meshforum

May 7-9, 2005

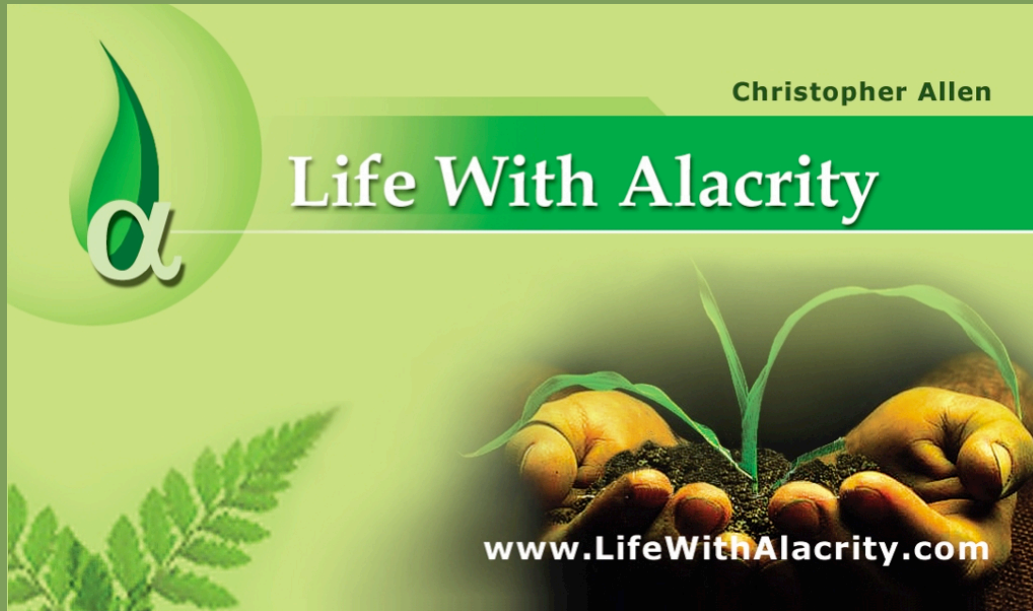# The Dunbar Number

or "groups don't scale"

Christopher Allen

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The Dunbar Number or "groups don't scale"
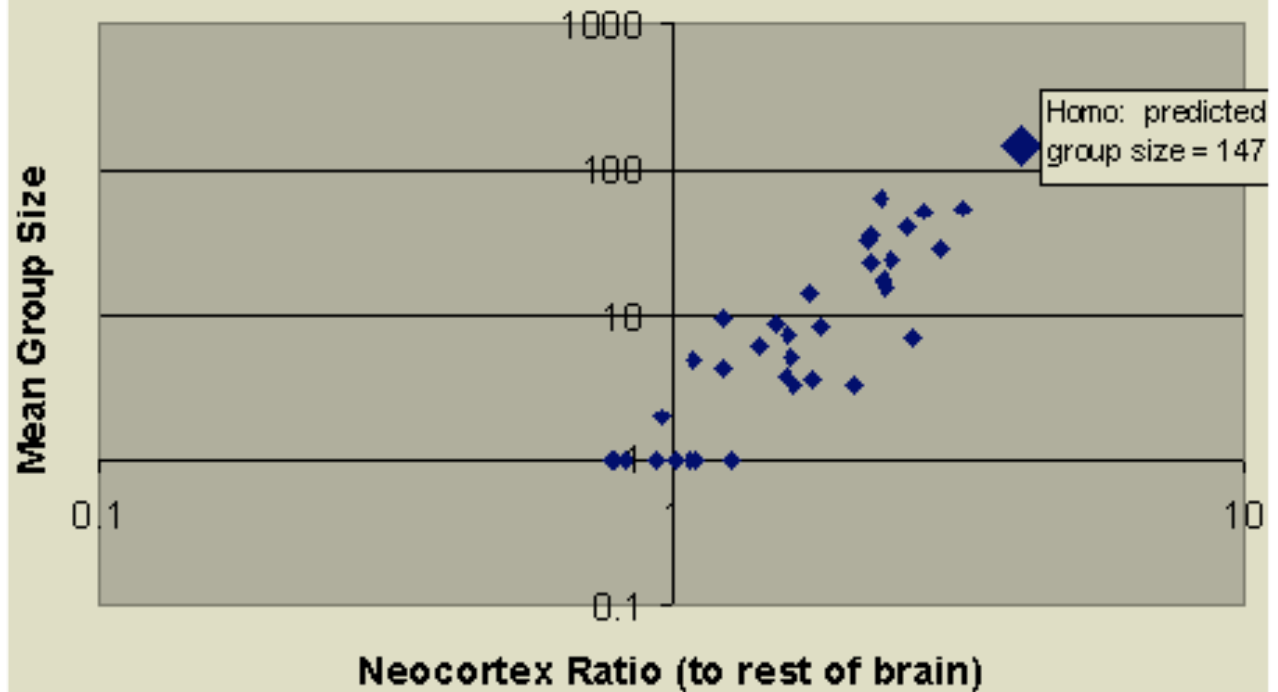

▶ Dr. Robin Dunbar

The Dunbar Number

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Primate Neocortex Size vs. Social Group Size
Redrawn from Dunbar, "Neocortex size as a constraint on group size in primates", *Journal of Human Evolution* (1992) **20**, 469-493.

Homo: predicted group size = 147

Groups Size & Neocortex Ratio

The Dunbar Number or "groups don't scale"

- Dr. Robin Dunbar
- Gladwell, Watts, Buchanan, et al.

The Dunbar Number

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Survival Groups & Unstructured Trust

The Dunbar Number or "groups don't scale"

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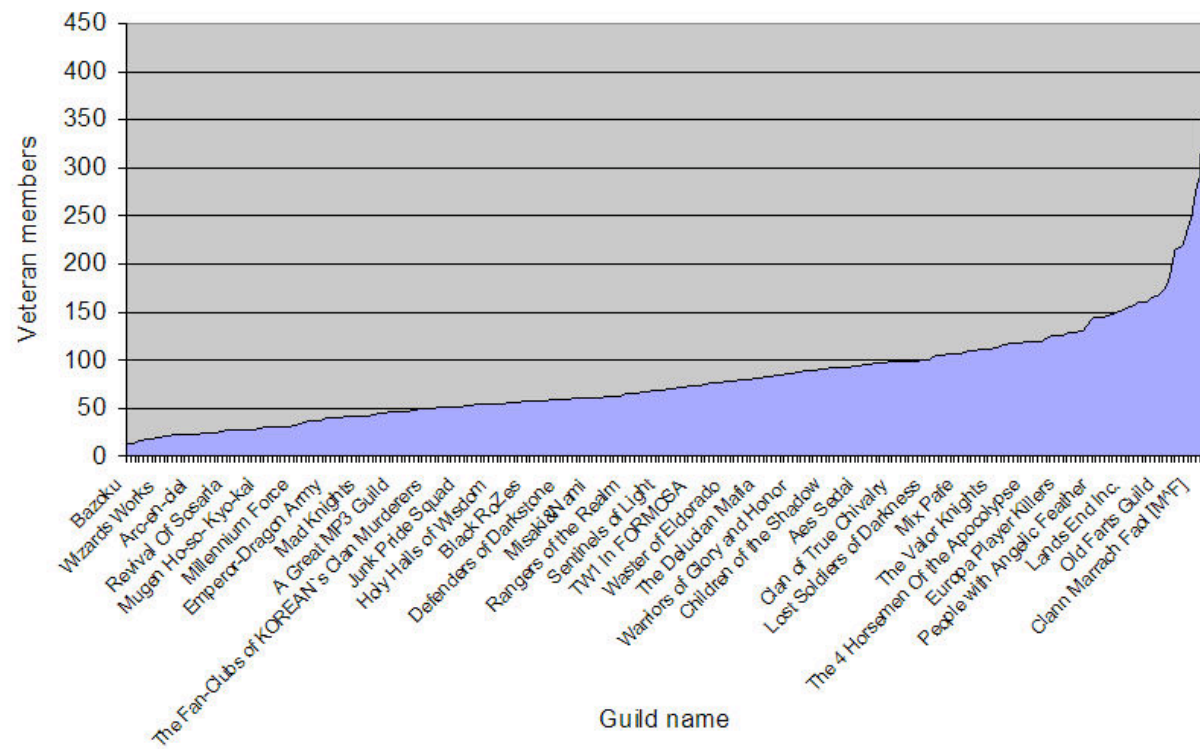- ▶ So what are the limits to group size?

The Dunbar Number

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**Power law distribution of UO (Ultima Online) guild sizes**

Guild name (x-axis): Bazoku, Wizards Works, Arc-en-ciel, Revival Of Sosaria, Mugen Ho-so-Kyo-kai, Millennium Force, Emperor Dragon Army, Mad Knights, A Great MP3 Guild, The Fan-Clubs of KOREAN's Clan Murderers, Junk Pride Squad, Holy Halls of Wisdom, Black RoZes, Defenders of Darkstone, Misaki&Nami, Rangers of the Realm, Sentinels of Light, Twi In FORMOSA, Waster of Eldorado, The Deludian Mafia, Warriors of Glory and Honor, Children of the Shadow, Aes Sedai, Clan of True Chivalry, Lost Soldiers of Darkness, Mix Pate, The Valor Knights, The 4 Horsemen Of the Apocolypse, Europa Player Killers, People with Angelic Feather, Lands End Inc., Old Farts Guild, Clann Marrach Fad [M*F]

Veteran members (y-axis): 0, 50, 100, 150, 200, 250, 300, 350, 400, 450

Ultima Online
Sizes of Guilds

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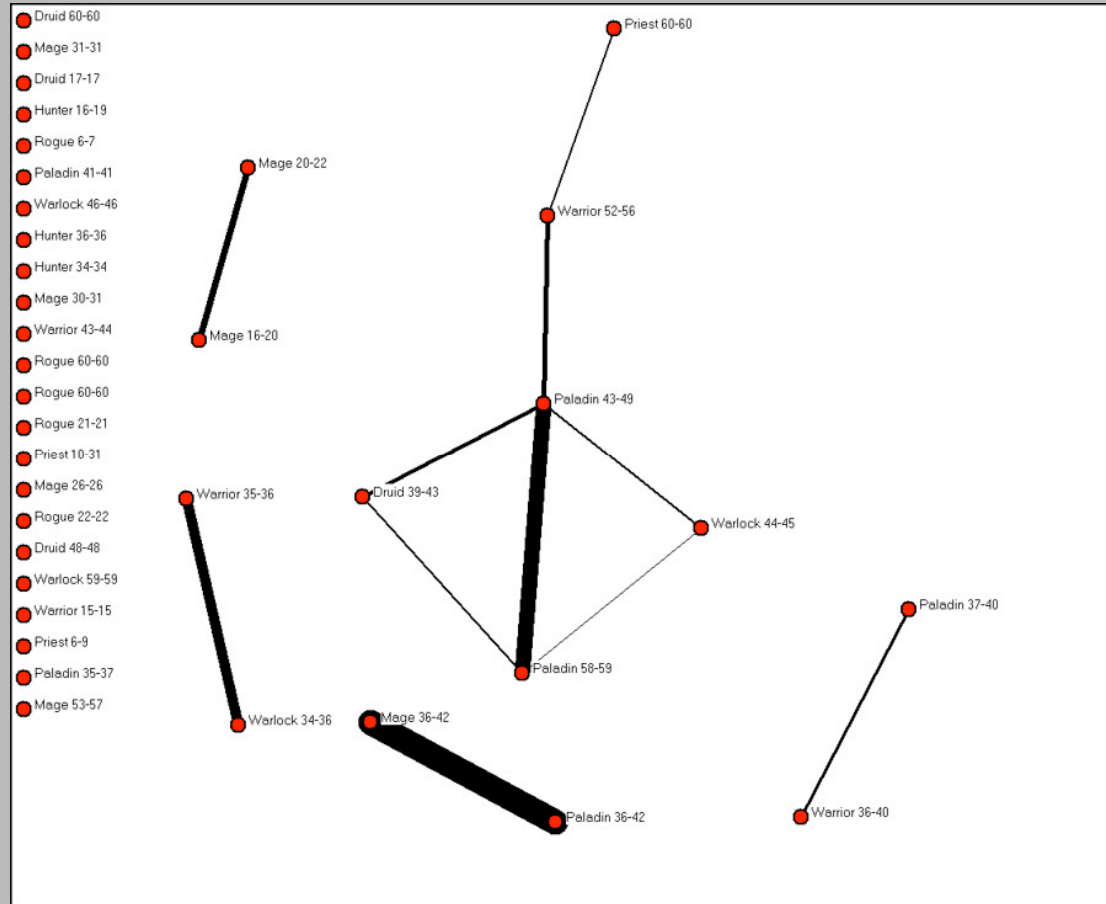

Histogram of UO (Ultima Online) guild size distribution
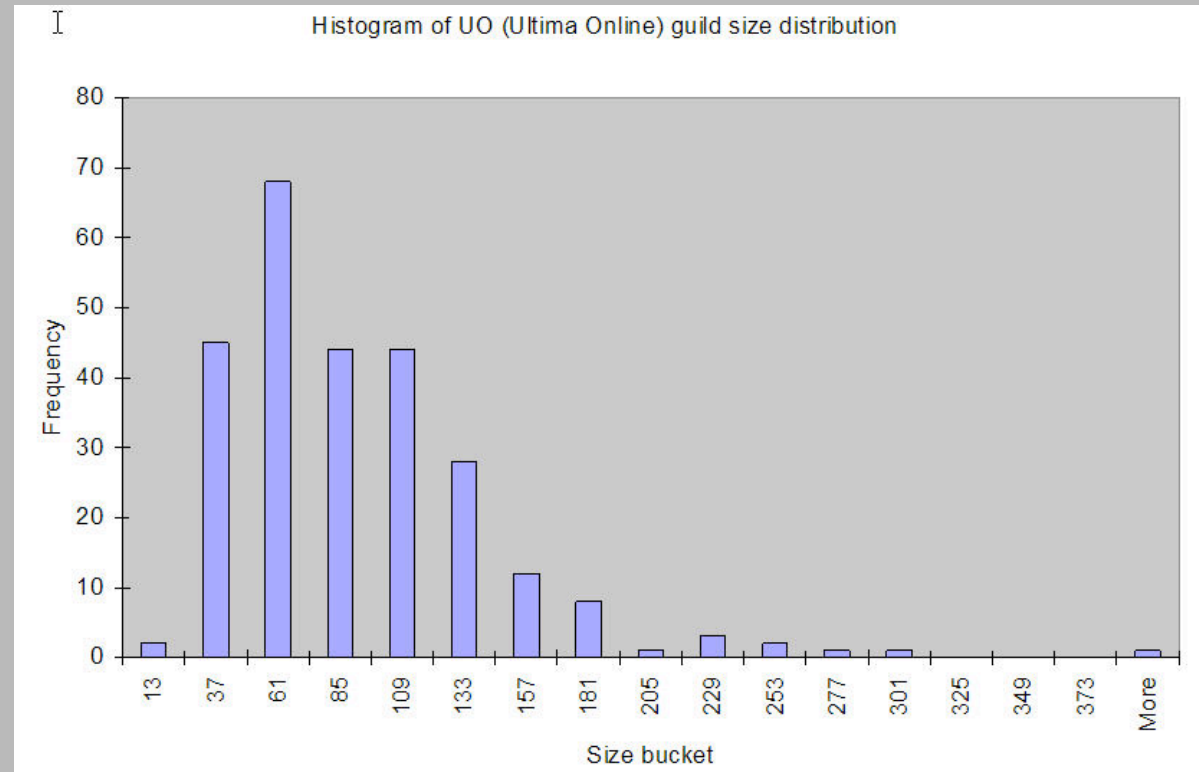
Ultima Online
Histogram of Sizes of Guilds

The Dunbar Number

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World of Warcraft
Subgraph Map of a Guild

Druid 60-60
Mage 31-31
Druid 17-17
Hunter 16-19
Rogue 6-7
Paladin 41-41
Warlock 46-46
Hunter 36-36
Hunter 34-34
Mage 30-31
Warrior 43-44
Rogue 60-60
Rogue 60-60
Rogue 21-21
Priest 10-31
Mage 26-26
Rogue 22-22
Druid 48-48
Warlock 59-59
Warrior 15-15
Priest 6-9
Paladin 35-37
Mage 53-57

Mage 20-22
Mage 16-20
Priest 60-60
Warrior 52-56
Paladin 43-49
Warlock 44-45
Paladin 37-40
Warrior 35-36
Druid 39-43
Paladin 58-59
Warlock 34-36
Mage 36-42
Paladin 36-42
Warrior 36-40
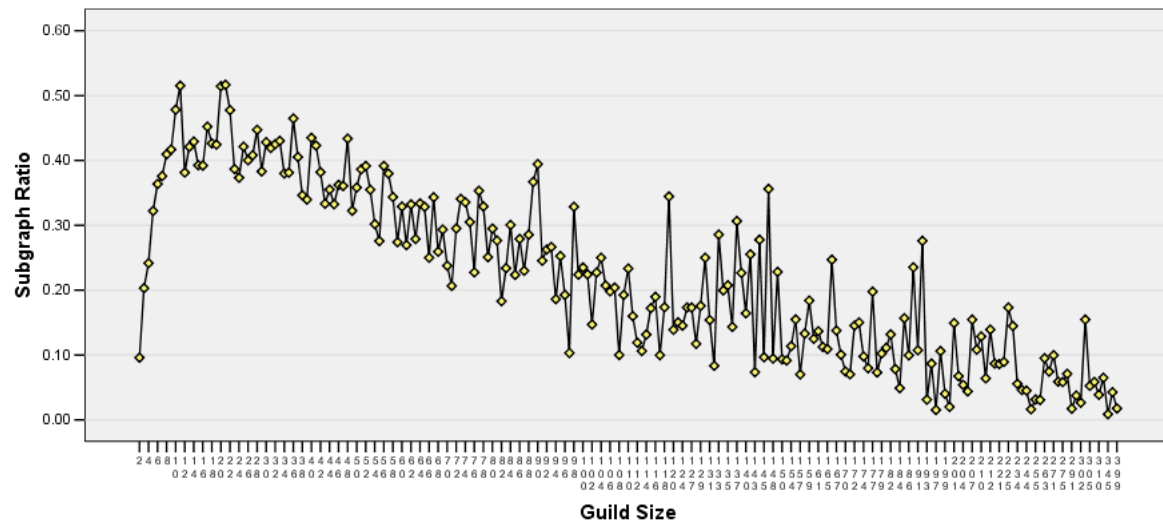
The Dunbar Number

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World of Warcraft

Max Subgraph Size of all Guilds

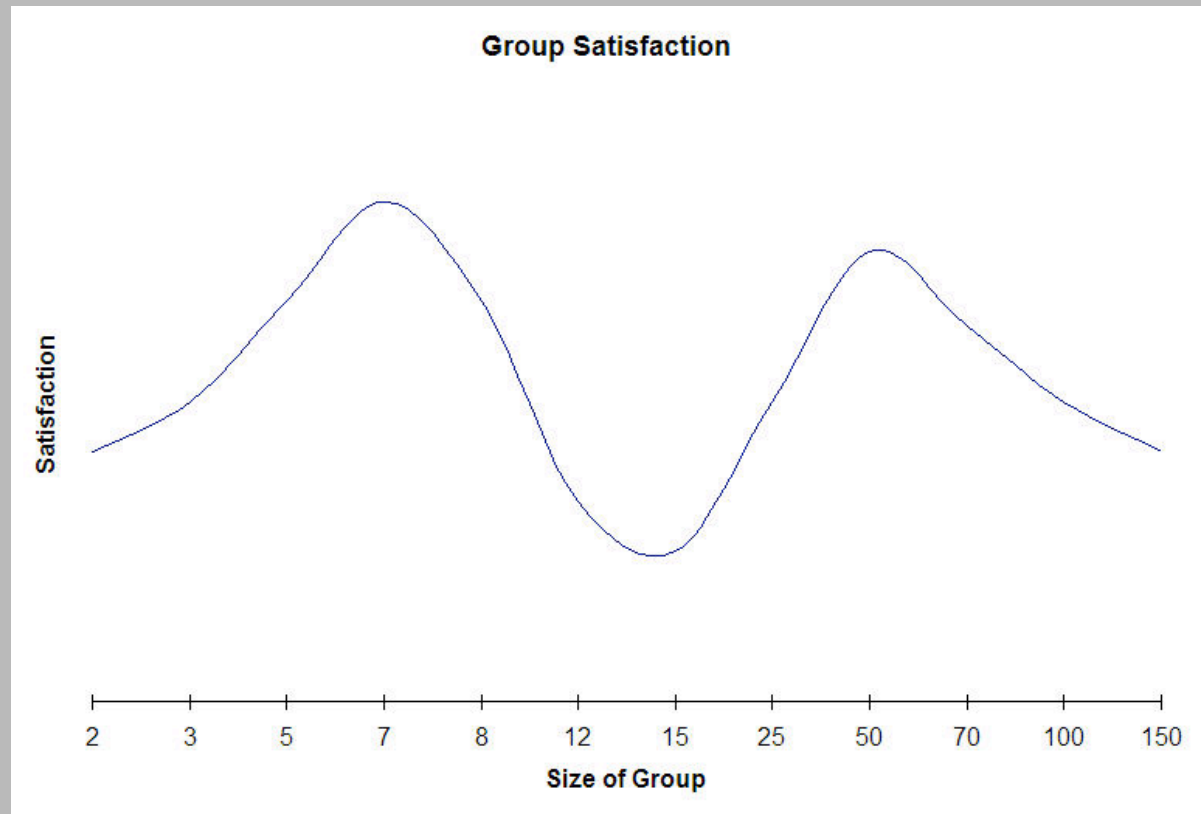**The Dunbar Number**

or "groups don't scale"

World of Warcraft

Subgraph Ratio of all Guilds

The Dunbar Number

or "groups don't scale"

Group Satisfaction

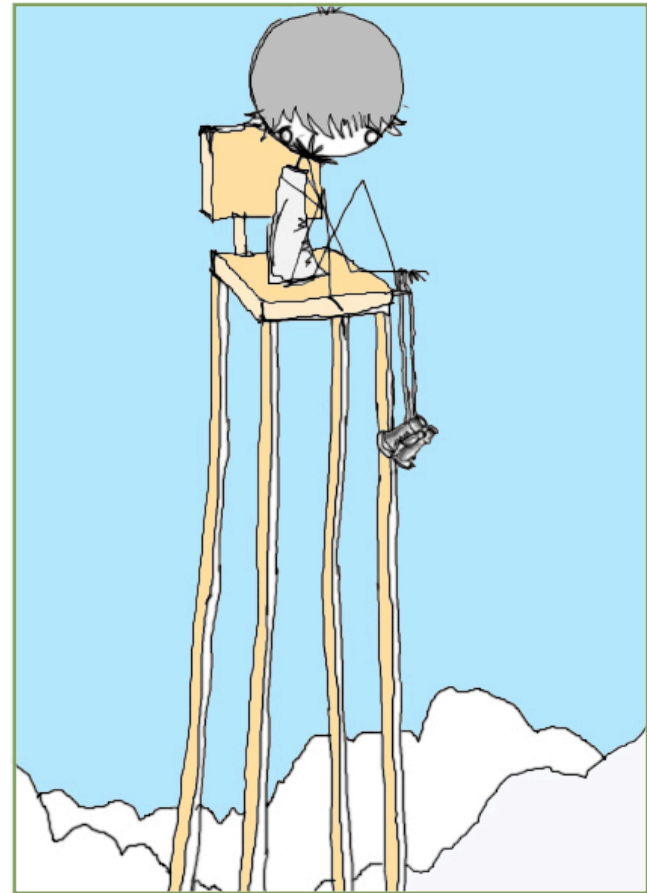# The Dunbar Number or "groups don't scale"

- ▶ Dr. Robin Dunbar

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- ▶ So what are the limits to group size?

- ▶ Group size problems

Concept: Group Size Problems

- ▶ Too Few People
  - ▶ Insufficient critical mass
    - ▶ Unable to sustain conversation
    - ▶ Feels like you are alone
    - ▶ Groupthink
    - ▶ Echo Chamber

Concept: Group Size Problems

- Too Few People
  - Insufficient critical mass
    - Unable to sustain conversation
    - Feels like you are alone
    - Groupthink
    - Echo Chamber
- Too Many People
  - Too noisy, not enough signal
  - Lack of trust, unequal trust
  - Cliques & bad gossip
    - Inappropriate politics
  - Other social contract failures
    - Flames
    - Trolls
    - Tragedy of the commons

The Dunbar Number or "groups don't scale"

- Dr. Robin Dunbar

- Gladwell, Watts, Buchanan, et al.

- So what are the limits to group size?

- Group size problems

- Appropriate social software for different group sizes

Concept: Appropriate Size

- Small Groups (2-12 active, best for 4-9 active)
  - Chat Room
  - Teleconference w/Backchannel
  - Cooperative Editor
  - Discussion List - Flat
  - Blogs - Shared only to Private
  - Blogs - Group Authored

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  - Wiki - Single Workspace
- Large Groups (150+ active)
  - Discussion List - Reputation Filterered (i.e. SlashDot)
  - Wiki - Multiple Workspaces
  - Blog - Public
  - Social Network

Blog at
http://www.LifeWithAlacrity.com
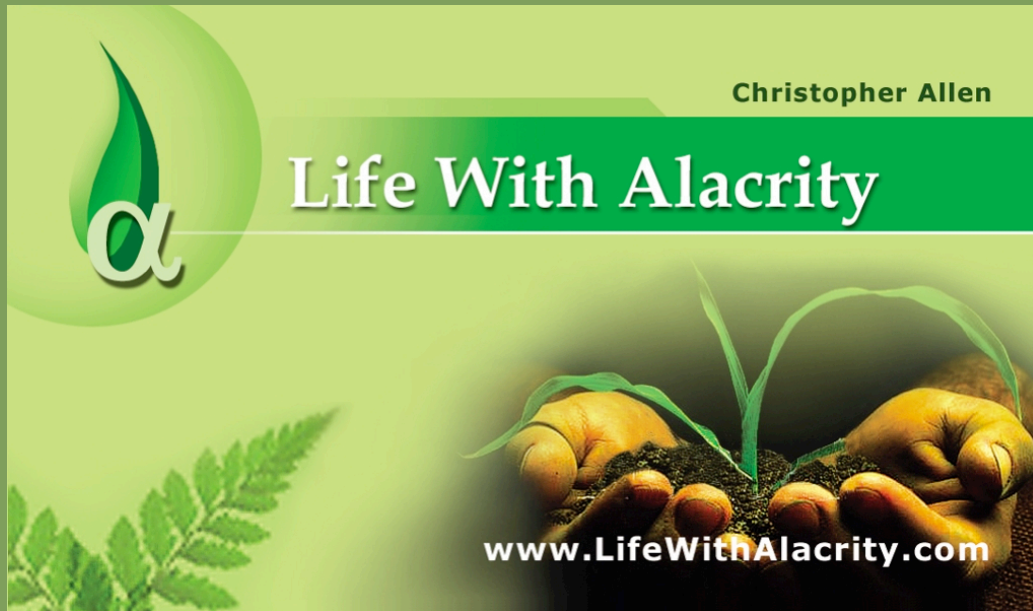
ChristopherA@LifeWithAlacrity.com