

Sept. 28

- 1. Administrative**
- 2. Structure and homophily**
- 3. Dyads and triads**

Lab 1 due today

- ⋮ Turn in via Campuswire DM or email
- ⋮ Lab 2 today or tomorrow

Help sessions

- ⋮ Help sessions scheduled will be *Thursdays from 10:30-11:30am*

Structure & homophily

Structure and homophily

Homophily

McPherson, Smith-Lovin, and Cook (2001)

- ∴ (Canonical) review of research on types, rates, and causes of homophily
- ∴ Almost 20 years old

Baseline homophily

- ∴ Homophily just based on who is available to connect with
- ∴ E.g., baseline homophily on country of birth for Canadian residents would be about 78.55% *for those born in Canada*

“Inbreeding” homophily

- ∴ **Choice**: preference to form, e.g., trust relations with people with similar experiences
- ∴ **Structural**: increased opportunities to form ties with similar alters due to, e.g., residential segregation, religious practices, homogenous professional networks, etc.

Structure and homophily

Homophily as *cause* or *consequence* of ties?



Similarity can lead to relations

- ∴ People with similar interests, experiences, tastes, beliefs may prefer to form and maintain ties with each other



Relations can lead to similarity

- ∴ People who are tied together in a social network may converge in characteristics
- ∴ E.g. transmission of behavior (smoking) or shared experiences (attending the same school)

Structure and homophily

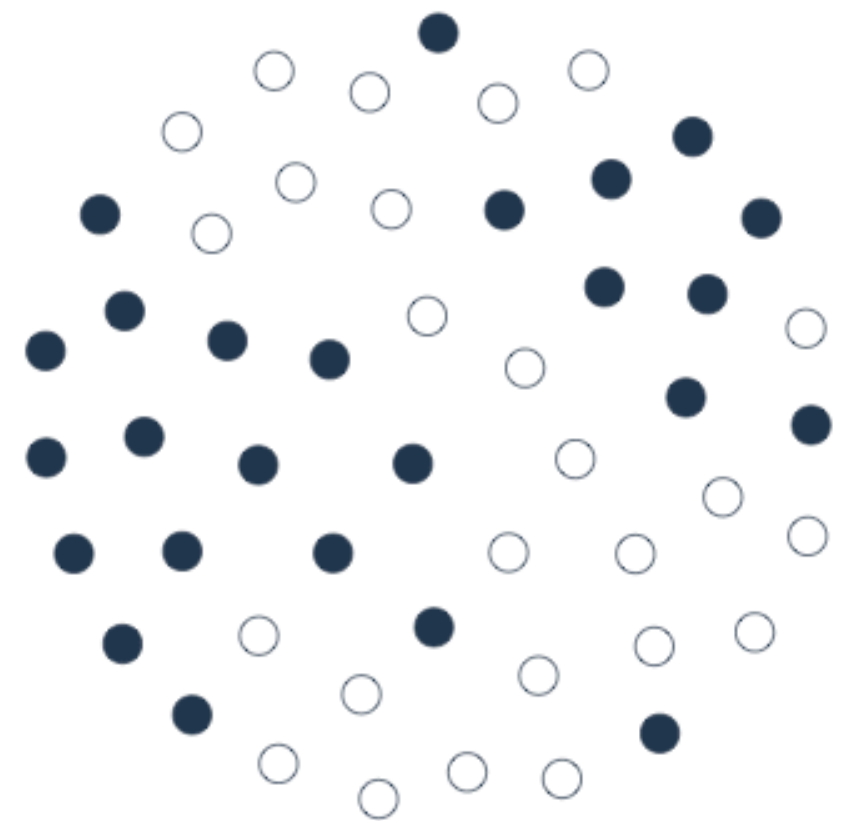
Homophily as structuring force

Tendency toward homophily can influence the overall structure of a network

- ⋮ Dense ties within categories
- ⋮ Sparse ties between categories

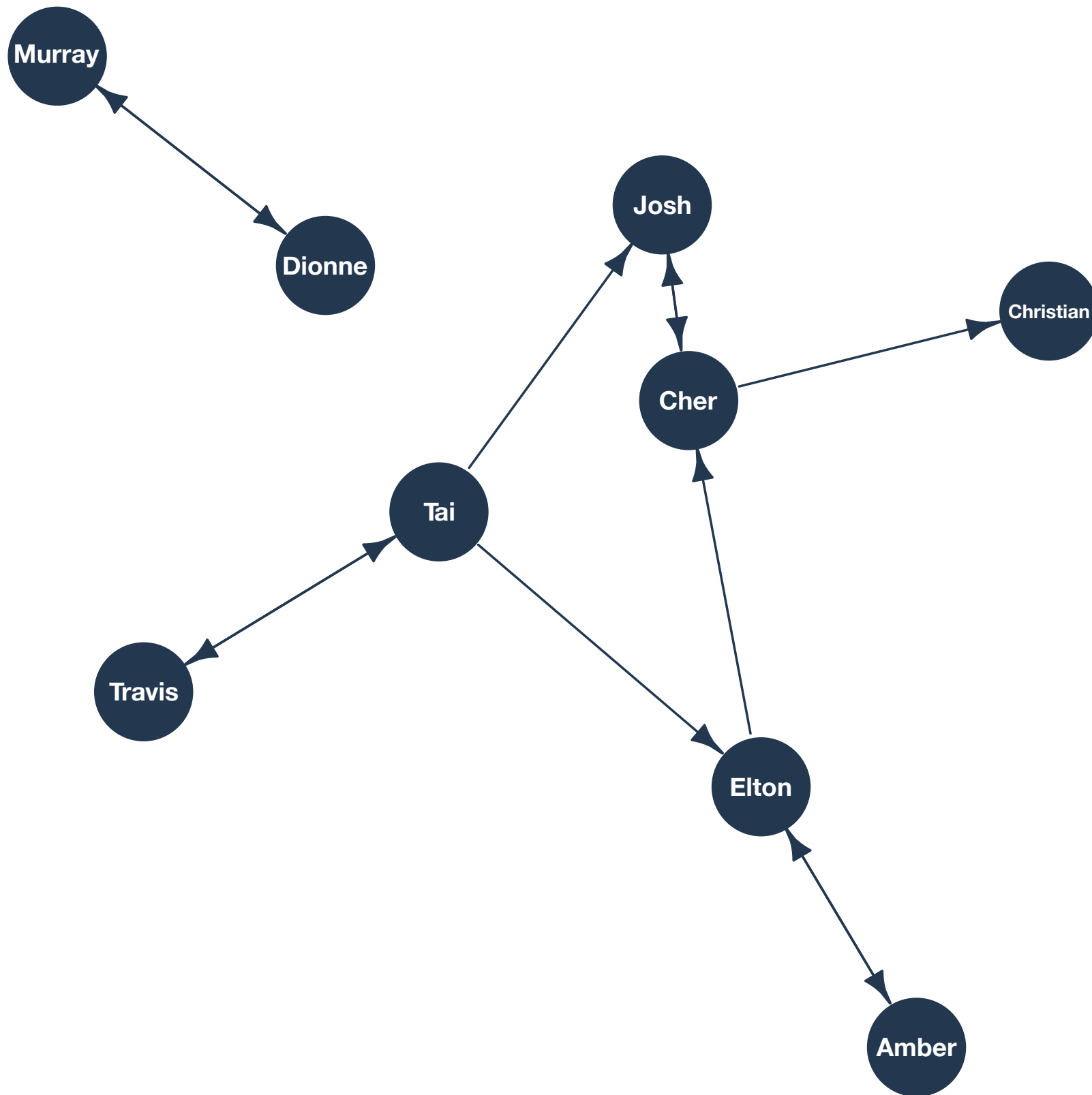
Simple example

- ⋮ 50 nodes, ties are 9 times more likely within categories than between
- ⋮ Quickly leads to bifurcated network
- ⋮ This structure has consequences for the flow of information, opportunities, epidemiology, etc.

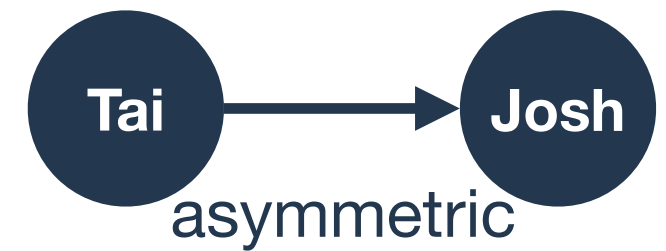
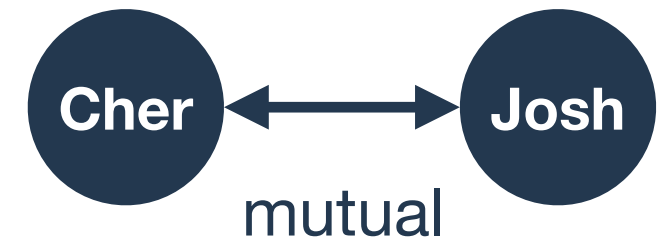


Dyads & triads

Dyads



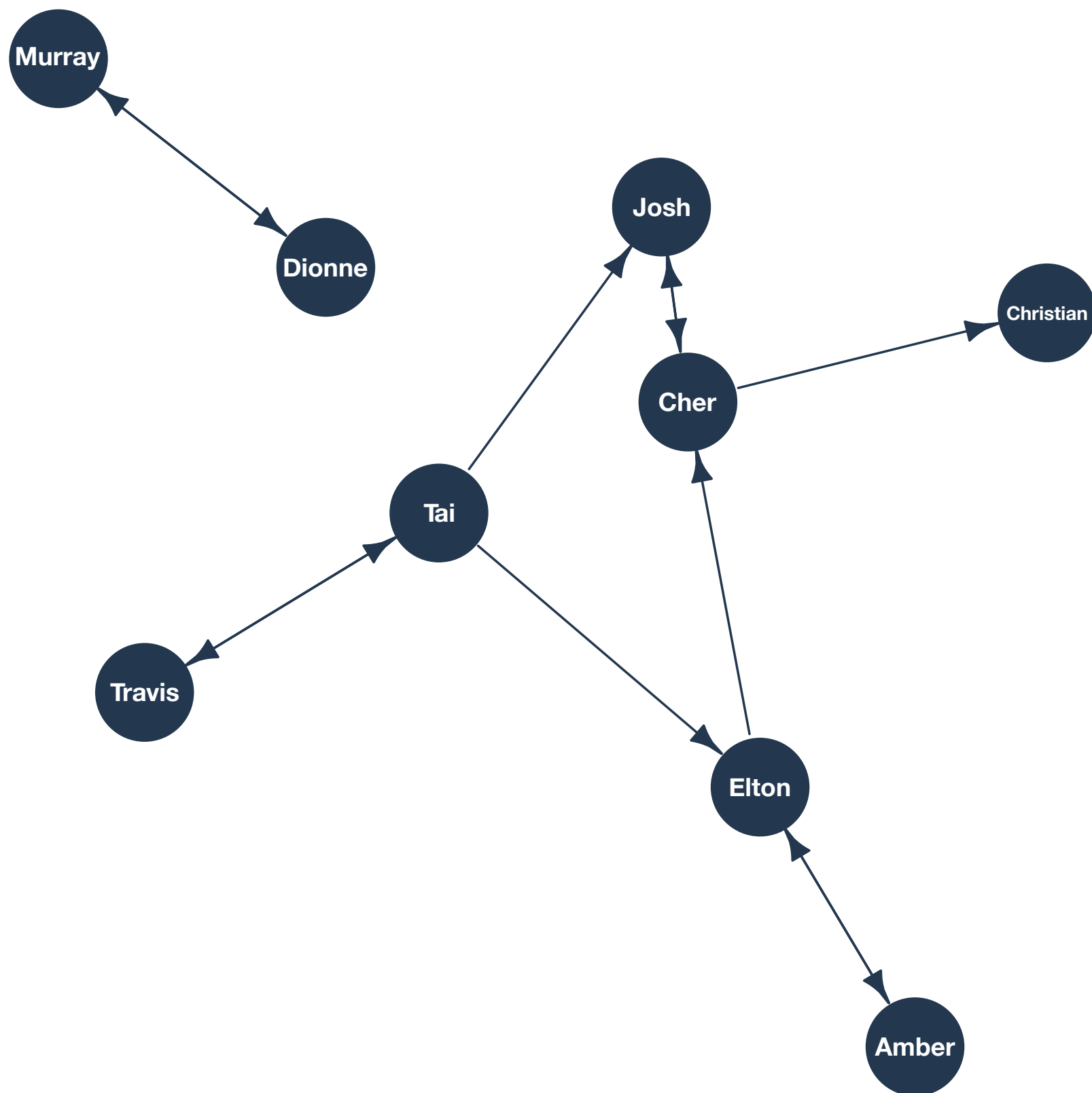
Types of dyads



Dyad census



Triads



Types of triads

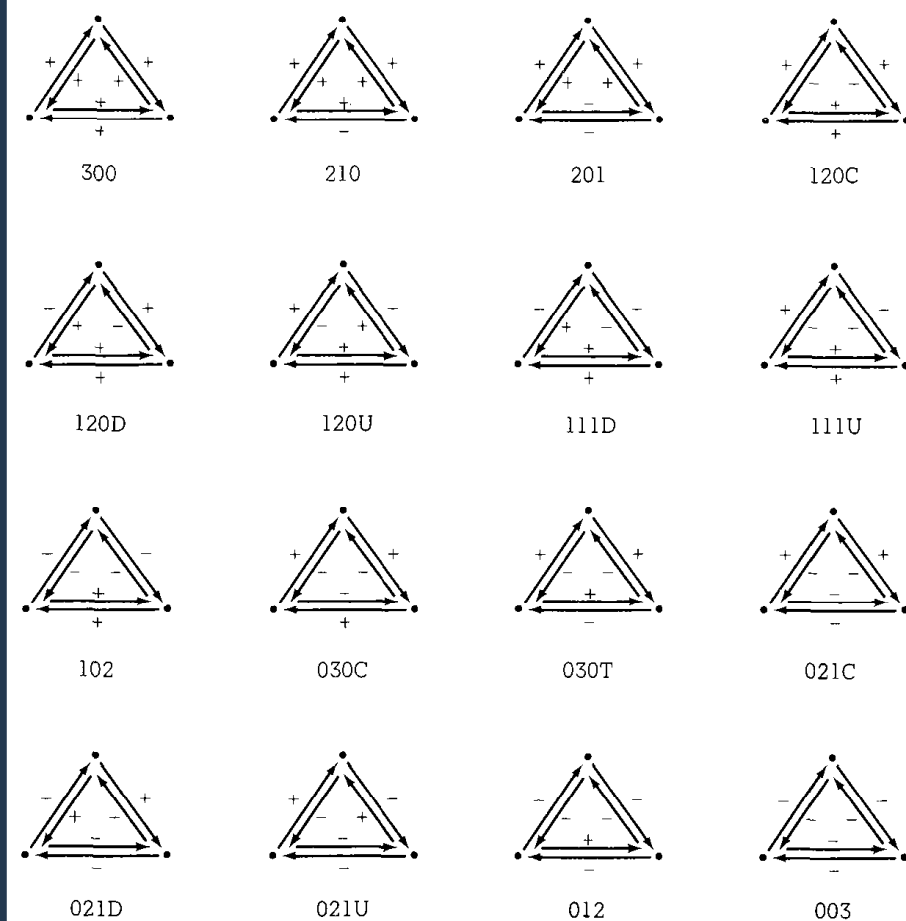
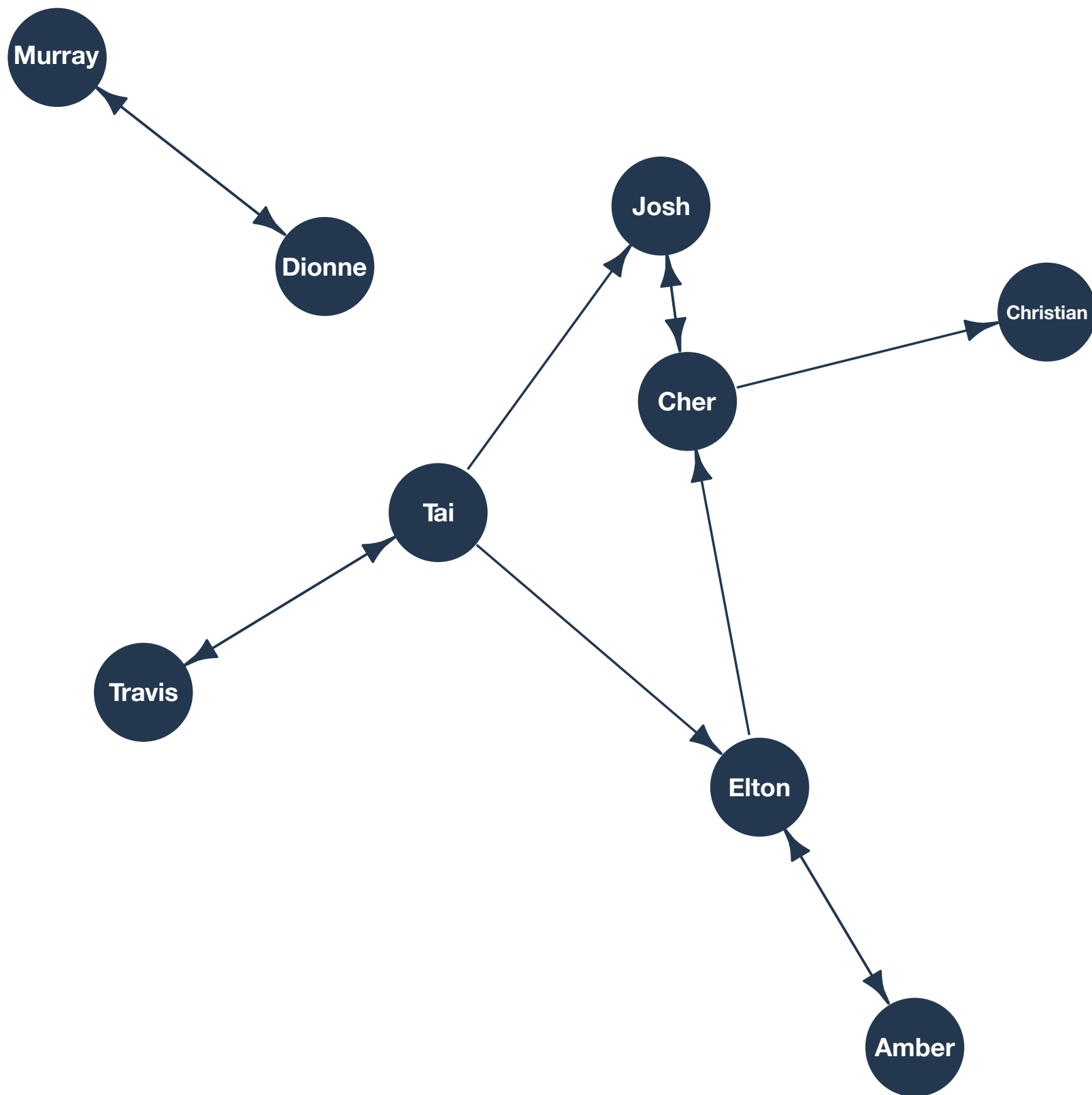


Fig. 1. The 16 triad types.

Johnsen, Eugene C. 1985. "Network Macrostructure Models for the Davis-Leinhardt Set of Empirical Sociomatrices." *Social Networks* 7 (3): 203–24.

Triads



Triad census

	38
	15
	21
	1
	2
	3
	4

Triads, so what?

Triads can be explained in terms of behavior

- ∴ E.g. transitivity of close ties
- ∴ E.g. intransitivity of “opposite” gender relationships
- ∴ (Always at most a *tendency*)

(Near) absence of certain types of triads limits overall social structures

- ∴ Theories of ‘structural balance’
- ∴ Whole body of literature on “forbidden triad” sets and their analytically implied structures
- ∴ E.g. “ranked clusters” (Davis and Leinhardt 1972)

Meaningful, but incomplete

- ∴ Does not describe specific relations, individual positions, etc.
- ∴ Strictly limited triads almost never occur in empirical networks