Canine Avalanche Search / Scent Theory

Objective

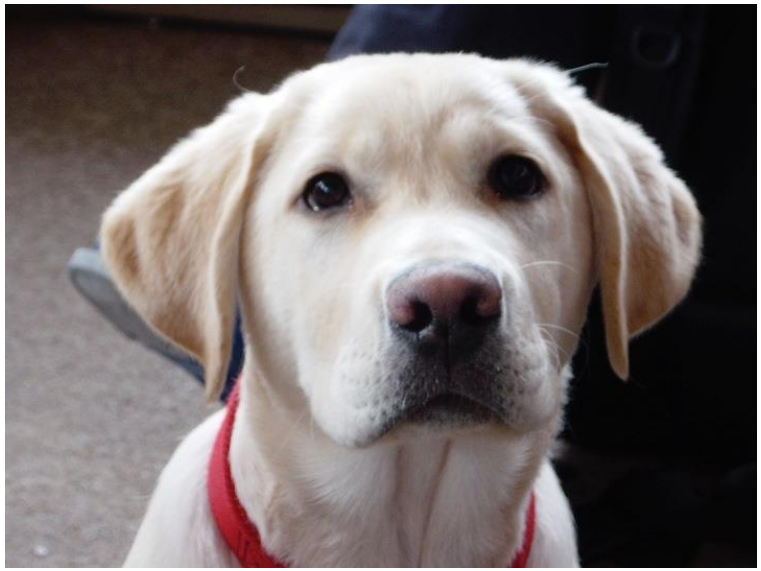
Explain the theory of scent as it relates to canine search

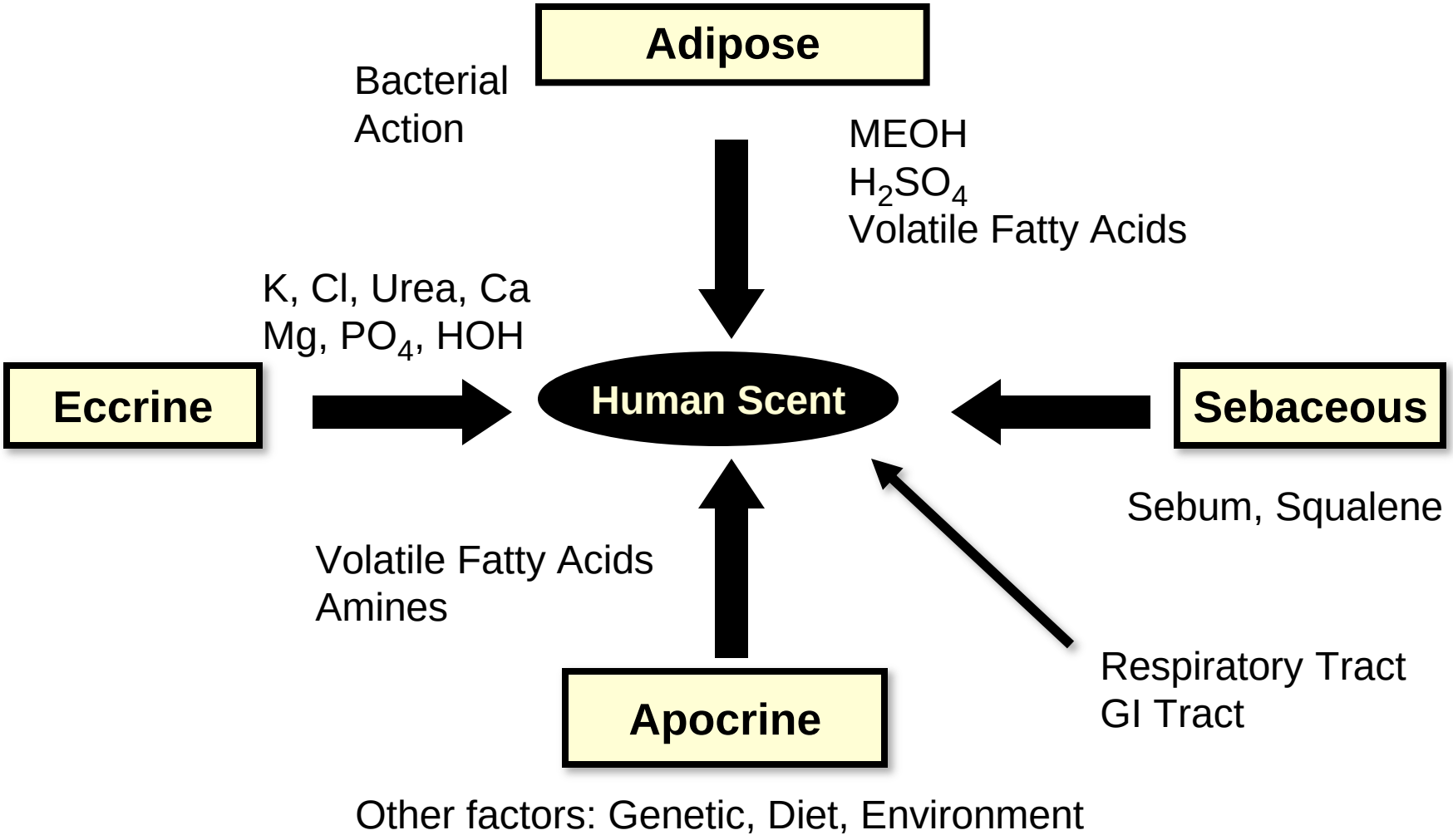
Enabling Objective's

1. Explain the rationale for understanding scent movement
2. Describe the factors that may affect scent
3. Describe how scent is transported away from the victim
4. Plan the search of a avalanche scene to efficiently work canines into scent

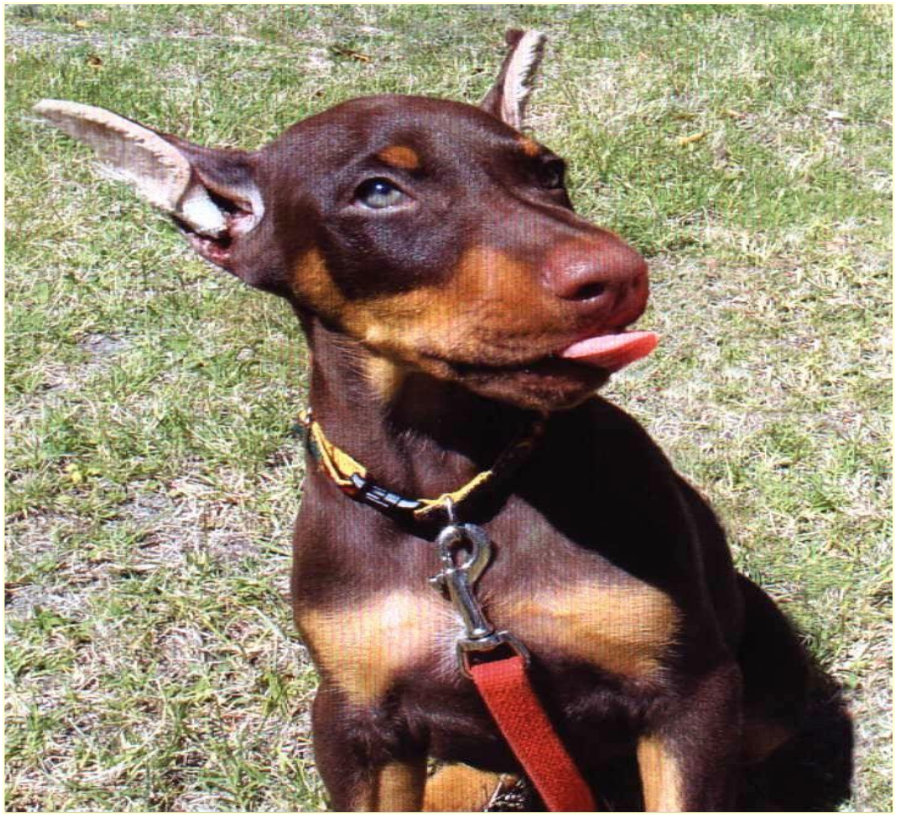
The Canine Olfactory System

“The Nose Knows”




Adipose
Bacterial Action
MEOH
H_2SO_4
Volatile Fatty Acids
K, Cl, Urea, Ca
Mg, PO_4, HOH
Eccrine
Human Scent
Sebaceous
Sebum, Squalene
Volatile Fatty Acids
Amines
Apocrine
Respiratory Tract
GI Tract
Other factors: Genetic, Diet, Environment

Huh?



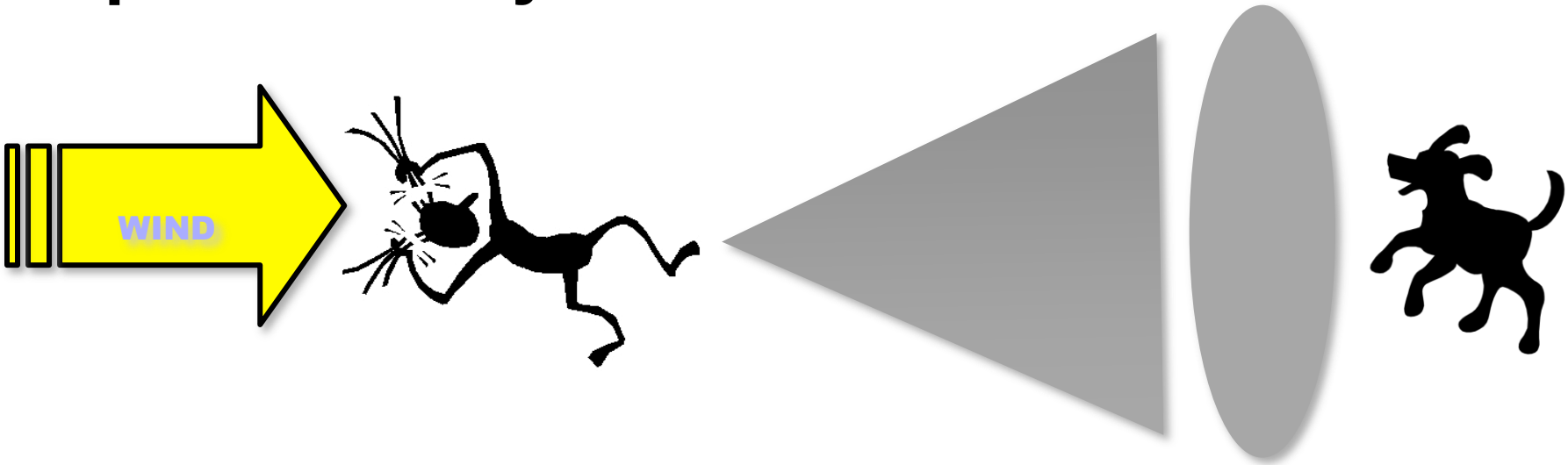
Rationale

- Scenting Dogs “see” the world through their nose
- Scent is 3-dimensional to them
- Our job is to put them where they can best detect scent

Influences on Scent Dispersal

How is scent dispersed?

The scent is heaviest at the source and dispersed away from the victim in a cone



Environmental Influences

Environmental Influences

- Wind strength and direction
- Temperature
- Humidity
- Day Vs. Night

Wind

- Strength
- Direction

Temperature

- Warm
- Cold
- The temperature of victim versus the tem

Humidity

- High
- Low
- Rain
- Snow

Day vs: Night Search

- Sunny & warm
- Dark & cold
- Overcast sky
- Clear

Scent Flow and Detection

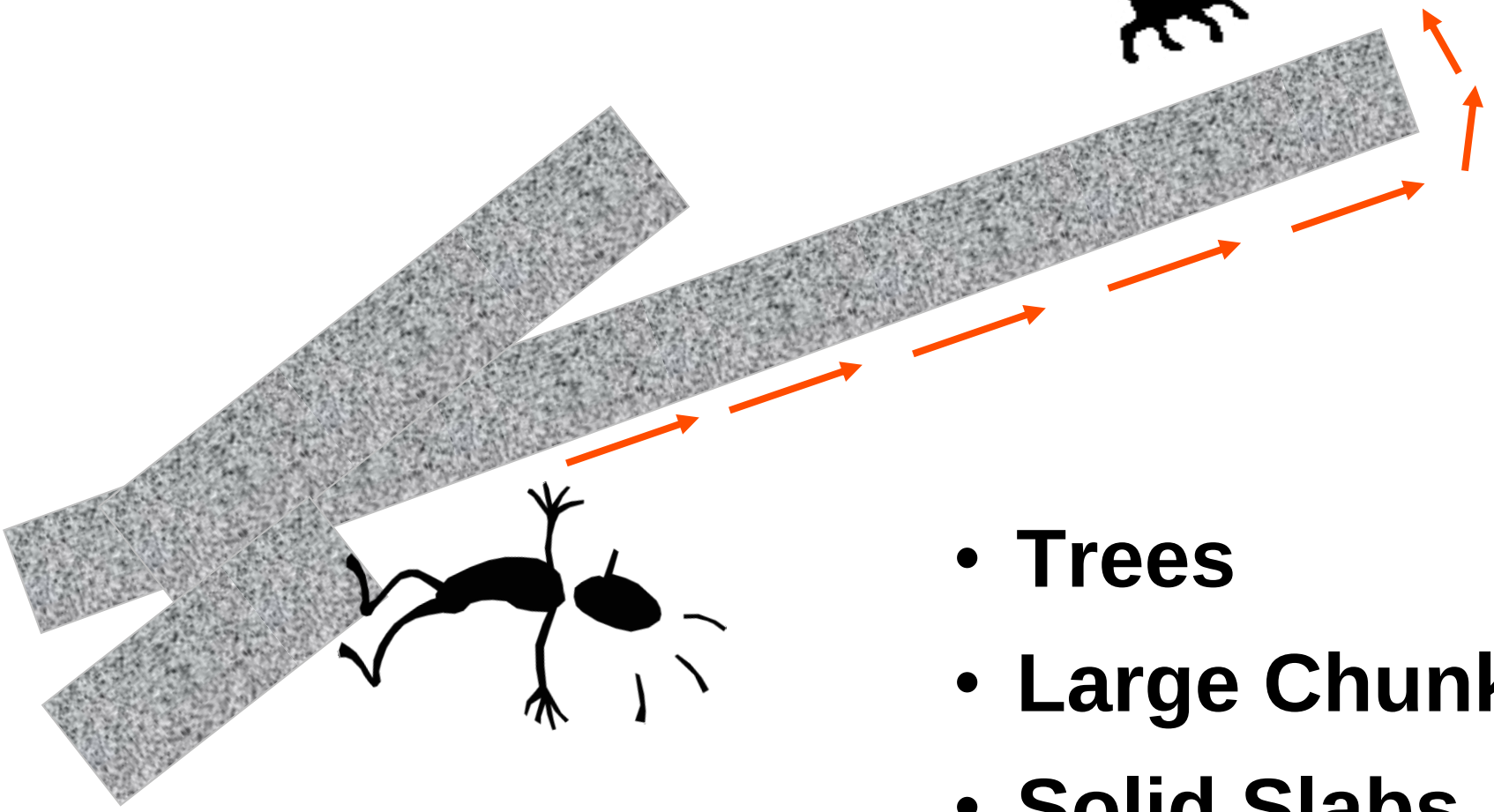
Influences on your scene

Influences on your scene

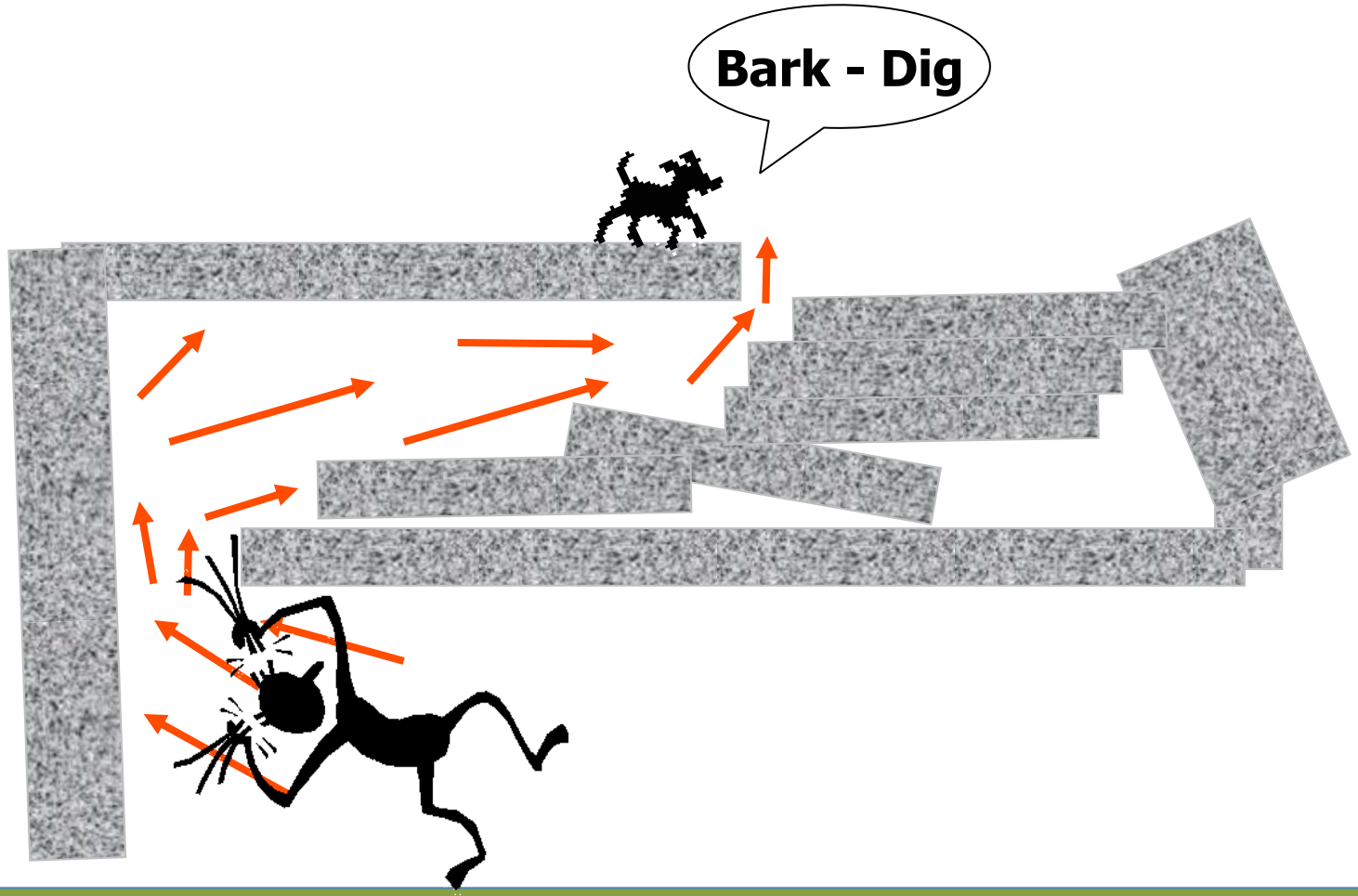
DETECTION vs: LOCATION

⑩ **Dogs are SCENT detectors, NOT victim locators.**

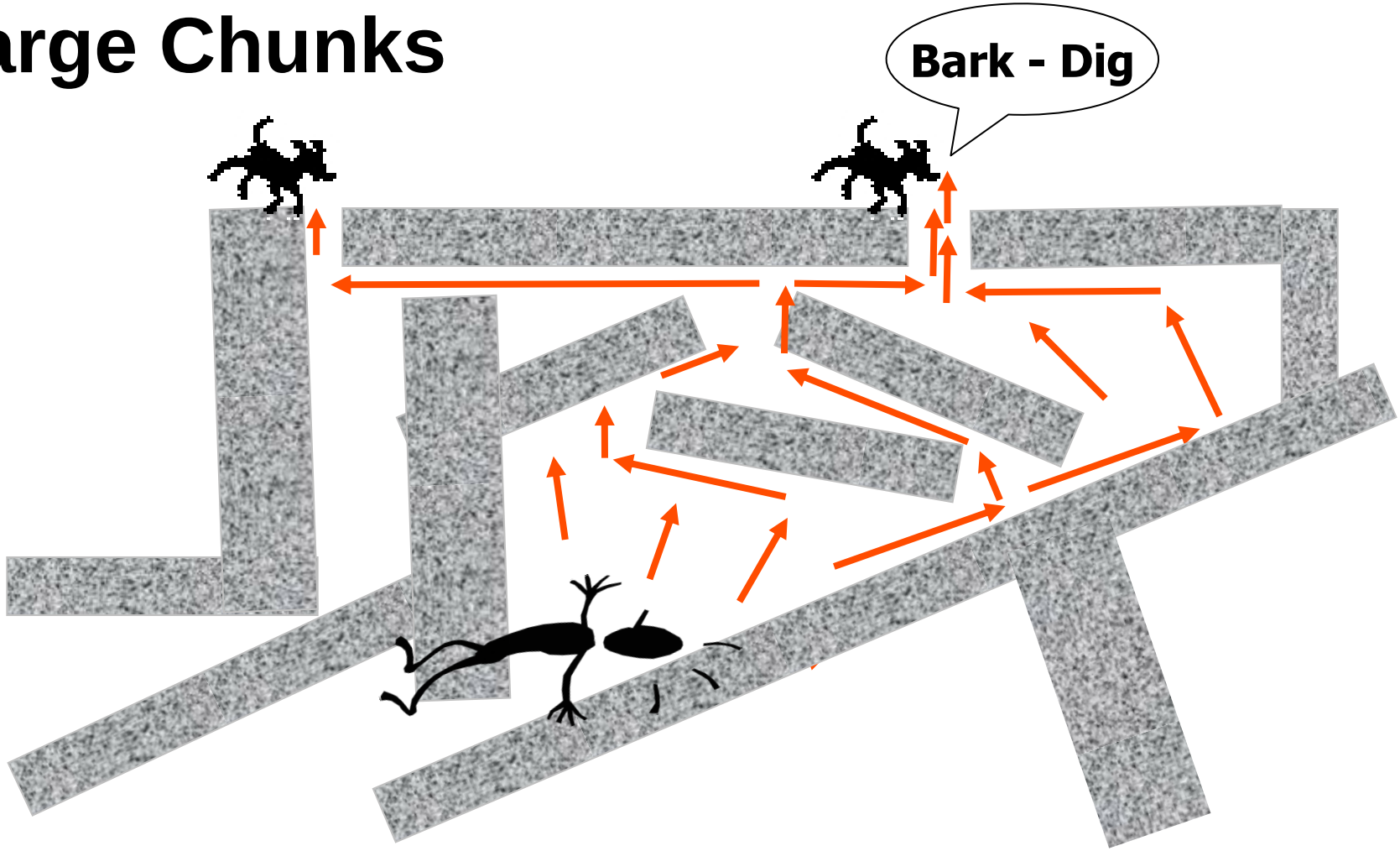
Scent Flow—Channeling



- Trees
- Large Chunks
- Solid Slabs


Bark - Dig

- **Solid Slabs**
- **Large Chunks**



Scent Source Detection

⑩Be able to interpret your dog's alert

Use your scent knowledge

1. Understand rational of scent
2. Identify factors that may affect scent
3. Understand how scent can be affected and transported
4. Send canine from position which maximizes probability of detection

Ending the deployment (training)

- Debriefing
  - Handler to Handler
  - Handler to Search Team Manger
  - Documentation & records

Ending the deployment

- ⑩Examination and care of K-9
- ⑩P.T.S.D. individual and group

Questions?

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