A stroll around Munich Airport:
Thoughts about birds, air and the environment we live in

One problem with modern life is, we are constantly living in boxes. These boxes are of varies colors, shapes, materials. Some of them move, some are stationary. We've been living within these boxes for so long that sometimes we forget to come out. Munich Airport is such a huge box. You are probably familiar with the train station in front of it, or its parking garage, its two big terminals. You may also have seen the bright, sometimes crowded waiting lounges, the big clean picture windows, through which you can watch the aircraft taking off and landing in the distance. However, can you ever imagine how does the airport look like from the outside? This time, I decided to come out of the box and observe it from another angle.

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Attaching, a small village belonging to the municipality of Freising City, lies less than one kilometer away from the northern border of the Munich Airport.

When I got out of the bus (obviously another box) as the last passenger, a familiar, but somehow strange sound welcomed me. It was an airplane flying directly over the village, and I soon realized the strangeness came from the unusual sound of the engine sound. A possible description might be as follows: imagine yourself standing on a platform between two railways, on both of which a high-speed train is running at full speed. The sound is also accompanied optically. This is the first time I saw an airplane flying so closely, except at the airport. Those lines, the markings are easily identifiable. My face probably looked astonished or confused for a moment, whatever it is, the bus driver nodded with a facial expression saying, yes, so it is.

For one hour and a half I wandered around the village. There were wide green fields, lines of trees, streams running, cows and cottages lying in the meadow, a country scene that couldn't be more ordinary. But the sound makes a difference. The roars of the airplanes came every few minutes, ranging between 60 and 80 decibels, sometimes twice as loud as the normal traffic noise. It felt like a movie being played with a wrong soundtrack, which creates a sort of surrealistic feeling. I walked all the way down to the southern edge of Attaching, until the path ends in front of a green field. Behind the field is Munich Airport. The light-colored buildings shone brightly in the sunny weather, like a piece of modern civilization standing out in the agricultural world. Planes were taking off and landing regularly in different directions. The passengers might be anticipating a relaxing holiday at the seaside, whereas the people in Attaching have been living in this loudness for decades.

There are approximately 1100 machines coming or leaving at the Munich Airport every day[1]. That means, alone on the northern runway, one plane every two minutes. And this racket lasts for around 16 hours per day. To reduce the impact of the noise on the life quality of the neighboring regions, the airport has actively taken a series of measures. Not only technical, but also financial methods are adopted. The airport has taken part in research projects which focus on aircraft noise reduction; Continuous Descent Approach is used for landing, which enables the plane to descend while the engine stays in idle mode as long as possible, and therefore, alleviates emissions; the landing fees are charged according to the noise emission of the machine, whereby quieter models are charged far less; soundproof windows are installed for the residents in the affected areas; night flights are strictly regulated; noise is continuously measured at 16 fixed and 3 mobile measuring points[2].

Despite all these efforts, the people in the neighboring areas still can't fully escape from the noise. Real-time monitoring of the noise won't decrease the noise by a single decibel, soundproof windows only lock people at home. The noise seems to be a price that human beings have to pay for the convenience of flying. And those innocent ones, who happened to be living in the region, pay for us. If the third runway is built, half of the villagers will be relocated[3]. The people who remain and those who leave, I can't tell who are luckier. For the former ones, as the villager Ludwig Grüll, who was born in Attaching and whose family has been living there for many generations, said: "Home is something that cannot be replaced (die Heimat kann man mir nicht ersetzen)"[4]. And the remainers? They'll still be living in this endless unease, perhaps worse, as the third runway is pushes closer to the village.

As passengers, we are often well protected by the soundproof measures at the terminals. As for the airport, those villagers are just some numbers which need to be calculated in the cost estimate. And where are the villagers? I remember it was a sunny, early-summer afternoon, but people were rarely seen anywhere.

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Our bus was running parallel to the Northern runway of Munich Airport. With a telescope in hand, I was looking for birds. Yes, the idea might sound crazy, but the lawns next to the runway

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[1] Source: https://www.sueddeutsche.de/muenchen/muenchen-flughafen-umweltschutz-klimaneutral-1.4519713; Statistischer Jahresbericht 2018. Flughafen Müncehn GmbH.
[2] Fluglärm und Fluglärmschutz. Flughafen München GmbH.
[3] https://www.sueddeutsche.de/muenchen/flughafenerweiterung-dritte-startbahn-40-haeuser-muessen-weichen-1.930980.
[4] https://www.dritte-startbahn-stoppen.de/die-betroffenen/menschen-vor-ort.html.

are part of a bird protection area called “Nördliches Erdinger Moos”. It was a tour organized by the airport for ornithologists. For more than half an hour, the bus drove smoothly around the lawns next to the two big runways, and staff from the airport gave us an introduction about the birds living there. Her words were not much different from those which I had already read in the brochure, which I downloaded earlier on that day. But the colorful birds, which were presented vividly in the brochure as well, were not to see, despite my telescope. We needed to be lucky to see the birds, emphasized the staff.

According to the airport, there are ca. 50 pairs of Eurasian curlews and over 100 pairs of northern lapwings, both very beautiful and endangered species, breeding on the lawns every year. There are some other species as well, but they are less important and didn’t deserve to be talked about so much. Maybe the lawns are too big, maybe we were not lucky enough, or not concentrated enough, for twenty minutes we didn’t find anything. There were not many people on the bus, but I noticed some started to get impatient (probably myself as well).

Finally, there was it! A real northern lapwing, walking leisurely on a concrete road. And another one! Perhaps its spouse, walking on the lawn not far away from the first one. The staff pointed them to us with a clearly relieved voice. What she said was suddenly confirmed, the lawns are indeed part of the bird protection area, and the airport is making efforts to maintain them. No doubt these lawns are attractive for Eurasian curlews (although we didn’t have enough luck to see them) and northern lapwings (lucky enough to see one pair). They are mowed only twice every year so that the length of the grass is perfect for the grassland birds. And the location, which is unappealing for any other mammal, provides a predator-less habitat. The only questions remained in my mind was, did the birds choose the airport, because it is the only option left, or did the airport choose the birds, because these beautiful small ornaments make the site look greener?

One thing needs to be made clear: the lawns don’t equal the Nördliches Erdinger Moos. Instead, they are only a small part of it. There are 40 species living in the bird protected areas. However, in the brochure from Munich airport, only 6 species are monitored in the airport domain. Do the other 34 kinds of birds also live there? The answer remains rather vague. To ensure the safety of the flights, only those birds which barely fly are allowed to live in the lawns. Those which cannot satisfy this qualification are expelled by all kinds of methods, including selected plant species, installations used to frighten the birds, special ground structures, etc. Besides, the groundwater is artificially decreased for a few meters to guarantee the carrying capacity of

the runways. For those species living in the Nördliches Erdinger Moos, which favor a reed-covered, swampy wetland habitat (and probably also fly a bit), the runway area doesn't sound like an ideal habitat.

Building more bird protection areas are used as an argument for the third runway. However, sealing more ground and declining the water further doesn't sound to be a good idea for this purpose, especially when there's already a natural protection area existing on the same piece of land. Do those Eurasian curlews and northern lapwings have privilege over the other birds, so that their benefits should be considered first? Or someone else's?

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Following Google Maps, driving around Munich Airport, after getting lost a few times, we finally found the remains of the previous Erdinger Moos.

We got out of the car, jumped into the world of nature. Although the roars of the airplane engines were still identifiable in the distance, the arms of the trees around made me feel at ease. Leaves became semitransparent in the sunlight. A few beams passed through the gaps between the branches and leaves, dropping a few silver spots on the ground. Beneath my feet were piles of dead plants, thick and soft. A stream, hidden behind the trees and bushes, was running happily. We went along the stream and came to an open space. A shallow pond lay in front of us, with tiny fish swimming in it. Along the edge of the pond, we found some native European plants such as purple loosestrifes, holy rope and European dewberry. They all prefer humid living conditions. The wet meadow around the water is where these kinds of plants thrive. Somewhere in the grass came the singing of birds, but I couldn't really see where it was, because the grass was fairly tall.

Erdinger Moos, where the airport is located, is a peatland on the northern edge of Munich. It was formed because the ground water, originally from the Alps, came up to the ground. The distinctive geohydrological conditions of peatland make it a suitable home for many water-loving animals and plants. Today, less than ten percent of its original area survives. Starting from the 19th century, Erdinger Moos has been drained continuously for agricultural use. The colorful wetland has been massively replaced by uniform, monotonous farmland, with mud or concrete roads interspersed. By 1930, only 23 square kilometers, roughly ten percent of the original area of the Erdinger Moos, had not been cultivated[5]. Since the start of the planning

[5] https://www.historisches-lexikon-bayerns.de/Lexikon/Trockenlegung_des_Erdinger_Mooses; Helmut Karl, Das Erdinger Moos. Eine lanschaftsökologische und -gestalterische Studie, Diss. masch. Munich 1965.

and construction of Munich Airport in the 1960s, some part of Erdinger Moos was further drained to ensure a solid subgrade, leading to a noticeable lowering of the ground water level. Alongside this, the building of the airport further populated the surrounding villages such as Freising and Erding, causing more human intervention into nature.

It seems to be an inexorable law that, in nature, the position of human beings is prioritized before every other species. No matter how diverse and lively Erdinger Moos used to be, if humans only need wheat and corn, other plants should be wiped out. If humans need convenient connections, hydrophilic species are not to be considered. However, the earth is the home not only for human beings, but also for many other creatures. Today, other species are only allowed to exist when they are not in the way of human interest. Otherwise, they should be removed relentlessly, no matter how important they might be for the biodiversity of the local biotope or the whole ecosystem. Interestingly, even inside human society, we rarely care about a thing we do not derive any use from for ourselves, which is on the other hand, precious for someone else.

Munich Airport is surely not the prime culprit of the disappearance of Erdinger Moos, but its construction no doubt facilitated the process and made it irreversible. Erdinger Moos needs to be saved before it becomes a flat article in the history book, without its vivid sounds, smells and colors.

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When talking about airports and the environment, the first thing comes to us is often greenhouse gas emissions. The air industry has been accused as one of the major causers of global warming in the recent years. However, the number of passengers at Munich Airport shows a steady increase since its opening in 1992. To reconcile the needs of passengers and the damage to the environment by flying, the airport has taken a series of steps at varies management units, including administrative, operational and technical departments. These actions have also achieved inspiring results – the CO_2 emissions are declining at the airport despite the growing passenger number year by year. With the aid of optimized operational procedures, technical innovations, use of renewable energies, the airport is optimistic about reaching its ambitious goal, namely, becoming climate neutral by 2030[6].

[6] Unser Klima, unser Beitrag. Flughafen München GmbH; https://www.sueddeutsche.de/muenchen/muenchen-flughafen-umweltschutz-klimaneutral-1.4519713.

Nevertheless, walking around the airport, we realize CO_2 emission is not the only problem. The environmental consequences of the airport exist globally in the form of global warming, but they can also be seen locally. On the same piece of land, contests for the limited land, water and air resources is happening between people and people, between people and other species. These issues are worth discussing because they need a solution as well. With the growing population and the expansion of human territory, these conflicts will come up again and again, and the airport is only a case to illustrate the problem.

Solutions are not easily found. Neither measuring the engine noise around the villages nor monitoring the number of birds touches the pain point. The noise will not be eliminated no matter 16 or 60 measuring points are installed. This is the same for the birds, monitoring their number won't help them to thrive. On the other hand, it rather shows the fear of losing them. The night flight regulations shorten the operating time of the airport. Nevertheless, the villagers still need to put up with the noise for at lease 16 hours per day. As for building compensation areas, a vital question is, what is to be compensated? The compensation of CO_2 emissions is perhaps feasible. But creating identical biotopes to compensate the habitat of other species and the lost biodiversity is rather not. In the wine industry, there's an important concept called *terroir*. It refers, roughly speaking, a set of unique environmental factors which have significant influence on the quality of wine. The properties of these factors vary from one vinery to another. Therefore, there are never two identical vineries in the world. The same applies for biotopes. Each biotope is unique in terms of a broad set of parameters and it can therefore hardly be duplicated.

Considering the limits of these remedial methods to solve the local environmental problems, I believe, a better solution would be considering if there are any alternatives before we intervene into the nature again. Taking Munich Airport as an example, in order to catch up with the constantly increasing demand on flying, a third runway is a logical solution. However, there are other possibilities as well, which can raise the capacity of the airport without direct geological expansion. This can be proved by the statistics: considering the total number of flight movements, the airport reached its peak at the year of 2008. The number of landings and taking offs dropped after 2008, while the passenger volumes continues to grow positively. The airport with the highest passenger number in Europe in the past few years, London Heathrow,

is also facilitated with only two runways. Munich Airport reached the passenger number of 46.3 Million in 2018, whereas 80.1 Million flew from or to Heathrow in the same year[7].

At the end of the day, standing behind the fence of the airport, I watched the planes going up and down for a while. Watching the giant machine break away from gravity and rise into the sky is usually an inspiring experience for me, but on that day, I found it less exciting as it used to be.

[7] Statistischer Jahresbericht 2018. Flughafen Müncehn GmbH.

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