

# Informations Croyances Prédictions

Ecole d'été *Ecole douteuse* – 14-18 Juillet 2025

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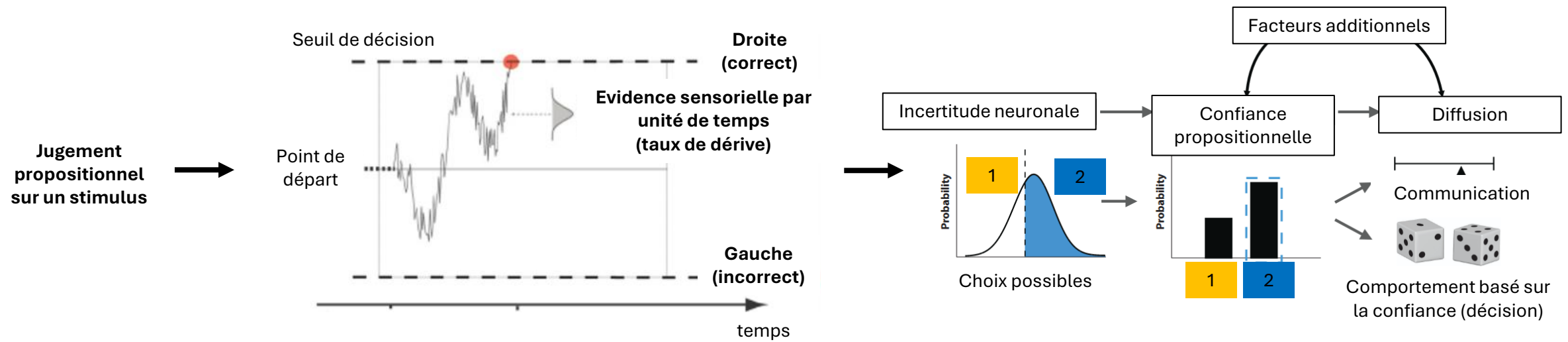
DEPARTMENT OF  
PSYCHOLOGY



# V. Bruit

Quand une estimation/prédiction subit des perturbations

# Jugements propositionnels

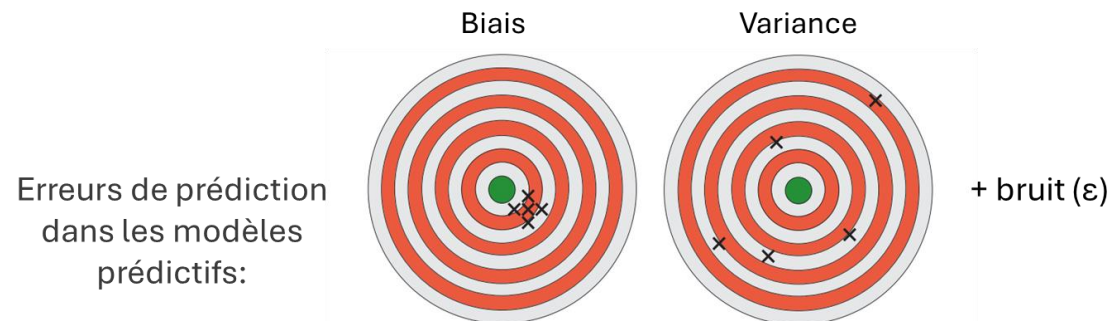


# Le rôle des biais dans les jugements

Quand l'information est rare, dégradée, incertaine, complexe, bruitée  
Que l'environnement est suffisamment prédictible

## Heuristiques:

- **Meilleure prédictivité**
- **Robustesse à l'incertitude**  
Ignorer de l'information peut rendre les prédictions **moins sensibles au bruit** et aux petits échantillons
- **Efficacité cognitive**  
Réduit le coût **tout en conservant une performance suffisante** (Martignon et al., 2008)
- En **simplifiant**, les heuristiques introduisent un biais
  - Ce biais réduit l'instabilité des prédictions (variance)
  - Améliore la robustesse et la généralisation à des situations similaires, surtout en situation d'incertitude



# Le rôle du bruit dans les jugements

## Biais

- **Ecart systématique moyen** entre le jugement humain et la vérité

## Variance

- Instabilité des prédictions face à de nouvelles situations

## Bruit

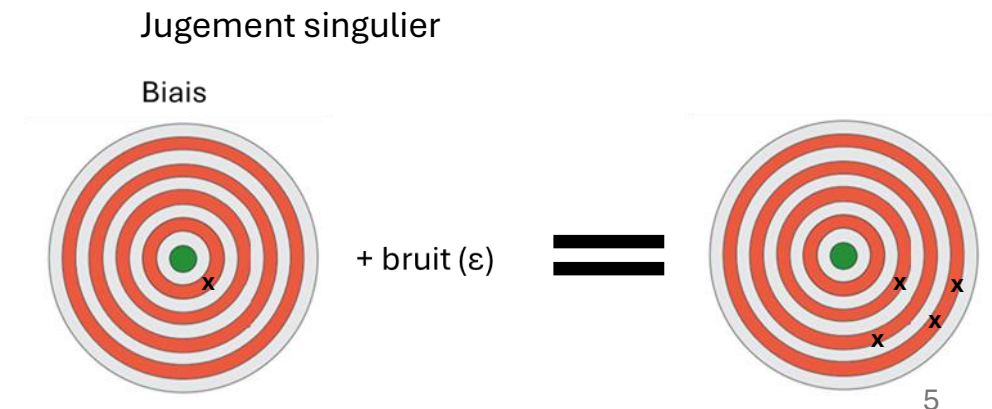
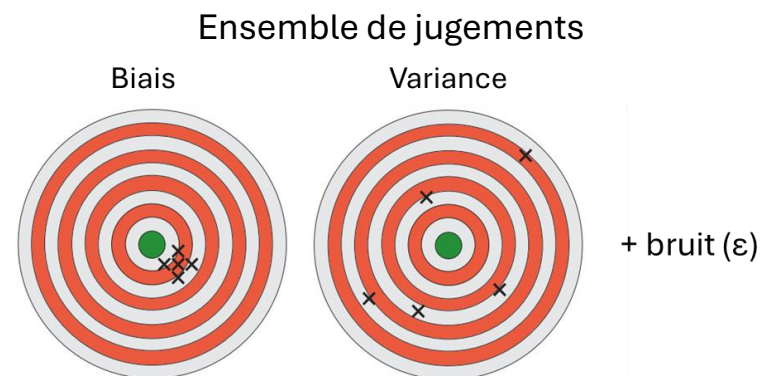
- **Dispersion aléatoire et imprévisible** des jugements autour de la vérité

## Biais

- **Ecart systématique moyen ...**

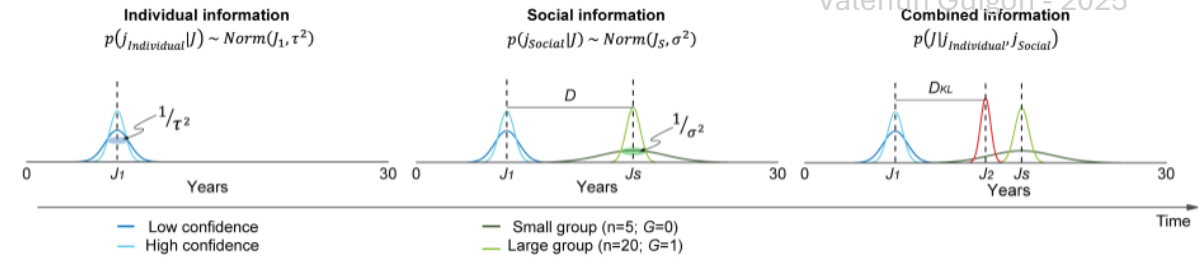
## Bruit

- **Dispersion aléatoire et imprévisible ...**



# Types de bruit

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- **Bruit systémique** (*system noise*) : **variabilité globale**
- **Bruit de niveau** (*level noise*) : **différence systématique entre juges** (certains plus sévères, d'autres plus indulgents)
- **Bruit de pattern** (*stable pattern noise*) : **fluctuation typique d'un juge face à chaque cas particulier** (interaction juge  $\times$  cas; signature personnelle stable)
- **Bruit occasionnel** (*occasion noise*) : **fluctuations intra-individuelles** (humeur, fatigue...)

## Bruit de niveau

- ex.: Un juge qui donne des sentences moins sévères que ses pairs (Clancy, Bartolomeo et al., 1981)

## Bruit de pattern

- ex.: Un juge plus sévère pour certains crimes, indulgent pour d'autres (Clancy, Bartolomeo et al., 1981)

## Bruit occasionnel

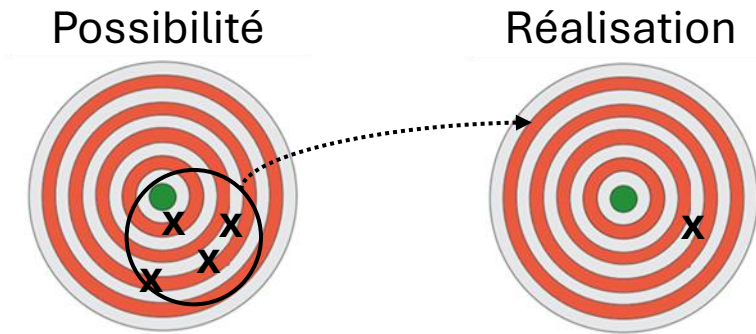
- Agents plus susceptibles d'accorder des crédits bancaire le matin vs. le soir (fatigue décisionnelle réduit capacités d'évaluation) (Baer et Schnall, 2021)
- Médecins plus susceptibles de prescrire opioïdes et antibiotiques à la fin d'une journée (Philpot et al., 2018)
- Fluctuations internes (traitement de l'information)

# La tendance à considérer chaque jugement comme isolé

Le bruit nous est invisible principalement car on traite chaque jugement comme unique.

Le bruit est une propriété qui apparaît lorsqu'on examine un ensemble de cas

"A singular decision is a recurrent decision that happens only once.» (Kahneman, Sibony et Sunstein)



# Réduire le bruit

Le but du jugement c'est la précision, pas l'expression

- Comparer le cas présent avec des cas similaires  
– considérer le cas ni comme unique ni comme fréquent
- Encadrer ou remplacer les jugements humains par des règles simples ou des modèles statistiques (algorithmes)
- Standardiser
- Faire juger de façon indépendante et privée
- Agréger les jugements indépendants  
– pondérer (moyenne ou autre) pour lisser la variabilité individuelle
- Pondérer par l'expertise
- Calibrer la confiance
- ...



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