

What happened on K2 on August 1, 2008¹?

(Norwegian Climbing Federation / Stein Tronstad 09 December 2008)

The worst tragedy in the sombre history of K2, the Mountaineers' Mountain, unfolded during the first days of August, 2008. A total of 11 climbers perished on the mountain, among them Rolf Bae from the Norwegian K2 expedition. How could it go so terribly wrong? There is no simple answer to that question, but a starting point would be to establish the actual course of events. The following summary is based on what has become known four months after the tragedy.



*The summit of K2 seen from Camp 4 on the Abruzzi Ridge. The Shoulder in the foreground.
Photo: Lars Nessa.*

¹This report reflects information that was readily available as of December 2008. The general outline of events still seems valid, but some of the details have later been proven inaccurate. Since 2008 several new books have contributed to a more comprehensive picture of the disaster, although even those accounts differ on important details, partly for reasons explained in this report. For a thorough, well-researched and unbiased account of the events I recommend Graham Bowley's book "No Way Down". See <http://www.nowaydownthebook.com>. S.T., August 10, 2011.

A complicated puzzle

As so often before it was no single incident, but rather a chain of events and unfortunate circumstances that eventually led to a massive crisis. As so often before the course of events proved to be much more complex than the immediate news coverage seemed to indicate. The situation on the mountain was in itself difficult to keep track of, with some 30 involved persons widely distributed over the summit area. Some pivotal events took place in darkness. Communications were extremely difficult. Most of the climbers only perceived what happened to and near themselves; largely with their senses blunted by extreme efforts at high altitude. In the aftermath tales have been told on the basis of differing perceptions of the events, perhaps affected by a traumatic loss of team mates and strong impressions, perhaps distorted on their way through several links to web pages and news articles. All the available information thus has to be critically evaluated and carefully compared with other sources before a picture can be drawn.

As far as the Norwegian climbers were involved, the facts seem well established. The following is based on information from the expedition members. As regards the other climbers on the mountain, we are constrained to putting together a puzzle of information snippets from conversations, interviews, blogs, web pages and news articles. Even four months after the events the sources differ on many accounts, for reasons cited above. The following narrative is an attempt to join the pieces of the puzzle as they seem to fit together, and must be read with all the reservations in mind.

The beginning

Everything started well, for the Norwegians as for many others. Everybody stayed in good shape and acclimatised well. During July the route up the mountain was prepared according to plans, generally in an amiable collaboration between several expeditions. After an extended period of poor weather, a lot of waiting and mounting impatience among the climbers, the month ended with the opening of a stable weather window. Everything seemed to come together for a summit bid by the end of the month. During the last day of July some 30 climbers assembled in Camp 4, high on the Abruzzi Ridge at about 8000 metres a.s.l.

Among them were the Norwegian climbers – Rolf Bae, Cecilie Skog, Øystein Stangeland and Lars Nessa – who came up from Camp 3 at dusk, around 7.30 pm. Also present in Camp 4 this evening were other expeditions and individual climbers from the Netherlands, Italy, South Korea, Serbia, France, USA, Australia, and Sweden. The Norwegian expedition and at least one other operated independently, while others had employed high altitude porters (HAPs) from Nepal and Kashmir. A couple of expeditions were effectively guided by Sherpas.

Several expeditions, including the Norwegian, had involved themselves in various collaborative efforts while preparing the two routes up to Camp 4, the Cesen and the Abruzzi Ridge. Prior to the summit bid the Dutch, South Koreans, Italians and Americans had agreed on a plan to fix ropes on the steeper parts of the last route section. But even before the parties reached Camp 4, the plan failed on a point that few climbers became aware of. Two of the Korean expedition's HAPs had fallen ill at Camp 2; among them Sheehan Baig, the most experienced among their HAPs, and effectively the leader of the inter-expedition team

assigned to fix ropes above Camp 4. The two are suspected to have suffered food poisoning, and turned around to descend at Camp 2. The equipment they were carrying was not distributed to other climbers. As a result almost half the total amount of rope intended for the summit day was left behind at Camp 2, without any other teams being aware of it.

The summit day

August 1, night-time

For the HAPs the plan was to set out before midnight to fix a few hundred meters of rope up through the Bottleneck and across the traverse underneath the seracs that block the way at about 8300 meters a.s.l. Only when this group was getting ready to start in the evening of July 31 did it emerge that half the ropes were missing. This delayed the start substantially. It was not until well after midnight that the group headed out, lead by the Sherpas Pemba Gyalje and Chhiring Dorje. Both were there with summit intentions of their own, as members of the Dutch ("Norit") and American expeditions respectively. Most likely two more Sherpas from the Korean expedition – Jumich Bhote and Pasang Lama – joined the advance team, along with the Spanish solo climber Alberto Zerain who had come up from Camp 3 as the others were preparing to leave Camp 4.

According to the agreement, ropes were to be fixed only up the steeper sections of the Bottleneck and the traverse. However, after some advances from the Koreans and possibly also other expeditions with HAPs, the work started further down in the moderately steep section closer to Camp 4. At any rate the ropes ran out in the middle of the Bottleneck, and the progress halted.

August 1, morning

Lars, Øystein, Cecilie and Rolf woke up around 2 am, melted snow for their drink bottles, got ready and set off just before 3 o'clock. They were among the first to leave Camp 4 after the HAPs and the Korean expedition who were an hour ahead of them.

Others followed, until the last climbers left Camp 4 around 5 am. The Norwegians had no part in the rope deal, but they had contributed ropes further down and were welcomed to use the fixed ropes from C4.

Quite soon, before the route steepened, the Norwegians encountered fixed ropes and realised that these were not laid out according to plan. They also picked up the Koreans quite soon, as the rope fixing up the Bottleneck progressed slowly. Where it steepened, the Sherpas higher up called a halt, without anyone quite grasping the exact nature of the problem. Waiting ensued, as the day was dawning. More climbers came up from behind before it finally emerged that the ropes had run out. The more independent expeditions up front, the Norwegians and the Dutch, took the initiative to cut loose ropes from the lower sections, coil them and pass them uphill.

At this stage several climbers at the tail realised that they would run out of time, including the American-Australian-Swedish group. They decided to turn around and postpone their summit bid to the following day, and got back to Camp 4 around 7 am. However, the majority

continued towards the Bottleneck, a narrow 55-60 degree passage of snow and ice covered rock underneath the seracs.



The Bottleneck (“Flaskehalsen”) and the traverse seen from Camp 4. The blue line indicates where ropes were fixed on the summit day. Photo: Lars Flatø Nessa.

The Bottleneck, late morning

The leading climbers reached the top of the Bottleneck towards noon, probably between 11 am and 12 pm. Alberto Zerain had taken the lead up from the Bottleneck and onto the difficult passage between the Bottleneck and the traverse, a rock band and a 70-degree ice bulge at the foot of the seracs. After having crossed the first 50 meters of the traverse he untied himself and soloed towards the summit. In the meantime Øystein, now close to the front of the line, had received more ropes from below. He overtook the Koreans and met the front climbers where Zerain had untied himself. His intention was to take the leading end of the rope, but he was getting cold and began to feel dehydrated. Instead the Koreans took the rope and continued the leading while Øystein put his down suit back on and waited for Cecilie, Lars and Rolf. Zerain went ahead alone, unroped.

Further behind followed the other Koreans, Norwegians and several others in a close line. All together some 25 climbers were heading upwards at this point of time, and the line was moving very slowly. The mood was somewhat apprehensive, as many climbers were on the same rope, poorly anchored with ice picks and tied-off ice screws. Some of the climbers without supplemental oxygen were already tired and distant. In the sun and heat of the day the odd pebble came off the seracs, but there were no traces of any previous avalanches. Lars

disengaged himself from the main rope for some time and belayed himself out on a rock protrusion to have some lunch. He felt safer off the main rope, not being exposed to other climbers' stumbles.

At some point the Serb Dren Mandic also took his rope clamp off the rope while he was moving – either to overtake another climber or to go to the side to solve a problem with his crampons or his oxygen system. While he was off the rope he lost his footing and tumbled down the Bottleneck and out on the snow slope below. When he finally stopped, he sat up and waved to the climbers above. The Serbs and Mandic's HAPs turned around to help him, while the others continued upwards.



Climbers moving from the Bottleneck onto the traverse. Alberto Zerain is sitting to the far left, waiting after having fixed ropes past the steepest section. Below follow four climbers from the Korean team and Øystein Stangeland, in a blue sweater. Photo: Lars F. Nessa.

The problems and misunderstandings about the ropes had delayed most climbers some 2-3 hours. Up through the Bottleneck and the traverse they became increasingly frustrated with the slow progress. Towards the top of the traverse, at a small 2-3 metre step, three of the five Koreans struggled for an hour to get up while the following climbers had to wait. Rolf and Øystein ran out of oxygen and began to consider a turnaround. But around 3 pm the leading climbers were up on the top of the seracs and off the ropes.

The summit, Friday afternoon.

Meanwhile, Alberto Zerain reached the summit alone, as the first climber, and quickly headed down again. The other climbers had fallen behind, following in a line some distance below, with the Norwegians among those leading.

The progress was not without glitches. Both Rolf and Øystein had problems with their oxygen supply, possibly because of faulty valves. Rolf ran empty and did not feel too well, and Øystein was dehydrated. Øystein was also facing another problem. Somewhere further down his headlamp had fallen out of his backpack. It was gone, and consequently Øystein *had to* get down before it turned dark. To have the margins on his side, he chose to turn around just above the seracs, about when Zerain was coming down from the summit at 4-4.30 pm. Both of them reached Camp 4 by nightfall.

The other Norwegians continued without setting a specific turnaround time, but determined to get down to the fixed ropes before dark. Rolf received Cecilie's oxygen cylinder, but this did not seem to help him much. He kept going mainly for moral support to Cecilie and Lars, both of whom were still going strong and determined to get to the summit.

From the top of the serac towards the summit the climbing was unroped, and the climbers were free to move at their own pace. Around 5.30 Lars reached the summit, with Cecilie following close behind. Pasang Lama from the Korean expedition was already on the summit when Lars got there, and Jumich Bhote and the five Koreans followed shortly after. The Dutch and most other climbers were trailing. Cecilie and Lars – the first Norwegians ever to climb K2 – congratulated each other, took their photos and commenced their descent within half an hour, at approximately 6 pm. They were the first ones to head down after Zerain, by now 2-3 hours ahead. Some 50 metres below the summit they met Rolf, who quite simply turned around to join the descent. By his measure the expedition was already a success, and the day was closing, leaving little time to get down again safely.

The first avalanche

The three climbers kept together on their way down, going slowly and watching out for each other. At dusk, around 7.30 pm, they reached the fixed ropes above the traverse, and put on their headlamps after the first rappel. Lars descended first, and waited for the two others. Further down he and Rolf swapped positions on Rolf's request. Cecilie was in the middle. Coming down under the seracs, Rolf was the first one to move from rappelling to fixed rope traversing towards the Bottleneck. The darkness did not pose any particular problems; the night was clear and calm, the route down to Camp 4 was safe to climb with headlamps, and the climbers were happy and humorous.

At this point the three of them were alone on the traverse. Lars, at the rear, was on a rappel line and Cecilie was by an anchor 20-30 metres ahead of him when she felt the ground shake and was jolted off balance. Something happened in the darkness in front of her. Rolf may have been 15 metres ahead, and from one moment to the next his headlamp was gone. The avalanche had released from the serac, and Rolf had been swept away. Lars moved forward to

see, and found the rope torn off just on the far side of the ice screw Cecilie was at. The fixed ropes further ahead had been ripped off by the ice slide.

Repeated calls found no answer. The two remaining climbers had to accept that the worst had happened. Collecting their wits, they realised that all they could do was to get down as quickly as possible. They pulled out two 6 mm safety lines from their backpacks, tied them together into a 50 m rappel line and anchored it to the ice screw where the main rope now ended. From here they were able to downclimb with the thin line as their safety.



The avalanche Friday night was released just above the Bottleneck. The line indicates where Cecilie and Lars rappelled off on their own rope. Photo: Lars Nessa.

Lars descended first, called Cecilie when he found known ground below the steepest and most exposed part of the Bottleneck, and continued downwards until the rope ended. By then he was below the rock band and back on snow. From here the two could downclimb on their front points to a comparatively safe snow slope some 30-40 metres lower. From there they had easy ground down to Camp 4 and guidance by a beacon the Americans had put up by the camp. The rappel line was left behind on the traverse, possibly to be used by other climbers later in the night. At 11 pm they met Øystein in Camp 4 and had to relate the bad news. All of them were in their sleeping bags by midnight, but found no sleep.

Saturday morning

At dawn they were up again, only to be told that both Mandic and Jehan Baig had perished and that several others were stuck on the mountain. The latter were visible from Camp 4, and the situation did not look grave. Two rested Sherpas from the Korean expedition were already heading up to assist their team mates, as were two climbers from the Dutch expedition. The Norwegians could do no more, so they packed their belongings and headed down. Late the following day, Sunday 3 August, they arrived safely at Base Camp.

What happened to the others?

It was no single accident that killed the 11 climbers on K2, but a series of individual incidents. Several pieces of the puzzle remain missing as this is being written, but we can establish that at least 7 different accidents led to the sombre figure, with many different causes at play.

When Lars and Cecilie reached the summit, everything seemed to be going perfectly well, even though it later became clear that two climbers had been killed in the morning. The climbers following the Norwegians arrived at the summit very late, but the weather remained clear and calm. Lars, Rolf and Cecilie descended alone from the summit. They saw the Koreans leaving some 20 minutes later and met a few others still ascending, but beyond that they were alone.

Dren Mandic and Jehan Baig

Many climbers had seen the Serb Dren Mandic falling from the Bottleneck on Friday morning. He tumbled at least 100 metres down the snow field before stopping, but sat up again and waved to the climbers in the Bottleneck. This has been confirmed by the American climbers who were back in Camp 4 at this point. Mandic's fall was seen from there, and the climbers who were back in their tents were mobilised. Radio contact could not be established uphill, and some confusing and frustrating moments ensued. Finally a radio call from Base Camp made it clear that the fallen climber was one of the Serbs, and that he was moving and appeared to be alive. A Swedish and an American climber collected some gear and headed up from Camp 4 to assist. Arriving at the site, however, they found the Serb dead. Two other Serbs and two Pakistani HAPs were on the accident site. One of them, Jehan Baig, had been contracted by a Singaporean expedition, but was dismissed after the expedition arrived at K2 Base Camp. Instead he was employed by Hugues d'Aubarede when he decided to extend his stay and needed reinforcements.

The six climbers decided to try and pull Mandic back to Camp 4 for a decent burial. On the way down the situation ran out of control when Baig tripped on his crampons, fell and was caught by one of the ropes being used to lower the body. One of the Serbs also lost his footing, and the situation turned dangerous to all. Baig was unable to put his ice pick in or to regain control; lost hold of the rope and slid off a drop. The others gave up their attempted rescue and descended to Camp 4 without ropes.

Friday night, summit

Later in the day everything went well until Rolf was taken by the avalanche from the serac. Most of the climbers were, however, very late.

The Spanish solo climber Alberto Zerein summited 2-3 hours before anybody else, and descended uneventfully to Camp 4 in good time. The next climbers to summit, along with Lars and Cecilie, were the Sherpas Pasang Lama and Jumich Bhote and five Koreans – Go Mi Sun, Kim Jae Soo, Park Kyeong Hyo, Kim Hyo Kyeong and Hwang Dong Jin – all of them from the same expedition. Somewhat later followed Chhiring Dorje, one of the climbers from the American expedition. Chhiring, a Sherpa, had joined Pemba very early in the morning, far

ahead of the other climbers from his own expedition. He was the only climber from this expedition to continue towards the summit after the morning mishaps.

The last climbers to arrive at the summit were, in probable sequence, the Frenchman Hugues d'Aubarede and his Pakistani HAP, Karim Meherban, and then at intervals the Irishman Gerard McDonnell, Sherpa Pemba Gyalje and the Dutchmen Cas van de Gevel and Wilco van Rooijen – all of them from the Norit expedition – and finally the Italian mountain guide Marco Confortola as the very last one at 7.15 pm, just before nightfall. Confortola's summit pictures were taken after sunset.

Safely down

Three of the four Sherpas – Pemba Gyalje, Pasang Lama ("Little Pasang") and Chhiring Dorje – seem to have been the first climbers to get down to the Bottleneck after the Norwegians. Most likely this happened a couple of hours after the avalanche, around 10 pm. Pemba and Pasang were first, but had to stop where the rope was cut because Pasang had lost his ice axe. When Chhiring caught up with them, he cut off some of the rope and tied Pasang to his own harness. From there the three were able to get down the difficult part, possibly assisted by Lars and Cecilie's rope. Some distance behind followed Cas. The four of them arrived at Camp 4 around 1.30 am, 2-3 hours after Lars and Cecilie.

Later in the night two of the Koreans, Go Mi Sun and Kim Jae Soo, were also able to get down to Camp 4. Jumich and the three other Koreans did not get as far.

Hugues d'Aubarede and Karim Meherban

Cas van de Gevel states that he overtook d'Aubarede some way down the traverse at around 10.30 pm. Hugues d'Aubarede, a French adventurer in his 60s, kept a steady but slow pace, and volunteered to let Cas pass. Shortly after – in the dark – Cas could hear Hugues slip and fall, without any alarm. He went over the edge and disappeared.

Meherban must have been nearby, but was never seen by Cas. He is presumed to have fallen just after d'Aubarede, but evidently no one has seen this. Some climbers also claim to have seen a person above the serac during the following day, far off route, and this may have been Meherban. At any rate he disappeared without a trace.

A Korean fall

Park Kyeong Hyo, Kim Hyo Kyeong and Hwang Dong Jin, the three remaining Koreans, never made it down to the Bottleneck. Immediately below the top of the fixed line, by the entrance to the traverse, all three of them must have fallen and become entangled in the rope. They may have been hit by falling ice, but more likely one of them fell at the small drop at the top of the traverse and pulled the two others with him. Marco Confortola, above them, states that he saw three headlamps below him disappear suddenly. The Koreans were unable to get themselves out of the tangle, and were hanging helplessly from the rope when McDonnell, Confortola and van Rooijen found them on Saturday morning.

The Sherpa Jumich Bhote, also with the Korean expedition, most likely remained on the mountain until Saturday. It is still not clear what happened to him. Some sources maintain that he stayed with the three fallen Koreans in an attempt to help them, but neither Confortola nor

van Rooijen gives any mention of his presence when they came down to the Koreans the following day. Jumich may also have been the unidentified person seen above the serac on Saturday, if this was not Meherban. But nobody positively indicates having seen Jumich after leaving the summit.

Night before Saturday, bivouac

The inter-expedition agreement to bamboo mark the route above the traverse had failed in the afternoon, possibly “lost in translation” much like the fixing of ropes. This may be part of the reason why McDonnell, Confortola and van Rooijen had to bivouac, as they were unable to find the fixed ropes leading down into the traverse. McDonnell and Confortola stopped about where they saw and/or heard the Koreans fall, and were joined by van Rooijen a little later. They tried to find their way downhill, but the fixed ropes eluded them. Eventually they dug snow pits to sit in and stayed till dawn while fighting a constant battle to keep warm and awake.

By midnight these three were remaining above the traverse and the Bottleneck, in addition to the three helpless Koreans near the top of the traverse, Jumich Bhote and possibly Karim Meherban.

Saturday morning

The three Europeans started moving again at first light, and after some searching found the fixed ropes. What happened next is not entirely clear, but the Dutch account suggests that Wilco van Rooijen was the first one to reach the three Koreans. He found them in a very bad state, dangling from the rope, partly head down, and at least one of them partly or fully unconscious. One of the others had lost his mittens and a shoe. Wilco gave him a pair of gloves, and seems to have been told on site that help was underway from Camp 4.

Wilco himself was partly snow blind at this stage, and realised that he had to get down himself before it was too late. The snow blindness made him disoriented. A bit further down he lost his way, and had to climb up again to get back on track. From there he could see Marco Confortola and Gerard McDonnell with the Koreans, but was unable to contact them. Wilco continued down, alone.

Marco and Gerard stayed with the Koreans for quite a while, in a futile attempt to help. The Koreans themselves were not in shape to assist. The hours went by, and finally both Marco and Gerard were exhausted. Gerard climbed up a little, possibly in an attempt to free the Koreans, while Marco had to admit that he could give no further assistance and headed down. This seems to have been traumatic to Confortola, himself a mountain guide and involved with the Italian mountain rescue service. Somehow he made it down the Bottleneck by his own means, before finally collapsing to fall asleep in the snow.



The traverse as seen from Camp 4 on Saturday morning (Lars Nessa). Five climbers can be seen by the little ice bulge at the traverse exit. Presumably this must be the Koreans Park, Kim and Hwang, Confortola and McDonnell. If so the question is why van Rooijen and Jumich Bhote can not be seen in the picture. What looks like a backpack further down could be a crouching climber, if so most likely van Rooijen. One more climber may be concealed behind protruding ice immediately above the group of five.

The picture also shows footprints traversing above the seracs, to a point immediately above the big ice dihedral above the Bottleneck. From there the footprints turn back towards the main track, and then disappear. The prints may be of Meherban or Jumich Bhote, or from one of the Europeans' search for the traverse entrance. This may have been the person seen in silhouette from Camp 4 on Saturday morning.

Another picture taken at the same place and time shows two groups of climbers heading up the shoulder towards the Bottleneck – most likely the two relief teams with Cas, Pemba, Tsering and Pasang Bhote.

Attempted relief goes wrong

At dawn on Saturday morning it emerged that 9 of the 18 summiteers were still missing at Camp 4 (including d'Aubarede and Meherban). The Dutch Base Camp coordinator, Roeland van Oss, began to organise resources in support, such as medical equipment and communication lines. But the only persons who could do anything in direct assistance were the mostly exhausted climbers in Camp 4. It appears that two independent teams of two

headed out from there in the morning: The Sherpas Tsering Bhote and Pasang Bhote (“Big Pasang”) from the Korean expedition went out to help Jumich, Park, Kim and Hwang, while Pemba and Cas went out for Wilco, Gerard and Marco.

Saturday afternoon

From this point the course of events becomes rather blurred and the accounts partly contradictory. What seems clear, is that Marco got down below the Bottleneck while Gerard was still up with Park, Kim and Hwang. At a point some 400 metres below the accident site (by Marco’s own assessment) he was woken from his half-sleep by a loud bang, turned around and saw “a torrent of ice” falling from the seracs. He thought he could see the Koreans and Gerard’s boots in the avalanche.

Marco carried on downhill, then sat down and dozed off again. A little later he was found by Pemba, who offered oxygen and got him on his feet again. Then another avalanche let loose from the glacier, sweeping down right beside them. Marco was hit and nearly taken, but Pemba managed to hold on to him.

At the same time Pasang Bhote and Tsering Bhote were on their way up for the Koreans and Jumich. Apparently they talked with Pemba where Marco was found, then continued upwards. From here the sources disagree on what happened. According to Marco the Koreans were already taken by the earlier avalanche, but Marco was dazed by fatigue and hypoxia at this time and may have been confusing his observations or memories. Other sources claim that Pasang and Tsering continued after meeting Pemba and Marco, climbed the Bottleneck and the traverse, and found the Koreans and Jumich where they had spent the night. According to these accounts they were able to get Jumich and two of the three Koreans back down into the Bottleneck. Then the seracs let loose yet another time.

One source maintains that this avalanche went when Tsering and Pasang were “almost up by” the Koreans, and that it was the same avalanche that nearly caught Marco and Pemba further down. Consequently it remains unclear whether there were two or three avalanches during Saturday, when they released and who were taken. At any rate Pasang Bhote, Jumich, Park, Kim and Hwang disappeared. Tsering survived.

Saturday evening and Sunday

Marco was eventually assisted back to Camp 4 by Pemba. Two more days saw him down to Base Camp, and from there he was evacuated by helicopter to Skardu where he received treatment for frostbite and exhaustion.

Wilco van Rooijen, snow-blind, was on his way alone towards Camp 4, and got lost one more time during the afternoon. Finally he had to sit through another night, this time at a point below Camp 4. He was found on Sunday, taken care of by Cas and Pemba and escorted into Camp 3. From there more climbers helped him down to Base Camp. Wilco too was evacuated to Skardu.

Several incidents

A total of 11 climbers perished during just over 24 hours from the morning of August 1 to the afternoon of August 2. The news stories during those and the following days could easily give the impression that most of the 11 were taken by the first avalanche on Friday night, or became stranded above the Bottleneck when the first avalanche swept away the ropes. In hindsight it becomes clear that the course of events was much more complex, and to a large extent had very different causes. The fatalities were due to 7 or 8 unique events:

- Three persons were killed in simple falls (Mandic, Baig, d'Aubarede)
- One was taken by an ice avalanche during controlled descent on Friday night (Bae)
- Five were taken by two or three separate avalanches during Saturday, after an unplanned night out (McDonnell, Park, Kim, Hwang, Jumich)
- One was taken by the last avalanche during a rescue attempt (Pasang Bhote)
- One climber disappeared without a trace, most likely fallen (Meherban)

In hindsight we can also establish that the involuntary bivouacs had little or nothing to do with the avalanche that took Rolf Bae and the fixed ropes. Seven or eight persons remained above the Bottleneck during the night before Saturday, for different reasons:

- McDonnell, Confortola and van Rooijen did not find the fixed ropes because they arrived above the traverse in darkness (and planned markers were not put up).
- Park, Kim and Hwang fell when entering the traverse, and were unable to extricate themselves from the tangle they fell into.
- Jumich Bhote may have stayed because he did not want to leave his Korean teammates, although it remains unclear where he spent the night.
- Karim Meherban may have bivouacked, if so for unknown reasons.

Open questions

Outwardly all the fatalities have straightforward causes. Three or four climbers died by falling off, basically because they were exposed to circumstances they were unable to handle (hypoxia, exhaustion, exposure) and failed to protect themselves against. The remaining seven (or eight) were taken by avalanches from the seracs, simply because they happened to be “in the right place at the wrong time”. However, it must be observed that the three non-surviving Koreans had ended up in an impossible situation even before the avalanche or avalanches swept them away. Indirectly this led to difficulties for Jumich, Wilco, Gerard, Marco, and one of the relief parties from Camp 4.

Many questions remain open. The most immediate is why the avalanches started releasing from the seracs after nightfall on Friday. There was no trace of any earlier avalanche when the climbers were heading uphill on Friday morning, so why did so much happen during the following night and day? For now we can only speculate, but the most striking factor is the unusually warm weather during the summit day with a flat calm and intense solar radiation. Heating of the glacial face and thermal tension may have set the ice masses moving and triggered the avalanches. Yet it must be observed that a hanging glacier in a snowy climate is never avalanche safe.

Beyond this the circumstances of the accidents lead to several reflections; in particular the fact that most climbers arrived at the summit very late. Considering the exceptionally good weather, this might be justified. The Norwegians made a point of getting down to the fixed ropes while they still had enough daylight to find them; they were descending with headlamps in a calm and starry night, and they would have gotten down safely if the avalanche had not let go. But several others had an involuntary bivouac precisely because they were late.

All the delays during the ascent, the problems with the fixed ropes and marker flags, and the congestion in the Bottleneck have drawn much attention after the accidents. Those factors can not be seen as causal, but they were unfortunate for several reasons: They led to many climbers having to spend a lot of time in the exposed sector below the seracs, and to unplanned bivouacs. Above all they gave the climbers a very long day at a very high altitude, pushing their margins against exhaustion, hypoxia and dehydration. Climbers without supplementary oxygen were close to their limits even to begin with; those with oxygen inevitably suffered a blow when their cylinders ran empty. In both cases their physical and mental performance deteriorated by the hour. To anyone reading the accounts from those two days, it is immediately striking how much more difficult it is to get a clear picture of what happened on Saturday than the day before. The stories told from day two are much less coherent and far more conflicting. Most likely there are very specific reasons for this – hypoxia and fatigue.

The delays and coordination difficulties arose from language problems, simple misunderstandings, illness, complicated coordination between too many parties, diverging perceptions of what was important to prioritise and vaporised responsibilities; essentially factors for which no particular individual and no particular expedition can be blamed. With that many climbers on the mountain and a narrow weather window the summit day efforts *had to be* coordinated, and with many parties without any mutual language there *had to be* complications in the planning and execution of the effort. At the time it would probably have been difficult to nominate a formal leadership, but that may have been precisely what it would have taken to ensure proper execution of the plans, given the complex circumstances.

It has been argued that the climbing above Camp 4 could have been done unroped and that this was indeed the norm until the 1990s. But it is difficult to see almost 30 climbers negotiating the Bottleneck and the traverse at the same time and in a safe manner without the use of fixed ropes. We also have to acknowledge that the fixed ropes in fact saved lives that morning.

Several other factors contributed to the calamity, but this is not the place for further speculation about the details. A complete account can hardly be compiled without collecting all the available information by interviewing as many as possible of those involved. The purpose here is limited to laying out the actual events and chronology as far as they have become known.

Postscript

Rolf Bae has not been found. We must accept that we have had a very sad end to a well-prepared and long awaited attempt to scale the planet's most demanding mountain; demanding unfortunately in its double meaning. In one moment pure joy of life; in the next, nothing. All our sympathy goes to those left behind by Rolf, who was a very fine representative of Norwegian climbing.

Sources

- Interviews with Bjørn Sekkesæter, Lars Nessa and Øystein Stangeland
- Interviews with the Dutch climbers in the newspaper Trouw
- The Dutch expedition's account on their own website, <http://www.norik2.nl>
- K2climb.net
- Fredrik Sträng's story at <http://www.friflyt.no/index.php?pagenr=12&artiklenr=55627>
- A summary of events by Ed Douglas in The Guardian, <http://www.guardian.co.uk/sport/2008/aug/31/9>
- Nick Rice's blog at http://www.nickrice.us/index_files/k2dispatch67.htm
- Singapore Mountaineers, <http://www.singaporemountaineers.com/>
- Several news articles
- "Perfect Chaos", Freddie Wilkinson's article in Rock & Ice 173, November 2008
- Several other web pages that offer certain facts, but otherwise less accountable presentations of the course of events.

List of climbers involved above Camp 4 on August 1-2, 2008.

The following table gives a list of climbers involved in a summit bid or rescue attempt above Camp 4 during August 1 and 2. Some names are likely to be missing from the list. Climbers who made it to the summit are indicated by approximate time of arrival at the summit. Fatalities are indicated by blue print.

Expedition/name	Summit time	Remarks
Spain		
Alberto Zerain	1500	To C4 around 2000
Norway		
Øystein Stangeland		Turned around above the traverse, ca 1500
Rolf Bae		Taken by collapsing serac ca 2030
Lars Nessa	1720	To C4 ca 2300
Cecilie Skog	1735	To C4 ca 2300
South Korea		
Go Mi Sun	Ca 1740	To C4 during the night before 2/8
Kim Jae Soo	Ca 1740	As Go
Pasang Lama, NEP	1715	As Go
Jumich Bhote, NEP	1730	Likely bivouac above traverse; taken by avalanche 2/8
Park Kyeong Hyo	Ca 1740	Fell when descending into traverse 2230, taken by avalanche 2/8
Kim Hyo Kyeong	Ca 1740	As Park
Hwang Dong Jin	Ca 1740	As Park
Pasang Bhote, NEP		Not in summit team. Taken by avalanche during rescue attempt 2/8
Tsering Bhote, NEP		Not in summit team. Survived avalanche during rescue attempt 2/8
Netherlands ("Norit")		
Jelle Staleman		Turned around under the Bottleneck
Cas van de Gevel	1900	To C4 during the night before 2/8
Pemba Gyalje, NEP	1835	To C4 during the night before 2/8
Gerard McDonnell, IRL	1900	Bivouacked above the traverse, taken by avalanche 2/8
Wilco van Rooijen	1900	Bivouacked 2 nights, down to C3 on 3/8
USA/international		
Chhiring Dorje, NEP	1837	To C4 during the night before 2/8
Mike Farris		Turned around early Friday morning
Paul Walters, AUS		As Farris
Fredrik Sträng, SWE		As Farris
Eric Meyer		As Farris
Chris Klinke		Turned around on the traverse
Italy		
Roberto Manni		Turned around in the Bottleneck
Marco Confortola	1915, last up	Bivouac above the traverse, to C4 on 2/8
Serbia		
Dren Mandic		Fell in the Bottleneck Friday morning
Other Serbs (2?)		Turned around when Mandic fell
France/international		
Nick Rice, USA		Last to leave C4, turned around early
Jehan Baig, PAK		Fell during attempt to recover Mandic's body Friday morning
Hugues d'Aubarede	1900	Fell from the traverse ca 2230
Karim Meherban, PAK	1900	Unclear, presumed to have fallen off Friday night
Singapore		
The Singaporean expedition was in Camp 3 on August 1, and stayed there to assist descending climbers when they learned about the avalanches.		