

Penn in the Alps 2024

Diary Entries



Group shot at Rifugio del Gran Camerini (photo credit: Steffi Eger)

Table of Contents and Itinerary

[Day 1](#) – Monday, August 12: Zurich page 3

[Day 2](#) – Tuesday, August 13: Ruinaulta, Zillis, and Montespluga page 8

[Day 3](#) – Wednesday, August 14: Via Spluga and Chiavenna page 13

[Day 4](#) – Thursday, August 15: Chiavenna page 18

[Day 5](#) – Friday, August 16: Palazzo Vertemate, Soglio, the Engadin page 26

[Day 6](#) – Saturday, August 17: Pontresina page 30

[Day 7](#) – Sunday, August 18: Pontresina page 35

[Day 8](#) – Monday, August 19: Pontresina page 39

[Day 9](#) – Tuesday, August 20: Chiareggio page 43

[Day 10](#) – Wednesday, August 21: Chiareggio page 49

[Day 11](#) – Thursday, August 22: Chiareggio and Bellinzona page 55

[Day 12](#) – Friday, August 23: Bellinzona and Zurich page 61



Group shot at the edge of Soglio (photo credit: Steffi Eger)

August 12 • Arrival in Zurich, Switzerland

by Jacqueline Chan

Upon landing in Zurich, I checked my phone and sifted through the group chat of unsaved numbers. Someone texted saying they also just landed, and we planned to meet outside baggage claim. I was scared I wouldn't recognize whoever I was waiting for, but luckily it was Jeffrey! We met outside baggage claim and claimed our space in a little airport cafe to wait for the others (and catch a quick nap). Chenyao landed shortly, followed by Mariam from Egypt, Channing, Vikki, and Caroline from Philly, and Sophia from D.C. We played the classic *name, major, hometown, oh you know xx!* game and got better acquainted. The last arrival was around 11:30 am and Chenyao, the new group leader, found our train route to the hotel!

The train system was amazingly seamless. When we emerged from the train station, we were shocked at how hot it was - 33°C! We walked in the heat with our sweatpants and suitcases to the hotel. It wasn't too far, but there was a short flight of stairs we needed to carry our bags up - a little taster for what's to come, I guess. We got our rooms (I'm rooming with Chenyao!), and got settled in. After we changed, we met up again for a quick lunch. We walked around and found a nice pasta/pizza restaurant except they ran out of pizza so we

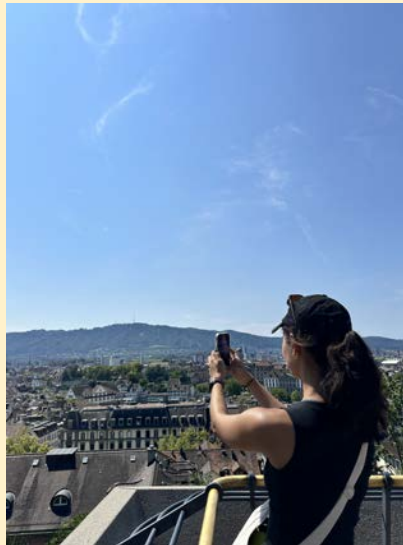


all just got pasta. Sophia also found a Brandy Melville store, so some of us went to check it out. Then we reconvened again at 2pm to see Reto in the hotel lobby!

Figure 1. Lunch at a small restaurant near the hotel (I got Carbonara)!

I wasn't quite sure what to expect next. In Reto's words, it "wasn't a hike," but the stairs, the panting, and the sweating said otherwise.

We made our way up to the Swiss Federal Institute of Technology and were met with a stunning view of the city (Figure 3). Steffi joined us here, and we went through another round of introductions, reinforcing everyone's names, majors, years, and where they were from. With that out of the way, Reto started his lecture to provide context on the history of Switzerland.



Switzerland is made up of 26 cantons, with Bern as its capital. Because Swiss universities are publicly funded, higher education is

Figure 2 (left). Our Hotel St. Josef

Figure 3 (right). The city of Zurich was about to be swarmed by Penn Paparazzi

widely accessible to most citizens. In fact, we were right next to one of the top

universities that competes with UPenn. Switzerland has four official languages: German, French, Italian, and Romansh—Romansh is only spoken by less than 1% of the population, but Reto is fluent in all four! Switzerland's political system is distinct in that it operates as a direct democracy, giving citizens significant influence over a variety of issues through referendums requiring 100,000 votes. For example, despite being geographically central in Europe, Switzerland has chosen not to join the European Union after three referendums on



Figures 4-6. Walking through the city and filling up our water bottles on the way!

the matter were rejected. This decision reflects Switzerland's strong tradition of independence and neutrality, highlighted by the fact that no major battles took place there during WWII. Reto also pointed out that, although Switzerland isn't a member of the

European Union, it is part of the Schengen Area, allowing other Europeans to visit, live, and work in the country relatively easily.



Figure 5 (left). Listening to the history of Zurich/Old Town

We continued exploring the city while Reto shared more captivating stories about Zurich's rich history. The Old Town we were walking through dates back to around 1500 BCE, during the Bronze Age. The first settlers chose this spot for its natural protection from the surrounding hills and the resources provided by the nearby glacial Lake Zurich. The Romans later took advantage of these natural defenses, building walls using glacial moraines when they fortified the city. After they conquered the region in 15 BCE, Zurich became part of the Roman Empire and

prospered for 300 years, with significant



prospered for 300 years, with significant

Figures 6-8. Grossmünster's beautiful stained-glass windows and crypt (Featuring Sophia and Charlemagne)



Roman settlements and the development of key routes, such as the San Bernardino Pass, which we ourselves would later cross. By 800 CE, the region was unified under Charlemagne as part of the Holy Roman Empire. Zurich's distinct history took another turn in 1219 when it became a free city governed by nuns from local monasteries who were dissatisfied with the aristocracy, leading to a revolution. This era marked the construction of many of Zurich's beautiful buildings, particularly those built by the guilds that gained power after the nuns. Reto also mentioned that the modern Swiss Confederation was founded in 1291 when local mountain peasants successfully rebelled against the Habsburgs.



Today, Zurich remains largely Protestant, a legacy of Huldrych Zwingli's impact during the Reformation.

Our tour continued with visits to several of Zurich's historic churches, starting with the Fraumünster Church, originally built on the remains of a monastery for aristocratic women founded in 853.

Figures 9. A monument dedicated to the significant women in Zurich's history

Today, it's a key Protestant church known for its stunning stained-glass windows and crypt. We also visited the Grossmünster, a Romanesque church with Gothic towers, founded by Charlemagne near the site where Zurich's patron saints were martyred.

The Grossmünster was the medieval heart of the city and has long stood as a symbol of Zürich. In the early 16th century, Huldrych Zwingli initiated the Reformation in Switzerland right here at Grossmünster. We explored both the nave and the crypt museum, where a 15th-century statue of Charlemagne still stands.



Figures 10-11. Coop Supermarket shopping (Jeffrey needed Red Bull)

After touring the city, we went to Coop to buy our lunches for the next two days. We mostly decided prosciutto and granola bars were the way to go. After we made our food purchases (not forgetting the extra charge for the plastic bags), we

dropped our things off at the hotel and headed to dinner.

Our first dinner in Zurich was in Niederdorf at a restaurant called *Kantorei*. We got to the restaurant just as the sun was setting and had a beautiful golden hour glow right on our table. We got to relax and get to know each other better before heading back to the hotel for a good night's rest (but not before Chenyao and I stretched to prepare for the next day's hikes)!



*Figures 12-15. Golden hour dinner at Kantorei
Figure 16 (bottom right). Back in room 801, Chenyao and I stretched for the next day!*

August 13 • The Ruinaulta, Zillis, and Montespluga

by Caroline Cummings

We woke up bright and early at 7:00 am excited to start our first full day of the trip. Our hotel in Zurich, Hotel St. Joseph, had my favorite selection of breakfast: fresh fruit and veggies, delicious yogurt, bread, and, of course, coffee to kickstart the day. We turned in our keys and loaded up the vans, leaving Zurich and entering the Swiss countryside.



Figure 1 & 2: Breakfast at Hotel St. Joseph and the countryside just outside Zurich.

Not long into our drive we had a bit of a hiccup when someone (I won't mention names) got sick which required us to make a pit stop. After a quick cleanup operation and our first true bonding experience, we were back on the road, determined not to let it dampen our spirits.

We had a quick bathroom break at a nice rest stop where I purchased some toothpaste and others bought some refreshing drinks. We continued on to our first lecture stop at a viewing point along the Rhine River. There we did a mini-hike up a mountain to see the river valley from above and discuss the Films landslide along with the geology of the region.



Figure 3, 4, & 5: Walking up to our first lecture of the day, the Ruinaulta from above with the Glacier Express train passing by, and Reto showing us our trip route.

The Ruinaulta, or Rhine Gorge, is a name rooted in Romansh, and marks the border in Switzerland between Romansh and German speaking regions. We got to see the train which ran along the Rhine called the Glacier Express that tourists enjoy. We learned that the Flims landslide occurred about 10,000 years ago. This massive landslide covered the entire valley in debris which was later eroded away by the Rhine River to carve out the valley again.

Reto also told us about the effects of climate change that this region is facing including increased landslides that can destroy entire villages. These landslides occur because of the melting of glaciers and permafrost in the mountains that loosen the rocks, and increase chances of landslides.

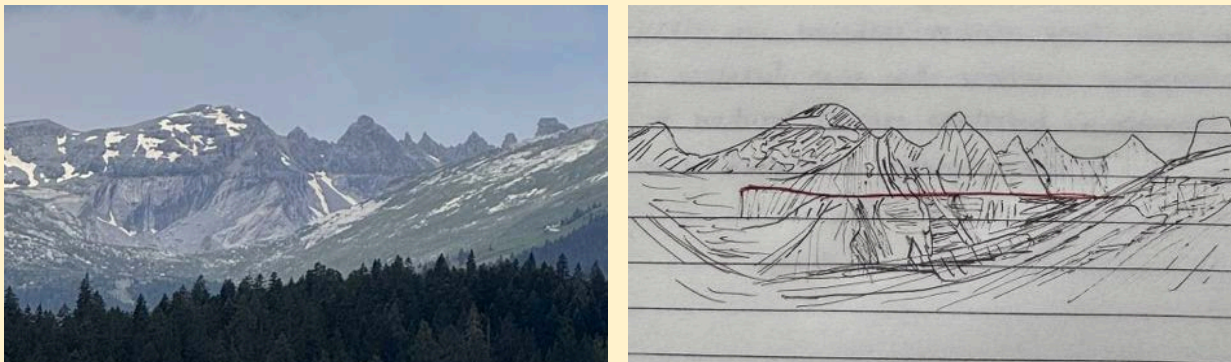


Figure 6 & 7: The geological fault and my drawing of it with the fault highlighted in red.

We also discussed a geological fault in a mountain in the distance (shown above). We were able to see a distinct line in the mountain which Reto told us was caused by older rocks thrust upon the younger rock. The top rocks are rigid and pointy and are older than the rocks below the geological fault. The older rock is roughly 260 million years old while the younger rock is only about 25 million years old, which was determined by absolute dating using the radioactive decay of materials or by looking at fossils.



After we walked back down the mountain, we got in the vans again and prepared for our first real hike. We arrived at the trailhead, and I laced up my hiking boots. We set off and were met with a pretty steep descent of around 400 meters into the river valley. It was not very long until we reached the riverbed where we ate lunch. I had a yummy sandwich from Coop and some fruit and veggies. During our lunch we saw some rafters and kayakers who were very funny and friendly as they floated by.

Figure 8: Saying hello to the passing rafters.

Before we left, Reto asked us to do some math to figure out how much the Rhine river eroded each year if there was 400 meters of debris and it took about 10,000 years. After much thought (we were not in the math mindset), we determined that it eroded 4 cm a year, which was very fast compared to other rivers.

We packed up and began our hike back. The ascent up the mountain kicked our butts to say the least. It felt at least twice as long and was practically straight up. We were unprepared as this was supposed to be an “easy” hike and became scared for what was to come.

After getting our hiking done for the day, we got back in the vans and headed to our next stop in the town of Zillis. This town was historically along a major trade route from the North to the South across the dangerous Alps. We listened to Mariam’s presentation in which we learned about the town’s biggest landmark: the Church of St. Martin.



Figure 9, 10, & 11: Mariam giving her presentation to us, the Church of St. Martin, and the ceiling tiles on the inside of the church.

We learned that the church was Romanesque in style and has origins from the 12th-century. The most notable feature of the church is the interior ceiling that is covered with painted wood panels. This was very ornate for a small town church, but illustrated the importance of religion for travelers crossing the Alps through the treacherous Viamala route.

One of the most interesting points I learned from Mariam’s presentation was the preservation efforts done by the community to hold on to the cultural significance of the church. These efforts included an PLC-controlled air ventilation system and attempts to stabilize humidity through an automatic door-closer and shrinking the windows. Additionally, the heat is not turned on in the winter except for on Christmas to preserve the paintings.

After hearing from Mariam, we went to the museum for the church and watched a video to learn more. The church's ceiling is medieval art that marks a shift from traditional Christian art, telling stories from the life of Christ and St. Martin. Each tile used cheaper colors



Figure 12: Using our mirrors to look at the ceiling.

and had a style of art that could be quickly done, exemplifying the limited funding they had. They were likely painted on the ground and then arranged on the ceiling.

After the museum, we finally were able to enter the church and were given small mirrors to look at the ceiling with. Inside, the ceiling was bigger than I imagined it to be, and it was fascinating looking at the stories the tiles told. The outer tiles had funky-looking sea creatures (inspired by land creatures) which symbolized their belief that they were surrounded by oceans in each direction.

Many people got some ice cream before we set off for our next stop. We loaded the vans and headed to the Viamala, another Rhine Gorge. We arrived on top of the valley where the gorge was carved into. Here, we got our tickets and took some stairs down to see the Rhine River rushing through the gap between the rocks below the walkway.



Figure 13, 14, & 15: Walking down into the gorge, crossing a bridge across the river, and the river flowing through the rocks and big boulders.

We learned from Reto that the Rhine Gorge was formed by the river and not a glacier since the valley was jaggedly carved and not U-shaped like glacial valleys. However, a glacier rested above the Rhine Gorge long ago, so the steep gorge rests in a glacial valley. We saw



the evidence of this in the huge boulders that rested close to the water, which would have been brought by the glacier and sunk with the water as it carved the rock. Water alone is not very abrasive, but this particular water would have carried a lot of sediment and rock which can be highly abrasive. We even saw our very first potholes carved by the whirlpools in the water.

Figure 16: Jackie touching the schist.

We also observed some folded rock in the gorge made of the metamorphic rock: schist. We got to see and feel the layers in the rock. Holy schist!

After our ascent up the gorge, we continued on our journey to the tiny village of Monte Spluga. When we reached the valley, rain began to fall and we parked at a small pink hotel, called Albergo Vittoria. Reto checked us in, and we quickly put our luggage in our rooms and then met for dinner on the first floor.



Figure 17 & 18: Our pink hotel and us waiting to be served dinner.

We ate in a cozy room with a set meal of pizzoccheri, polenta and meat or mushrooms, and nut tart for dessert. With my stomach full, I went to bed and fell asleep quickly, concluding a very fun first day.

August 14 • Via Spluga and Chiavenna

by Kyunghwan Lim

My day started bright and early at 8:10 AM, 4 hours after I finally defeated jetlag and fell asleep. Our go-time was 8:30 AM, so Channing and I scrambled to pack up my things and wash myself in merely 10 minutes, leaving me another 10 to scarf down a delicious apricot croissant and chug a glass of orange juice. After breakfast, we walked to the vans, where we said our final goodbye to our beloved pink hotel.



Figure 1- Channing and Mariam displaying the hotel's wonderful collection of spreads.

We drove 5 minutes to a 20th century dam, where we promptly started our hike down the Via Spluga. The Via Spluga, as Reto explained, was a path the Romans used to cross the Alps for their many conquests of Europe. Later, the very same road was used by Napoleon to cross the mountains in November. He picked the wrong time to do so though, as a lot of his army died due to the harsh winter conditions. We also talked about the various fish in the streams, of which the trout was the most common.

The road we were hiking was probably the rockiest road I've ever been on. I soon learned

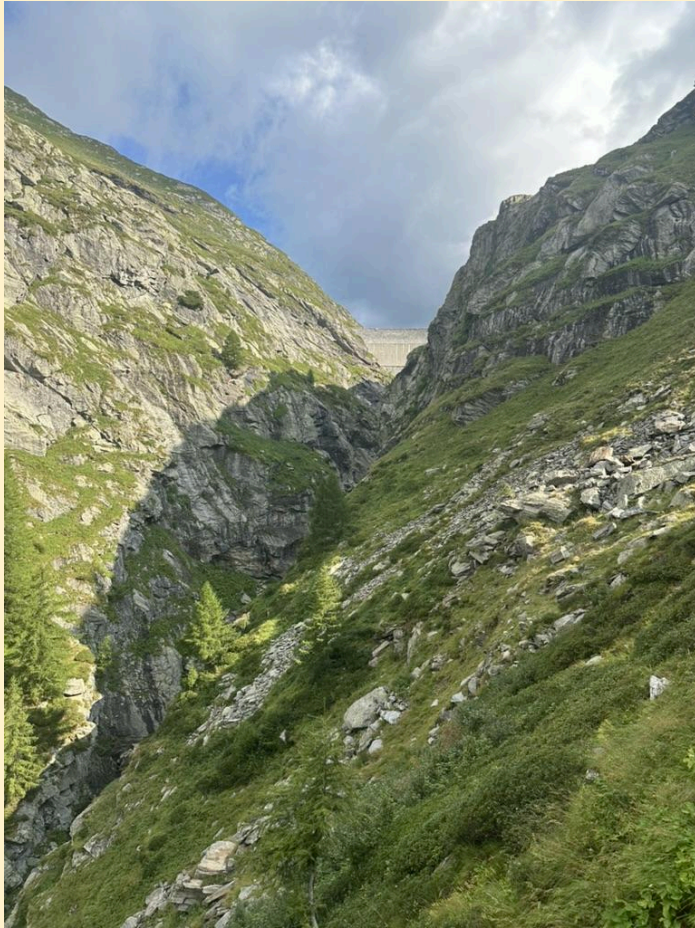
that this would be a hated recurring pattern in the terrain of the trails we'd hike. My feet pulsed with constant pain from walking on the rough outcroppings of the mountain floor.

Figure 2- The trail markers of the Alps

Some cool things we found and discussed on the trail: The trail markers are a red square with a white stripe in the middle. It



reminded me of a strawberry macaroon. We also found some blueberry bushes. I don't



normally enjoy eating blueberries because they are always too tart for me, but these berries were scrumptious. We also talked about the larch tree. The larch tree is interesting because the needles become a golden yellow hue in autumn that gives the local landscape a beautiful hue. I marked it in my bucket list to return to the same location in fall to witness the full beauty of the Via Spluga.

Figure 3- The dam framed by a stunning view of the gorge

patches of green larches and grasses. The wide abyss allowed us to take in the full grandeur of the surrounding mountains, their cliffs rising dramatically against the sky.

Even though the peak of the larch had eluded us, we could still appreciate the surrounding landscape. The valley we were in was barely above the treeline, meaning that the view of the area was unobstructed by branches and leaves. Our sight extended across the rugged terrain, where steep, rocky slopes met



We soon arrived at our first major stop; a small village named Rasdegliia. Here, I saw the large roofing and floral decorations that I described in my research paper about Alpine architecture, which really excited me. There was another hiking group resting here, only it consisted of children that looked 10 years younger than us. They led me to a church, where I saw some stunning secular frescoes unbecoming of such a remote village.

Figure 4- My sketch of the church in Rasdegliia

Here, Steffi and Reto left us to go pick us up in vans at the lower town of Isola. In the meantime, we took some nice selfies at a heart-shaped hole that the village had set up for tourist's photos. We slowly but surely started making our way down the valley to Isola and ate our lunch in another small village on the way. There was a little boy there that seemed very disappointed that we did not speak Italian. He kept trying to ask us if we were going to Isola, but we had no clue what he was talking about (Reto and Steffi were a bit unclear on the nomenclature of the destination). To put the cherry on top, there was a fountain that we weren't sure we could drink from, so I asked him if we could "mangiare" (eat) the water because I forgot the word for "drink." This led to a frowniest of frowny faces on the little kid, and he ran away to play his Nintendo Switch instead of entertaining his new guests.



Figure 5- The group outside of Rasdegli

Things started to go a little sideways during lunch. I had a chunk of cheese that I bought two days ago that looked perfectly fine from inside the packaging. However, upon puncturing the plastic wrap surrounding the cheese, I was confronted with a horrendous smell beyond my comprehension. Just from the slightest touch, it left a scent on my finger that lingered until I rediscovered it in the shower later that night. From that point on, I did not buy cheese from the supermarket again. To make matters worse, it began raining, and I ended up stuffing the last of my dried mangos in my mouth before we quickly changed attire into rain gear and continued traversing down the mountain again,

making sure to keep the cheese a full arm's length away from me.

About 30 minutes later, we arrived at the cute town of Isola. Unfortunately, our excitement did not last, as I found that my sunglasses had disappeared from my possession mysteriously. Thinking I left it at the lunch spot, I ran back up about 3/4ths of a kilometer to the village. Out of breath, I frantically searched the grass and picnic tables for any sign of my Oakley's, but I had no luck. As I walked back to Isola in defeat, I opened my jacket up



Figure 6- The stinky cheese

due to the humid heat, and to my surprise, my sunglasses were hanging on my shirt. Upon reconnecting with the group, I admitted to my mistake, but heard the good news that Caroline had disposed of the stinky cheese in my stead. We began exploring Isola in search of the place that Reto and Steffi had described they would pick us up from and found them by the lake within 10 minutes.

As soon as we got in the van, we began singing a medley of songs from *Frozen*. I did not know the lyrics as well as the other people in the car, so I passionately hummed the melody instead. We made two stops on the way to Chiavenna. The first was at an overlook five minutes out from Isola where we saw an incredible view of the valley. The second was another small village down the road, where we stopped to discuss the geology of the landscape. Reto explained that it was a glacial valley, which he could tell by the steep slopes near the top and wide basin. There were lots of rocks near us due to landslides, the most striking of which were the large boulders near the villages. These landslides are caused by decreasing levels of permafrost, the “glue” of the mountains. Since the “glue” has melted because of climate change, these rocks fall from the ends of the valley and start the big landslides that we were surrounded by. On a more positive note, a cool use of the big rocks in the area is the use of them as a natural refrigerator, as the gaps between boulders lead to cooling in nearby houses’ cellars.

After an hour of driving, we arrived at Hotel San Lorenzo in Chiavenna, where we frolicked around the town for about three hours. I tried the local gelato (SO GOOD) and explored the various waterways in the town. There were many fig trees along the main river, so I tried my first fig ever and was pleasantly surprised. It reminded me of crème brulée, as there was a hint of burnt brown sugar among all that chewiness.



Figure 7- 2024 Penn-in-the-Alpers pensively staring into the waterway at Chiavenna



**ROTTO
QUARTINO**
otto n.1 in Valchiavenna

THE MENU
Authentic Valchiavenna

ARE YOU READY TO LIVE AN AUTHENTIC EXPERIENCE?
ENJOY ALL TRADITIONAL DISHES. THEY ARE TO BE SHARED
IN THE MIDDLE OF THE TABLE, AS THE TRADITION WANTS IT.

ADD DRINKS...
...it's convenient!

We'll bring water and red wine and liquor at will.

Free of charge for our liquor. The Fort of Piuro and sage.



Salumi dei Luganegheri
- Brisaola and Bastardell -
Homemade sweet-and-sour salad made of red cabbage and onion

Platter of cheese



Pizzoccheri bianchi 1930
This has been our traditional dish par excellence since our opening! They cannot be confused with those of Valtellina. Our Pizzoccheri are in fact white and whisked with Piuro IBCP cheese, garlic, sage and a large amount of butter.

Pork ribs "Maziglia" and salsicetta
With potatoes and polenta taragna

Torta Fioretto "Nonna Alba"
Biscotti di Prosto PRECETTI
Crotto Quartino's top-secret recipe

DRINKS EXCLUDED.
YOU CAN ASK FOR THE REFILL WITHOUT ADDITIONAL CHARGE.
EATING AT WILL IS FINE BUT WASTING FOOD IS A SHAME!

THE PROPOSAL IS VALID ONLY IF CHOSEN BY ALL TABLE COMPANIONS.

PERFECTLY PAIRED WITH CURED MEAT
Our speciality!

Sciatt "Furmentùn"
Buckwheat round-shaped fritters stuffed with cheese produced in Piuro. They are still as prepared as they used to be in the past, without adding white flour.



At 7:30, we began having dinner at Crotto Quartino, who provided us with a meal of regional classics such as Pizzoccheri and Sciatt. The Sciatt were so good— fried cheese balls that somehow avoided being greasy yet were perfectly crisp. Over the course of the meal, Jackie talked a lot about Singapore and how awesome it was because it is racially diverse, while Vikki discussed the hardships of deciding which path to choose as a senior in VIPER.

The meal took a long two hours (we were ridiculously full by the end) and culminated in an espresso that I think was the best coffee I've ever had in my life. On the way back, we sang karaoke per usual, and I checked out to sleep early from a food coma.

Figure 8- The course we had at the restaurant

August 15 • Life in Chiavenna

by Vikki Xu and Channing Ware

As someone whose only footwear options were hiking boots or slippers, I felt slightly out of place walking among tourists and visitors in the small, cobblestoned city of Chiavenna. We started the morning with breakfast at the hotel before a short walk to the city's monastery. As Reto began his explanation of the day, we sat lining the steps of a clock tower, inching forward into the shrinking shade as the sun continued to rise.

Chiavenna, as Reto explained, lies on the first route built through the Alps between Switzerland and to Milan. While not the easiest path to trek through in the earliest days, it was the shortest direct route to the south, providing an essential trade and postage route. To the east of us lay Val Bregaglia and to the west lay Montespluga, where we had just driven from the night before.



Figure 1. Reto outside the monastery explaining our location using one of his many large maps

Reto pulled out maps to show us the geography of the area, including the regions where the four national languages of Switzerland are spoken: French in the west, Italian in the southeast, Romansh in the east, and German in the central region. On this trip, we would primarily travel through the Italian-speaking region—as Reto told us, a region that looks, sounds, and feels Italian despite

being fiercely Swiss. The people in Switzerland choose to live together as a nation despite their different languages and cultures, which reminded me of our discussion about Singapore at dinner the night before, facilitated by Jackie.

Even in the Romansh-speaking parts of Switzerland, there are four distinct dialects that are almost mutually unintelligible, separated by the individual regions where Romansch is spoken. As education standardized across these regions, school books had to be printed

with all four dialects, which quickly became unfeasible due to printing and distribution



costs. This challenge led to a standardized language used for written documents called “high Romansh,” which is now used in media, TV, and news as well. It felt

Figure 2. A fortress of the ruling families above the monastery

strange to know that the mountains had set such stark boundaries for where languages were spoken in the past, yet

modern language has been artificially developed to transcend these mountain passes.

Chiavenna was first established as a trading post in the Roman province of Raetia, serving as the Romans’ first stop on their travels to northern Europe. Into the Middle Ages, Chiavenna remained very wealthy from trade and was organized in a hierarchical society by ruling families from the Engadine Valley. The ruling family would live on the fortified hilltops visible from all around the city. The middle-class citizens lived in the fortified part of the city, called the castrum, and the lowest class lived outside the walls of the city. During the Reformation, the ruling families of Chiavenna uniquely offered total religious freedom to its citizens; thus, this area remained Catholic while others were moved to Protestantism. Eventually, other mountain passes, such as the Gotthard Pass, were constructed, and Chiavenna became less crucial. The Canton of Grisons became wealthy and took over Chiavenna from its ruling families in the 16th century, establishing postal routes as well as rebuilding buildings with stone.

Reto began to explain that the monastery we sat in was likely built around the 11th century, until he was interrupted by chimes from the bell tower directly above us. Reto tried to shout the rest of his sentence, but the bells were relentless. He gestured at us to go explore the church ourselves, and we dispersed into the nave.

The doors to the church were wide open, making the church feel almost open to the outside. The church looked quite different from the more austere Protestant churches we had visited prior. Every surface was covered with carved wooden paneling, faded red and tan paint, painted grapes and flowers, and gold statues and ornamentation. Paintings on the walls depicted scenes abound with human emotion—a mother gazing at the baby in her

arms, the coming of Christ, a battle between a saint and a monstrous creature. As we roamed the church, a steady stream of silver-haired people shuffled in. We later learned that this day, the fifteenth of August, was an Italian national holiday and this was likely a special church service for the day. We asked Reto how to wish people a happy holiday: Buon Ferragosto!



Figure 3. An empty side room of the church

The pillars in the church and outside the church were notably carved from one large stone each. Many of these were carved from soapstone, a soft and easily carved rock that is abundant in this region. Stonemasons who work with soapstone have continued as a tradition in this region since even this church was erected, and we would later see evidence of these stonemasons embedded all around the city.

We then walked to Parco Paradiso, an archaeological botanical garden where we saw the remnants of a soapstone quarry and home of a ruling family. Soapstone is especially tolerant to heat, and is often hand carved into cooking pots, hence its common name of potstone. Once the inside of a large pot was carved out, the inside portion would be used again to carve a new pot, like a series of nesting dolls. The final smallest piece from the center would then be used for other purposes, such as paving stone paths around the city.

Figure 4. The centers of soapstone pot carvings used for the garden path

Lastly, we walked to the top of the fortress area where the ruling class would have lived, and Chenyao gave her presentation about the history of traversing the Alps. After grabbing a few



more pictures and admiring the phenomenal views of the city below us and the mountains surrounding us, the group walked back down the path to the city. On the way down, we stopped to learn from Reto about the foreign plants present in the garden. The monkey



puzzle trees particularly caught our attention due to their unique structure, name, and South American origin.

Figure 6. The view from the top of the fortress where Chenyao gave her presentation

While admiring some of the statues at the bottom of our path, we noticed a couple walking in our direction and decided to try greeting them using the new phrase we learned that morning for the holiday. We were cheerfully greeted with a “Buon Ferragosto” in return which made us very happy. While walking, Reto informed us that quite a few of the buildings in the area had previously been used as buckwheat pasta factories, a popular export for the region and an equally popular dish to serve during meals. We tried buckwheat pasta a couple of times throughout the trip and absolutely loved it. Today, many of these factories have been converted into museums, new stores, or even residential buildings. Reto also mentioned that these factories, and the present-day museums, were near the river that flows through the city because they completely ran on hydropower. Many of the sites and cities that we visited during our trip ran on sustainable energy sources like this, and it was very impressive seeing Europe’s commitment to sustainability. On the other hand, some man-made steps or barriers have been placed in the river to control its flow and aid in reducing potential flooding, especially with growing concerns surrounding climate change. It was interesting



being able to see the innovations that the city has been implementing to adjust to the changing environment, a common theme we encountered during the trip.

We then split for lunch, where we all got delicious tagliatelle from a cafe right on the main town plaza.

Figure 7. Jeffrey enjoying lunch while Sophia looks on

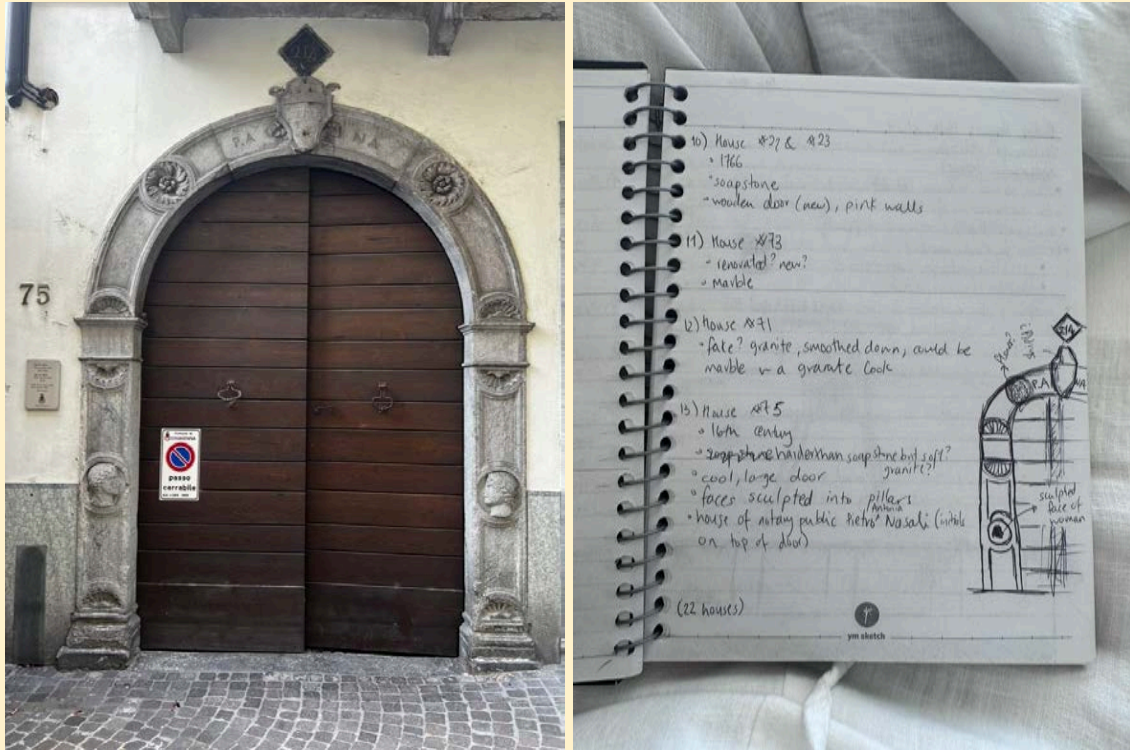


Figure 8. The group in front of our hotel during our break

After lunch ended, the entire group assembled back at the palace to meet Steffi and Reto to head to visit a gorgeous, yet colossal baptismal font carved completely out of soapstone. Reto told us that the font was carved in 1156 for the local church to use for its baptismal ceremonies, and the design of the font even includes the recorded history of the religious community of the region through the etched figures and inscriptions. Reto was able to help walk us through the history and meaning of each figure as seen below. We then took time to explore the small room and the paintings displayed on the walls.



Figure 9. The baptismal font with Reto explaining each figure's significance



Figures 11 & 12. An image of one of the unique and detailed stone portals we encountered and an accompanying sketch and description of the portal done by Mariam



After completing the scavenger hunt around Chiavenna, we headed back to the hotel to change and reconnect with Steffi to head to dinner. Reto was missing in action, but Steffi informed us that he was already waiting at a top-secret location for us. So, we walked through town and over the stone-made bridge that crosses over the river that splits the city in half and were delighted to find Italian children selling their homemade paintings on small rocks in the middle of the city. They were so cute and eager to meet us, and a few of us happily bought their stunning art pieces as mementos for our time in Chiavenna. We then met Reto at a small cafe right next to the water for a surprise aperitivo or pre-dinner snack and drink. It was the absolute best unexpected addition to the day full of a generous assortment of yummy meats, cheeses, breads, and wines.

Figure 13. Our .5 selfie during our aperitivo

After snapping a couple of pictures and enjoying the views of the city, we left the cafe and headed to our dinner spot for the night - a delicious restaurant known for its pizzas and pasta. We all ordered our own pizzas and pasta and made to share bites with each other to try as many different dishes as possible. At the end of the dinner, Caroline noticed that many small flies had flown into her water since we were enjoying dinner outside, and Jeffrey bet her \$10 that she wouldn't drink it. She quickly gulped it down and was \$10 richer that evening.



Figure 14 & 15. Our delicious Italian dinner and Caroline drinking her fly infested water for a bet

After dinner, we all headed back to the hotel to shower and rest for the next day's adventure. However, my roommate Jeffrey wanted to visit the lovely church we had seen that morning again before we went to bed for the night. So, I walked with him to the church but, of course, it was locked for the night so we just decided to do one last late-night stroll around the city and discuss our favorite moments from the trip and what we're looking forward to in the next few days. Then, we headed back to our room to get ready for our hike in the morning.

August 16 • Palazzo Vertemate, Soglio, and the Engadin

by Chenyao Liu

It was one of our last days “sleeping in” (in Reto’s words), so I got up bright and early at 7:30 AM. Jackie and I went to the local grocery store—which we had passed the day before on our door-portals-scavenger-hunt—and got lunch for the next three days. For us, that mostly consisted of fruit, bread, and some snacks. After a side purchase of some “mountain juice” and a stilted conversation with the nice Italian-speaking cashier, we headed back to the hotel for breakfast. A few bowls of cereal later, we quickly packed and loaded up the van, heading out a few minutes after 9.



Figure 1: Breakfast with Jackie at the Hotel San Lorenzo!

Jackie was doing an Instagram takeover for the Wharton Dean's Undergraduate Advisory Board (WAB), which added to the chaos of the day. Our first stop was just ten minutes into the drive, where we stopped to look at a chestnut tree. We learned about the importance of the chestnut as a staple food, and its long history in Europe, starting from being introduced and cultivated since ~2000 BCE and then introduced to Europe by the Romans. Chestnut trees are susceptible to diseases, though, and it's due to conservation and exchange efforts between the American and European continents that the chestnut tree is not yet extinct!



Figure 2: Leaving Chiavenna ...



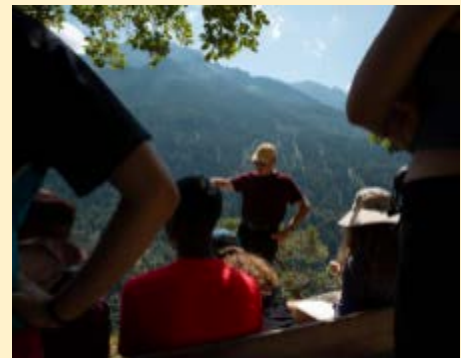
After our “tree tour”, we headed over to the Palazzo Vertemate Franchi for our actual tour, led by a fantastic guide called Luigi. The palace is from the Renaissance era and provided a clear map of the city and the family’s history. Originally owned by the Vertemate family, the palace was only inhabited after the original palace (and town!) was destroyed in a

Figure 3: A group picture with our tour guide at the Palazzo Vertemate Franchi!

catastrophic landslide. The remaining Vertemate brothers built a church in the current palace to commemorate the lives lost, and after the end of the Vertemate bloodline, the palace was passed through several people, all with ownership stories that could serve as the plot of a sitcom, before eventually being donated to the city of Chiavenna to serve as a museum.

The palace itself provided an agricultural and artistic look at the past. An example of European self-sufficiency, the palace was a completely autonomous zone, with a large garden providing sustenance through heat-retaining walls and a clever irrigation system. The walls were also incredibly beautiful, filled with Classical paintings (and some Renaissance-era graffiti). We also saw commissioned paintings of the town before and after the historic landslide. Before we left, we picked some apples and pears from the Italian-style garden.

Figure 4: Reto's lecture on the Bondo landslide.



A little bit past noon, we made it back into Switzerland and began our hike in Val Bregaglia — aka, in Steffi's words, the Sound of Music hike! About half-way up we stopped for lunch, on a tiny nook that overlooked the



city below. Reto told us about a landslide that had swept through the city below us, Bondo, in 2027. Though the people that first built the town in the 1300s were well aware of the dangers from the mountains above the valley, lax building regulations in the '60s and '70s meant many houses were built near the riverbed. Geologists noticed, however, that the mountain flank was slowly moving, and predicted that one day, a landslide would deliver 4 million cubic meters of debris into the valley. Though channels and other mitigation measures were built, when the landslide actually occurred, it came in two parts, delivering double the amount of wreckage that was predicted. Though the townspeople had been successfully evacuated, eight hikers were killed, leading to a lawsuit against the mayor of Bondo that will likely have interesting implications.

Figure 5: The Sound of Music hike!

After getting our second lesson-of-the-day on the danger of landslides, we finished our hike to the idyllic village. Though the original plan was to have Reto and Steffi take a bus down to the valley and pick us up in the buses, we voted to hike down since the day was beautiful (and the hike wasn't too steep). Jeffrey gave us his presentation on Alpine architecture, drawing our attention to the large, low-sloping roofs and stone & wood buildings that prioritized function over form. We also learned about the use of ornamentation to decorate Alpine houses, anywhere from woodworking to stucco murals, which all added vibrancy and depth to the buildings. When learning about the repurposing of old buildings into a



more modern style, I was reminded of a horror movie I had watched a few days before coming on this trip, which was set in the German Alps and featured a *lot* of Alpine huts.

Figure 6: Jeffrey gives us his presentation about Alpine architecture.

We explored the town for a little while, then stopped to get drinks and gelato at the Palazzo Salis restaurant, which was in a beautiful garden. Jackie was still doing her social media takeover, and we came up with some random “would you rather” questions to fuel discussion. We then headed back down to the valley and got ready for the longer drive to our next destination.

We explored the town for a little while, then stopped to get drinks and



We went up a mountain (which took 15 sharp turns!) and stopped to get some pictures with a full view of the valley. When driving past a series of glacial lakes in the Engadin, we saw a lot of windsurfers. We made it to the youth hostel in Pontresina at 6:30, and immediately settled in for dinner. After dinner, when we thought we'd have an early night, we were told to get *very* warmly dressed and meet for another surprise. We took a cable car up a mountain and got to see a beautiful evening view of the Engadin. Up on the mountain, we took advantage of a children's

Figure 7: Loaded into the cable car.

zip line, had some interesting conversations with an American professor, and met some weird teenagers. We made our way back to the hostel at 9:30, and though we had originally planned on stargazing, it was far too cloudy to see anything. Instead, we all decided to get some rest for the “big” hike the next day.



Figure 8: Caroline takes the zip line while the rest of us wait in line for our turn.

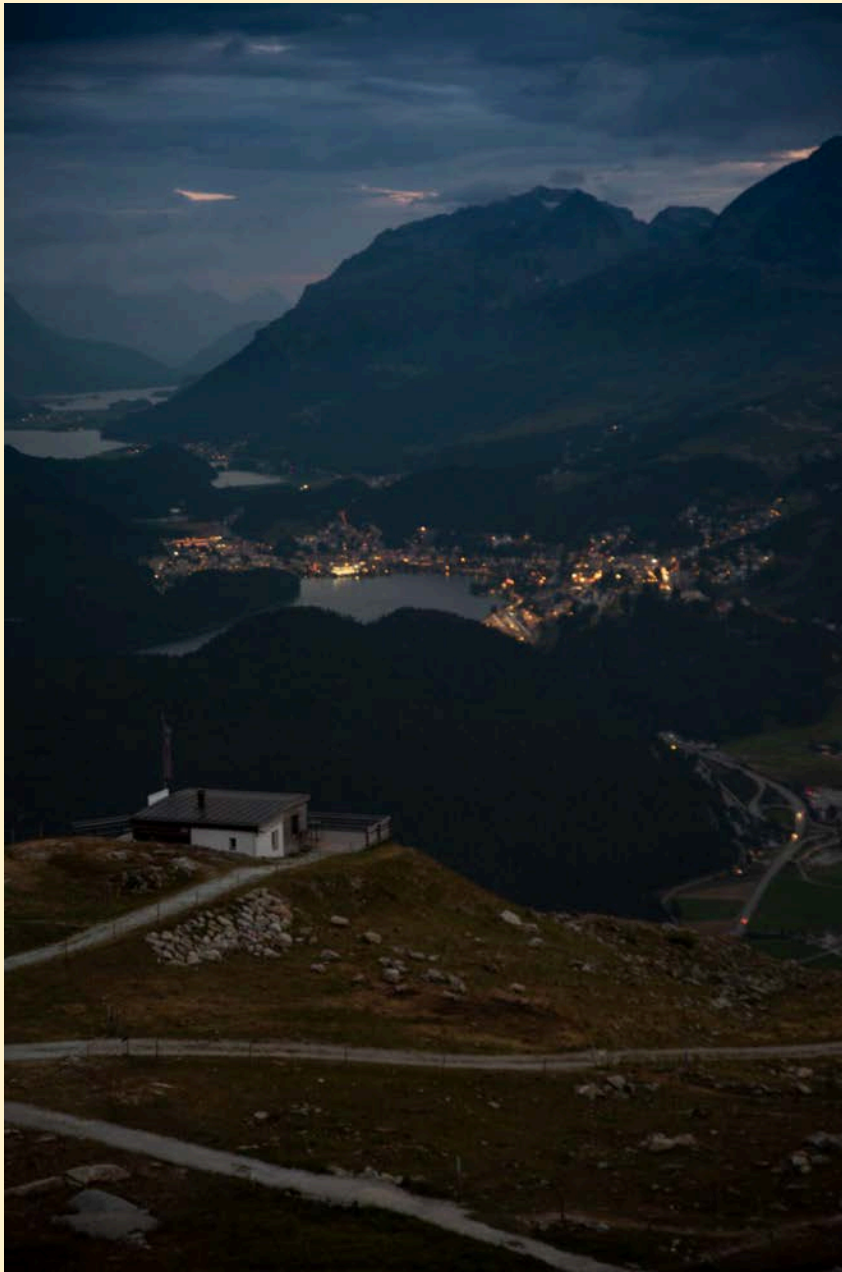


Figure 9: The Engadin valley.

August 17 • First time with Glaciers: A day with two hikes

by Majd Ayyad

Rise and shine, ladies and gentlemen! Today, we're going to see glaciers. We started the day early to catch the train at 8:08. The train station was right outside the hostel. As usual, Channing, Jeffery, and I didn't have time to finish breakfast, but I made an egg sandwich for the road.

One thing I appreciated as an engineer is how stable the trains are in Switzerland. Vikki easily braided Sophia's hair on the way from Pontresina to Bernina Diavolezza, where our first hike was.



Figure (1): Reto Outside the Red Train



Figure (2): Vikki's braiding Sophia's hair

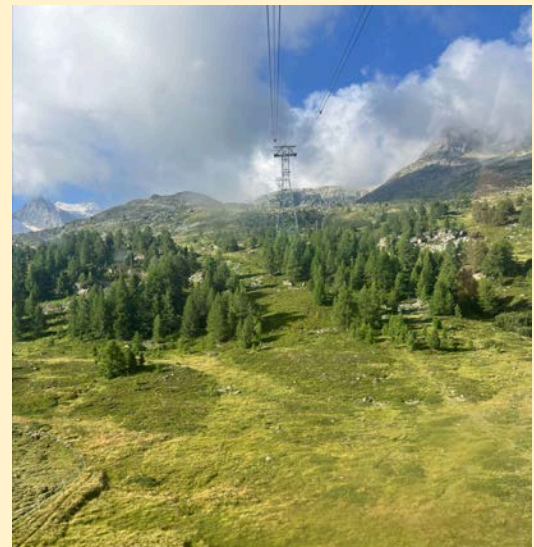


Figure (3): Treeline in the Cable Car

We took a cable car afterward to reach 2,978 meters in elevation. Above the treeline, the breeze started as soon as we left the cable car, and everyone was astonished by the

view—only glaciers and rocks in all shades of grayscale. We left the cabin and slowly started moving. Hiking uphill is the best way to warm up, and soon, jackets were put back into bags. UV light was super high at the top, we made sure to wear sunscreen, sunglasses and hats.



Figure (4): Above Treeline in the Cable Car

Our first stop was at 10:20, where Professor Reto gave us the first lecture of the day on moraines—leftover debris from a moving glacier. They looked like gray, slippery cliffs. Soon, the lecture ended, and we continued hiking. Every breath became harder; I could feel my lungs struggling as the pressure dropped with every step. I slowed my pace but kept walking, focusing on my small steps until I finally looked up—and I was at the top of Munt Pers!



Figure (5): Inside the Cable Car

We had lunch with a glacier view. Helicopters were also flying around, rescuing people. In short, it was a hard trail, yet we made it! Reto talked about permafrost—when the ground remains frozen for at least two years—which serves as glue to mountains. Climate change has caused permafrost to melt,

leading to more landslides.

Although we could not get enough of the view, we had to go back down to start the second hike. We stopped for drinks in the cabin then took the cable car and the train a few stops to Morteratsch. We sat in the open car of the train, enjoyed the view and waved to everyone we passed by.



Figure (7): Open Cabin of the Train

Our second trail was unique; it was fully covered by glaciers in the past, with markers along the way to monitor the melting process. Unfortunately, due to global warming and climate change, we had to hike around 4 km to reach the glacier. The trail was super rocky and not fully marked, but I was thrilled and excited to navigate my way through and finally reach the glacier. The rocks in the second trail were polished from the time when they were under the ice, and the scratches on the rocks, parallel to the valley, can be explained by other rocks scraping against them as the glacier moved further down the valley or retreated up the valley.

Figure (8): Glacier Line in 1990





Figure (9): The GLACIER



Figure (10): My Excitement and the Glacier



Figure (11): The Rocky Trail



Figure (12): Rock Wedging



Figure (13): Playground!

We slowly made our way back to the train station. We saw a halved rock (Figure 12). Reto explained how frost wedging of rocks occurs due to the expansion of water when it freezes. My conclusion was that water is strong!

Steffi and Caroline didn't wait for the train and ran back to the hostel. We found a playground and played there until the train arrived. Everyone was hungry, and luckily the hostel had a pasta festival night! After dinner, I had a massage party in my room with Jackie and Chenyao.



Figure (14): Dinner at the Hostel

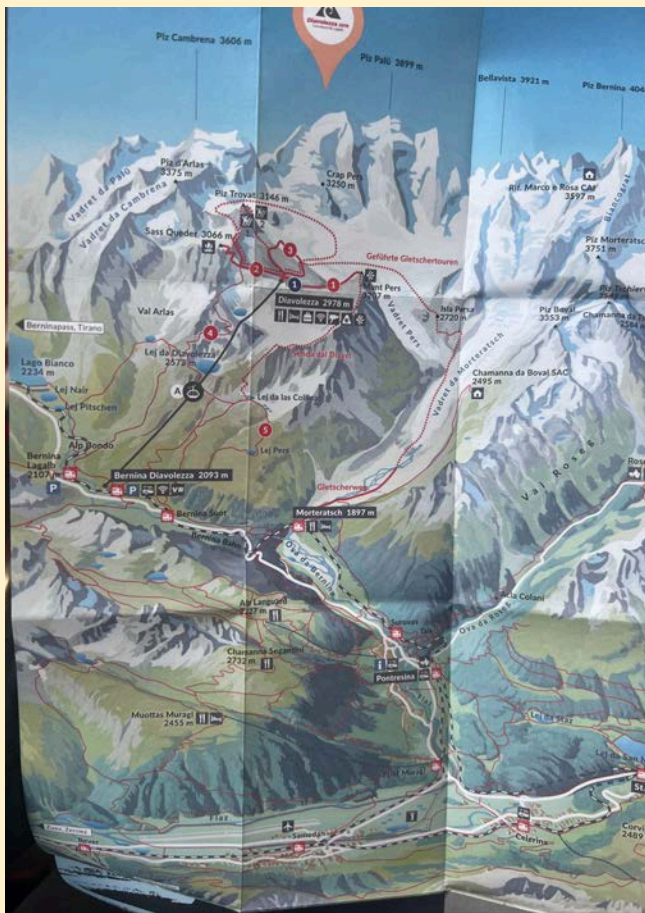


Figure (15): Reference map of the 2 trails

August 18 • Pontresina, Switzerland: It's Raining Cows and Goats

by Mariam ElNaggar

Waking in the brisk morning air of Pontresina, I rose slightly behind schedule at 7:15 AM but soon found myself amidst the familiar chatter at the Youth hostel's breakfast table. I began the day with my usual hearty hiker breakfast: one toast with cheese and tomatoes, another with butter and raspberry jam, berry yogurt dressed with granola, and a banana.

Despite the heavy rain, spirits were high as we embarked on a new hike to observe the remnants of a recent landslide near Corvatsch Surlej. The journey officially started with an 8:24 AM bus ride, during which Vikki so kindly braided my hair for me. After that, we ascended the mountains via cable car and began our hike. A cable car ride later, we were ascending the path where our first encounter was a covered snowpack -- a temporary shield laid over a ski slope to impede the melting process. This superficial solution highlighted the ongoing battle against climate change, evident from the stark moraines that marked the glacier's former reach. Nearby, we also saw snow cannons, which are devices that take melt water and spray it to create artificial snow in the winter if there isn't enough snow.

Figure 1: Sophia in her "mud-man fit", a capture of joy before the rain-soaked trails.



Along the hike, Reto stopped and pointed out wonderful wildflowers, flora along the trail offered a soft juxtaposition to the harsh Alpine geology. Native thistles of white, purple, and pink, dotted the landscape. We learned that, despite their beauty, thistles have rough textures which are disliked by the local grazing cows. The trail was also home to bluebells, anemones, and high-altitude dwarf larch trees. The dwarf trees were cool to see because their survival at such high altitudes showcases natural adaptability, they are also one of the few conifers. Notably, we saw the gentian flowers also nicknamed the Sound of Music flower, typically a vivid bright blue, but we saw it at an orange hue. Arnica plants, known for their medicinal properties against inflammation, were also spotted along the route.



Figure 2: Pink Thistle



Figure 3: Bluebells



Figure 4: Anemones



Figure 5: Dwarf Larch



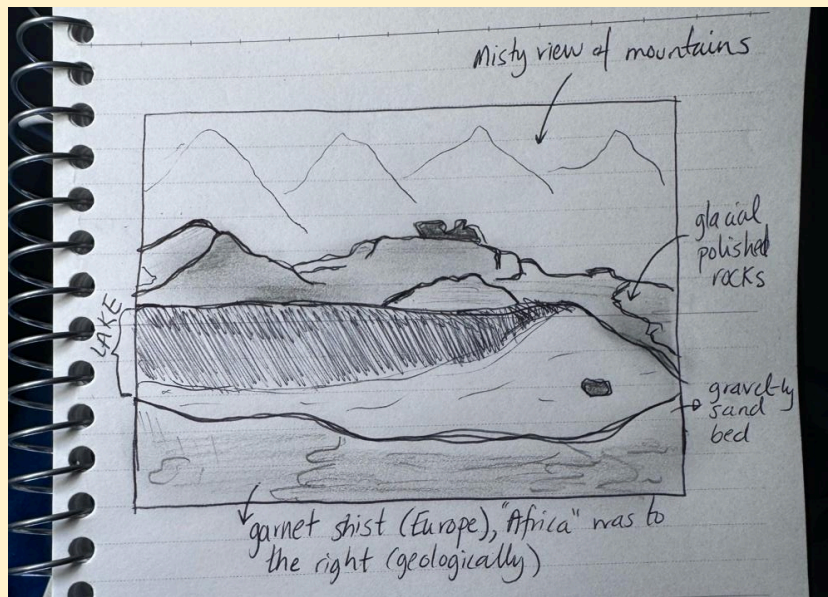
Figure 6: Gentian



Figure 7: Arnica

We then reached the Fuorcla Surlej or 'Saddlepass,' where we were treated to a panoramic view that spanned the geological divide between the European and African tectonic plates. The rocks and mountains we saw here were all glacially polished. The glacial lake at this junction, nestled between a garnet schist and mountains, was as serene as it is ecologically important; with many wetland species growing within it (predominantly cotton grass) and the fact that the basin does not have much drainage, it will be completely taken over by the plants in a few hundred years, then it will become a swamp then a bog. So, this lake illustrates a vibrant ecosystem gradually succumbing to ecological succession.

Figure 7: My sketch of the panoramic view from the Saddlepass.



We then paused for a break and snack at a mountainside cabin. Many of us drank soup, the options were minestrone or meat with bread, and others consumed the local favorite Ovomaltine (which is similar to hot chocolate but not exactly the same).

Here, Sophia delivered her enlightening presentation on the Swiss bovine population, which she affectionately termed "the bovine beauties." Her talk covered the cultural and economic significance of the 700,000 cows that dot the Swiss landscape, which increases during the transhumance season. At some point during Sophia's presentation our class gained a new student who was equally as excited about the Brown Swiss cow:



Figure 8: Our new classmate being sadly removed from the classroom.

The descent proved more adventurous than the ascent, with slippery paths and

spontaneous encounters with cows, horses, and even a solitary frog. We took another break at a quaint hotel, enjoying the local hospitality before completing our hike. The trail, bordered by root-wedged rocks and a picturesque waterfall, led us back to the hostel by 5:45 PM.

Evening at the hostel was a time for nourishment and relaxation. I sat outside on the benches by the Hostel with Channing and Jeffrey for a bit, soaking in the fact that we had successfully completed our first 9-hour hike. Showered and refreshed, we gathered for dinner. I've really been enjoying the soups at the hostel, today we had zucchini soup which was really good.

Initially, I thought the fact that it was "raining cows and goats," would dampen our spirits. But it turned out to be quite the opposite. The mist that followed us on the trail enhanced the magical allure of the Alps, it became one of the prettiest and most enjoyable of the hikes for me.

August 19 • Exploring Pontresina

by Victoria Sindlinger



Our last morning in Pontresina dawned cloudy but without rain, a welcome change after yesterday's soggy hike. We packed our things out from the youth hostel, then explored the town. Our first stop was overlooking a river that Reto explained would ultimately flow as far as the Black Sea - an example of how glacial meltwater from the Alps is vital for not only nearby countries but much of Europe. We also learned about the dangers the mountains pose to the town, particularly in the form of avalanches and landslides. Pontresina has extensive infrastructure in place to mitigate avalanche damage, including a curved channel to gather and slow moving snow, which we got to see firsthand. The "stroll" up to see this structure took us along a steep, unpaved path with plenty of sliding rocks, prompting loud declarations that we were in fact hiking today despite having been promised a break!



In addition to the relationship between the mountains and civilization, we also learned about the architecture of the region. We saw several buildings with beautiful sgraffito ornamentation and small, in-set windows cleverly designed to prevent heat loss. Interspersed with these modest, traditional homes were many large, comfortable hotels - testament to Pontresina's standing as one of the first towns to take advantage of the Alpinism boom of the 1800s.



After stopping by a heavenly bakery and our beloved Coop to acquire lunch, we were on the road!

Breccia and Edelweiss

We made a roadside stop at Lagalb to observe the landscape and look for the iconic Edelweiss. Reto pointed out the unique rock of this area - a pale dolomite breccia. It formed on the ocean floor below the edge of the continental shelf and even contained belemnite fossils! It was remarkable to see that these marine rocks were carried up to a considerable altitude during the formation of the Alps. The calcium-rich breccia provided an ideal environment for the



specialized Edelweiss, and we had to climb on top of a boulder to find the flower. The very sharp, jagged rock made for an intimidating but thrilling bit of bouldering which left my hands red and pockmarked! The Edelweiss was a striking, unique flower with adorable fuzzy petals serving to protect it from UV radiation. While on the boulder, several of us got to see an ermine scampering below us, which was a special treat!



Potholes

Our next stop was the Gletschergarten Cavaglia where we met our tour guide, Olinto. He gave us a wonderful tour of the place, telling us how the round pits carved by glacial rivers were first thought to be giants' cooking bowls, hence the still-used term 'pothole'. We were offered some of the giant's herbal tea brew, which was delicious! To my surprise and delight, we had the chance to climb down to the bottom of one of the potholes! It was incredible to see up close its great size and beautiful smooth, sweeping sides. While making a bathroom stop before getting on the road again we saw an adorable tiny shrew!



Poschiavo

Our next and final stop of the drive was in the town of Poschiavo, where we were given an hour to explore as we wished. Most of the group enjoyed an afternoon snack at Biobistro. Craving a more restful break, I spent my time sitting quietly in the church before going out to the town square for some people-watching.

Arrival in Chiareggio

On the last stretch of the drive to Chiareggio, we crossed into Italy. After settling into Albergo Chiareggio, we had a delicious dinner. Afterwards we retreated to the hotel's bar for some "mountain juice," where we discussed plans for the next day, and I began assigning birds to represent each person's character. Here's the full list:

Reto: Wallcreeper - At home in the Alps, always climbing along rock faces, good-natured

Steffi: Great Kiskadee - Talkative, colorful (in character and physically), makes her presence known

Sophia: Tricolored Heron - Relaxed demeanor, exciting, outgoing

Mariam: Merlin - Bold, bit of a jokester, direct

Jeffery: Common Nighthawk - Laid-back, fairly quiet, goofy

Vikki: Eurasian Magpie - Curious, conversational, attentive

Chenyao: Northern Gannet - Put-together, agreeable, chill

Jackie: Steller's Jay - Pleasant, light-spirited, inquisitive

Channing: Black Guillemot - Social, pleasant, good at making people laugh

Caroline: Semipalmated Sandpiper - Complex, social, adventurous

Majd: Pin-tailed Sandgrouse - Hidden qualities, interesting, companionable

... and finally, speaking of birds, here is my eBird trip report showing all birds I recorded during the trip! <https://ebird.org/tripreport/269442>

August 20 • Chiareggio: Into the Unknown

by Sophia Hall

Hello from Italy! We woke up for the first time in Albergo Chiareggio, an ornamental alpine hotel nestled in the Italian side of the Alps. Now, we could see the south faces of familiar peaks such as Piz Roseg and Piz Bernina. After a delicious breakfast of pancakes, cream-filled mini donuts, yogurt, cappuccinos, and—my favorite—Biscoff cookie butter, we headed out to the vans for the first of many “spaghetti drives” of the day, a term we now affectionately use to call the twisting and winding mountain roads of the Alps.



Figure 1: The table where we ate breakfast.



Figure 2: Pancakes and donuts!

The morning held the energy of the unknown. Last night, the hotel’s owner suggested to Reto that we hike a relatively new and very popular trail to a glacial lake formed by the recent melting of the Fellaria *Gletscher*. Since Reto and Steffi had never hiked this path before, the group had no frame of reference or even—*gasp*—a “difficulty” rating out of ten for the hike. Would we fall off a cliff? Would someone fall into the glacial lake and freeze like a popsicle? There was no way to know.

Little did we know, this hike would prove to be the group’s favorite of the trip, as well as Steffi’s overall favorite.

We drove through the town of Chiesa, situated in the valley of Valmalenco. Although this area once did not receive many visitors because of its impassable mountain peaks and, as a result, limited trade opportunities, once miners discovered the valuable rocks and minerals

present *inside* the steep, dangerous mountain cliffs, the town grew rapidly. As we passed by a museum of a former mine, Reto let us know that we would be touring the place in the next few days and see the place where people once mined for minerals like talc, asbestos, and serpentinite. In fact, many serpentinite quarries that excavate the sides of the mountain for this green stone used in roof tiles and buildings lined our “spaghetti drives” in Valmalenco.

Figures 3 and 4: The beautiful, unpolished surface of Serpentinite found along the hike.



Once we arrived at the parking lot near the trailhead, the sheer number of cars and hikers shocked the group. Dressed in proper attire, these hikers looked a lot more well-prepared than we were.

Nervous anticipation tightened in our stomachs.

Before heading off, a few brave members of the group investigated the quality of the outhouses (which steadily declined over the course of the day), and another handful “warmed-up” from the brisk 15°C temperature by doing jumping jacks.

We began our hike—if you count a slow trudge up semi-paved roads with a slope of 45° up to the top of a dam “a hike.” (I certainly do—Reto might refute that point). Panting and out of breath, we gazed at the dam containing a huge amount of water, which was slowly released into several other reservoirs further down the mountain. We could also see the hut of Alpe Fellaria up in the distance, near the other end of the lake, as well as the signature icy blue of the glacier perched up high in the mountain. The road map of our hike appeared.

The route from the top of the dam to the hut took us along many rock faces full of green-gray unpolished serpentine and fibrous asbestos, which Reto pointed out to us enthusiastically. He even found a rock that contained small flecks of magnetite. The trail was clear and well-marked, and we could easily follow the procession of hikers accompanied by their four-legged furry friends.



Figure 5: The visual “Road Map” of our hike, which took us along the dam to Alpe Fellaria, then to the Gletscher Fellaria and the newly-formed glacial lake!

At Alpe Fellaria, the group took a quick break for drinks and snacks before heading onwards. We passed by a small gray-and-white calf who expressed her curiosity to humans by opening her mouth wide and licking anyone and anything within reach. We also spotted a flock of chickens and a herd of cows. The trail markers changed from the normal red and white to yellow triangles, signaling that we were now on the Alta Via Valmalenco, or the High Road of Valmalenco.

“Welcome to Africa!” Reto says gleefully after asking us if we noticed anything different about these rocks as opposed to the ones earlier in the trail. He explains that during the formation of the Alps, the continental plate of Africa slid over the continental plate of Europe. Even though we were geographically in Europe, we now were geologically in Africa.

We took lunch in a meadow in between two rocks polished smooth by the glacier’s signature effect on the landscape. We eventually made it to the hilltop surrounding the glacial lake. A loud *CRRRSHHH* directed our attention to the glacier, where a large amount of snow and ice fell from the top half of the glacier to the bottom of it and into the lake. We were observing the effects of climate change right then and there. Ice floes clumped together around the shoreline of the murky blue-gray lake, which meant the temperature of

the water was precisely 0°C. In our excitement to reach the lake, the group took one of Reto's (infamous) short cuts and ended up off-roading down steep boulders.

We had some fun hopping on the rocks in the shallow part of the lake, and most of us even took off our hiking boots, rolled up our pants, and took the plunge. Knee-deep in the water, we were quite literally freezing. We all agreed that the dip was worth it despite our chattering teeth and shivering bodies.



Figure 6: The ice floes in the glacial lake.



Figure 7: Vikki licking glacial ice.



Figure 8: The group ankle-deep in freezing cold water.

The stunning views of the lake, the glaciers, and the mountains provided the perfect backdrop for Vikki's presentation: art, music and literature in the Alps. She talked specifically about the Romanticism movement and mentioned different symphonies, paintings, and pieces of writing that all captured the essence of the Alps.

With the presentation completed, our feet frozen solid, and our bellies full, we thought we were ready to start our descent. But the mountain had one more surprise in store for us.

Barely twenty meters away from us stood a rarely-seen majestic mountain creature: the ibex. Its brown fur allowed it to camouflage perfectly with the rocks peppering the landscape. There were two ibex right near a crowd of people taking photographs, but they did not seem to care. One even started scratching himself with his long, curved horns. More members of the herd were making their way down from the mountainside effortlessly. There were at least a dozen ibex on the slopes.



Figure 9: Ibex next to glacial lake.



Figure 10: Ibex majestically perched on a rock.

We were all amazed by our luck. In the summer, ibex typically escape to high, often remote, mountain regions to stay cool. Steffi had never seen an ibex before, and this was only the second time Reto saw some during a Penn-in-the-Alps trip. The cold wind blowing off the glacial lake must have attracted them to this area!

Inspired by this transcendent moment of seeing the ibex above the glacier, I wrote this poem the next day while on a rest stop from our hike.

MUSIC OF THE ALPS

The glaciers speak in tongues
that no human could ever dream
of knowing. The ibex sleets
the whistle of cold wind blowing
steam off sheets of ice. The wild
flowers bend their starry hare's
ears to the rush of meltwater
in spring--pure, clear.
The cows' chiming
notes, maestros
of their own mountain
symphony.

Once we had our fix of the ibex, we quickly made our way back down to the trailhead, passing the now familiar markers like the herd of cows, the hut, and the dam. The spaghetti roads we drove back to the hotel were foreshadowing for what we were going to have for dinner tonight: noodles! We had delicious noodles with porcini mushroom, a family-style entree of polenta, mushroom, and deer, and then dessert.

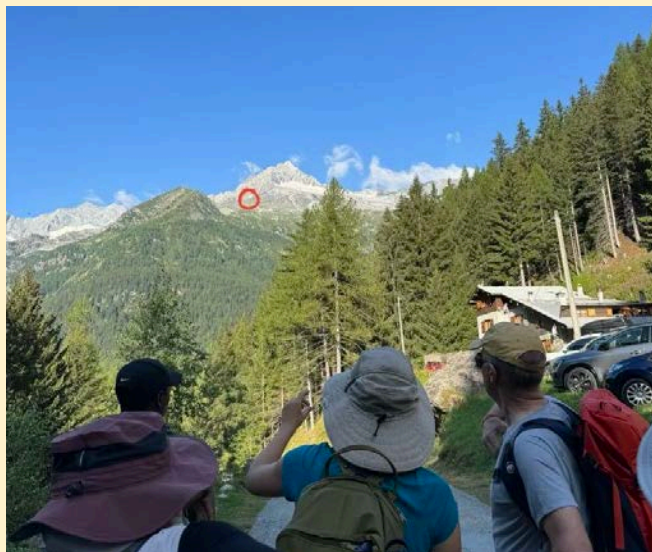
We started our morning with nervousness and unfamiliarity, and we ended it with full bellies, dazzling dreams of ibex, and satisfaction after a wonderful hike. What a perfect day.

August 21 • Chiareggio: The Level 10 Hike (Part 1)

by Vikki Xu

Steffi ranked the hikes that we did on this trip on a scale of one to ten, and everyone used this as a benchmark to prepare themselves mentally for each hike. This morning, the air was ripe with anticipation, as Steffi had marked this hike with a 10 out of 10 for the first and only time on the trip. We started off on our hike straight from the hotel, down the one and only street of Chiareggio. Once we arrived at the trailhead, we took a moment to swallow the reality of the trek ahead.

Us looking at the cabin marking our lunch spot and highest point, circled in red.



The beginning of the hike was relatively pleasant, despite being uphill and quite warm. We stopped at the Alpe Vazzeda inferiore, or the lower alp, which was at an elevation of 1832 meters. At this point, as shown on the trail sign (see Photo), we



had walked about one hour from our hotel in Chiareggio, with about 2.20 hours left until the Rifugio Del Grande Camerini, which was the mountain cabin at our destination. We were quite proud that we seemed to be making the average times posted on the signs, and we were feeling optimistic about the rest of the day at this point.

Steffi showed a couple of us the “mountaineer step,” where you straighten your leg on each step. It made all the difference as we plowed uphill silently, focusing on our steps. Our next stop was on a rocky clearing, right above some houses with rock roofs, where Channing presented about the use of rocks in the Alps.

Channing giving his presentation during our hike.

We continued onwards, stopping again to listen to Jackie's presentation about the formation and types of rocks we had seen on this trip. She gave us a list of the rocks and images that could help us identify each rock type, which was a great log of all that we had seen during our travels.



Jackie's presentation on the mountainside.

Our last stop, still beautifully green and sprinkled with wildflowers, was our chance to taste glacier water straight from the creek and observe the rock formations around us. The dark gray and red-brown rock that I sat on was basalt, originally formed as part of the oceanic floor. However, Reto had intended for us to observe a lighter gray conglomerate rock nearby. This structure was made up of many darker rocks, around fist-sized, that had been

“glued” together by a lighter color igneous rock in between—imagine chunks of foreign rocks in a melted igneous soup. The molten rock was an intrusion that, due to its lower density, rose up and split the older rocks above it. As shown below, some of the rock chunks have a dark outline on the edges, showing where it got baked by the molten rock, kind of like the dark crust on the outside of baked bread. This type of rock is called a xenolith, “xeno” meaning foreign, and “lith,” meaning rock.



The xenolith that we stopped to observe.

From this point onwards, Reto released us to make our way to the summit at our own pace. This was the first time he let us ascend entirely on our own accord, which led to a bit of a competitive scramble at the front of the pack. We stopped briefly to admire a pack of



donkeys that was blocking the trail, and a couple of them even cornered Sophia and Channing, smelling the food in their backpacks.

Now it was just a personal battle to the top. We all naturally gained some distance between each other, but I made it my goal to stick with Jackie, otherwise I might have just given up. I learned that I can keep up with Reto’s usual pacing, but I most definitely could not keep up with Caroline,

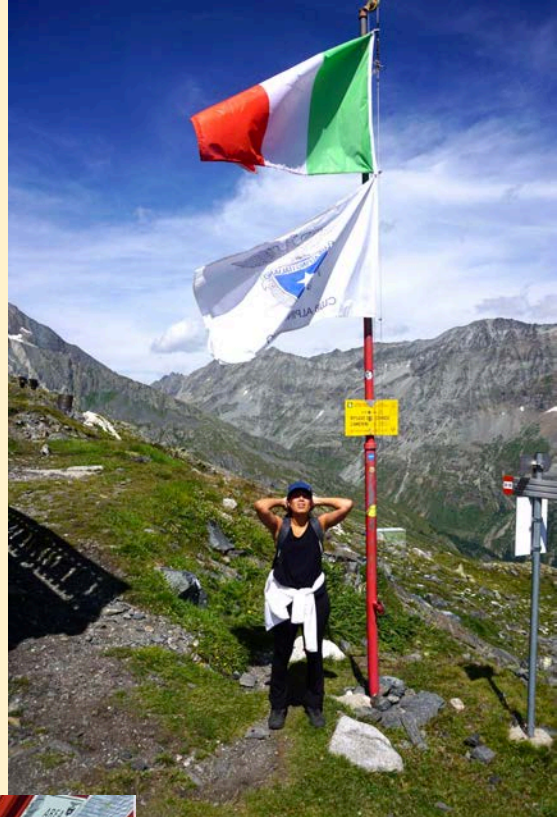
Channing, or Sophia. I watched as their figures disappeared up over the summit as Jackie and I encouraged each other through heaving breaths. We caught glimpses of the cabin each time we completed another small section of the climb, but it didn’t seem to get any closer regardless of how long we spent struggling up. Jackie insisted on creating shortcuts along the trail, which involved scrambling straight up towards the white flag barely visible over the peak, sometimes on all fours. I don’t think it saved much time at all.

Finally, after this sisyphian final stretch, we finally reached the white flag post that had been demarcating our destination all this time. The first thing I noticed was that it smelled

like poop, from the large pile of poop by the flags that I imagine a dog had left to assert his triumph.

Mariam at said flagpost, distressed and in disbelief over what we just did.

We took our sweet time enjoying lunch and recollecting ourselves for the hike down. We were warned it would be longer than the way up, so I think we were trying to delay it a bit. We later debated whether the way up was more difficult or the way down. I was in the camp that the way down was more difficult—it was less cardio, but the potential for a twisted ankle or a fall was much greater, and it required much more quiet focus.



Lunch at the Rifugio Del Grande Camerini.

While we were at lunch, Reto and Steffi made friends with two Italian men who organized an ultra marathon on this trail, while Mariam made friends with a three-year-old. The restaurant staff and hikers outside all celebrated the toddler's ascent up the mountain with a cheer and a gold medal. Our waiter informed us that unfortunately, we wouldn't be able to have parmesan with our pasta, since the next shipment of parmesan would be coming in by helicopter later that week. We also learned that the Rifugio staff hike up to the cabin, lodge for two weeks at a time, and then hike back down in order to work there.

August 21 • Chiareggio: The Big Hiking Day (Part 2- Descending)

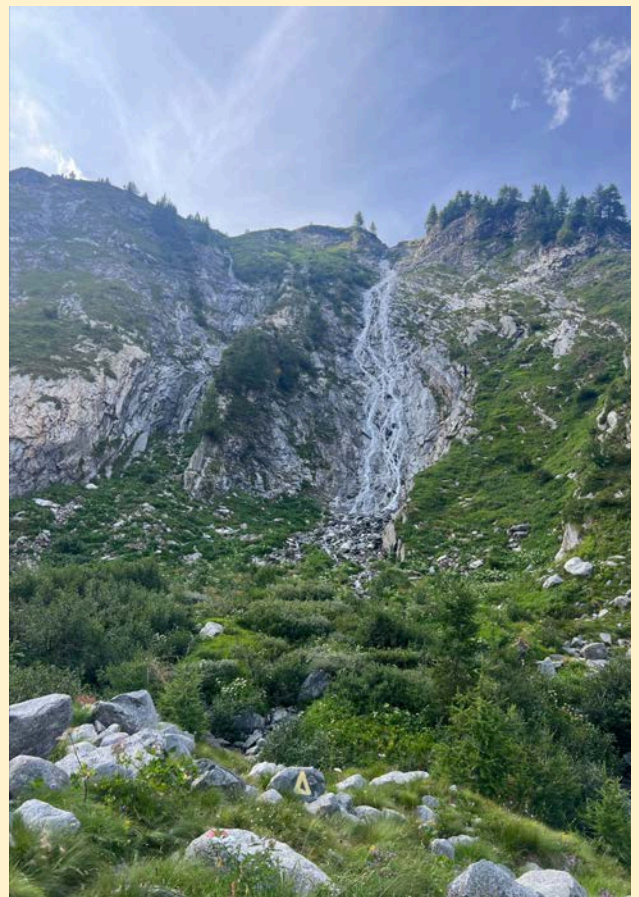
by Majd Ayyad



Figure (1): Reto Helping Us in Climbing Down

Figure (2): Back to Treeline

I heard Reto saying that the way down from the mountain is harder and soon we understood why. The trail was challenging and not fully labeled—mainly because of the recent landslide in the middle of the trail.



We started with a rocky trail where we had to climb backward down, then we reached the second part, which was full of long grass.

Stepping onto the grass was super slippery. I was hiking in the middle of the group, and soon I couldn't see anyone ahead. Oops, I needed to navigate by myself. I kept one eye on my step and the other on finding the trail. My quads were on fire, and soon my knees were giving out. Steffi saw me limping and wrapped my right knee—it felt so much better. After a few hours, we made it back to the hotel! We showered and went straight to the restaurant.



Everyone was super tired and hungry, yet laughing at the table.

Figure (3): We Made it!

Figure (4): Dinner at my Favourite Place



August 22 • Miniera Bagnada, Menaggio, and Bellinzona

by Caroline Cummings

On our last day in Chiareggio, Sophia and I awoke at 7:30 am to pack and eat breakfast. I visited the store across the street to look for a last-minute souvenir and got some forest fruit hard candy. We loaded up the cars and headed to our first adventure of the day, the Bagnada Mine.

For this tour, Reto told us we needed our hiking boots but that this was “not a hike.” We were doubtful. We met Reto’s friend, Carmen, who was responsible for the research of the mine and she welcomed us to the museum of the mine. We watched projector videos on the information on the mine. We learned that the mines in this region were very important because of the abundance of five main different rocks and minerals: serpentine, asbestos, talc, pot stone, and precious stones like green garnet. Today, asbestos is no longer mined, but the other four rocks remain an important industry for the valley of Valmalenco.



Figure 1 & 2: One of the videos we watched on talc and one of the old carts from the mine.

We also learned about the uses of each of the rocks. Serpentine is a rock sought after for its green color and is used in the construction of roads, roofs, and walls. Asbestos was used for buildings and clothing textiles and was desired because of its unique fire-resistant and stringy properties that could be woven into different products. Two types of talc are mined: white and gray. White is more pure and is used in the pharmaceutical and cosmetic industries. On the other hand, gray talc contains other materials which give it color and is used in industrial items such as car dashboards and steering wheels. Pot or soap stone was most importantly used for pots because of its resistance to high temperature, but was also used in making roads and buildings (like the portals in Chiavenna). Finally, precious stones can be sold to collectors and made into jewelry.

After we finished the tour in the museum, we got audio guides and started our ascent on the side of the mountain to the entrance of the mine. This “not hike” was an inclined path with 24 turns and certainly winded us (I considered it a hike).



We got to the mouth of the mine and put on our safety hats. As our guide opened the door of the mine, a gush of cold wind rushed out and I put on my jacket. We entered the dark and damp cave and many of us had to duck because of the short ceilings. We learned that this mine was used solely for the mining of white talc but has since been abandoned. This mine was 9 levels but only 4 were still able to be visited because water had filled in the other levels.

Figure 3: Right before we entered the mine.

We walked along cart tracks until getting to a tall chamber where we stopped and looked at old metal carts that were used to push the material out. We saw lots of dolomite, which is a carbonate mineral that contains calcium and magnesium and reacts with water to make magnesium silicate, which is the powdery substance of talc. We were able to see some veins of white talc and touch the soft powder. In fact, talc is the softest mineral known with a hardness of 1.



Figure 4, 5, & 6: Walking through a tunnel with low ceilings, touching the powdery talc, and a tunnel through the dolomite.

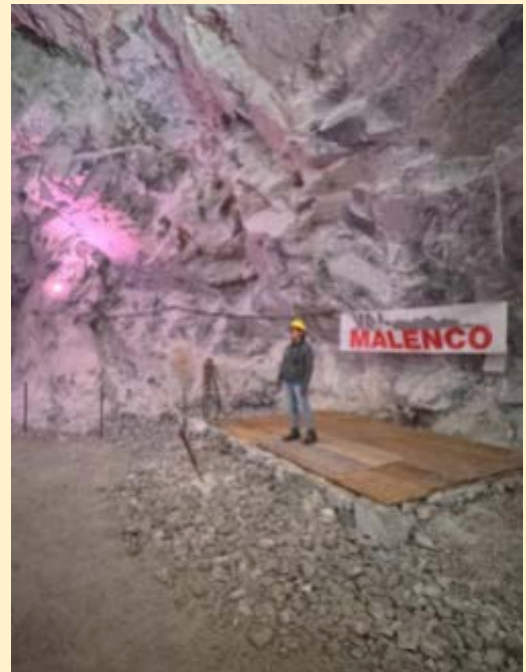
We continued on in the cold dampness and I put on my gloves since the temperature was around 6 °C (around 42 °F). We ascended a level and saw the chamber where they last kept the explosives and starters used to expand the mine. The guide showed us how the holes were drilled and then dynamite was put in each and connected to a starter. A worker then lit the starters, which slowly burned giving the man who lit it time to get out of the danger

area. Once the miners heard the explosions, they would cautiously go back in. This was dangerous business.

We watched a short video on the lives of the miners who worked in this mine. They had hard working conditions without the protections that miners have nowadays. For example, they would not wear safety hats or gloves and would have little to no ventilation since running the system used a lot of energy. They often had constant headaches from breathing in the fumes after explosions and would sometimes sleep in the mines instead of hiking back down the mountain and getting up at dawn to come back up. The whole community of the valley was involved in the mining business. Women would often carry material down the mountain, each carrying 70 kg of material. Even children would help carry material down and would also go to the waste that was disposed of outside the mountain and get any asbestos that was still attached to rock.

Eventually, we saw the end of the dolomite and talc area of the mountain as the miners reached the schist area of the mountain and could not extract any more material in that direction. We went down two levels and visited a large chamber with amazing acoustics where concerts are held in the summer. Victoria sang Italian opera for us, and we got to experience an excellent concert of our own.

Figure 7: Victoria singing Italian opera in the chamber that hosts concerts.



After, we saw the emergency exit that was installed when the mine became a museum. When they were making the path for it they found some beautiful quartz that was given to the ex-miners who then were able to sell it and profit off it. The quartz was so beautiful and valuable that robbers broke in the emergency exit and tried to quarry it themselves.

Finally, we went back to the main level and headed for the exit. We took off our hats and descended the mountain. We took a bathroom break and returned our audio guides. Each of us signed the guest book under “Penn in the Alps!” and the date. Carmen’s husband gave us each some quartz that was found in the mine (shown in Figure 10), which was beautifully clear in color. And we said a short goodbye as we would be having lunch with them in the city.

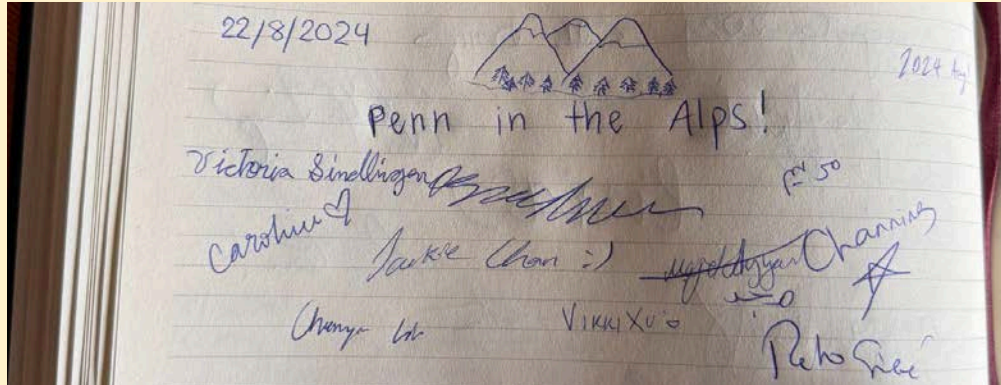


Figure 9: My drawing with our signatures in the Museo e Miniera della Bagnada guest book.

We made a quick stop before lunch at a master pot stone shop because I had expressed interest in getting a pot stone pot to bake things in. The man who owned the shop was 85 years old and was very skilled at his craft. I ended up getting a small pot to put a succulent in instead (shown below), but Chenyao got a pot for her mom. Most of the others also ended up getting pot stone souvenirs as well.

After the pit stop, we met Carmen and her husband at a restaurant for lunch. Carmen brought some of the longest strings of asbestos found both in Chiareggio and in the world. We were able to touch it and Reto assured us that asbestos was among the least harmful types since it was such a pure form of magnesium silicate and usually asbestos with high iron content is the harmful one.



Figure 10, 11, & 12: My pot stone souvenir alongside the quartz I got from the mine, the asbestos Carmen brought to show us, and the pizzoccheri we had for lunch.

We sat down for lunch, which was bread and delicious pasta. Reto and Steffi had a good time catching up with his friends. We eventually had to say goodbye and get in the car for a long drive to Bellinzona.

I fell asleep during the first couple hours of the drive and so did a lot of us. When I opened my eyes, I saw the view of Lake Como outside the car window and a minute later Reto stopped the van in the middle of a main street and told us to quickly get out and be back at 5:30 pm (giving us 1 hour and 15 minutes to explore). I was disoriented to say the least and so were most of the others having just woken up. I found out that we were in the town of Menaggio, Italy which was situated on Lake Como and was known for being a vacation spot with a great view.



Figure 13 & 14: Lake Como and the main street in Menaggio.

We explored the shopping on a singularly crowded street. I ended up buying perfume and chocolate souvenirs. We found a cafe along the water and ordered some drinks. The time passed quickly, and we had to go back to the meeting point to load quickly back into the cars on the main street and continue our drive to Bellinzona. As we passed, back into Switzerland we saw an enormous amount of traffic from commuters who work in Switzerland but live in Italy.



Figure 15 & 16: The square next to our hotel and the view from my hotel room of a rock face.

We finally arrived in Bellinzona, which was in the Italian-speaking part of Switzerland and very much felt like we were still in Italy. Our hotel was called Albergo Croce Federale and we received our rooms. Sophia and I's room had an amazing view of a rock face! This was the rock cropping which one of the three castles of Bellinzona rested on.

We had some free time before dinner at 8 pm so I went on a little 3.5 mile run, then got ready for dinner at the hotel restaurant. This restaurant was a pizzeria so most of us got pizza; I got a yummy veggie pizza. We took a look at the dessert menu after and lots of us got tiramisu or sorbet (I got apple sorbet with apple brandy that was very strong). By the time our meal ended it was nearly 10:30 pm and I was exhausted.



Figure 17 & 18: My veggie pizza and apple sorbet.

Reto paid and then announced that the day was not over. We still had to do Victoria's presentation! He let us go get our notebooks and then we met outside the hotel. We were informed we were walking to a surprise location. We headed to one of the three castles (not the one behind the hotel) and fortunately were able to take an elevator up. We were pleasantly surprised by the view of the city from the outdoor castle courtyard. This setting was fitting for Victoria's presentation on astronomy. We learned about the different observatories in the Alps and the effect of light pollution for these observatories and broader impacts on human health and wildlife.



Figure 19 & 20: The view from the castle at night of Bellinzona and the castle's tower.

After the great presentation, we headed back down (no elevator unfortunately) and found our way back to the hotel. I got ready for bed and looked over my research to prepare for my presentation the next morning. Sophia and I turned off the lights and went to bed to rest up for our last full day of the trip.

August 23 • Bellinzona, Zurich

by Jacqueline Chan

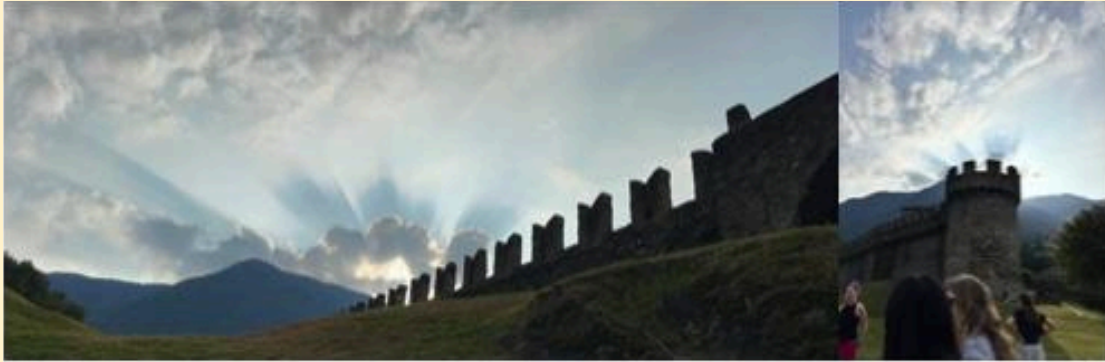
How is it already the last day? Time really flew by. We woke up in Bellinzona after another night filled with laughter and face masks with Chenyao, Majd, and Vikki. Breakfast was a familiar routine, and by 8:30 a.m., we were off to explore the city's second castle. While it technically "wasn't a hike," the uphill climb certainly made it feel like one! From the top, we had a breathtaking view of Bellinzona, and Reto shared with us the town's rich historical and geological significance.



Figure 1. Our last group gathering for a class hike

Figure 2. Our last breakfast together • Figure 3. Mariam shows us PEN in the ALPS

Bellinzona, the capital of the canton of Ticino, is a city with a unique Italian flair due to its location along the Gotthard route. The city has been strategically vital since Neolithic times because of its excellent placement in the valley, offering control over trade routes. Reto explained how the Visconti family from Milan capitalized on this prime location, building the first of three castles to protect their power and collect tolls. However, after a dramatic defeat where thousands of their troops were outwitted by hundreds of peasants armed only with rocks, they constructed additional fortifications. The castles were meant to safeguard their existing power, but ironically, the local peasants had no ambitions of expansion; they simply wanted to protect their homes.



*Figures 4-6. Photos taken from our classroom for the day
Figure 7. Vikki got some green highlights (it's grass)
Figure 8. Jeffrey likes to test his luck (jumping on a very very old bridge)*

Today, Bellinzona is still crucial, with major highways and railways passing through. Reto emphasized the importance of maintaining protective infrastructure to prevent significant economic disruptions, illustrating the enduring strategic importance of this beautiful city.

After this historical lesson, we heard the last two presentations of the trip. Majd spoke passionately about waste management. We were shocked when Channing guessed he produced around 3 pounds of trash a day, only for Majd to reveal that the average American produces 4.8 pounds, compared to the Swiss average of just 2.4 pounds. Majd explained how waste is categorized into construction and demolition waste and municipal waste. The key takeaway was clear: the Swiss government's dedication to reducing waste through strict policies on responsible consumption and disposal is something we could all learn from. Reto added an interesting note about the emerging practice of landfill mining, which has become a multimillion-dollar industry through the recovery of valuable materials.

Caroline then discussed the differences in electricity generation between Switzerland and Italy. We learned that Switzerland relies heavily on hydropower, while Italy's energy plants are less efficient due to their age. Post-Fukushima, both countries have moved away from nuclear power. Despite these differences, both nations have successfully reduced their carbon emissions, a positive takeaway in the face of global climate challenges.

With the presentations over, Reto gave us free time to explore until 1:30 p.m. We continued to wander around the castle, soaking in the stunning views of the city below. Heading into town, it was clear that Bellinzona was a major hub; it was one of the few towns we couldn't fully explore in our limited time. Some of us indulged in a little retail therapy—I snagged some jeans for the new school year and a sweater and socks for my nephew. Every store seemed to be having a sale, making it a shopper's paradise! We reconvened at noon for our last lunch together at a quaint pizzeria away from the main plazas. The terrace was charming, albeit a bit too hot for Jeffrey's liking. We enjoyed delicious pizzas and then rushed back just in time for the 1:30 p.m. pickup.



Figures 9-10. Exploring the Bellinzona!

Our journey to Zurich included a nostalgic stop at Viamala, where we couldn't resist some gelato. Reto pointed out a popular children's book that features two ibexes and I decided to also get it for my nephew! The book uses the ibexes to teach children about changing seasons, teamwork, and optimism. It even referenced glacial lakes and rocks. Definitely earned all the bonus points it needed by doing that.



Figures 11-12. Last van ride together!



Figures 13-15. Memories from our last pit stop at Viamala (left: rest area store towel dress?)

Back in Zurich, we returned to our familiar rooms at Hotel St. Josef's. After a quick change, we headed to our final dinner, which Reto promised would be a unique experience. And he was right! The all-vegetarian/vegan restaurant was a delightful surprise, especially for Caroline. We shared stories and laughed about our adventures from the past two weeks, savoring every moment of our last meal together.

Towards the end of dinner, Sophia raised a toast to Reto and Steffi, thanking them for all their hard work and dedication. We surprised Reto with a card (pink, of course, for girl power, because he drove the all-girl van!). Reto's wife joined us, and we were amazed that she knew all our names and some other fun facts—it was clear Reto had been keeping her

updated throughout the trip. Our final goodbyes were bittersweet, with hugs all around and heartfelt thanks to Reto for making this trip an unforgettable experience in the Alps.



Figures 16-19. Our card makes it from St. Josef's to dinner and into Reto's hands



Figures 20-24. Last goodbyes after dinner and walking back to the hotel



Figure 10. Our night out for one last memory together • Figure 11. Steffi was very popular

After dinner, Steffi walked us back through Zurich's lively clubbing district, fully aware of our plans for the night. We took a short rest at the hotel before heading back out to the street parties, dancing until people slowly began to depart for their flights. It was the perfect end to an amazing trip. I learned so much on this trip, met so many amazing individuals, and genuinely made so many unforgettable memories in the most unforgettable places. Thank you so much Reto, Steffi, and everyone on the trip!