



SHARED SKIES OF EAST AND NORTH AFRICA:

Cultural Astronomy, Planetary
Nomenclature,
and Public Engagement in Ethiopia

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AfAS
African Astronomical Society



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The Core Vision

- Astronomy connects societies across Africa through shared skies and cultural memory.
- Scientific curiosity is not a modern import; it is an ancestral heritage.
- Goal: Reviving cultural astronomy as a bridge to modern scientific learning.



Ἑρμῆς (Hermēs)

Mercurius

Ἄφροδίτη (Aphroditē)

Venus

Ἄρης (Arēs)

Mars

Ζεὺς (Zeus)

Iuppiter

Κρόνος (Kronos)

Saturnus



The Red Sea Corridor

- Centuries of interaction between East and North Africa.
- Exchange of goods, culture, and scientific observation.
- The historical relationship between Ethiopian and Arabian astronomy.

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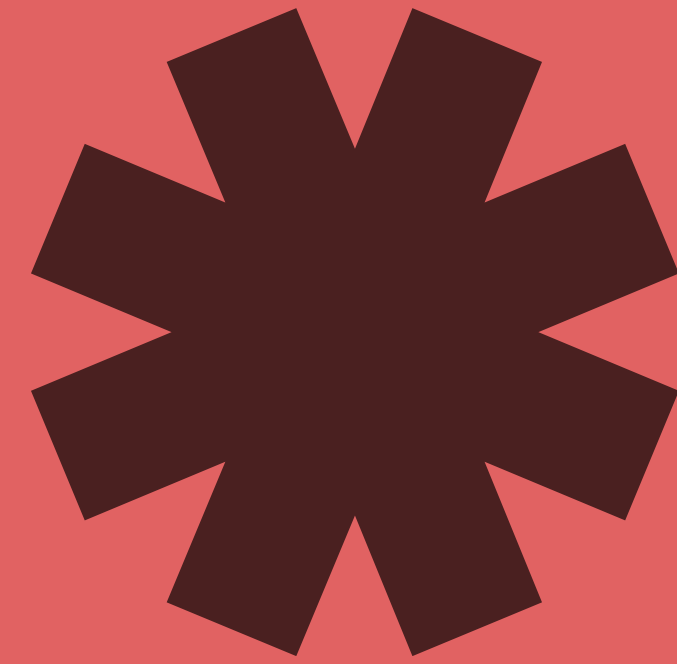
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Presentation Roadmap

Part 1: Linguistic Continuity & Astronomical Heritage

Part 2: Grassroots Localization via Ethiopian Universities

Part 3: Digital Outreach and the Hewa+ Platform



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Part I

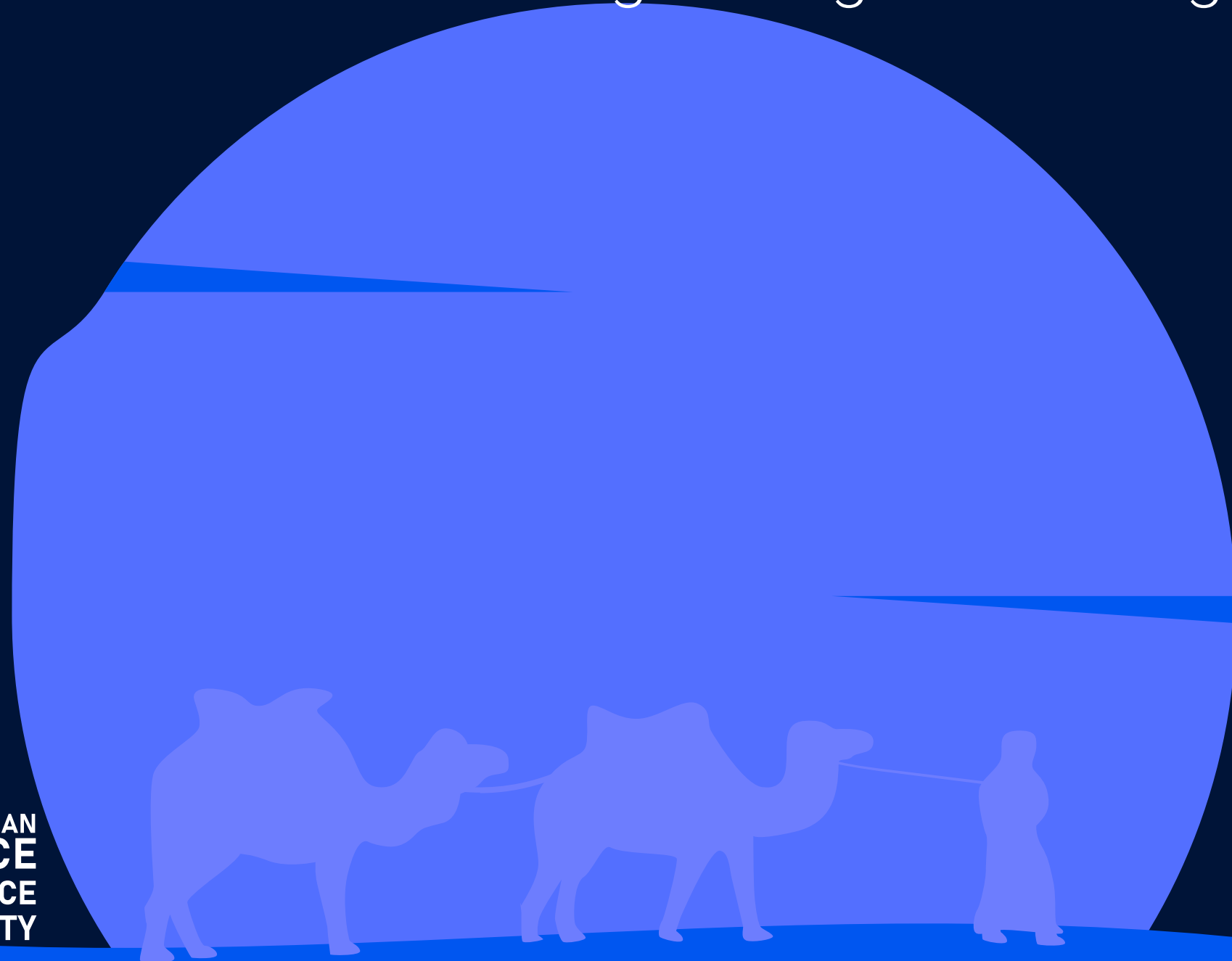
The Connection & Naming



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The Visible Planets (ፈለክ)

- Our ancestors looked at the same night sky and named what they saw.
- Strong linguistic continuity with North African and Arabic counterparts.
- Preservation of scientific heritage through shared language.



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Etymology of the Planets

- አጣርድ - At'ard - Mercury
 - Ge'ez: The fast one.
 - Arabic: Relates to darting or being swift.
 - Western: Named after the swift Roman messenger god.



Quoted from Ge'ez Manuscripts: "ወዳግማይ ሰማይ ሀሎ ፩ ኮከብ
ዘስመድ ሜርኩሪዩ ዘውኣቱ ዐጣርድ"

Translation: "And in the second heaven there is one star
(Planet) whose name is Mercurius, which is At'ard."



The Bright one - ንሁራ

- ንሁራ - Zihura - Venus
 - Ge'ez: The bright one / the white bright one.
 - Arabic: Derived from a root meaning radiant or blooming.
 - Western: Named after the goddess of beauty for its brilliance.



Quoted from Ge'ez Manuscripts: "ወሃልሳይ ሰማይ ሀሎ ኮከብ
ዘስመዑ ቤኑስ ዘውእቱ ንሁራ"

Translation: "And in the third heaven there is a star whose
name is Venus, which is Zihura."



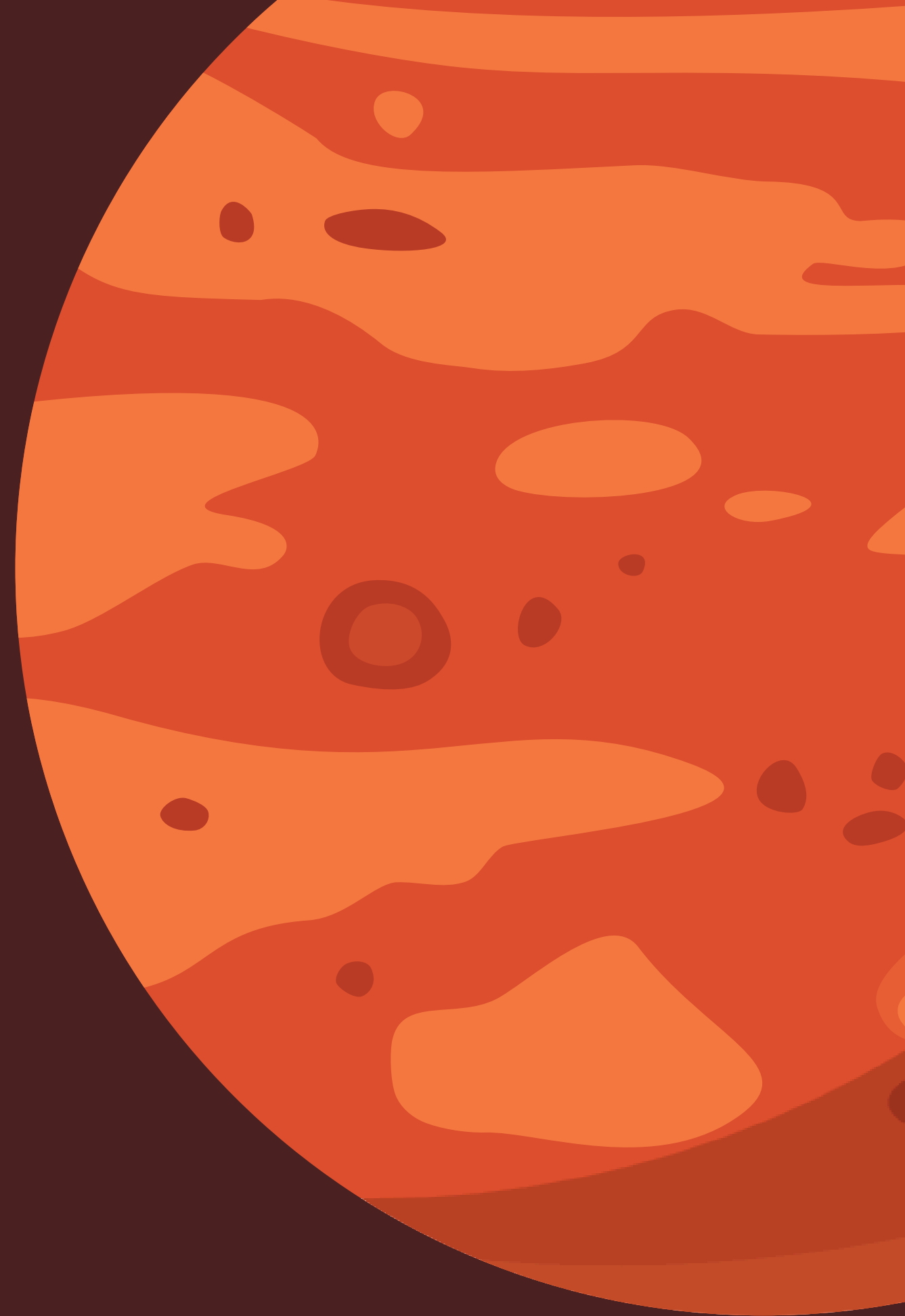
The Red one - መሪሳ

- መሪህ - Merih - Mars
 - Ge'ez: The fire / the red one.
 - Arabic: Historically linked to "the burner" due to its reddish hue.
 - Western: Named after the god of war, associated with blood.



Quoted from Ge'ez Manuscripts: "ወበኅምሳይ ሰማይ ሀሎ ፩ዱ ኮከብ ዘስሙ ማርቲ ዘውእቱ መሪሳ"

Translation: "And in the fifth heaven there is one star whose name is Marti, which is Merih."



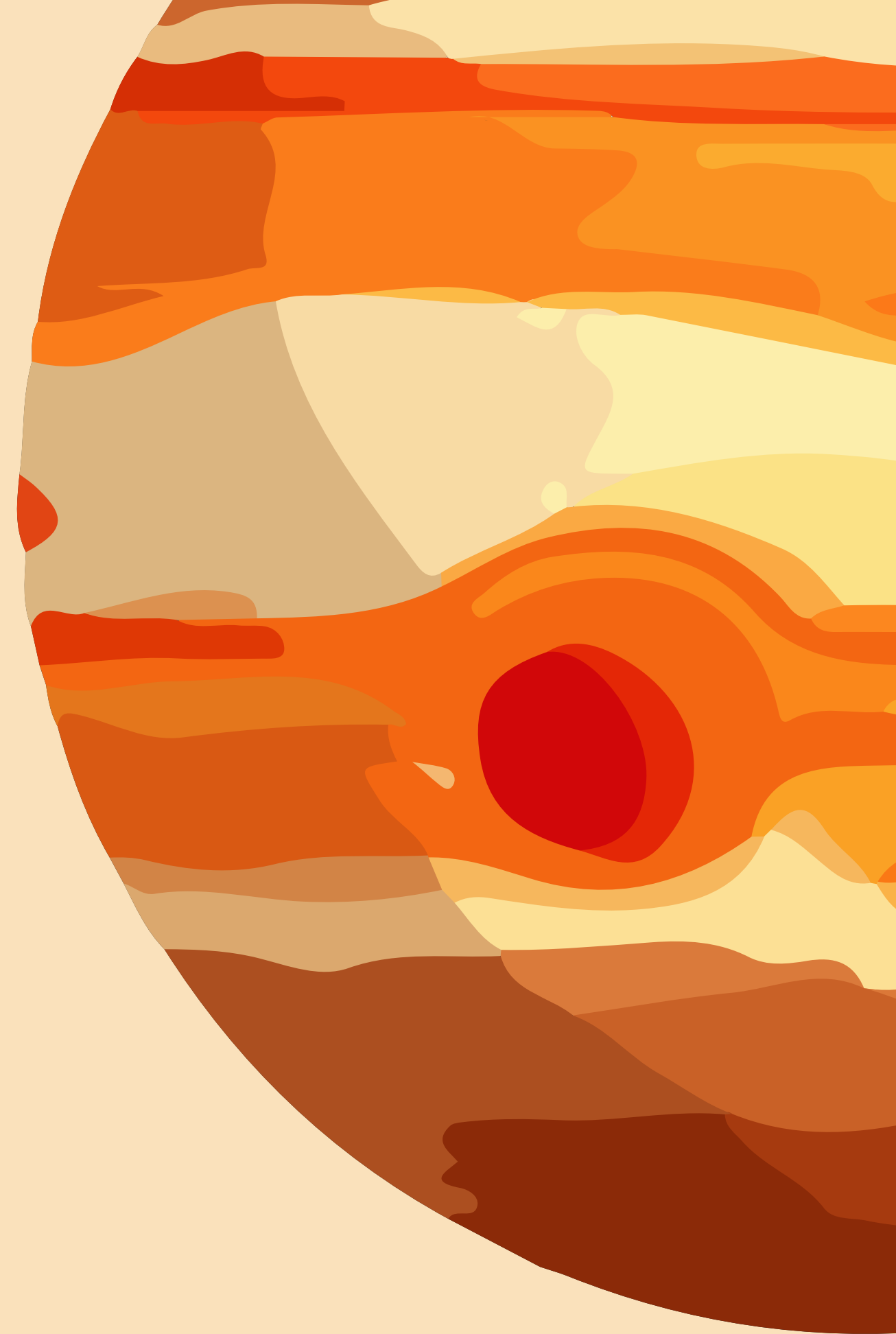
The Wanderer - መሸተሪ

- መሸተሪ - Meshteri - Jupiter
 - Ge'ez: The one who continuously wanders.
 - Arabic: The reliable one, or the purchaser.
 - Western: Named after the steady, majestic king of the gods.

”

Quoted from Ge'ez Manuscripts: "ወበሳድሳይ ሰማይ ሀሎ ፩ ኮከብ ዘይኔይስ እምኩሎሙ ከማክብት ዘስሙ ዠፒቴር ዘውእቱ መሸተሪ"

Translation: "And in the sixth heaven there is one star which is greater (brighter) than all the stars, whose name is Jupiter, which is Meshteri."



The Slow one- ፑሐል

- ፑሐል / ማኅፈድ - Zuhal - Saturn
 - Ge'ez: The slow one.
 - Arabic: From a root meaning withdrawing or moving slowly.
 - Western: Named after the god of time and agriculture.



Quoted from Ge'ez Manuscripts: "ወበሳብዐይ ሰማይ ሀሎ ኮከበ
ዘስሙ ስቱርኒ ዘውእቱ ፑሐል"

Translation: "And in the seventh heaven there is a star
whose name is Saturni, which is Zuhal."



The Sun - ፀሐይ

- ፀሐይ (Tsehay) / شمس (Shams - Arabic) — The Sun
 - Ge'ez Root: "ጸሐየ" (Tsehaye) or "ጸሐዐ" (Tsihwe), meaning "to shine, to be clear, to become bright."
 - Source: Aleka Kidanewold Kifle's Ge'ez Dictionary.
 - Meaning: "Great light, that which shines by day"—a name derived entirely from its natural, observable properties by ancient researchers.
 - Arabic: Ancient Semitic root universally denoting bright light.



The moon - ጩረቃ

- ወርህ / ጩረቃ / قمر (Qamar - Arabic) — The Moon
 - Ge'ez: Werih means both moon and month, tying the sky directly to timekeeping.
 - Arabic: Derived from a root meaning to be snow-white or pale.
 - Western: Early linguistic roots linked to "measuring" (time/months).



Nomenclature Enforcement

- ESSS is actively enforcing these traditional names in modern science communication.
- Why? To empower local languages in the long run.
- Shifting the narrative: Science belongs to our culture, not just in English.

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Connecting Youth to Ancestral Terms

- Familiarizing these names sparks immediate connection.
- Showing young students that their ancestors researched the stars in their own way.
- Cultural familiarity lowers the barrier to entry for hard sciences.



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The 2019 IAU NameExoWorlds Campaign

- Ethiopia's participation in naming a star and exoplanet for the IAU 100th anniversary.
- Collaboration between ESSS, PMO, and SSGI.
- Method: Crowdsourced via free text messages from the Ethiopian public.



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Technology Institute

Buna and Abol

- Result of the 2019 Ethiopian campaign: The star HD 16175 became Buna - Coffee.
- The orbiting exoplanet became Abol - The first round of coffee.
- Embedding daily cultural rituals deeply into the cosmos.
- The exoplanet was named after the first round coffee on the Ethiopian coffee ceremony - Abol



Mago and Neri

- A secondary 2019 IAU naming hosted by Germany in the Camelopardalis (Giraffe) constellation.
- Suggested by physics students at the Max-Born-Gymnasium in Neckargemünd.
- Mago: The star, named after Ethiopia's Mago National Park, famous for giraffes.
- Neri: The exoplanet, named after the Neri river running through the park.

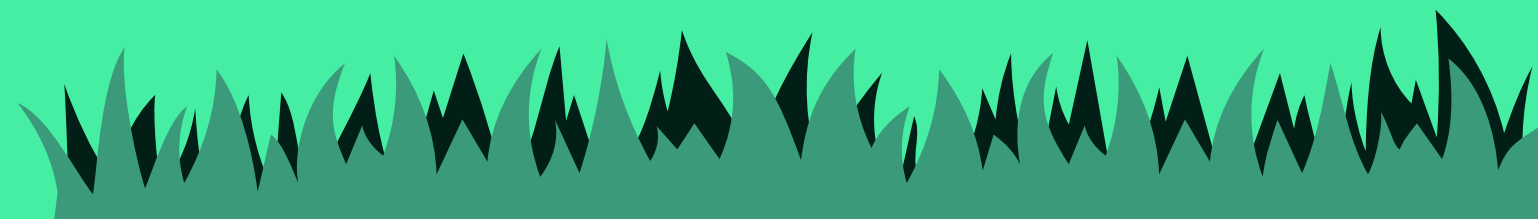


Part II

Grassroots Localization



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The Challenge of Language in Science

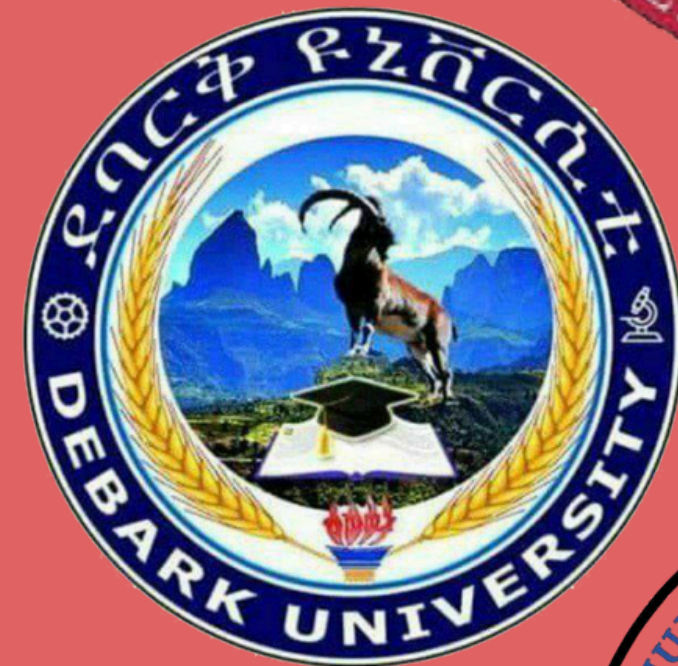
- Most astronomical communication globally is in English.
- This creates a disconnect for students in regional areas.
- Solution: Radical localization of scientific terminology.



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Expanding University Partnerships

- Active central hub at Addis Ababa University.
- Recent MOUs signed with Wollega University and Jigjiga University.
- Goal: Collaborate with language departments to integrate local terminology.



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The 4+ Language Milestone

- Astronomy terminology successfully localized into multiple languages.
- Current active translations: Amharic, Afan Oromo, Tigrinya, and and also English.
- Jigjiga University is instrumental in advancing the Af Somali localized content.



Community Impact

- Using these printed materials actively during public stargazing events.
- Empowering local branch volunteers to teach in their mother tongues.
- Feedback: Increased engagement and retention among rural and young demographics.



Part III

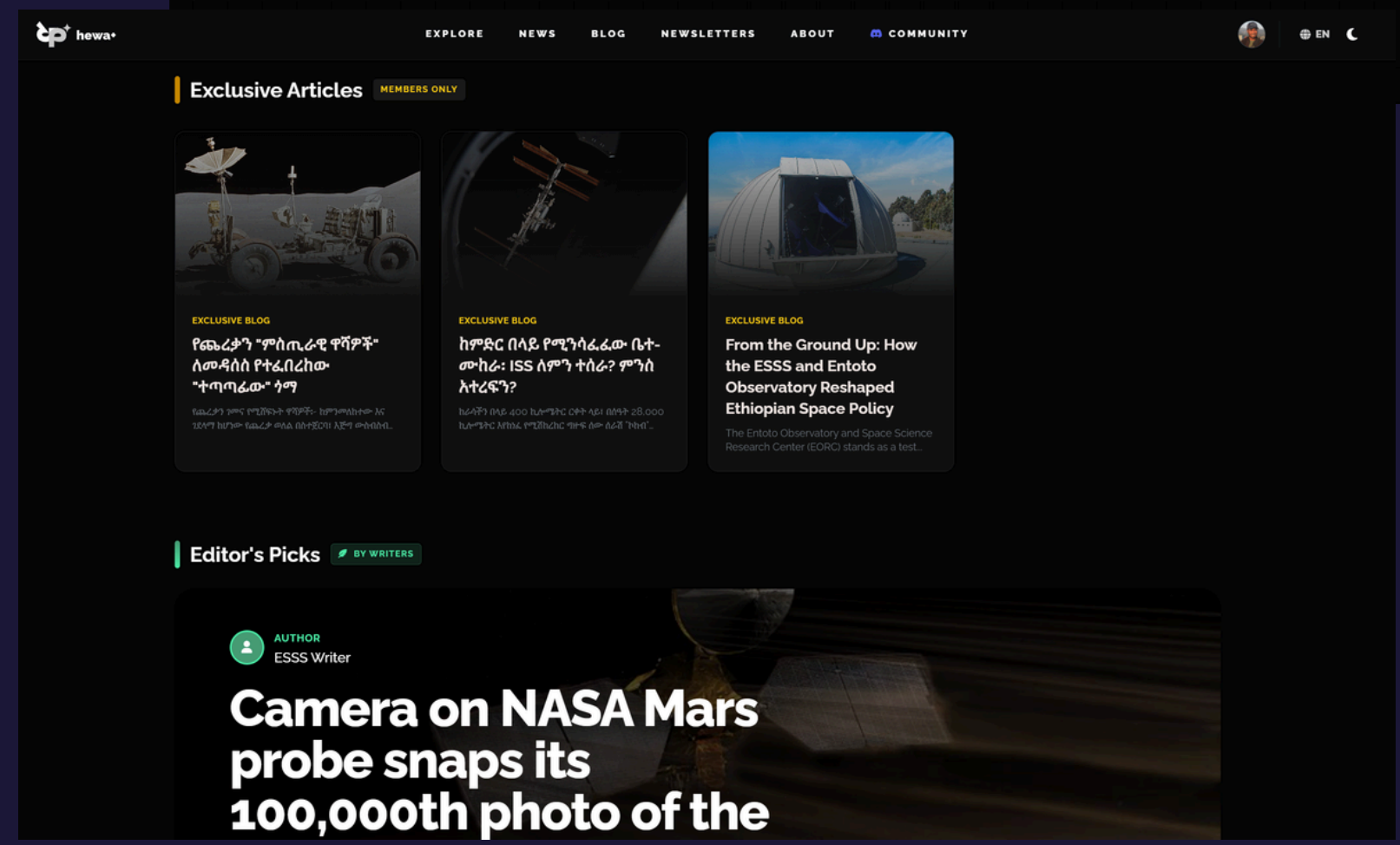
Digital Outreach via Hewa+



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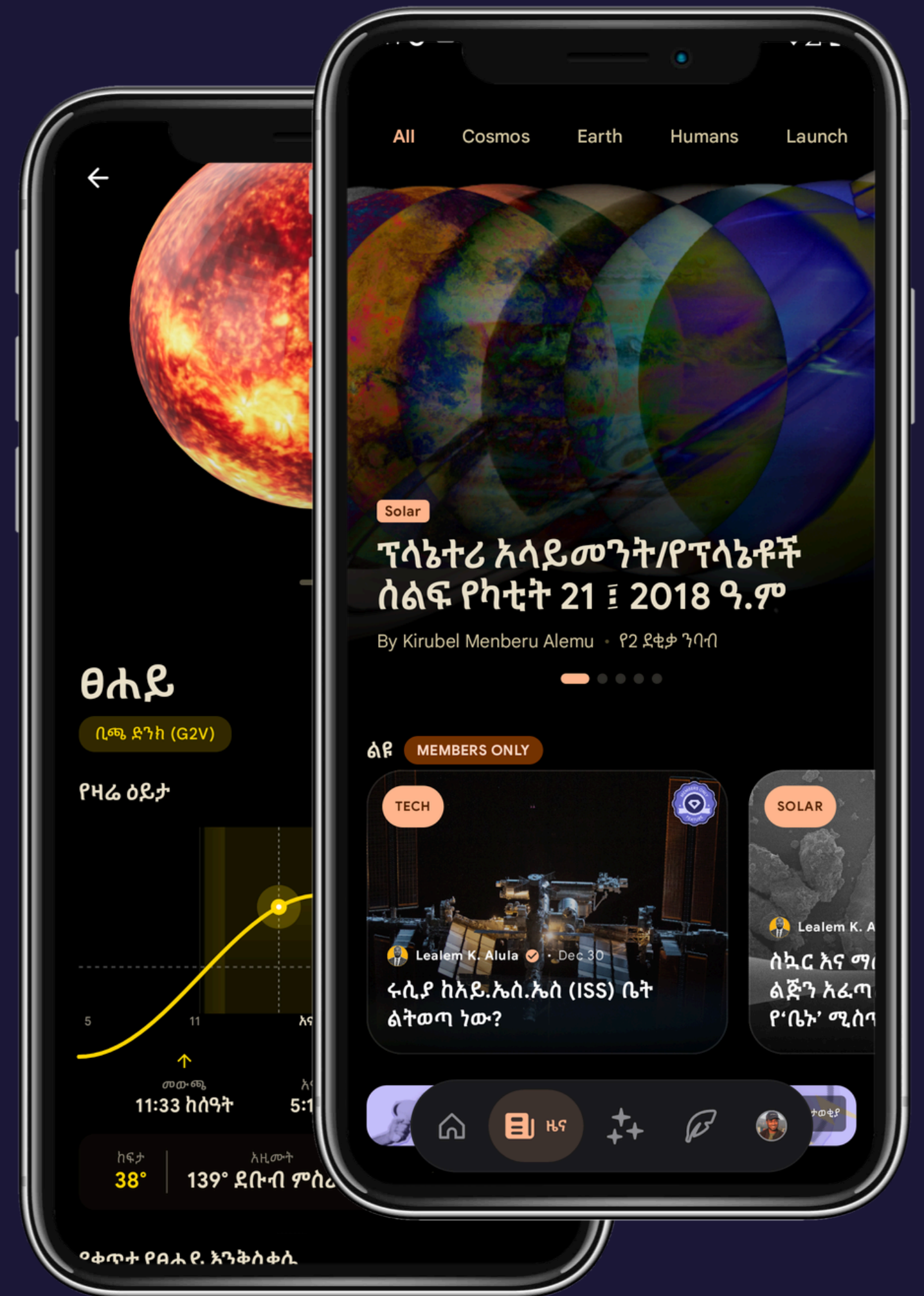
Scaling Outreach Digitally

- Grassroots work is essential, but digital platforms provide national scale.
- Introduction to Hewa+ (hewa.ethiosss.org).
- The official digital media and visual outreach project of ESSS.



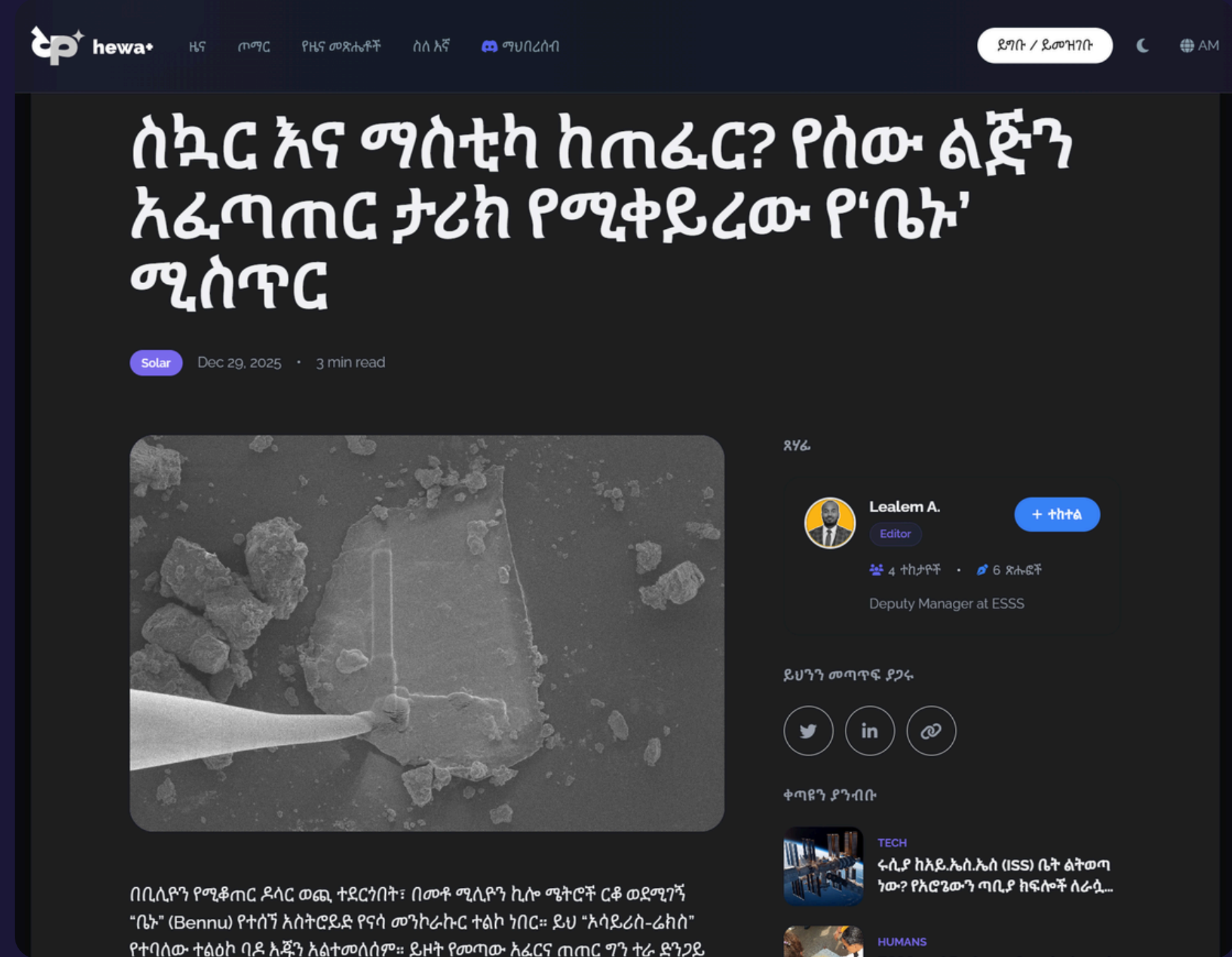
The Hewa+ Ecosystem

- Available as a comprehensive web platform and mobile app.
- Primary features: Space news, educational blogs, and community updates.
- Designed with culturally engaging user interfaces.



Localized Astronomical Catalogs

- Available as a comprehensive web platform and mobile app.
- Primary features: Space news, educational blogs, and community updates.
- Designed with culturally engaging user interfaces.



Access



hewa.ethiosss.org



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