

# Did Flight Evolve Once or Multiple Times?

New fossil evidence suggests birds and dinosaurs took different paths to flight  
— a lesson for AI safety.

Swipe for insights →

## THE DATA

# 30%

### Shared Flight Adaptations

Among 194 flight-related traits, 30% were independently developed in microraptorines and birds.

This convergence suggests that complex traits like flight can emerge through distinct evolutionary pathways. In AI safety, this implies that no single 'correct' design pattern exists — safety must be tailored to each system's unique architecture and purpose.

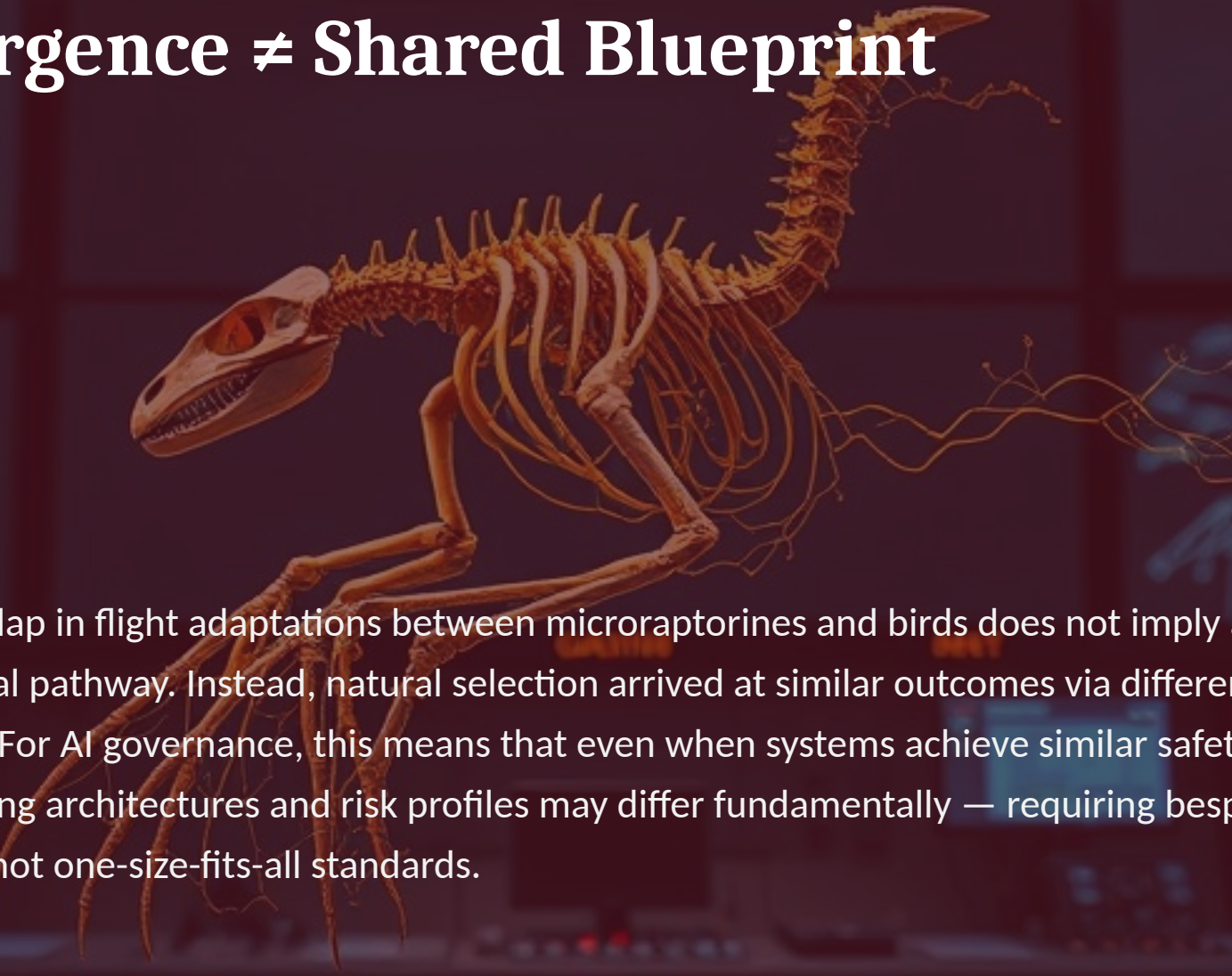
Source: Nature · Published October 02, 2026

[https://www.nature.com/articles/d41586-026-03126-8?error=cookies\\_not\\_supported&code=1d924559-3995-4fc6-9eb2-cf390caa260f](https://www.nature.com/articles/d41586-026-03126-8?error=cookies_not_supported&code=1d924559-3995-4fc6-9eb2-cf390caa260f)



# 01

## Convergence $\neq$ Shared Blueprint



The 30% overlap in flight adaptations between microraptorines and birds does not imply a shared developmental pathway. Instead, natural selection arrived at similar outcomes via different biological mechanisms. For AI governance, this means that even when systems achieve similar safety outcomes, their underlying architectures and risk profiles may differ fundamentally — requiring bespoke safety frameworks, not one-size-fits-all standards.



# 02

## Diversity Drives Resilience

The fact that microraptorines explored multiple flight strategies suggests that evolutionary diversity enhances adaptability. In AI, this parallels the need for diverse safety paradigms — from interpretability to adversarial robustness — to prevent systemic fragility. Relying on a single safety model, like a single lineage, risks catastrophic failure when that model is exploited or fails in novel ways.

MIT, Nvidia, Google & IBM-Trained. Cross Domain-Expert: Quantum, AI, Ethics, Sovereignty, Intelligence, Philanthropy.  
Solepoint Planning. VUI AI Cloud Architect. AI Certifications Development. Quant/AI Instructor. Castor Venture Club Member.  
Associate Broker.

George Arnold Alexander III, MPA

Director, ALEX Companies

Associate Broker, Alexander Tiffany Southwest, LLC dba ALEX.realestate, et.al.

Texas License #574878-B · Broker License #565194-BB

Broker, ALEX Real Estate · North Carolina License #367733

Independent Broker, ALEX Real Estate · Colorado License #II.100112456

george@alex.realestate · +1 713.918.9951

ALEX

ALEX Intelligence  
deep intelligence

ALEX Real Estate  
genius real estate

ALEX Advisory  
uncontested strategy

ALEX Cares  
purposeful philanthropy

