

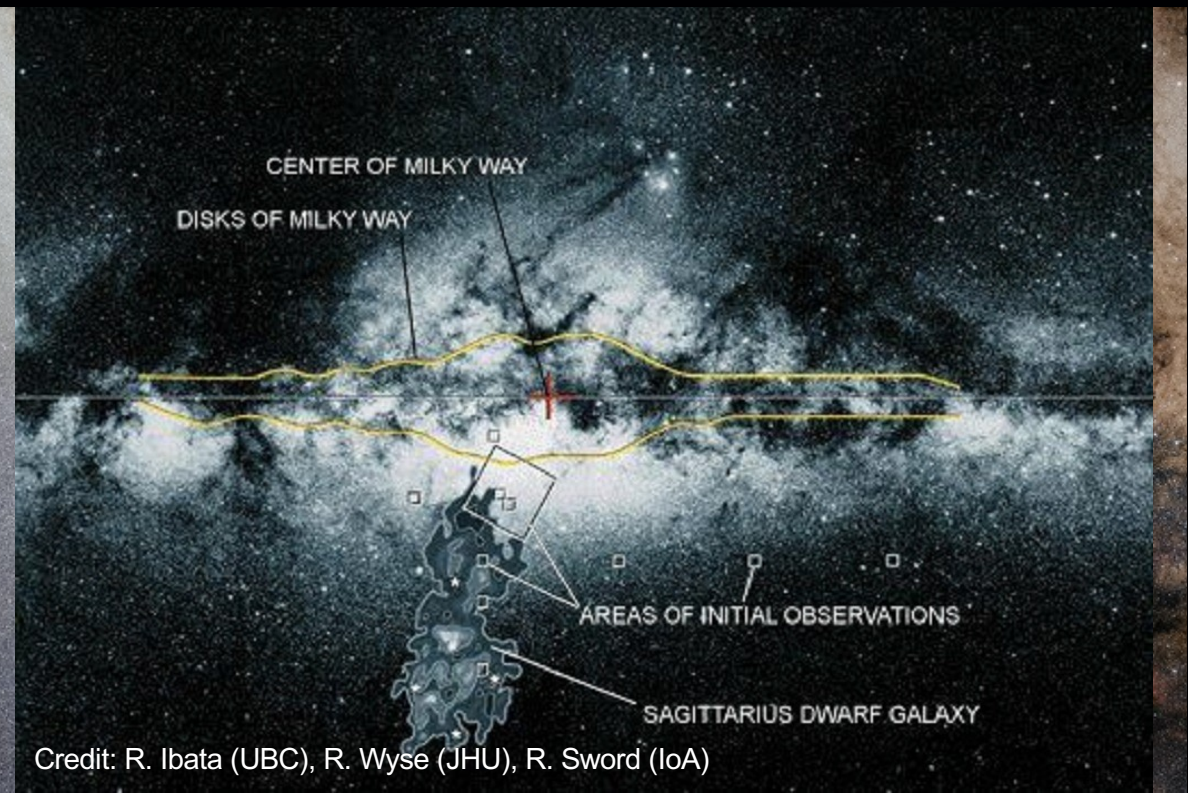
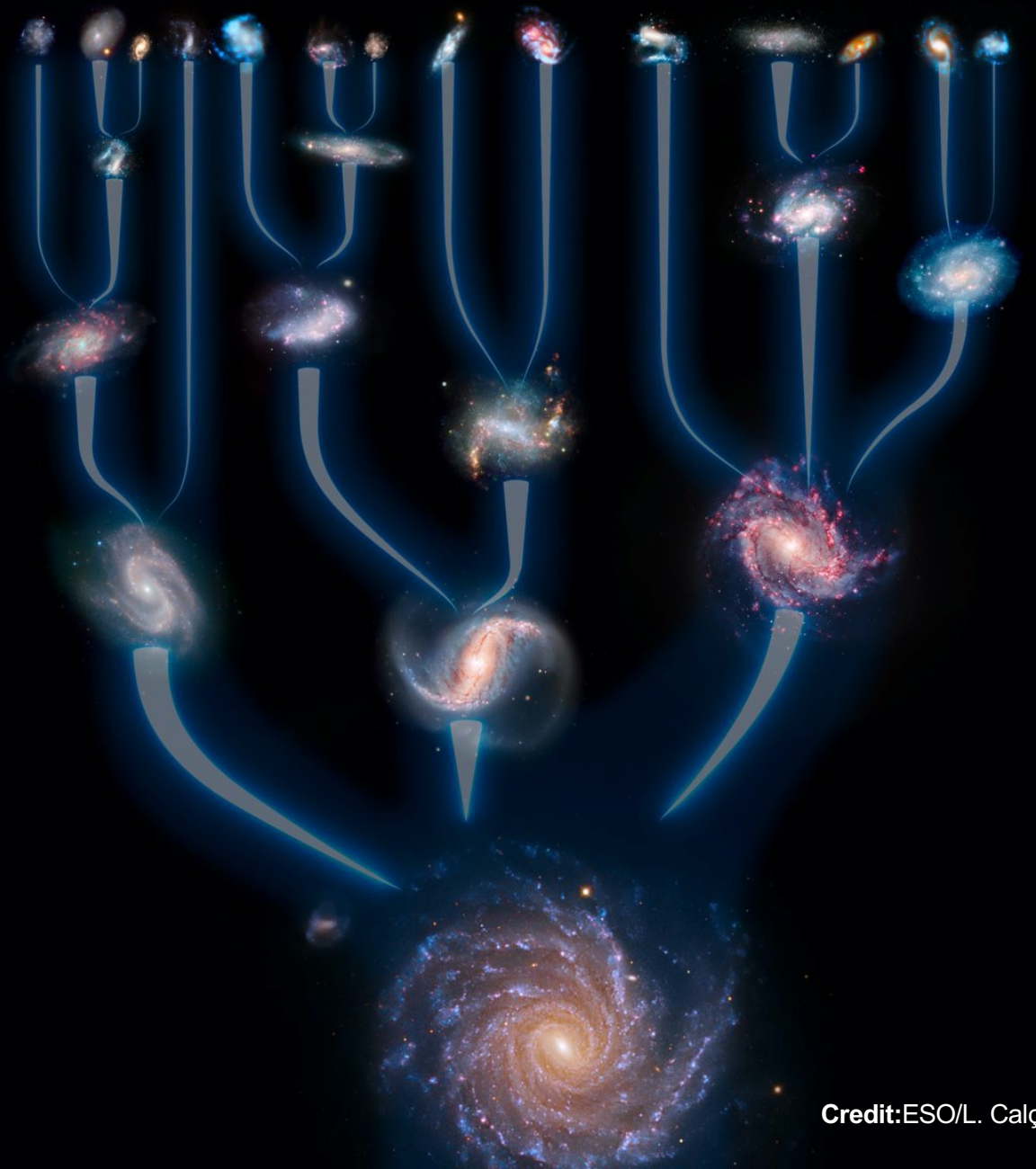
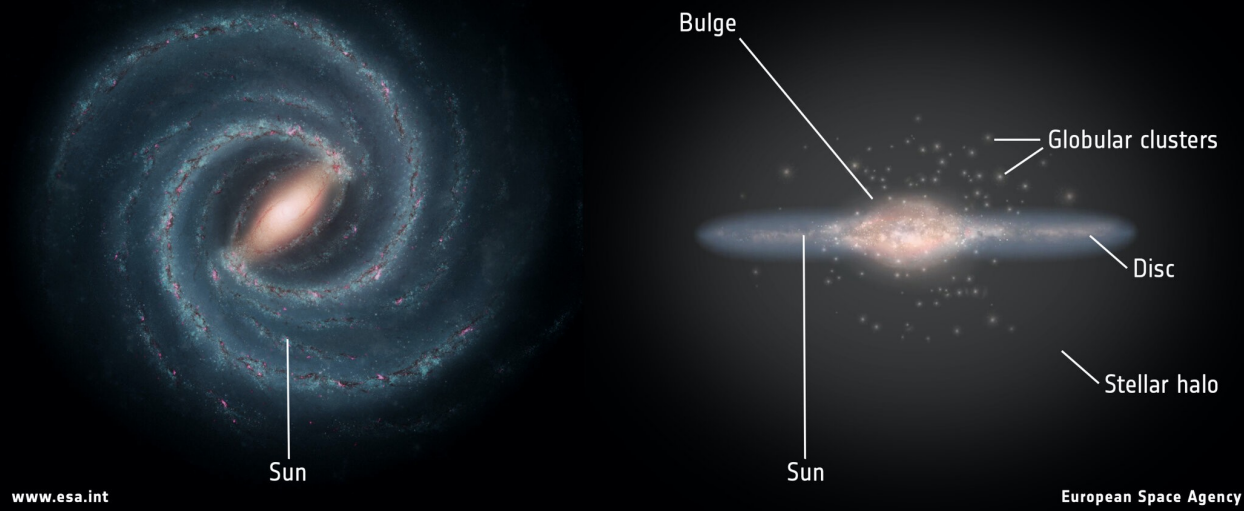
# The accretion history of the Milky Way

Cosmic Duologue

Amina Helmi & Ana Bonaca, 25 May 2021

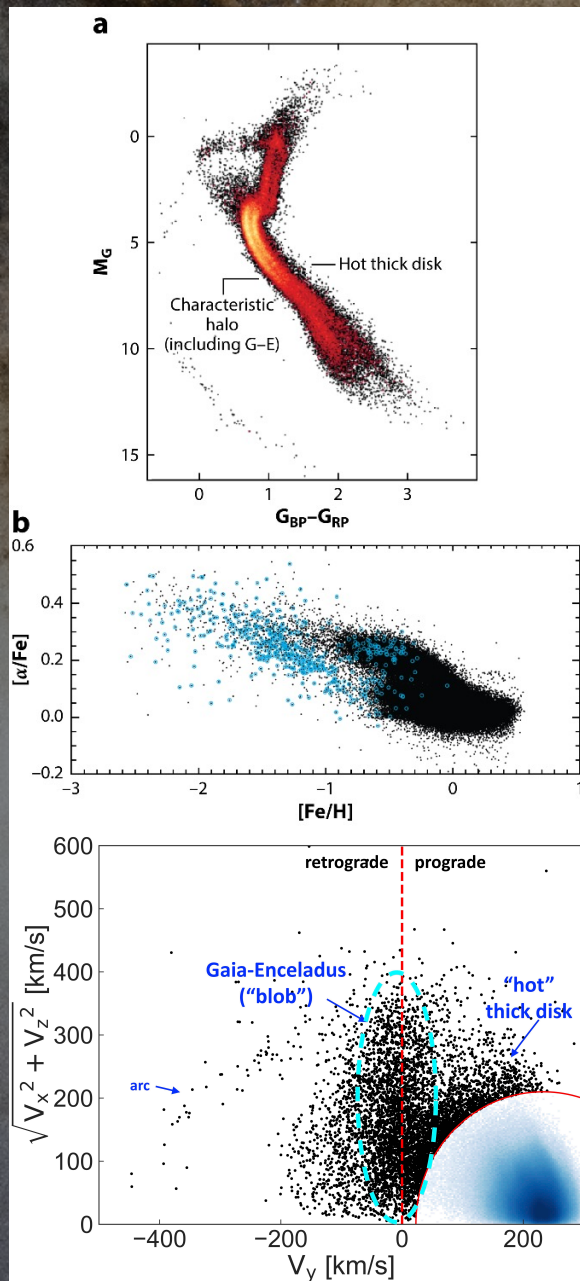


# → ANATOMY OF THE MILKY WAY

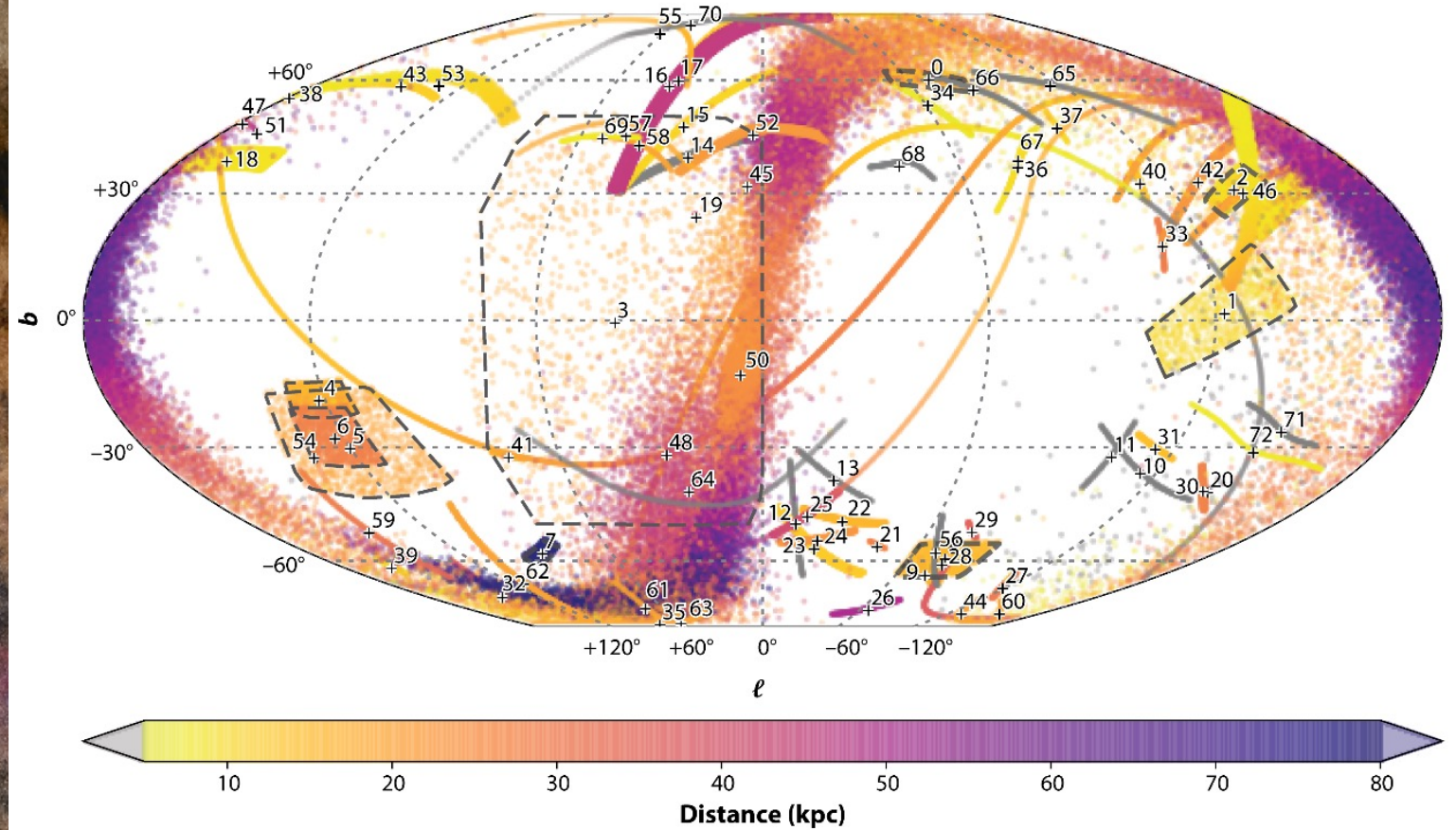


Credit: R. Ibata (UBC), R. Wyse (JHU), R. Sword (IoA)

Credit:ESO/L. Calçada



|                |               |                 |                 |                |             |              |                  |             |
|----------------|---------------|-----------------|-----------------|----------------|-------------|--------------|------------------|-------------|
| 0: VOD/VSS     | 1: Monoceros  | 2: EBS          | 3: Her-Aq       | 4: PAndAS      | 5: Tri-And  | 6: Tri-And2  | 7: PiscesOv      | 8: EriPhe   |
| 9: Phoenix     | 10: WG1       | 11: WG2         | 12: WG3         | 13: WG4        | 14: Acheron | 15: Cocytos  | 16: Lethe        | 17: Styx    |
| 18: ACS        | 19: Pal15     | 20: Eridanus    | 21: Tucana III  | 22: Indus      | 23: Jhelum  | 24: Ravi     | 25: Chenab       | 26: Elqui   |
| 27: Aliqa Uma  | 28: Turbio    | 29: Willka Yaku | 30: Turránburra | 31: Wambelong  | 32: Palca   | 33: Jet      | 34: Gaia-1       | 35: Gaia-2  |
| 36: Gaia-3     | 37: Gaia-4    | 38: Gaia-5      | 39: PS1-A       | 40: PS1-B      | 41: PS1-C   | 42: PS1-D    | 43: PS1-E        | 44: ATLAS   |
| 45: Ophiucus   | 46: Sangarius | 47: Scamander   | 48: Corvus      | 50: Sgr-L10    | 51: Orphan  | 52: Pal5     | 53: GD-1         | 54: Tri/Pis |
| 55: NGC5466    | 56: Alpheus   | 57: Hermus      | 58: Hyllus      | 59: Cetus      | 60: Kwando  | 61: Molonglo | 62: Murrumbidgee | 63: Orinoco |
| 64: Phlegethon | 65: Slidr     | 66: Sylgr       | 67: Ylgr        | 68: Fimbulthul | 69: Svöl    | 70: Fjorm    | 71: Gjöll        | 72: Leiptr  |

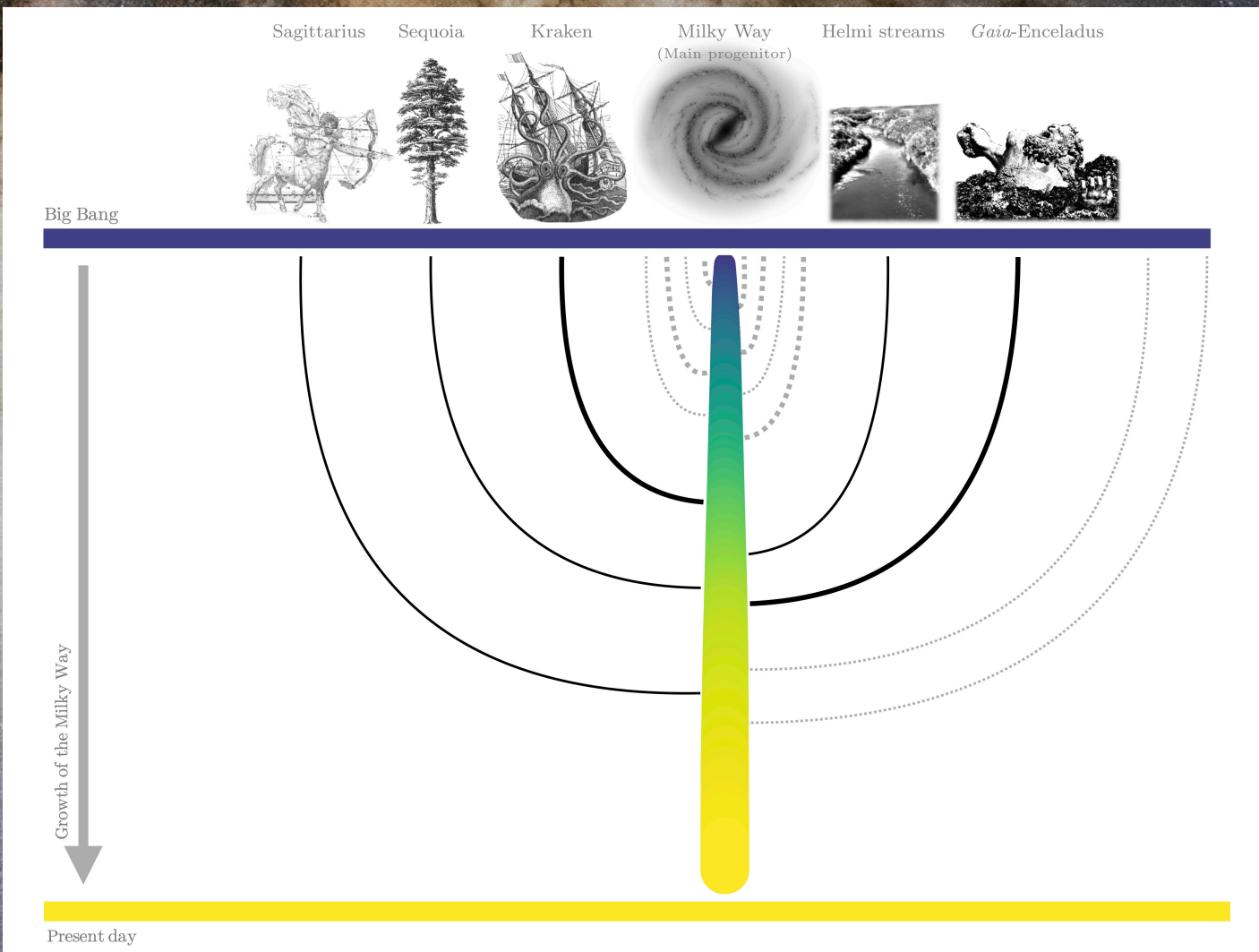


AR Helmi A. 2020.  
*Annu. Rev. Astron. Astrophys.* 58:205–56

A. Helmi 2020, Annual Review

Figures based on: Gaia Collab., Babusiaux et al. 2018 (CMD), Koppelman et al. 2018 (Kinematic selection); Mateu et al. 2018 (Streams on sky)

# Family tree of the Milky Way



## E-MOSAICS: MODelling Star cluster system Assembly In Cosmological Simulations in the context of EAGLE

Simulation by Joel Pfeffer, Diederik Kruijssen, Rob Crain, Nate Bastian  
Gas density and star cluster metallicity

$z = 9.0$   
 $t = 0.6 \text{ Gyr}$   
 $L = 3.0 \text{ cMpc}$

Credit: D. Kruijssen / Heidelberg University  
Kruijssen, Pfeffer, Chevance, et al. (2020)

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