Content Moderation in Presence of Fringe Platforms

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Introduction

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  - e.g. Jiménez-Durán (2022) links online hate to **offline violence**
  - e.g. **20%** of terrorists radicalized **exclusively** online

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~ 6% of the US citizens use fringe platforms: Parler, 8chan…

(Stocking et al., 2022)

Today

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Platforms' competition model to analyze the **net effect** of

Content Moderation on the level of Content Unsafety

…while **allowing** for **Migration*** to a **fringe, unmoderated** platform

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Research Questions:

➡ How **users choice** is determined by **content moderation policies**

➡ How the **level of unsafe content** is affected by **users choice**

➡ **Characterize the optimal regulation to minimize unsafe content**

(Technical version)

Model

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- Different preferences for unsafety (some like hate, some not)
- Like network size, dislike reading content far from their unsafety

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- A **Moderated** one, higher quality platform: **moderates (bans) content**
  - Maximizes revenues from **advertisers** (averse to unsafe content)
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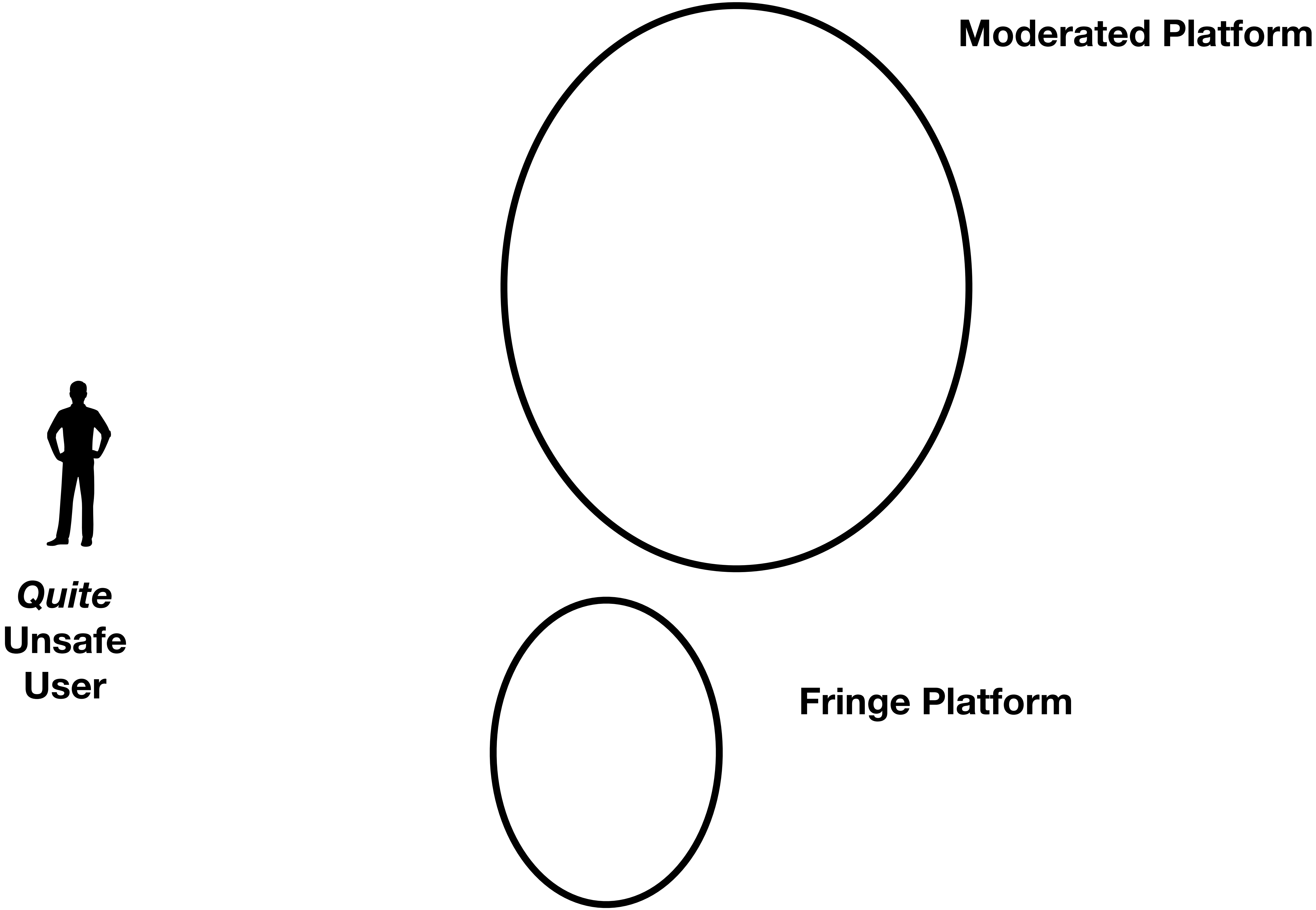
The **moderated** chooses moderation policy to max size & min hate on it

The **fringe** does nothing

Main Mechanism



Moderated Platform

Quite
Unsafe
User

Fringe Platform

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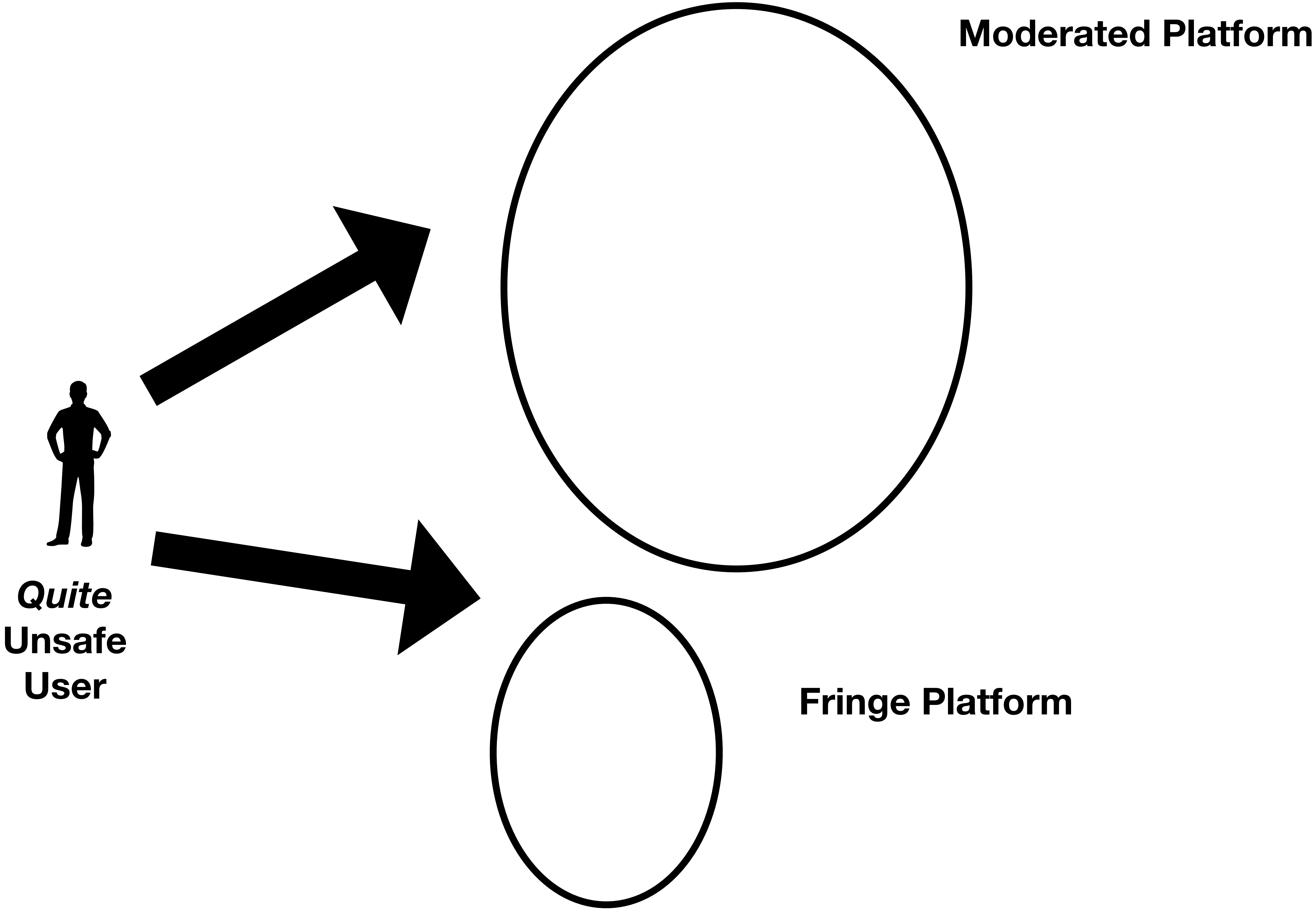

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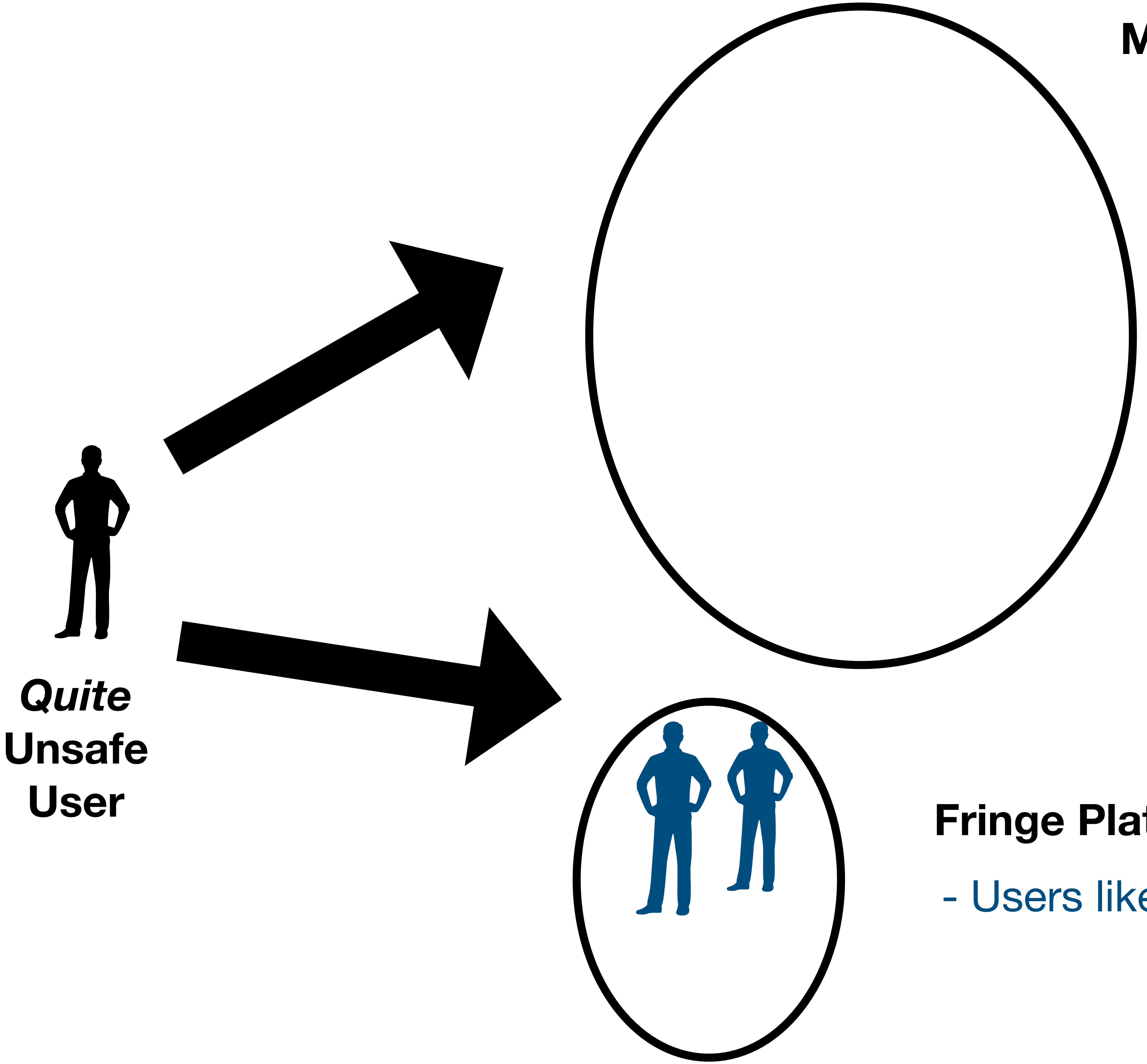

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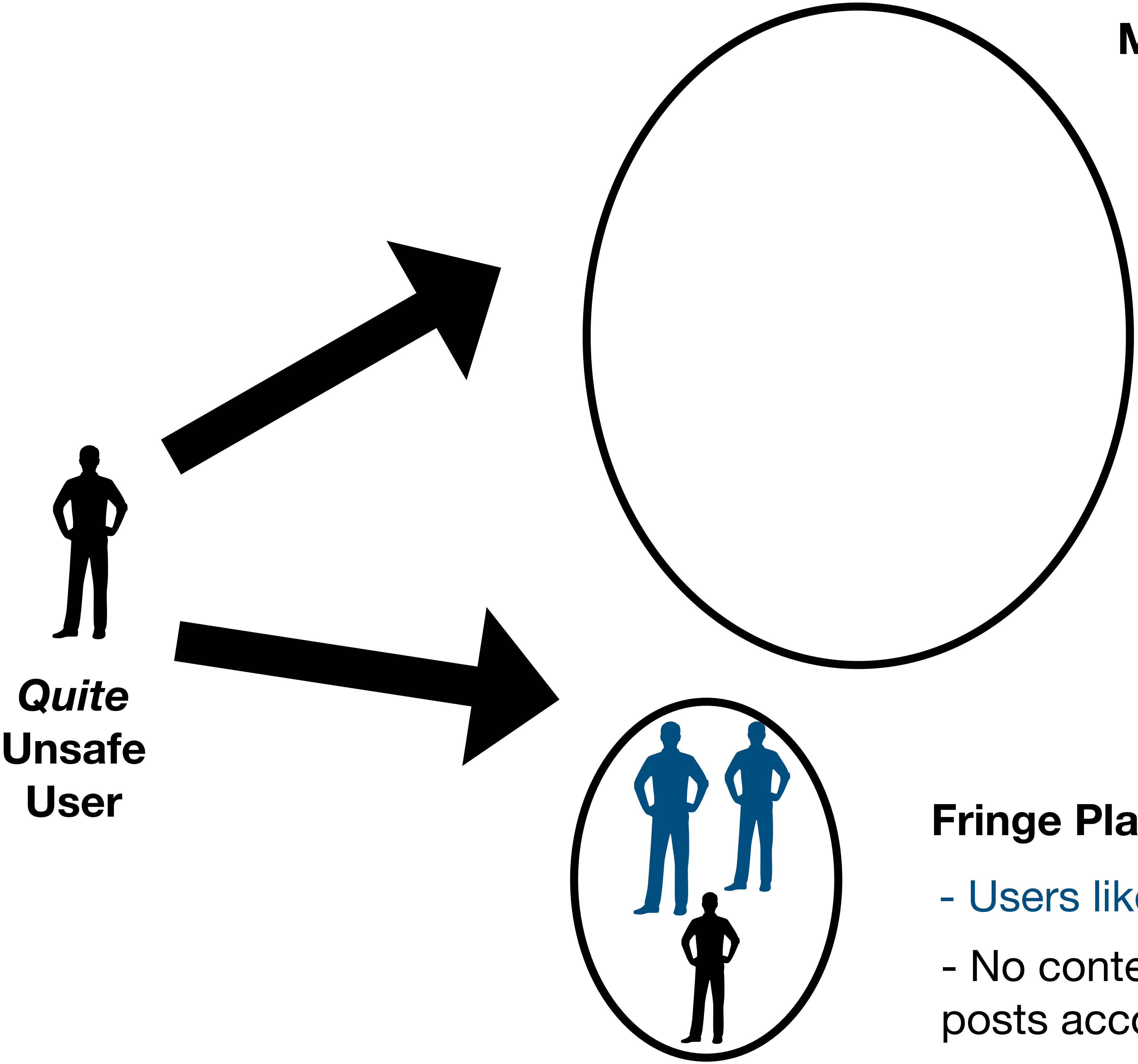

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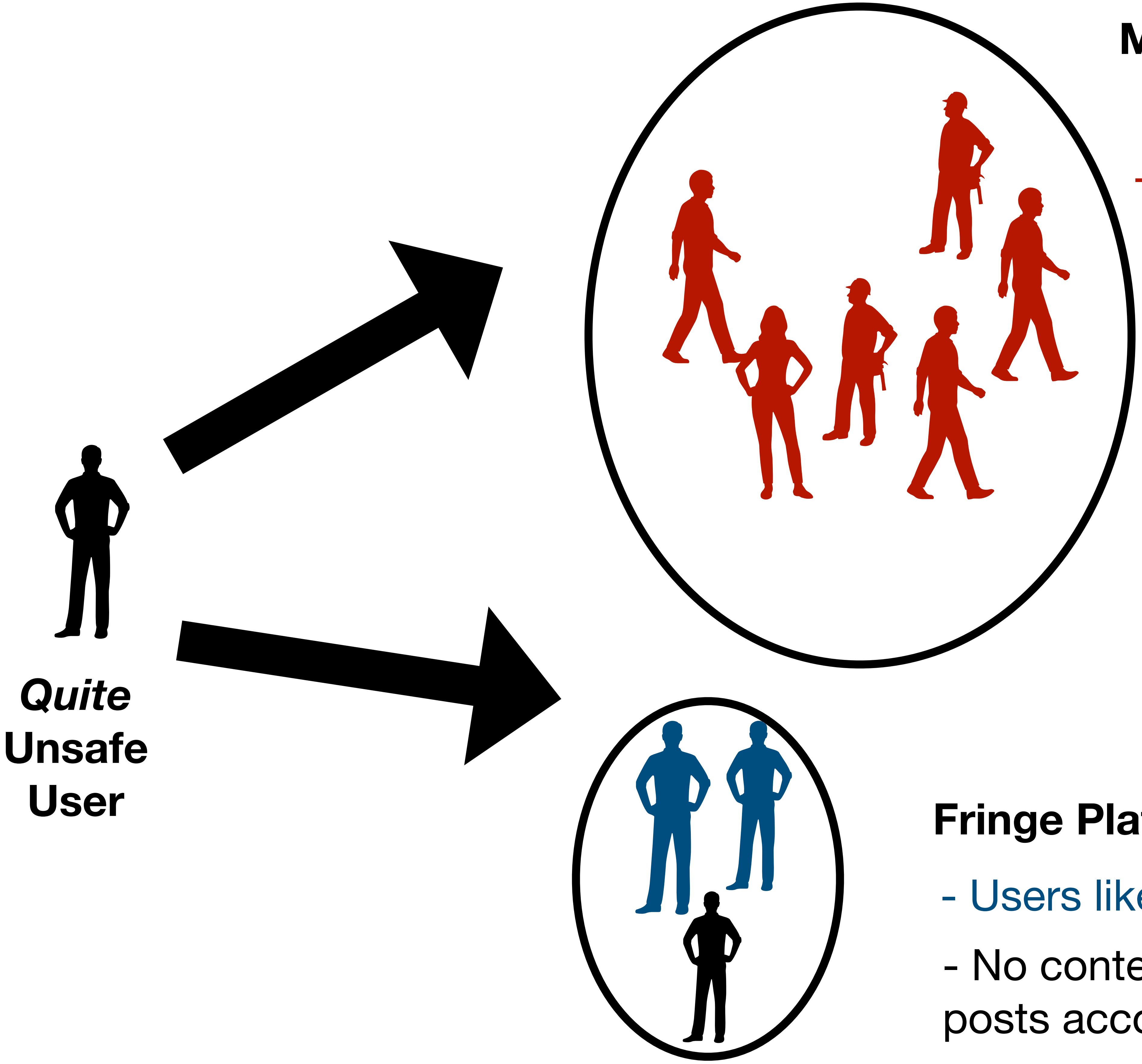

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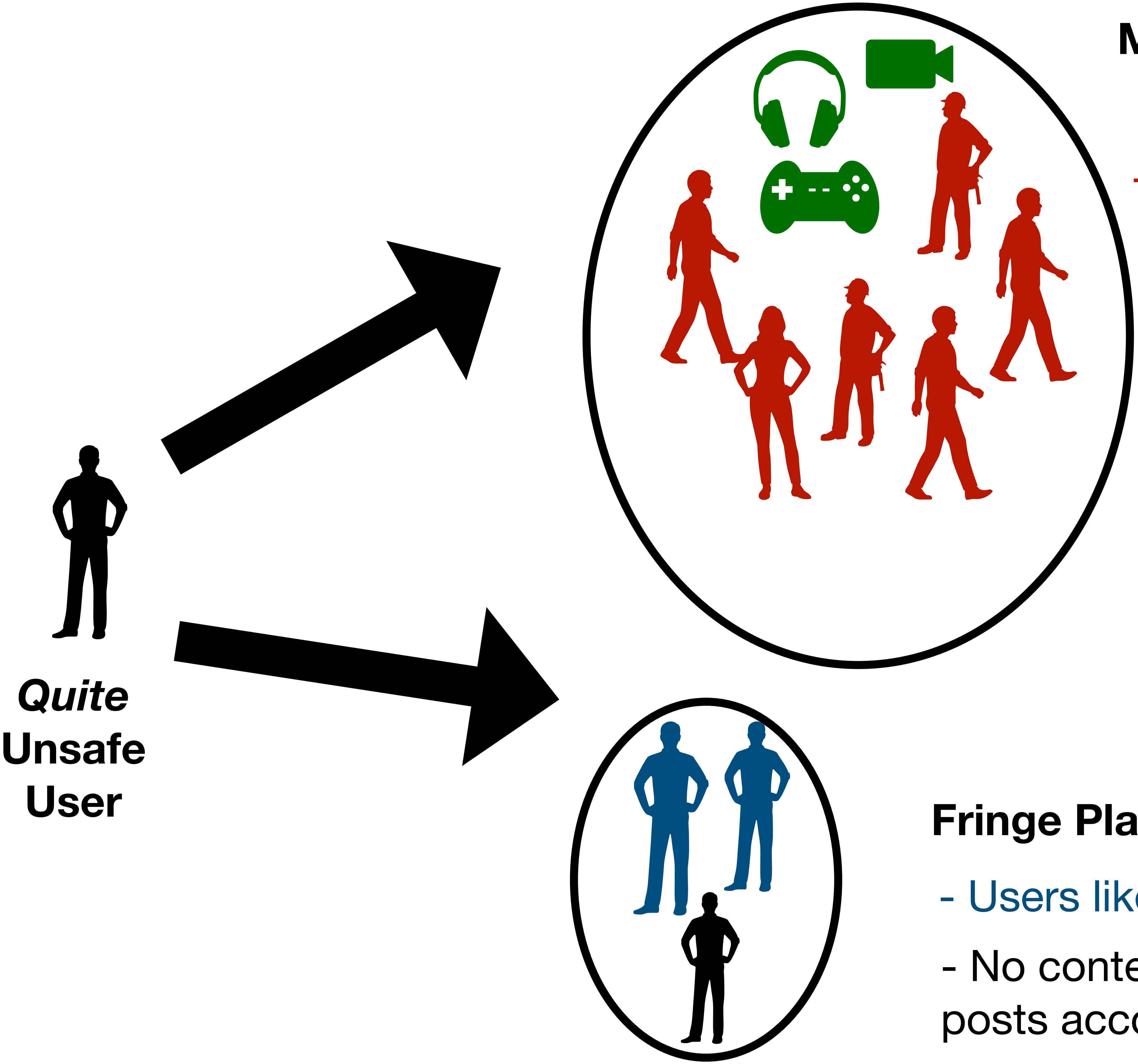

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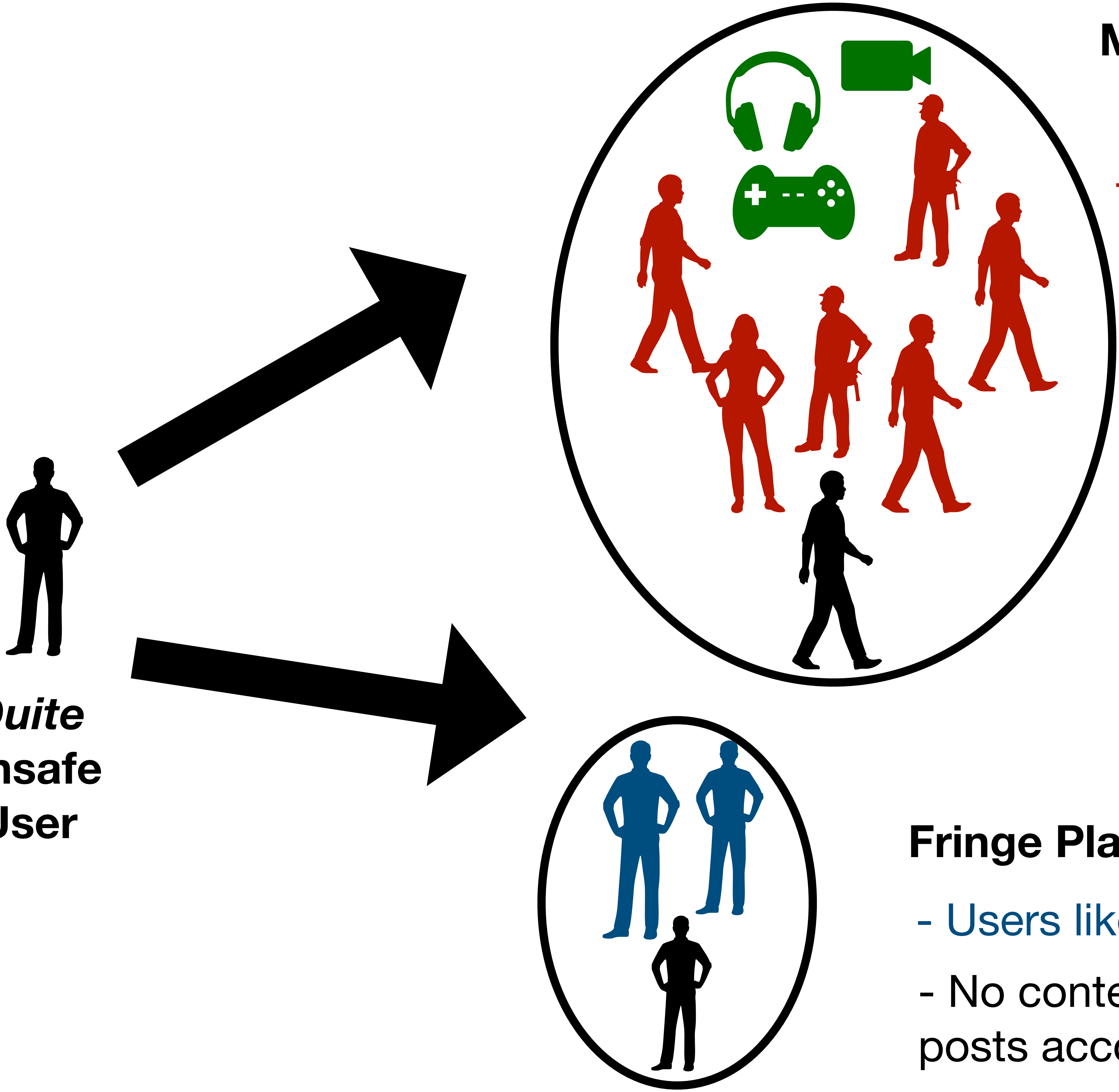

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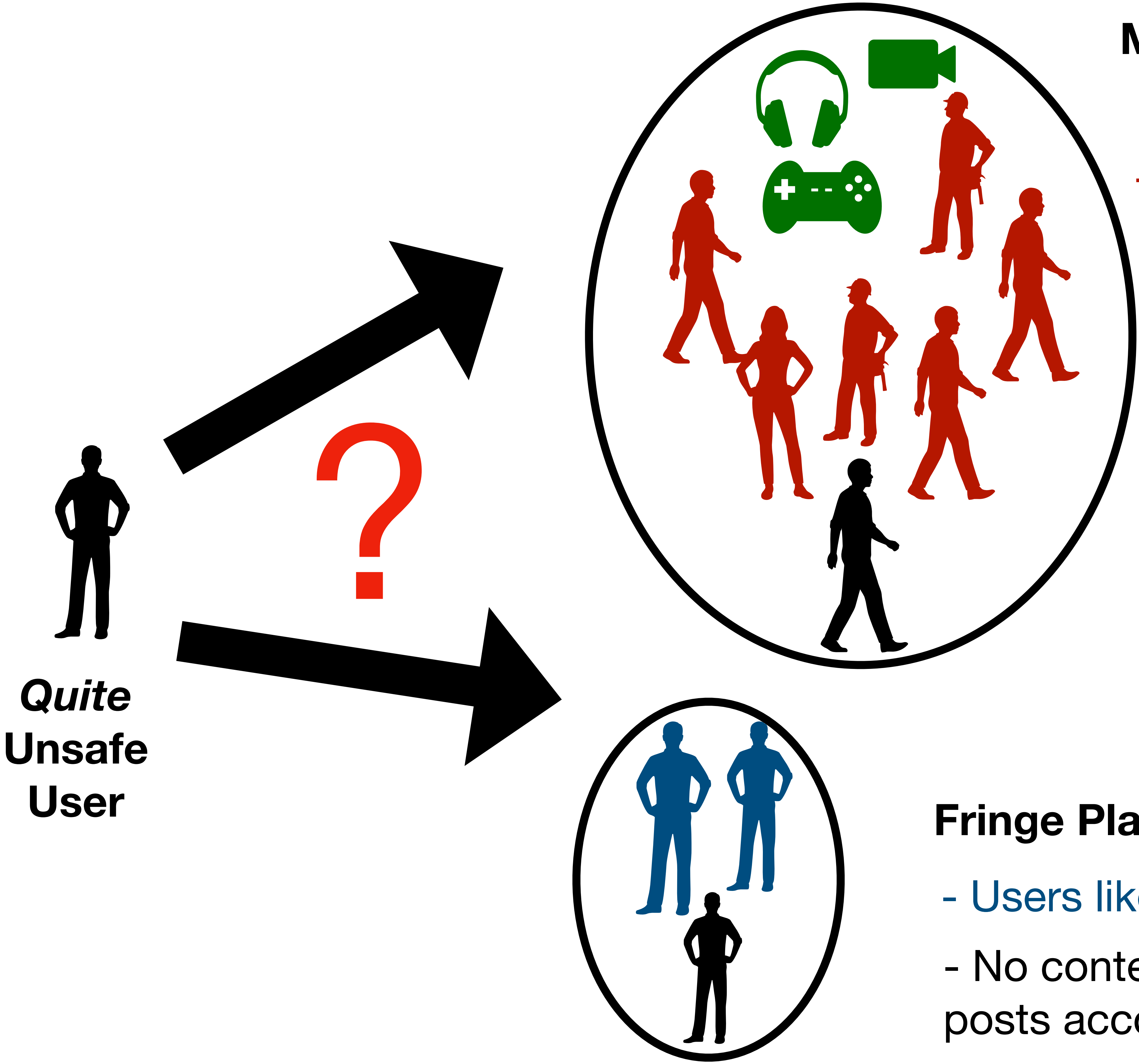

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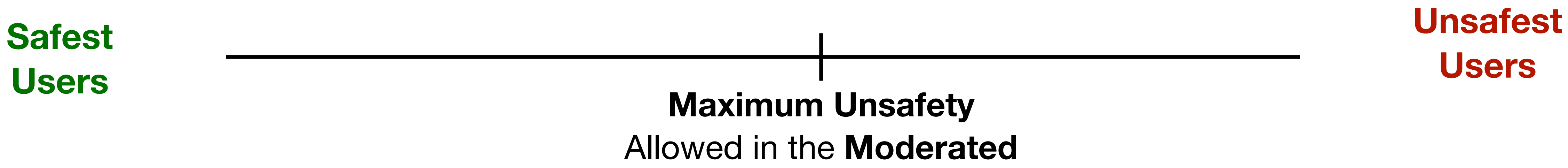

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Maximum Unsafety
Allowed in the **Moderated**

(Technical version)

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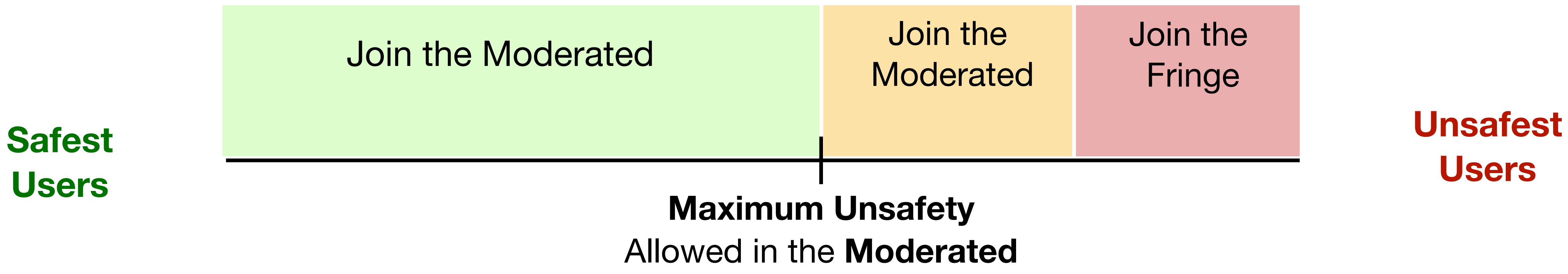

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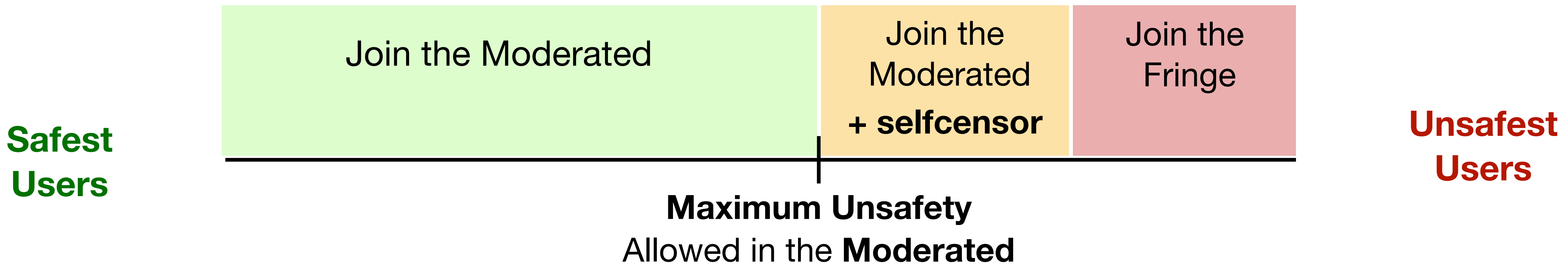

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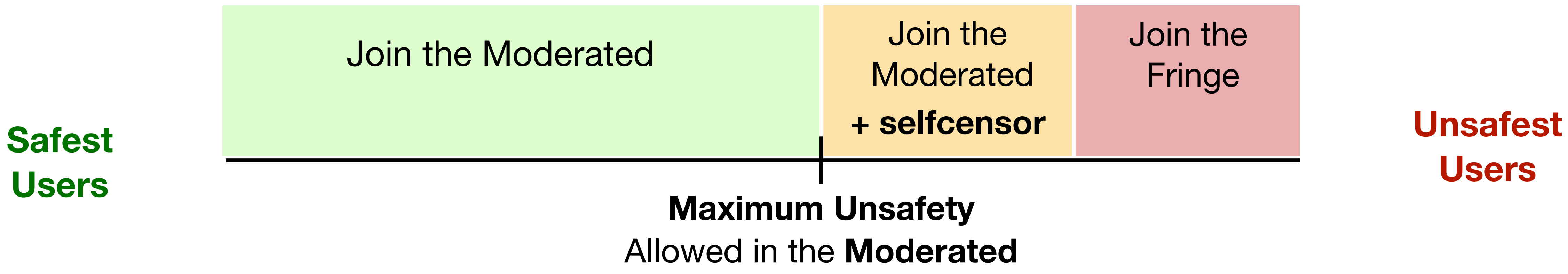

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Exists a unique policy that maximizes profits of the platform

Exists a unique policy that minimizes unsafety level

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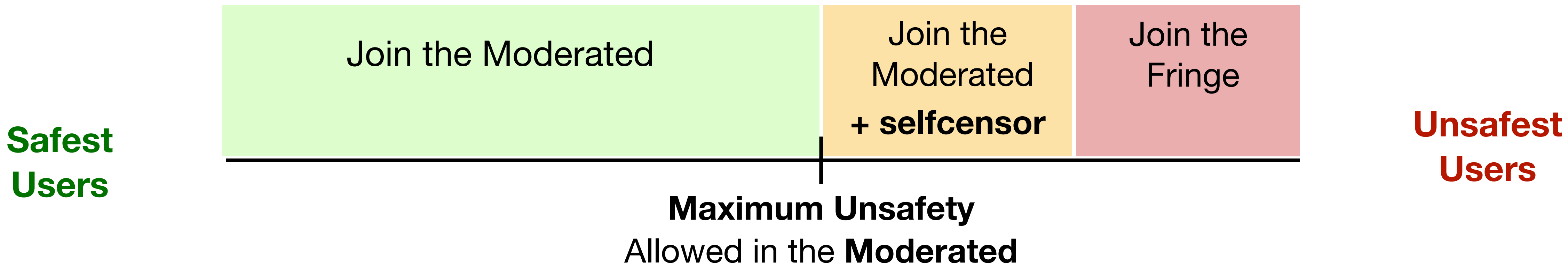

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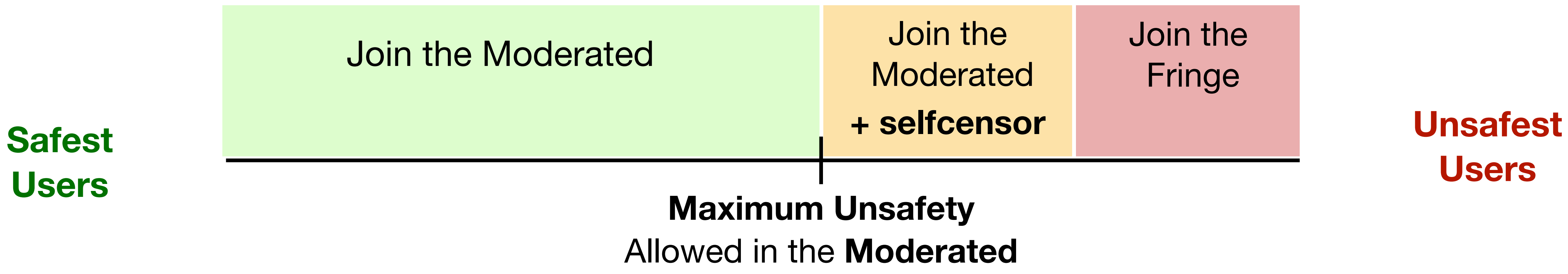
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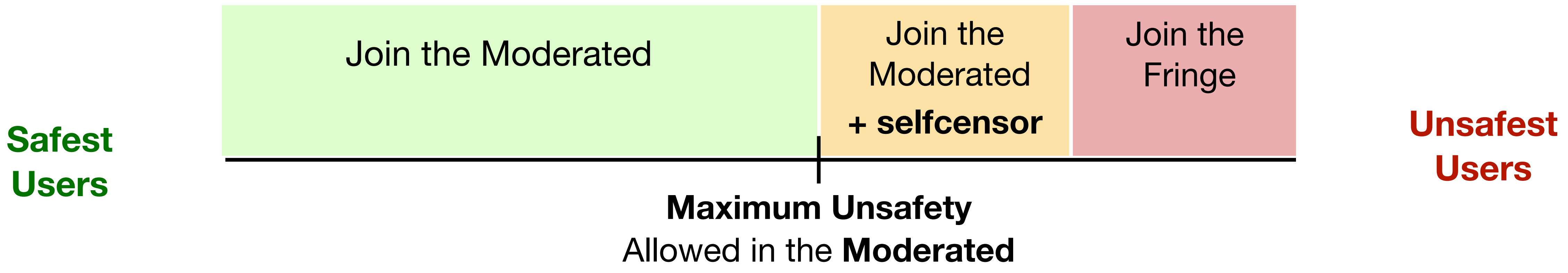

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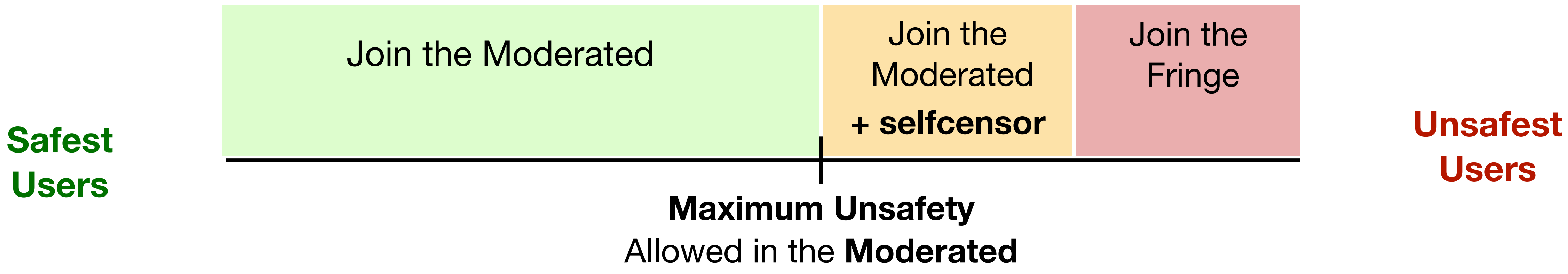

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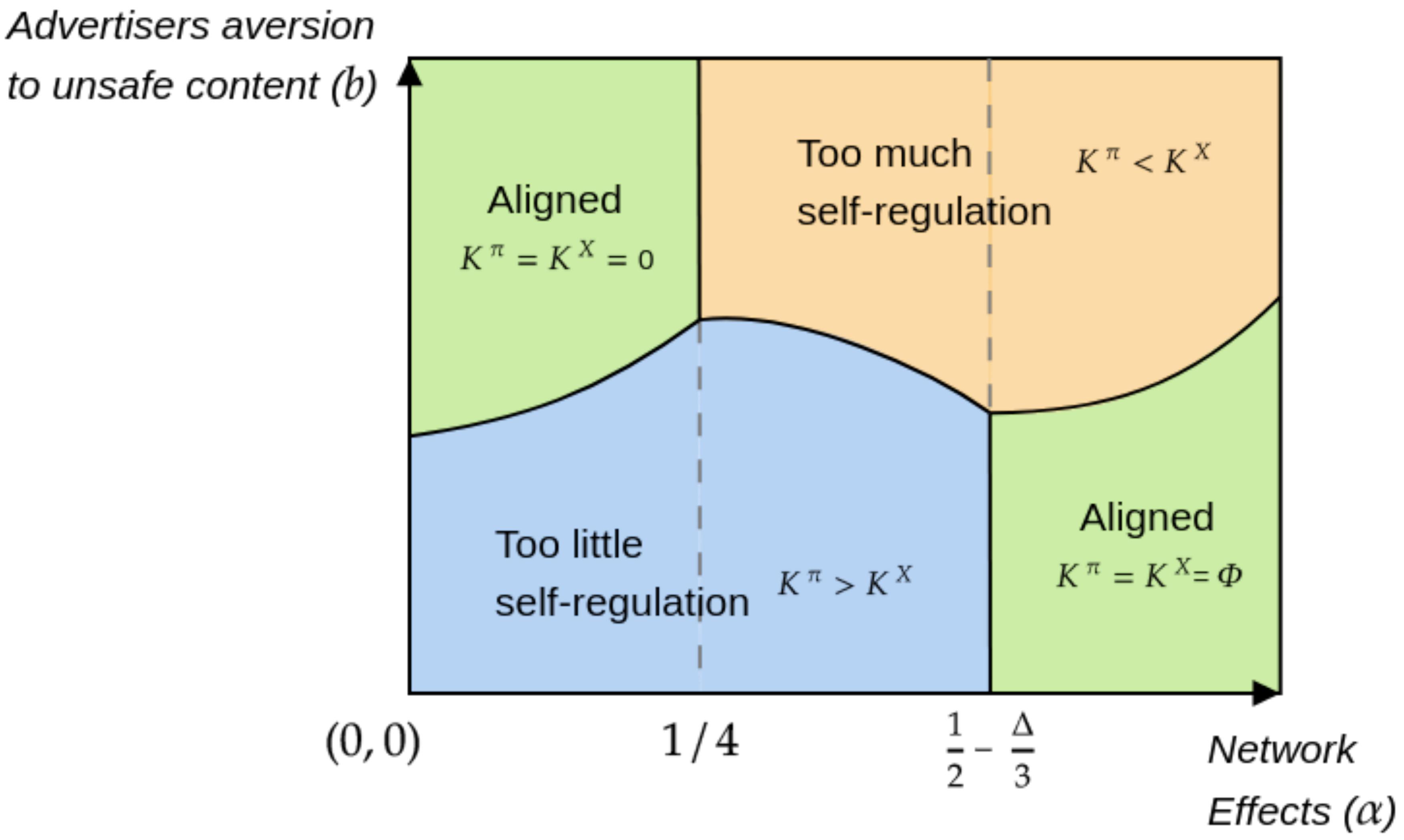
III) The **lower** the **competition,** the **more** the platform wants to moderate
the **less** the regulator wants to moderate

Policy (imposing a minimal moderation policy)



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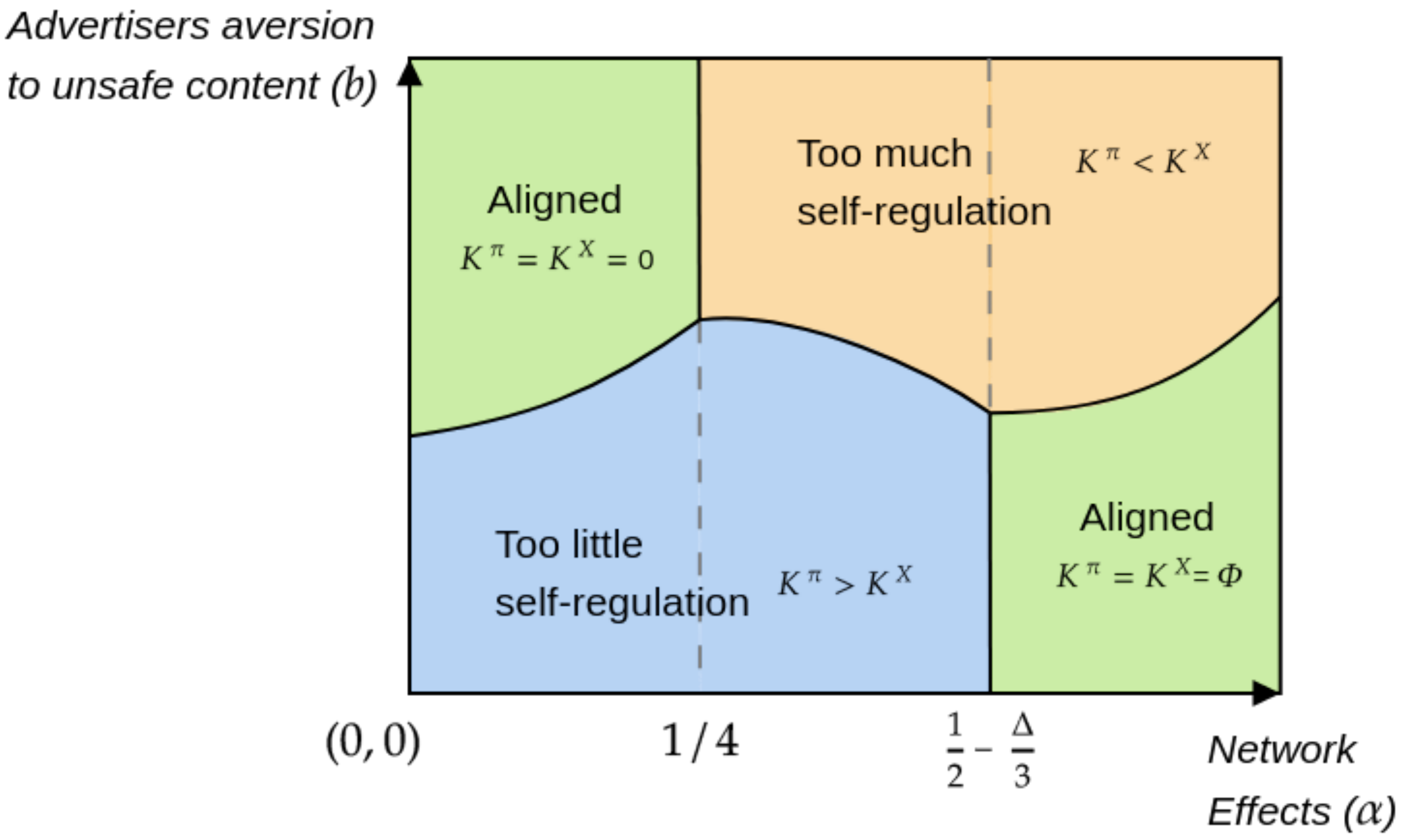

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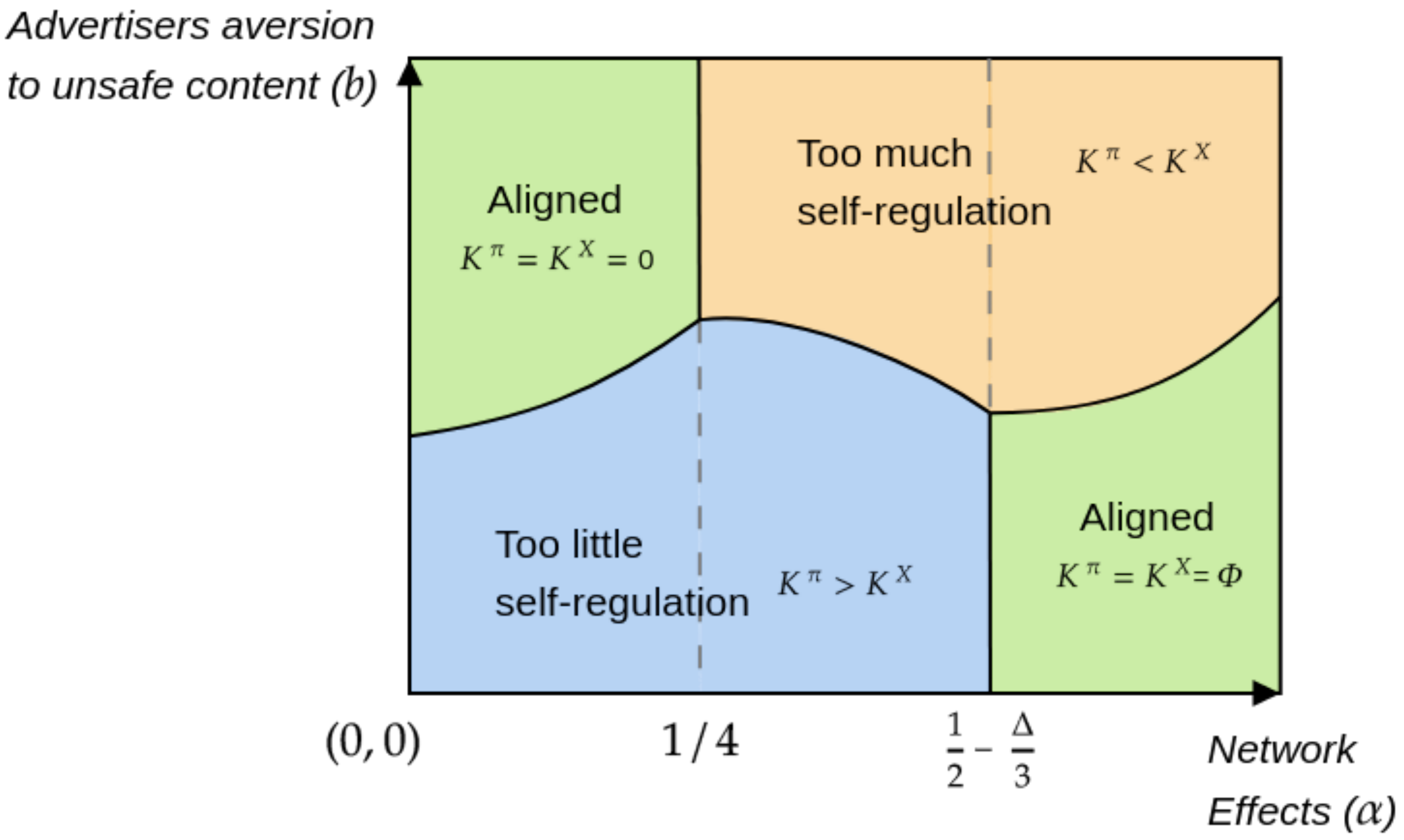

Blue Area:
Beneficial for the regulator to impose a minimal moderation policy

Orange Area: such a policy wouldn't bind. Regulators would like to impose a maximal moderation policy to attract users from the fringe platform.

Conclusion

Main takeaways:

- Potential **migration** reshapes the economic incentives of the agents
- Minimal content moderation policy only if low migration
    - Small network effects or higher quality of the mainstream

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(In the paper)

- **Extensions:** Multihoming, Offline Violence, 3 platforms

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  - ▸ Small network effects or higher quality of the mainstream

(In the paper)

- **Extensions:** Multihoming, Offline Violence, 3 platforms

Working on…

- Empirical, **structural**, project (to run counterfactuals)
- Other *non-IO* applications

Cancel culture (~Tirole's safe spaces)

Thanks!

ivan.rendo@tse-fr.eu

Model (Technical)

Back

- A unit mass of **users**, heterogeneous in their preferences for unsafe content: $\theta_i \sim U(0,1)$. High θ = Unsafe content

- 2 **platforms** $j = 1,2$
  - with K_j = **max unsafety level allowed** $(K_2 = 1)$

- User i in platform j **creates** 1 piece of content of type θ_i^C

$$\theta_i^C = \min\{\theta_i, K_j\}$$

- User i in platform j **reads** a random sample of the content, of avg type $\bar{\theta}_j$

$$\bar{\theta}_j = \int_{i \in j} \theta_i^C \mathrm{d}i$$

= average type of content in platform j

- Platform 1, **moderated**, is intrinsically better than 2, **unmoderated**
- Utilities of user i joining $j = 1{,}2$ are defined as:

# Users in the Platform

Average “Unsafety” of the Content

$$U_1(\theta_i) = \alpha N_1 - |\theta_i - \bar{\theta}_1| + \Delta$$

$$U_2(\theta_i) = \alpha N_2 - |\theta_i - \bar{\theta}_2|$$

Quality Premium of the Moderated

Strength of network effects

Users single-home

Rk: No outside option!

Advertisers

Buy a fixed amount of ads in the **moderated** platform (1)

Are **averse** to unsafe content

Price of ads: $1 - b\bar{\theta}_1$

Moderated Platform

- Platform (1) chooses a **content moderation policy**

$K \in [0,1]$: perfectly and costlessly **bans any content** $\theta_i > K$

$$\Pi(K) = \underbrace{N_1(K)}_{\text{\# users in platform}} \times \underbrace{\boxed{(1 - \overbrace{b}^{\text{Advertisers aversion to unsafe content}}\underbrace{\bar{\theta}_1(K)}_{\text{Average content unsafety}})}}_{\text{Price of ads}}$$

…platform (2) just exists with $K_2 = 1$

Timing

1. Platform (1) chooses K

2. Users choose which platform to join. I focus on threshold equilibria

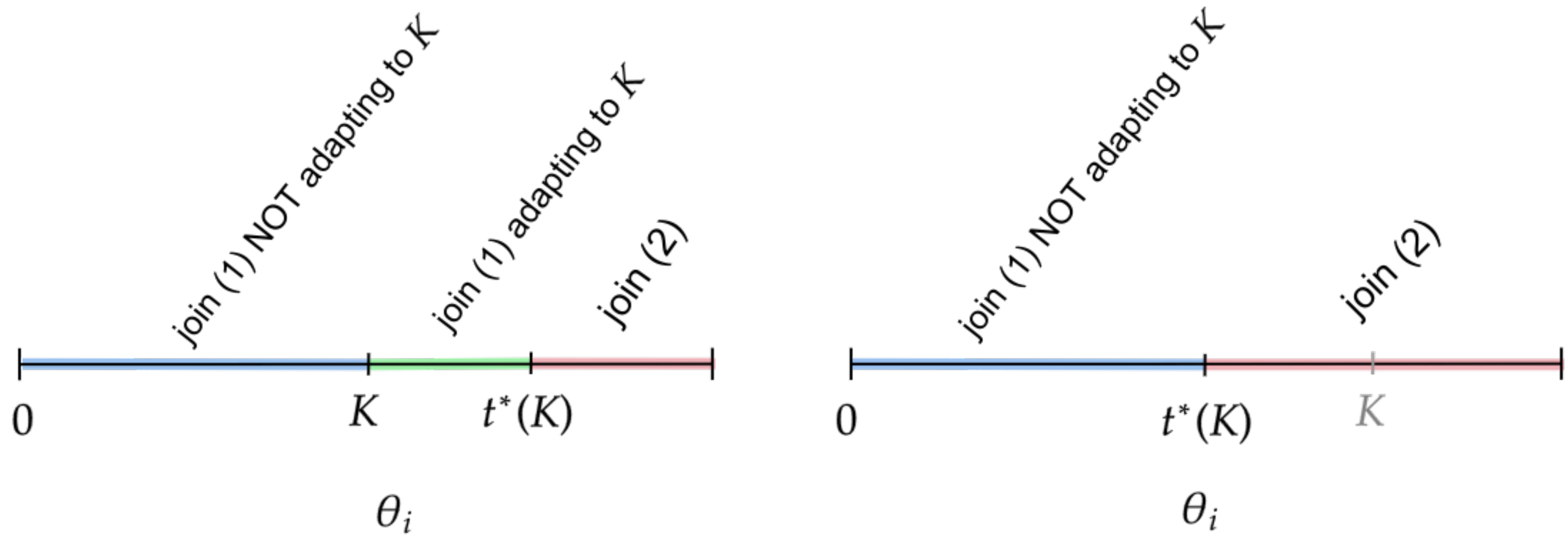
3. Profits and payoffs are realized

Back

Threshold Equilibrium (subgame for given K)

(Assumed) User i joins platform (1) iff $\theta_i < t^*$, otherwise, they join (2)

Under some assumptions on α, Δ; and given K,
there exist a **unique** threshold **equilibrium**


Low K (strict policy)

High K (lenient policy)

Characterization of the Equilibrium

Excluding corner solutions:

$\exists!\quad K^{\pi}(\alpha, \Delta)$ maximizing **profits** of the firm

$\exists!\quad K^{X}(\alpha, \Delta)$ minimizing total **unsafety**

Comparative statics:

I) $$\frac{\mathrm{d}}{\mathrm{d}\alpha} K^{X}(\alpha, \Delta) > \frac{\mathrm{d}}{\mathrm{d}\alpha} K^{\pi}(\alpha, \Delta, b) > 0$$

Policy! (next slide)

II) $$\frac{\mathrm{d}}{\mathrm{d}\Delta} K^{\pi}(\alpha, \Delta, b) < 0 \qquad \frac{\mathrm{d}}{\mathrm{d}\Delta} K^{X}(\alpha, \Delta) > 0$$