# Animal tracking data and GPT-3

**Background & Context**An increasing number of wild animals are tracked, usually for research and conservation purposes, generating a detail record of their movements (geo-location) and/or their bodily conditions (physiological data). Which data is actually being recorded depends on the technology of the tracking device, the physical capacities of the animal carrying the device, and the interests of the researchers.

From this data emerges not only a much more detailed view of the behavior of the animals as a species, but also an understanding of inter-species differentiation on the level of single animals. From this, a kind of unique personality of each animals seems to come into view, based on an individual history and distinct patterns of behavior.

While tracking and close observation can be seen as an interference in the autonomy and dignity of the animal, it an also be seen as enabling a new relationship between humans and animals that is not structured by the culture (fully domesticated) vs nature (completely wild) dichotomy but pointing towards more complex forms of entanglement and affective relationships. This project clearly falls into the second camp and we see this development of a new relationship to our environment to be an urgent issue, given the unsustainability of our current relationship.

**Project**We seek to combine geo-location data of animals with other data sources (weather, land-use, satellite imagery, ...) and gain a more detailed understanding of their movements in space in order to feed this data into a text generation engine such as GPT-3 to create something of an “automated diary” of the animal in natural language. This would go significantly beyond the current representation of this data as simple paths on a map, as it is done now in applications such as [Animal Tracker](https://de.wikipedia.org/wiki/Animal_Tracker). This is clearly an experimental project as it anthropomorphizes the animals in ways that are at best speculative, but more likely quite fictional.

**Preliminary work**We have established contact to [Johannes Fritz](http://waldrapp.eu/index.php/de/projekt/team/269-dr-johannes-fr), the founder and lead scientist of the [Waldrapp project](http://waldrapp.eu/) which aims to reestablish the Northern Ibis (Waldrapp) in Europe. Since these are migratory birds which need to learn their “natural” behavior, part of this project is “assisted migration” and the majority of the wild population (~90%) has been tagged for many years now. Thus, there is a large set if geo-location data and Prof. Fritz indicated his willingness to make this data available. Additionally, there is work done to enrich this data with remote sensing data (based on satellite images) to gain a better understanding of the specific places these animal rest and recuperate during migration[[1]](#footnote-2). We would have to negotiate access to real-time data, but based on the interaction with the researchers so far, this seems possible.

**Main challenges**Access to raw data seems possible, the exact characteristics of this data, beyond geo-location, needs to be determined. There are also altitude and gyroscope recordings that need to re-assesed if they could be used to determine individual characteristics We expect the main challenges to be twofold. First to translate the data into natural language and then tweak the text generation engines in ways that the ambivalent character of the text genre (semi-fictional, experimental etc) remains visible. We expect both challenges to be quite substantial and offering ample room for ML innovation. Finally, it remains challenging how those diaries are being rendered accessible (in terms of output format and interaction possibilities).

1. Quantification of foraging areas for the Northern Bald Ibis in the Northern Alpine foothills. Link [Youtube](https://www.youtube.com/watch?v=L0Vod2RvJh4) [↑](#footnote-ref-2)