WORKPACKAGE 3 – INTELLIGENCE AND ADAPTATION

DELIVERABLE 21 – COMPARATIVE ANALYSIS OF REPORTS FOR SUMMER

CONTEXT

GENERAL CONTEXT

Solutions for cohabitation between species, especially between humans and other animals, are not easy to generalize successfully. A lot of factors must be taken into account, from an ethological point of view, from an anthropological point of view but also from a semiotic point of view. One of the least taken into account aspects is probably the animals' agency.

We know that animals of the same species don't communicate, behave or interact in the same way in different places (Freeberg, 2012; McGowan, 2001), sometimes even leading to geographical cultural norms (Whiten, Horner, de Waal 2005). Again, the particularly complex cognitive abilities of corvids (Fleming, 2010) make them very interesting subjects for a case study about the animal agency.

INSIDE THE PROJECT

As the project aims to propose semiotic solutions for cohabitation that could be generalized, different aspects have to be taken into account, and this case study aims to address the question of animal agency. By studying the behaviour, habits, geographical and cultural norms of corvids, this step aims to map more precisely the way corvids adapt, understand and create semiosis in their environment, in order to understand on which points a generalization of solutions would have to focus.

RESEARCH QUESTION AND HYPOTHESIS

QUESTION AND SUBQUESTION

This deliverable is part of the Case study 3, aiming to study the relationship between the agency of some liminal species, like corvids, and the generalization of semiotic solutions for a better cohabitation of species in cities. The main question of this Case study is: How can we generalize semiotic solutions for human/animal cohabitation in different environments/cities?

This field reports' analysis is a part of the fieldwork distributed during the length of the project. This fieldwork aims more precisely to answer the question: What elements of behaviour should be acknowledged when trying to generalize a semiotic solution?

HYPOTHESIS OF THIS STEP

The general hypothesis of this Case study is that some species are particularly well-adapted to human contact, and their behaviour can be different depending on the behaviour and culture of the humans they live with. Their adaptability and intelligence must be taken into account when exporting urbanism solutions to another country, culture or climate.

The precise hypothesis of this step is that some behaviours that need to be acknowledged have patterns that can be seen and recorded, and that are evolving and changing depending on the place, even if species are closely related.

METHODOLOGY

METHODOLOGICAL CHOICES

Observations were done during an entire summer in two different cities and documented by notes (see Field diary in the Documents section) and recordings. Videos and photos were archived on an external hard drive (see the Documents section for the nomenclature of the files). Special notes were made about:

- change of behaviour, including change in the repartition of species through the global area
- signs of a stress-free attitude in situations than could have been stressful
- aggression behaviours (real aggressions, fake aggressions, threats) towards conspecifics or other species
- unexplained but repetitive behaviours
- exceptional and impressive behaviours

The entire observations were then reviewed in order to extract patterns of behaviours and potential sensitive points for cohabitation.

ISSUES AND PROBLEM-SOLVING

A general issue of the project is that one year is enough to have a complete observation, but probably not enough to have a perfectly representative one. Therefore, some behaviours may still remain unnoticed and undocumented.

Part of the flocks that should have been observed was missing, since the Champ de Mars flock disappeared without explanation. Further observations showed that the remaining pair was nevertheless healthy, and had a successful nesting season, so a traumatic cause is not suspected.

POINTS OF VIGILANCE

Data are fragile due to difficulty to find the specimens: in Tartu, because of the moving of the flocks through seasons, in Paris, because of the disappearance of the Champs de Mars flock.

Data in Paris may be different from the norm due to the exceptional heat wave that occurred during the observation period. Nevertheless, as these events are unfortunately expected to be less and less rare in the future, this data is still relevant.

RESULTS

RAW RESULTS

TARTU, ESTONIA

Cohabitation between corvid species in Tartu appears to be pacific most of the time. Behaviours like foraging or resting are again shared in close proximity just after the critical period of the nesting season is passed. The potential predation of one species towards the younglings of another, as suggested by Marko Mägi (Institute of Ecology and Earth Sciences of Tartu), does not seem to affect the neutral and stress-free relationship between species as soon as the nesting period is over.

The return of many individuals in the areas where they have been observed during both Autumn and Winter suggests that two areas of life are existing in the city for these species: the area of nesting and the area of usual life.

After nesting season, the aggression rate, already very low, drops to zero. No aggression towards humans was recorded at this time, but some events happened a little earlier. Again, this seems to be very situational, and variable from one individual to another.

PARIS, FRANCE

There is no sign of the flock in the Champ de Mars which disappeared before winter observations, but the remaining pair is having a normal behaviour, and a fertile nesting season, with no major signs of stress. A traumatic or violent cause for the disappearance of the rest of the flock seems unprobeable.

The behaviour in the MNHN seems a good sample of the usual behaviour of crows in Paris, especially regarding the close proximity the birds have with humans.

Curiously, aggressive behaviour from the crows does not seem to trigger an aggressive response from humans, and is not even really badly perceived. A gardener explained that, one day, they – him and other gardeners – found a crow that was in a bush, and really aggressively behaving. They thought “she” was injured, so they caught her and bring her to the veterinarian unit in the Menagerie. But she was perfectly fine, “she just was just very bad-tempered. A ringworm [popular expression in French to describe someone nasty, aggressive and even vicious]. We called her Cindy and then released her.” It is interesting to note that giving a name is usually a sign of proximity and affection, and it could be strange to do so about an animal perceived negatively, especially by professionals who have to work around it every day. But in this situation, the bad temper of the animal appears to be:

- An exception rather than the norm: aggressive behaviour is rare, and seems to be perceived as a matter of “personality”, with some individuals being less sympathetic than others.
- A matter addressed: crows spotted with aggressive behaviour are trapped and isolated, in order to understand what triggered it (this is facilitated by the marking ring system). Employees and gardeners do not have the feeling that nobody cares about the issue when it appears, and that could be a pacification element.
- Not especially toward humans: another employee testified that she saw three crows attacking a perfectly healthy pigeon and killing it in order to eat it, without any shortage of food-related at this time.

INTERPRETATION

ETHOLOGY

In both cities, species seemed to be well adapted to the urban environment. They find a way to feed, nest, and rise healthy younglings. Different strategies seemed to be used between the two cities:

- In Tartu, corvids are moving from spot to spot. In summer, the departure from the nesting areas to be back into the areas where they are feeding in resting during the rest of the year is a clear sign of seasonal strategy (from an area rich in nesting and hiding spots to an area rich in easily accessible food).
- In Paris, pairs of experienced adults own a territory and won’t move from it. Younglings and young unexperimented adults are living together in large flocks in places with a lot of accessible food.

INTERACTIONS WITH OTHER SPECIES

In both cities, corvids have been observed to have some occasional and opportunistic predatory behaviour towards, either themselves (in Tartu, during nesting season, *C. cornix* can attack *C. monedula*) or other birds' species (in Paris, gardeners have witnessed attacks of *C. corone* towards different species, from small chicks to big pigeons if they are in a group). Aggression between individuals of the same species has been observed.

In all situations, aggressions seem to be anecdotal in the urban environment where food is easily available.

INTERACTIONS WITH HUMANS

In both cities, crows are well tolerated by humans. The aggressions, in both directions, are very rare. In France, some minor part of the population seems to be particularly hostile for emotional and symbolic reasons (see Document I3, M2 and EX2).

Most of the time, humans see crows as an interesting species, with individual moods and personalities, and are feeling sympathy towards them. Informal discussions started during observations show that the inhabitants are also willing to learn about the species and their behaviour.

Crows have a quite confident and stress-free attitude towards humans. They are perceived as food providers, especially in Paris, where crows are bold enough to approach humans to beg for food as close as 20 cm. Crows in Tartu are more cautious, even if no aggressive behaviours from inhabitants could explain this difference. The most probable explanation is that in Paris, crows are in contact with an important number of tourists, especially during summertime, and bold behaviours can be seen as cute or more susceptible to provoke empathy, and would result in more feeding. This kind of behaviour could then have been selected by the very touristic environment.

MILESTONE 3 – PROGRESS REPORT

IMPACT OF RESULTS

This step is an important sum-up of all the previous deliverables made in the Summer (Deliverables D15 and D16). It allows us to understand how, in the same season, place of residence is influencing behaviours and potentially how nuisances can be different in the same period of a behavioural cycle, with the same species, only because of the difference of place.

ISSUES, PROBLEMS OR LACKING

The time of the project is, still, quite short. Especially in a context of global climate change, unusual weather, temperatures, climate events (wildfires, tornados etc.) could also have a deep impact on the species that are poorly into account here.

NEXT STEPS

The next step is to propose another kind of field report analysis, this time summarizing all the observations available in the project (Deliverable D22).

GENERAL PROJECT – CURRENT STATE OF PLAY

IMPACT OF RESULTS

These results are not yet fully relevant, since they also must be compared with the cross-analysis through cities, but they can still be considered useful for a comparative aspect.

PROPOSITIONS FOR OTHER ASPECTS OF THE PROJECT

ACADEMIC ASPECTS

These results can be added to the results of Workpackage 2 (see document M2), in order to be introduced to potential international partners that could be interested in the "diagnosis" aspect of the project (see document I3).

POPULARIZATION ASPECTS

These results will be used to enforce the guidelines for generalization in different countries, cities, linguistic areas etc. that will be proposed in EX3.

NEXT STEPS

This analysis and the one made through different seasons in Tartu will be cross-analysed in Deliverable D22.

ANNEXES

REFERENCES

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DOCUMENTS

Field diary (PDF – version 01/12/2022)

Nomenclature (xls – version 17/11/2021)