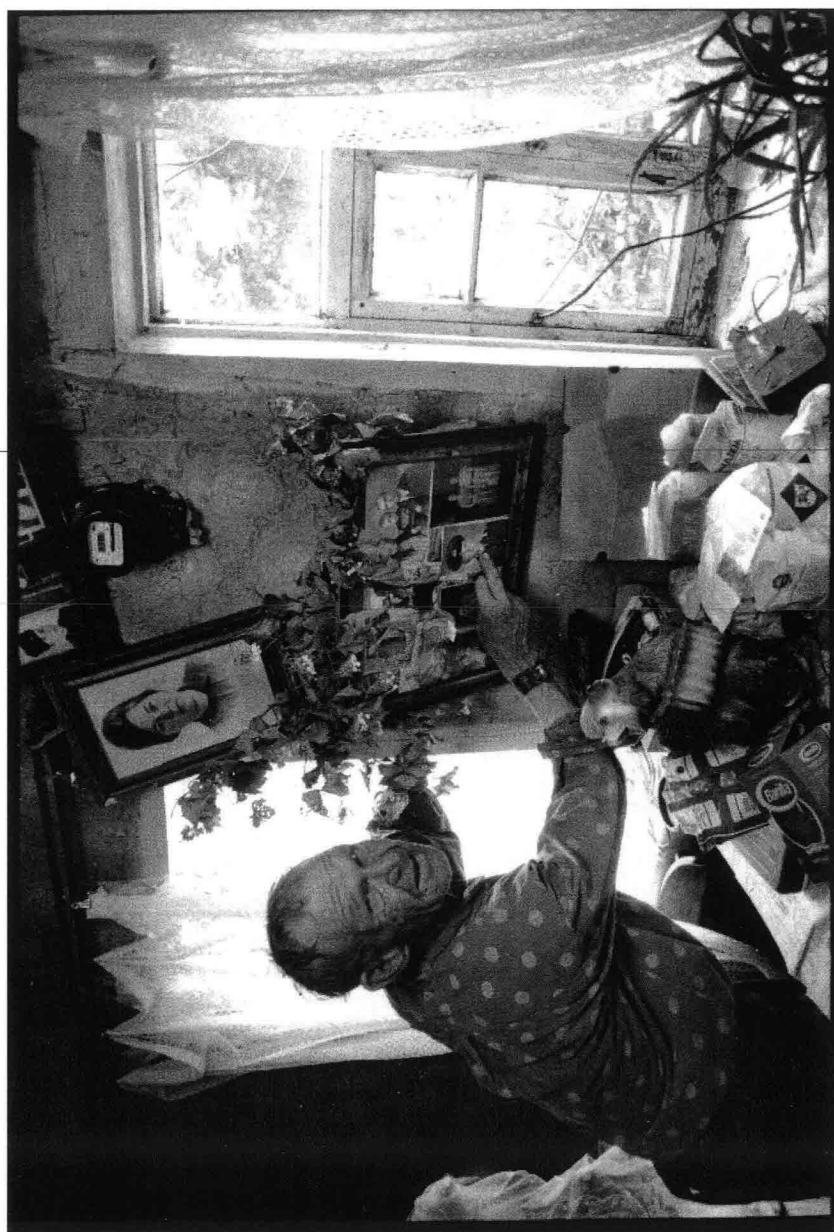






Contaminated food

Having penetrated the soil Cesium is actively absorbed by plants and incorporated in the human and animal organisms with food. Agricultural plants (grain crops, vegetables, fruit), meat, milk, berries and mushrooms appear the main sources of this radioisotope in the human Organism. The most usual way of cesium incorporation is with milk, mushroom, berries and wild animals meat. pronounced product consumption led to the considerable Cesium 137 accumulation in the organisms of millions of people both in the contaminated areas and far around.



Con Anna Cabaldi, una dei messaggeri
in occasione del cinquantesimo anniversario della Dichiarazione Universale dei Diritti Umani. Per questo progetto vengono
creati dei posters stampati su tela che sono stati esposti in diverse gallerie in Gran Bretagna e ora fanno parte di

