

Nevada EPSCoR
Interdisciplinary Workshop
on
Behavior Analysis
for
Artificial and Simulated Agents

University of Nevada, Reno

November 2, 2007

Welcome

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Artificial and Simulated Agents

- The general concept of “agent” is very broad
 - ✗ thermostats
 - ✗ engine performance regulators
 - ✗ mail filters
 - ✗ web crawlers
- Focus on artificial/simulated “embodied” agents
 - ✓ people, animals, monsters
 - ✓ collectives (herd of gazelles, tank battalion)
 - ✓ robots – real or simulated

Observable Behavior

- Agents operate in 2D or 3D environments
- Must display visibly intelligent behavior
 - people have intuitions about what “looks right”
 - focus on appearance rather than optimality
 - here we part ways with traditional AI
- Examples:
 - customers in a business training simulator
 - herd animals in an ecological research simulator
 - monsters in a videogame

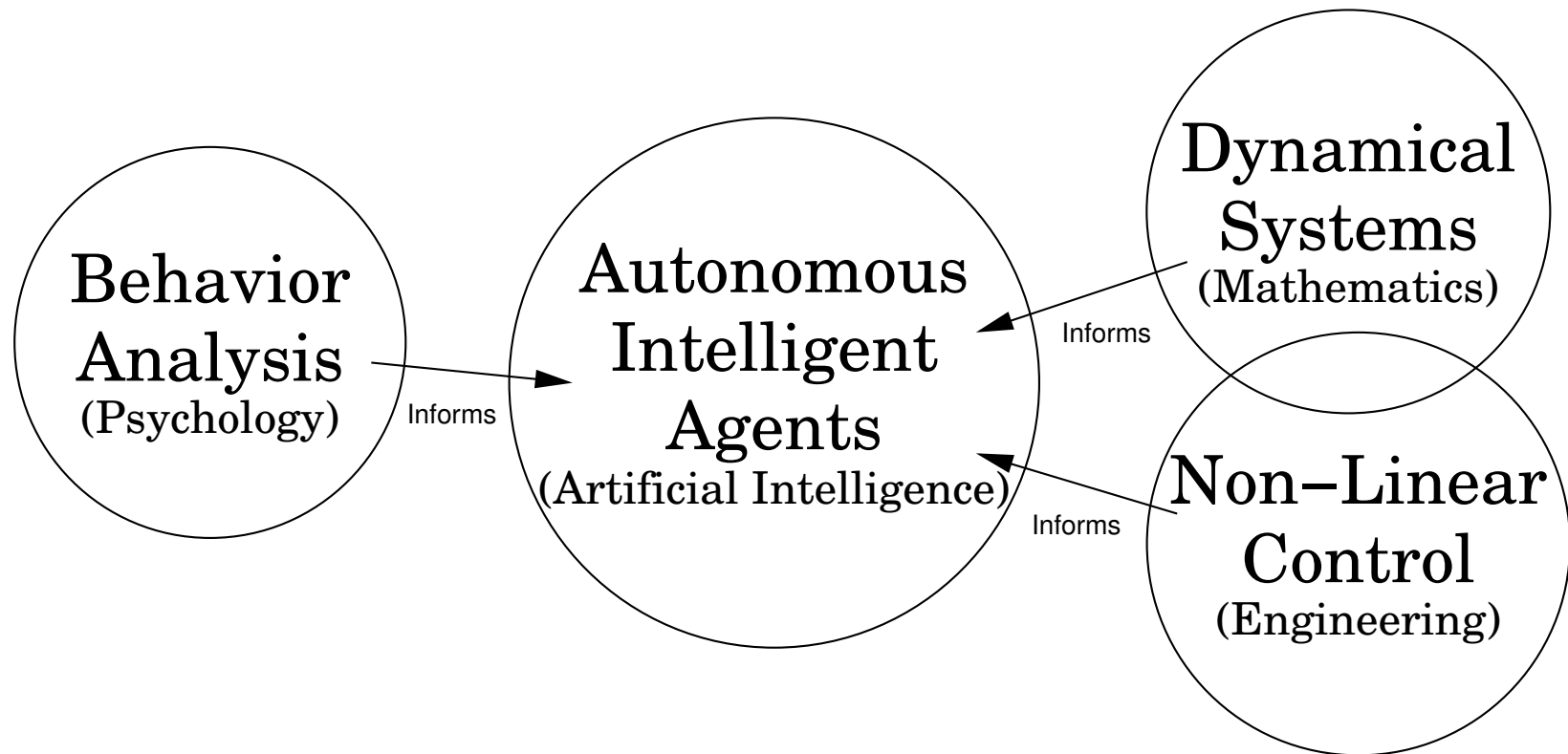
Immediate Questions

- Does the behavior indeed “look right”?
- What happens when the lights are out?
 - vendors are terrified of loss of control

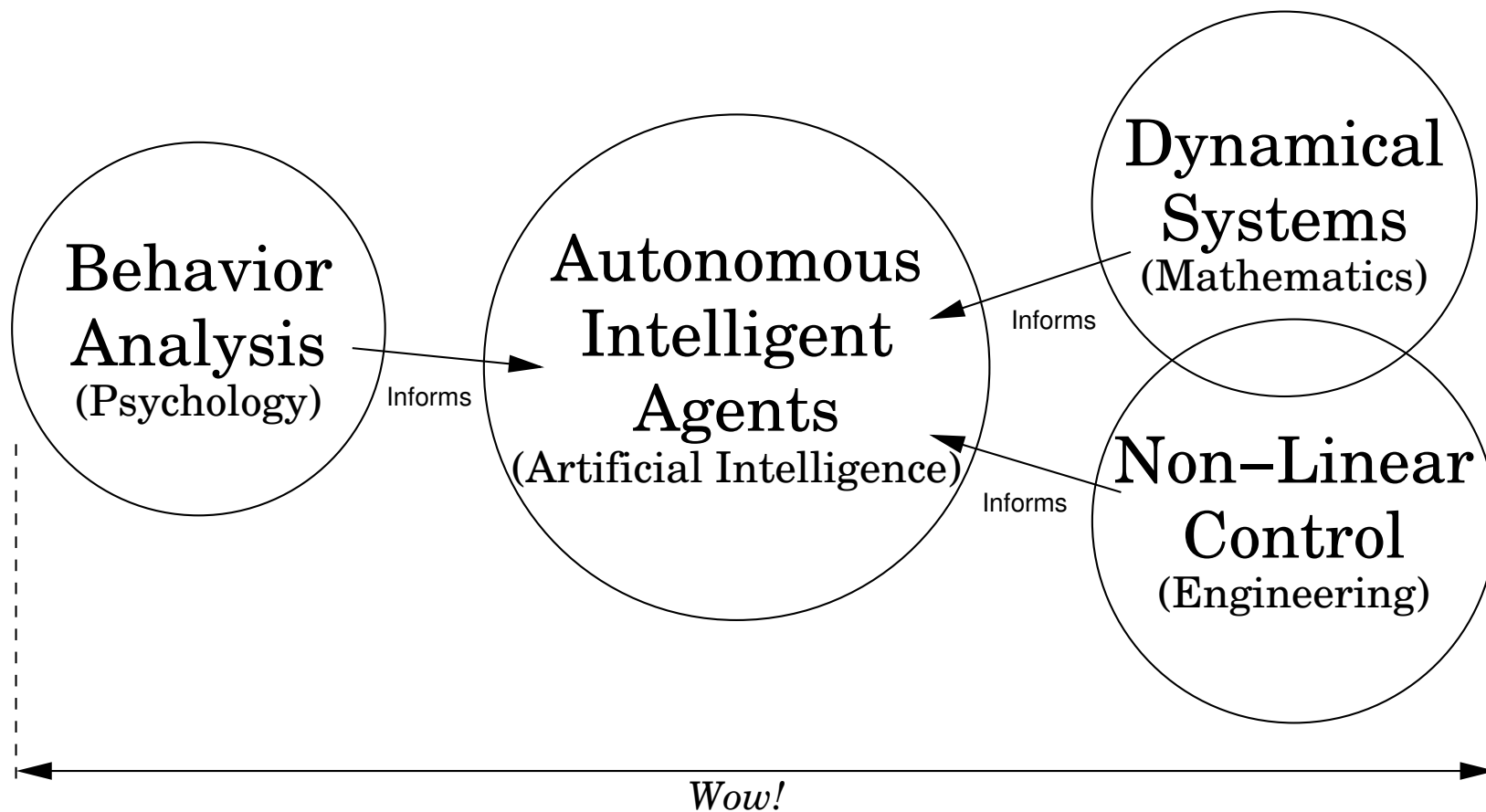
Key Research Question

What kind of assurances can we provide?

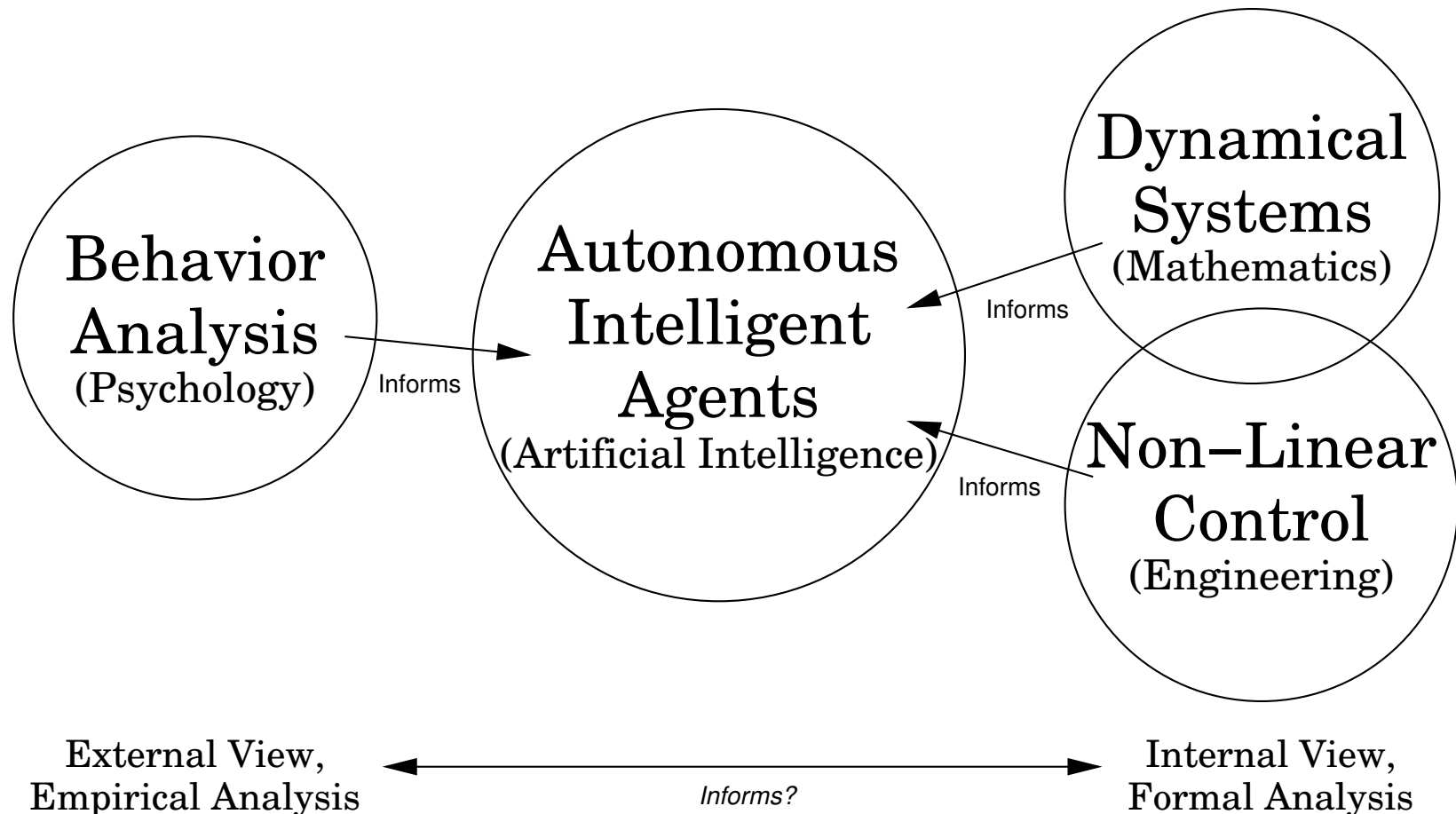
Behavior Analysis for Artificial and Simulated Agents



Isn't this a bit of a stretch?



No, it's complementary approaches to a single problem.



Speakers

Bobby D. Bryant

Computer Science & Engineering

M. Sami Fadali

Electrical & Biomedical Engineering

Linda J. Parrott Hayes

Psychology

Discussants

Patrick M. Ghezzi

Psychology

Kenneth W. Hunter

Microbiology & Immunology

Sushil Louis

Computer Science & Engineering

Monica Nicolescu

Computer Science & Engineering

Eric L. Wang

Mechanical Engineering

Special Thanks

Genevieve DeBernardis

Workshop Coordinator

Carol Maiellaro

Redfield Campus Management

Now Here's The Plan...

- One overview/tutorial talk on each of the three areas
 - autonomous intelligent agents
 - behavior analysis
 - non-linear systems
- Each talk followed by a discussion
 - deepen & broaden our conception of the topics and their relevance to the workshop's theme
- Day ends with integrative discussion

Workshop Goals

- Familiarize attendees with aspects of the three subject areas
- Identify research issues pertaining to the workshop's theme
- Identify interdisciplinary research approaches to those issues

Launch actual research proposal efforts

Welcome

Thank you for coming!