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# Is a More Peaceful Coexistence Between Livestock and Wolves Possible?

Michel Meuret

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## Predation Conference

June 1st and 2<sup>nd</sup>, 2023 – Charges - Hautes-Alpes - France

# Is a More Peaceful Coexistence Between Livestock and Wolves Possible?

*(Translated from French)*

Michel Meuret

PhD, Research Director at INRAE, UMR Selmet, Montpellier



# More Peaceful Coexistence

## *Does Not Mean* **Tranquility**

For **11,500 years**, since livestock were first domesticated, **wolves** have been a **source of nuisance** to varying degrees: animals killed or injured, extra work and costs for protection, and risks to human safety.

*Adapted from Lescureux 2017*



*Credits: David Badke, "Medieval Bestiary",  
Victoria, British Columbia, Canada.*

# More Peaceful Coexistence

## *Does Not Mean* **Tranquility**

Over the centuries, breeders have devised and adapted **various means of protection**: guard dogs, night pens, reinforced human surveillance...



*Credits:* David Badke, "Medieval Bestiary"

# More Peaceful Coexistence

## *Does Not Mean* **Tranquility**

Over the centuries, breeders have devised and adapted **various means of protection**: guard dogs, night pens, reinforced human surveillance...

**Simultaneously**, humans exerted **constant pressure** on wolves, **killing** those who attacked their herds of flocks.

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"Bergers défendant leur troupeau" (extrait)  
Jacques Callot, 1630.  
*Credits :* gallica.bnf.fr

# Recent Presence of Wolves in Continental France ...

Nearly everywhere

**Late 18th century**



*Source: de Beaufort 1987*

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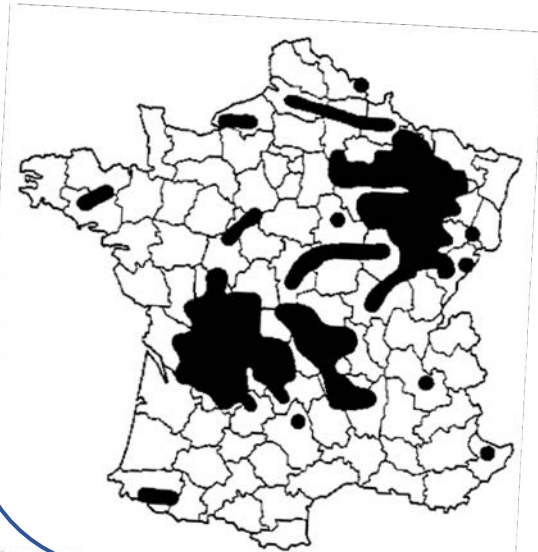
Nearly everywhere

Late 18th century



State-organized eradication (as in many other countries in the Northern hemisphere)

Late 19th century



~ 1923



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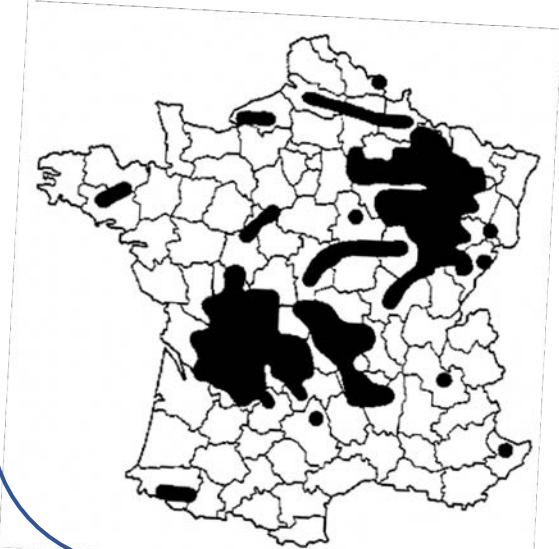
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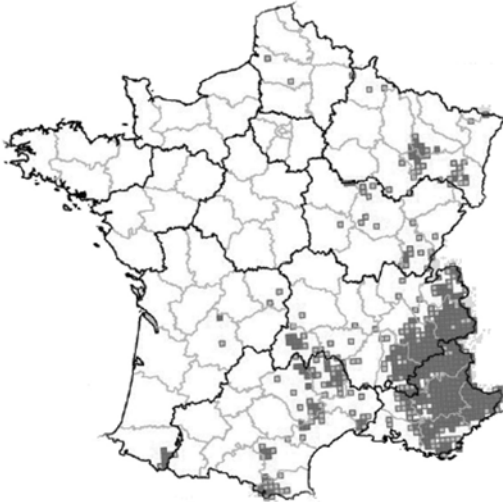


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*Back...*

1993 - 2020



Source: de Beaufort 1987

Source: OFB 2022



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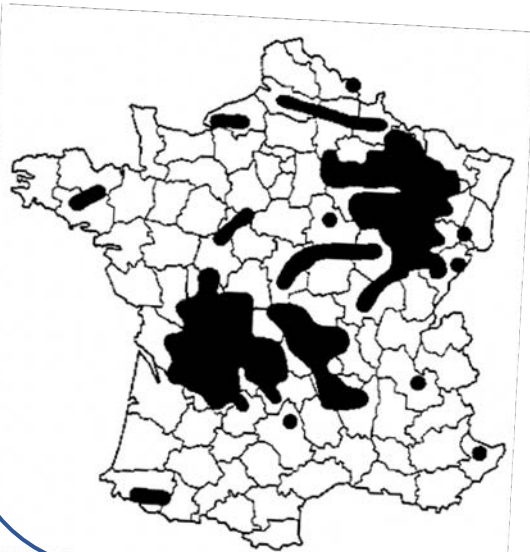
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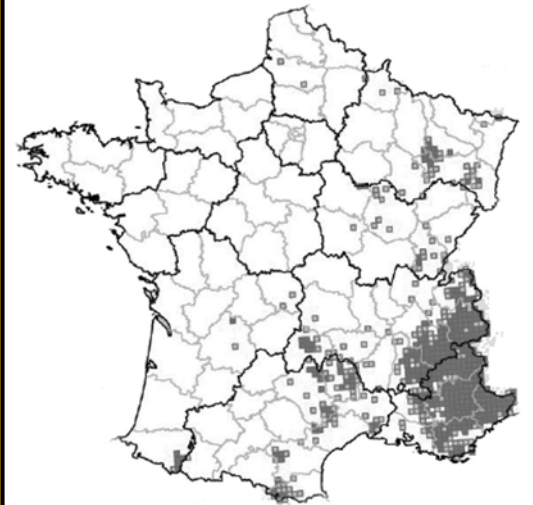
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A century of absence

*Back...*

1993 - 2020



Source: de Beaufort 1987

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# This Return After a Century of Absence ...

Comes at a time when, in France, **we have lost memory** of the **best practices** for maintaining **relations with wolves** to coexist in a way that is acceptable to all ...



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Set in **landscapes** that have **changed** dramatically in a century

In a country where the **population** has become overwhelmingly **urban** or **rurban** and farmers a near rarity (*Survey by Insee: 1.5% of national employment in 2019*)



# This Return After a Century of Absence ... (continued)

Impacts on **activities** that have **developed in the absence of wolves**: livestock grazing within fenced pastures and/or with shepherds, hunting and various outdoor leisure activities



# This Return After a Century of Absence ... (continued)

Impacts on **activities** that have **developed in the absence of wolves**: livestock grazing within fenced pastures and/or with shepherds, hunting and various outdoor leisure activities



When the species has just been **granted strict legal protection status**



## Early Years in **Secret**



**Being poached** in Italy (~ 300 killed a year), the newcomers find themselves in **much more favorable conditions** in France

# Early Years in **Secret**



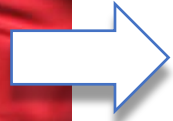
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When unusual damage to herds was reported in Alpes-Maritimes and Var before 1993: **"It's all due to stray dogs!"**

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In Europe, wolves whose behavior surprises when it doesn't fit the ideal "Wild" model are referred to as **atypical individuals**



Görlitz, Germany  
2019

# A More Peaceful Coexistence?

*Let's clarify first:*

In France, any management project based on **zoning** the country according to the **accepted presence** or **regulated absence** of wolves ...



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... would probably not withstand the **ability of wolves** to move from one area to another

... would create **problems of distortion** of competition between regions.





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- Wolves' **great intelligence**
- Their **adaptability** to a wide variety of habitats and living conditions (Mech and Boitani 2003)
- The **dynamic nature** of the **relationships** with us (Lescureux et al. 2018; Meuret et al. 2021)

## The basics ...

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**Level of risk** to search for and harvest prey



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At the risk of **skyrocketing protection costs** (already > €30 million per year) ... not to mention the **cattle and horses** soon to be protected too.





Sheep night pen, farmer's camera trap - Germany 2020

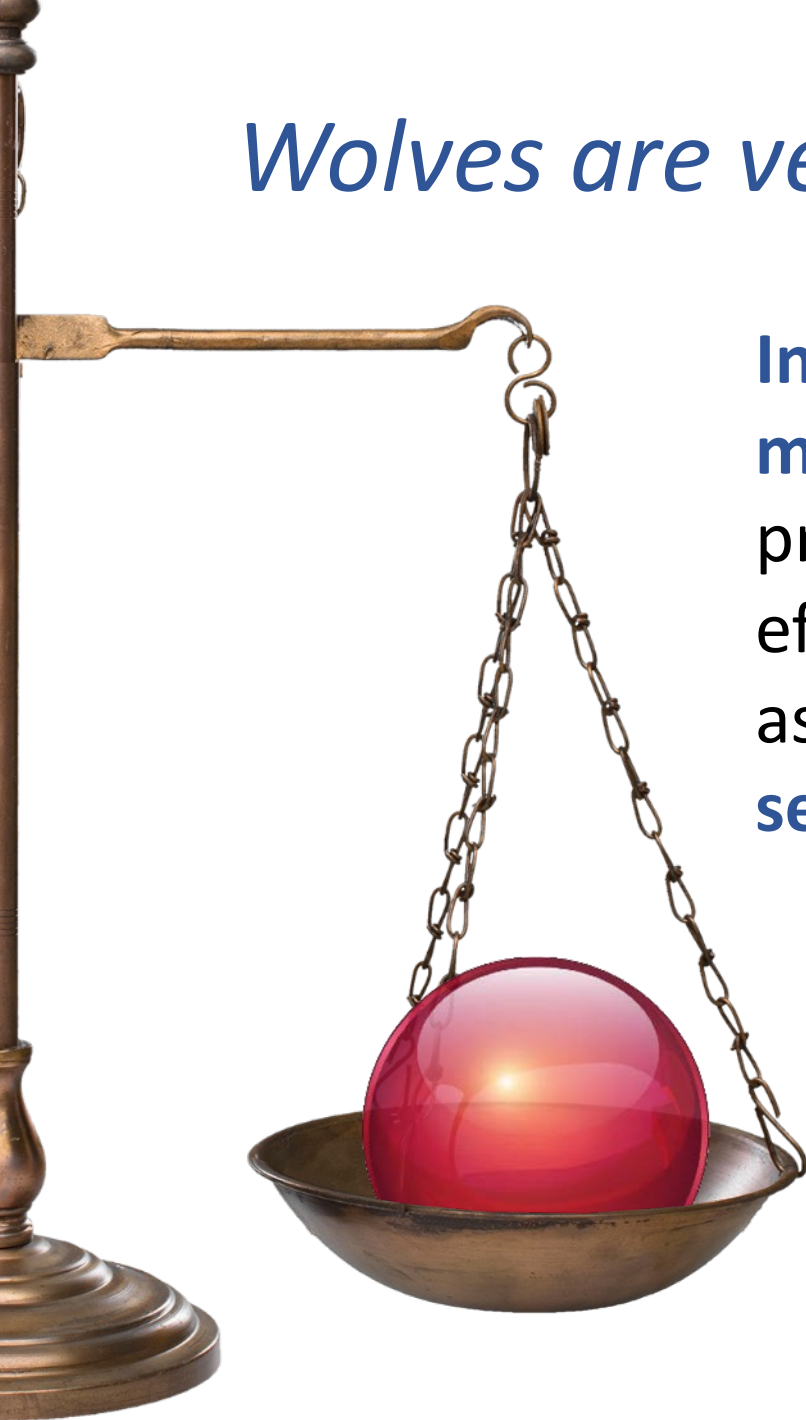
Sheepfold fitted out by the breeder for better protection in  
Alpes-Maritimes



*Photo Credits: Frédéric Nicolas, INRAE 2022*

*Wolves are very smart: let's make the most of it!*

**Increasing the number of obstacles makes no sense** as long as these predators do not consider their efforts to overcome or bypass them as potentially putting them at **severe risk: serious injury or death.**





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Getting rid of **bold wolves**

**Explicitly associate** the presence of **humans** living close to herds or flocks with **danger**



# Trying to appease coexistence ...

*Main adjustment to be made*



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Humans in charge of herds or flocks should be allowed to defend their animals by **shooting without having to wait until several attacks have already occurred on their place** (Meuret *et al.* 2021).

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Humans in charge of herds or flocks should be allowed to defend their animals by **shooting without having to wait until several attacks have already occurred on their place** (Meuret *et al.* 2021).

At present, unfortunately, authorizations to shoot are only granted to breeders by local administrative authorities after the wolf or wolves have experienced what is known in **behavioral ecology** and human psychology as ... **”Positive Reinforcement”**

Positive Reinforcement = ?



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Method used to create, maintain and/or provoke desired behaviors

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# Positive Reinforcement = ?

Method used to create, maintain and/or provoke desired behaviors

Encourages and **rewards** efforts and little progress made by young children ... or domestic animals

**Negative** reinforcement means doing the opposite



Current derogatory shooting = unclear



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1st  
attack



Current derogatory shooting = unclear

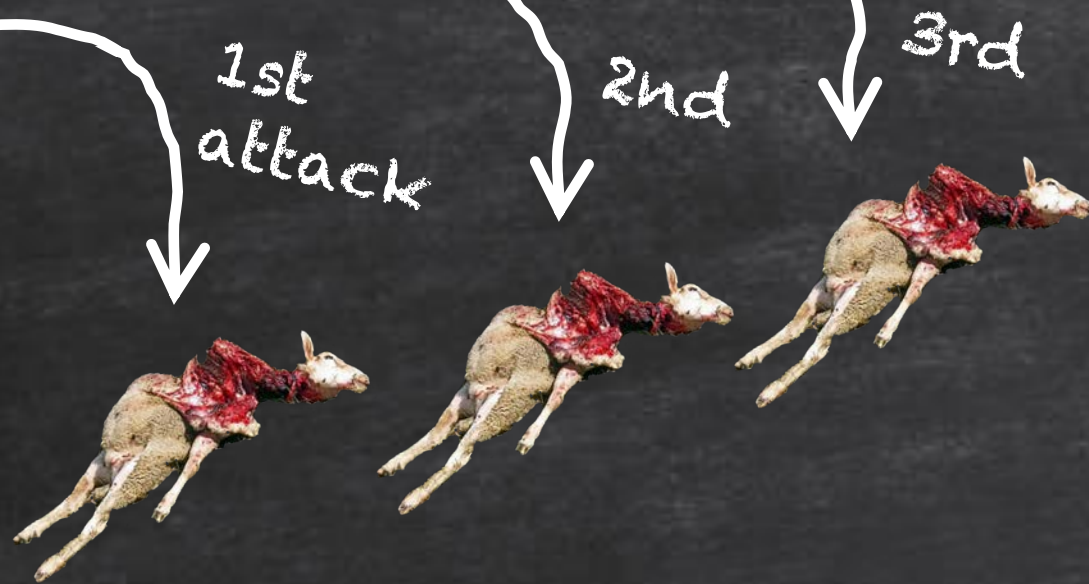


1st  
attack

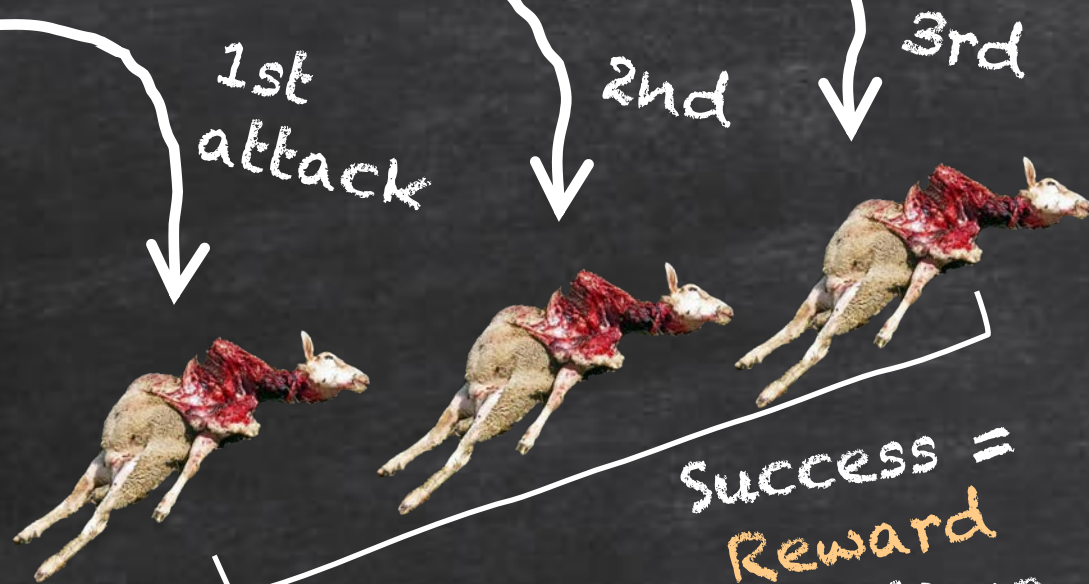
2nd



Current derogatory shooting = unclear



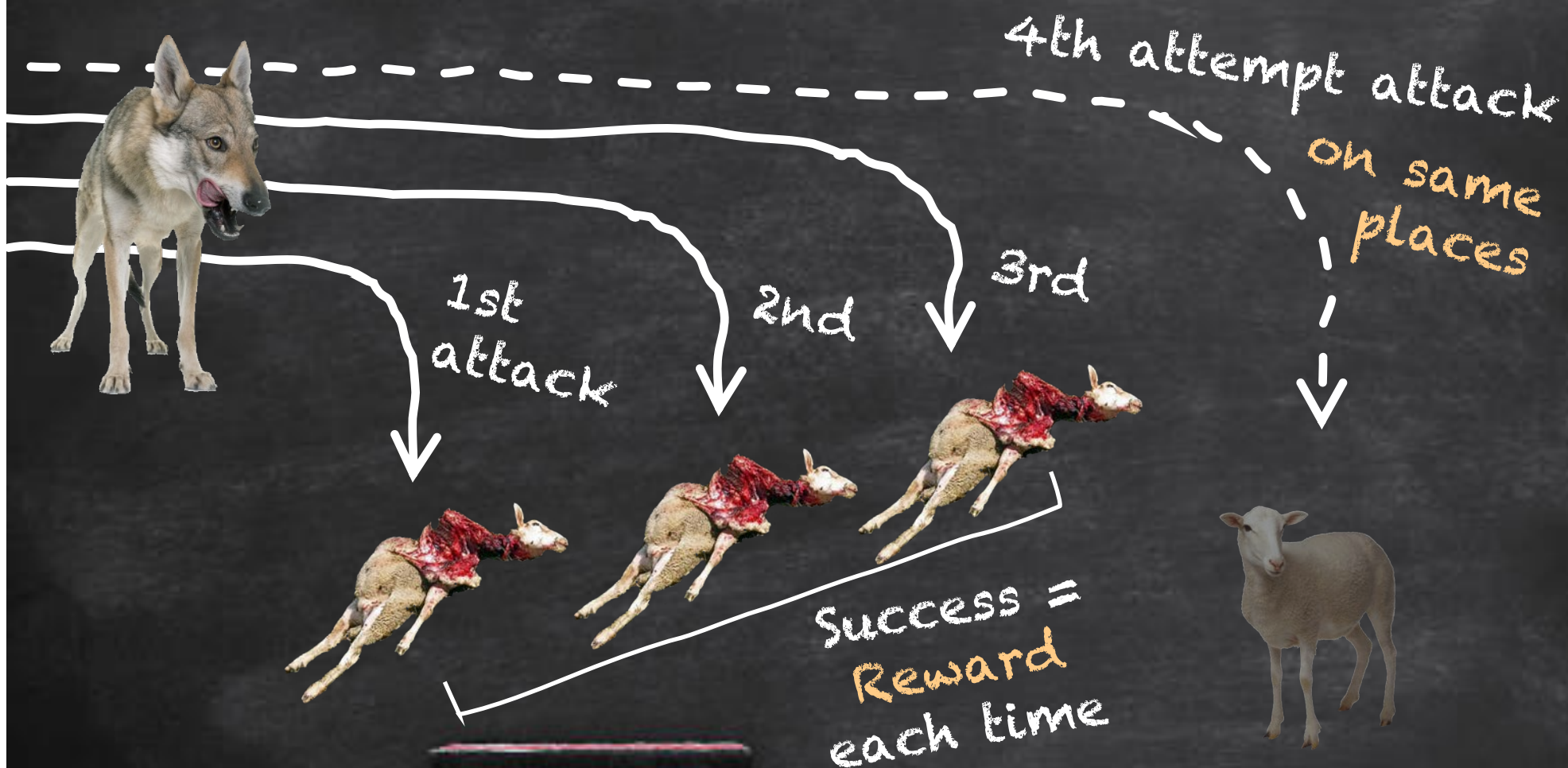
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Success =  
Reward  
each time



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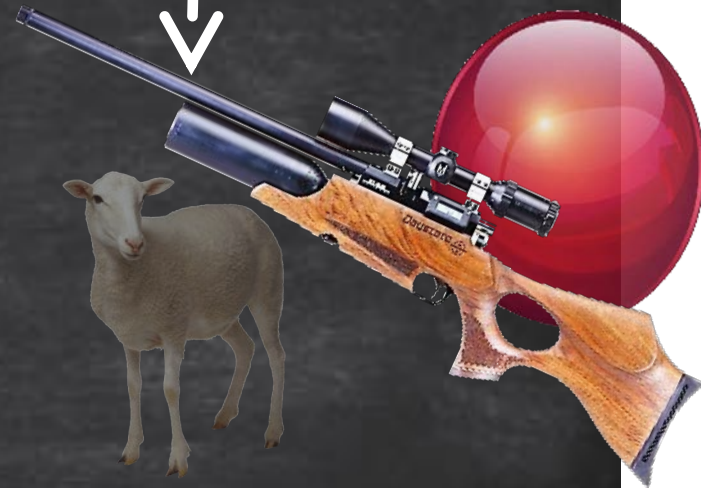
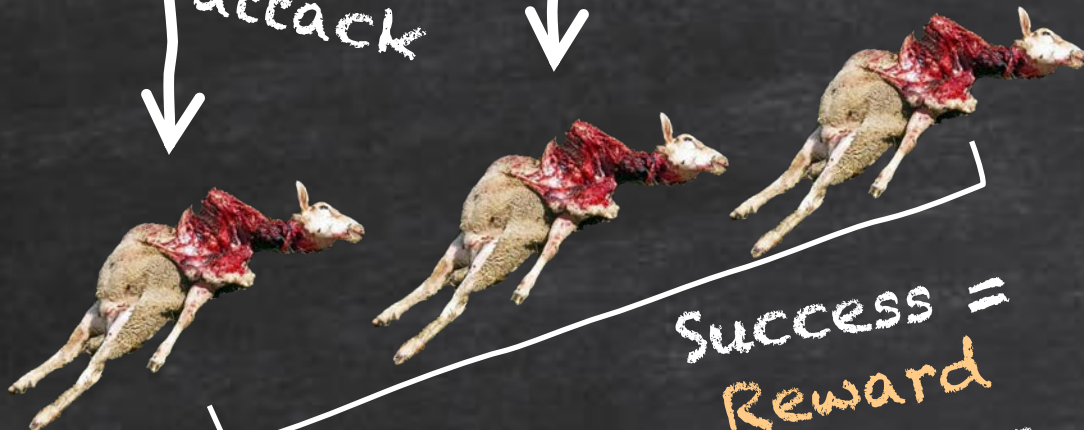
4th attempt attack  
on same  
places

1st  
attack

2nd

3rd

Success =  
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# Trying to appease coexistence ...

*Main adjustment to be made*



*Make the signal understandable by wolves:*

**Non-lethal** and possibly **lethal** means should be **combined from the outset**

# Trying to appease coexistence ...

*Main adjustment to be made*

Réseau de chercheurs  
COADAPHT

INRAE

*Make the signal understandable by wolves:*

**Non-lethal** and possibly **lethal** means should be **combined from the outset**

*IF*



*THEN*



*IS ALSO PROBABLE*

# Trying to appease coexistence ...

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*Make the signal understandable by wolves:*

**Non-lethal** and possibly **lethal** means should be **combined from the outset**



As a result, **non-lethal means** (electrified fences, guard dogs, etc.) should **become more effective ...**

# Trying to appease coexistence ...

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*Make the signal understandable by wolves:*

**Non-lethal** and possibly **lethal** means should be **combined from the outset**



As a result, **non-lethal means** (electrified fences, guard dogs, etc.) should **become more effective ...**

... no longer as supposedly impenetrable barriers, but as **warning signs of danger in the event of non-compliance.**



# Trying to appease coexistence ...



*Let's clarify:*

It's all about "***Defending the herds***" on farms and local pastures

And **no "*Wolf Hunt*"!**

*It's not the breeders' responsibility to manage local wolf densities in France.*



*"In other countries, things are going better »* (with wolves)





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Yes, sometimes... *but it's never peaceful*



*"In other countries, things are going better » (with wolves)*



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*Our feedback from various countries*

*"In other countries, things are going better » (with wolves)*



Yes, sometimes... *but it's never peaceful*

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**A less constantly tense relationship** occurs when breeders and herders **have long been authorized to shoot wolves** that have **failed to heed their warning signs of danger**: dogs, fences, humans close to the herd or flock.

*"In other countries, things are going better » (with wolves)*



*"The more permission we've had to shoot to protect our animals, the less we've had to do it!"*

Turkey. Photo Credits: AFP 2022

*"In other countries, things are going better » (with wolves)*



Turkey. Photo Credits: AFP 2022

*"The more permission we've had to shoot to protect our animals, the less we've had to do it!"*

*Because wolves and bears know that if they get too close, our guard dogs bark, and we're warned too... and then we can become very dangerous for them.*

*We respect each other ... but still, we must always be wary."*

# Is a More Peaceful Coexistence Between Livestock and Wolves Possible?

**Yes ...** probably, but only by further adjusting our rules and relationships

With 10,000 to 12,000 farm animals still predated each year by wolves in France, we're still a long way off the mark.



<https://coadapht.fr/en>

**INRAE**

Réseau de chercheurs  
**COADAPHT**

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