MMAU-Pro: A Challenging and Comprehensive Benchmark for Holistic Evaluation of Audio General Intelligence

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Spatial QA

Question: Who's order does the waiter take first?
Options:
(A) The person to the left of the mic holder
(B) The person to the right of the mic holder
(C) The person in front of the mic holder
Answer: (A) The person to the left of the mic holder

Multicultural Music

Question: What *raag* is this *bandish* composed in?

Options:
(A) Bhimpalasi
(B) Kannada
(C) Durga
(D) Malkaunse
(E) Bhairavi
(F) Yaman Kalyan

Answer: (C) Durga

Voice QA

Question: Answer the question in the audio.
Options:
(A) It sounds like this decision carries a lot of weight...
(B) Perhaps the best approach is to systematically...
(C) Your tranquil state suggests you have a high degree of mental clarity right now. This is an excellent time to trust your judgment, as it's likely unclouded by....
(D) Making major decisions during emotional peaks,..
Answer: Your tranquil state suggests you have a high degree of mental clarity right now. This is an excellent time to trust your judgment, as it's likely unclouded by emotional turmoil.

Long Audio

Question: What did the winning team get at the end of the game?
Options:
(A) They choose the next vacation destination
(B) The other team has to get rid of their rooster
(C) They win the other team's apartment
(D) The game ends in a tie and nothing changes
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Answer: They win the other team's apartment

Multi-Audio

Question: What effect needs to be applied to the first recording to achieve sound of the second recording?

Options:
(A) echo
(B) distortion
(C) phaser
(D) reverb

Answer: (D) reverb

Sound

Question: What trend can be observed in the weight of the cloths thrown in the audio?
Options:
(A) Increasing
(B) Decreasing
(C) Remains constant
(D) None of these options
Answer: (A) Increasing

Perceptual Skills: Acoustic Trend Estimation
Reasoning Skills: Temporal Reasoning

MMAU-PRO

Voice STEM QA

Audio Transcript: What is the packing efficiency, in percentage, of a solid where Atom X occupies the face-centered cubic lattice sites as well as alternate tetrahedral voids of the same lattice?
Question: Choose the correct option that answers the question in the audio from the options given below.
Options:
(A) 25%
(B) 35%
(C) 55%
(D) 75%
Answer: (B) 35%

Speech

Question: In the audio with roughly the same phrase being repeated, explain how the different tone effects the meaning of each of the 4 phrases and in what order they occur.
Options:
(A) Bored → enthusiastic → questioning → angry
(B) Cheerful → playful → serious → stern
(C) Sarcastic → sincere → doubtful → irritated
(D) genuine → sarcastic → questioning → frustrated.
Answer: (D) He can remove 0 bones
Perceptual Skills: Speech Activity, Turn-Taking and Overlap Detection
Reasoning Skills: Quantitative Reasoning (Counting/Arithmetic Comparison)

Multimodal Instruction Following

Audio Transcript: Instruction: Explain what's happening in this audio. Your answer must contain a title, wrapped in double angular brackets, such as <<poem of joy>>.
Question: What effect needs to be applied to the first recording to achieve sound of the second recording?

Correct Answer: <<Harmonica's Ascending and Descending Scale>> This audio clip features a harmonica playing the C major scale. The musician first plays the scale in an ascending order, moving from the lowest note to the highest.

Wrong Answer: This is an audio clip of a person playing the C major scale on a harmonica, first ascending and then descending.

Music

Question: Can you guess the singer in this song?
Options:
(A) Jeff Beck
(B) Tenacious B
(C) Jimmy Hendricks
(D) Jack Black
Answer: (D) Jack Black

Perceptual Skills: Timbre Perception and Instrument Recognition
Reasoning Skills: Musicological Knowledge

Open-ended QA

Question: What is hyper-foreignism with respect to pronunciation according to the clip?

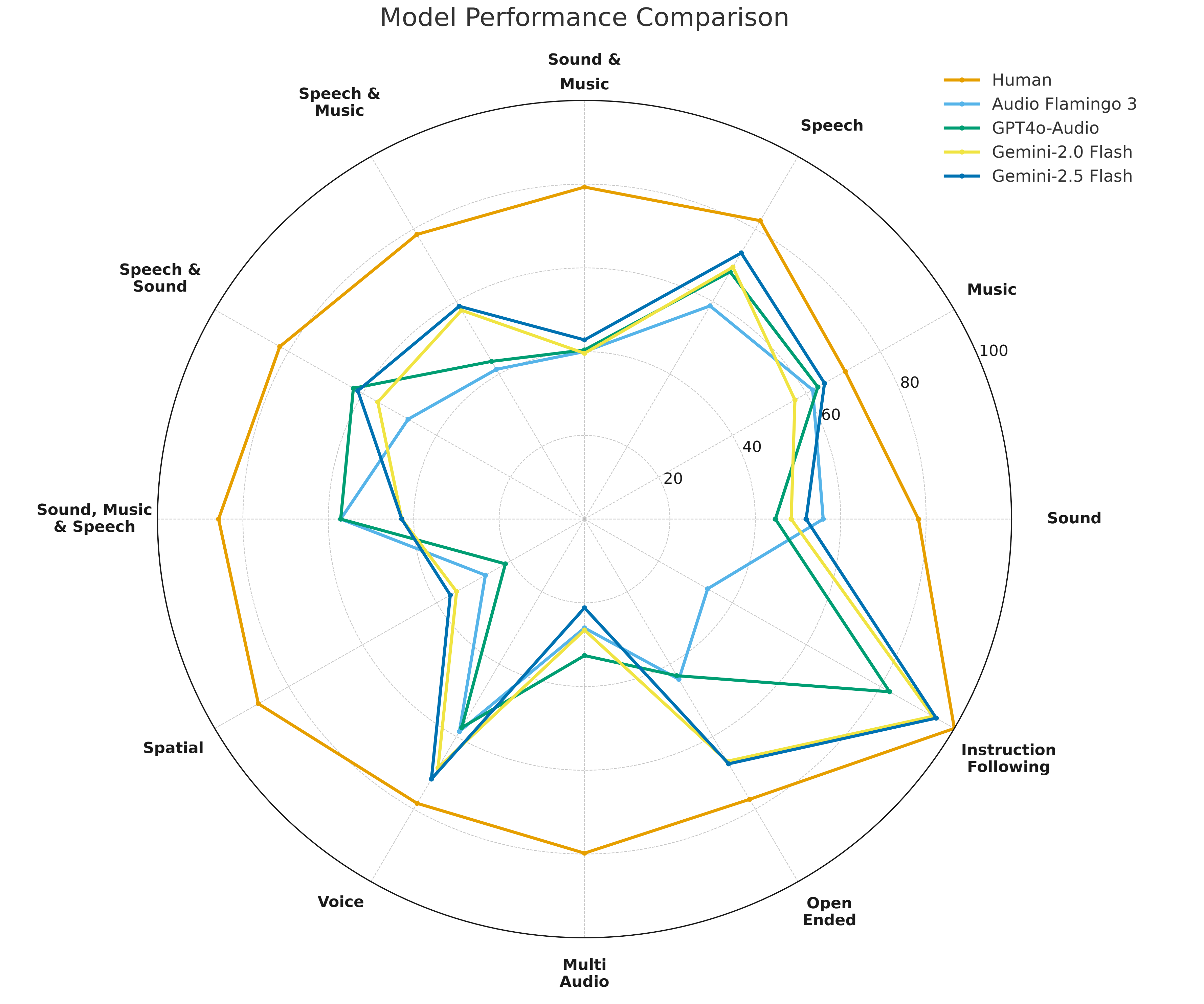
Answer: When a speaker changes the way they say a word to sound more like that of the stereotype they hold for a foreign language

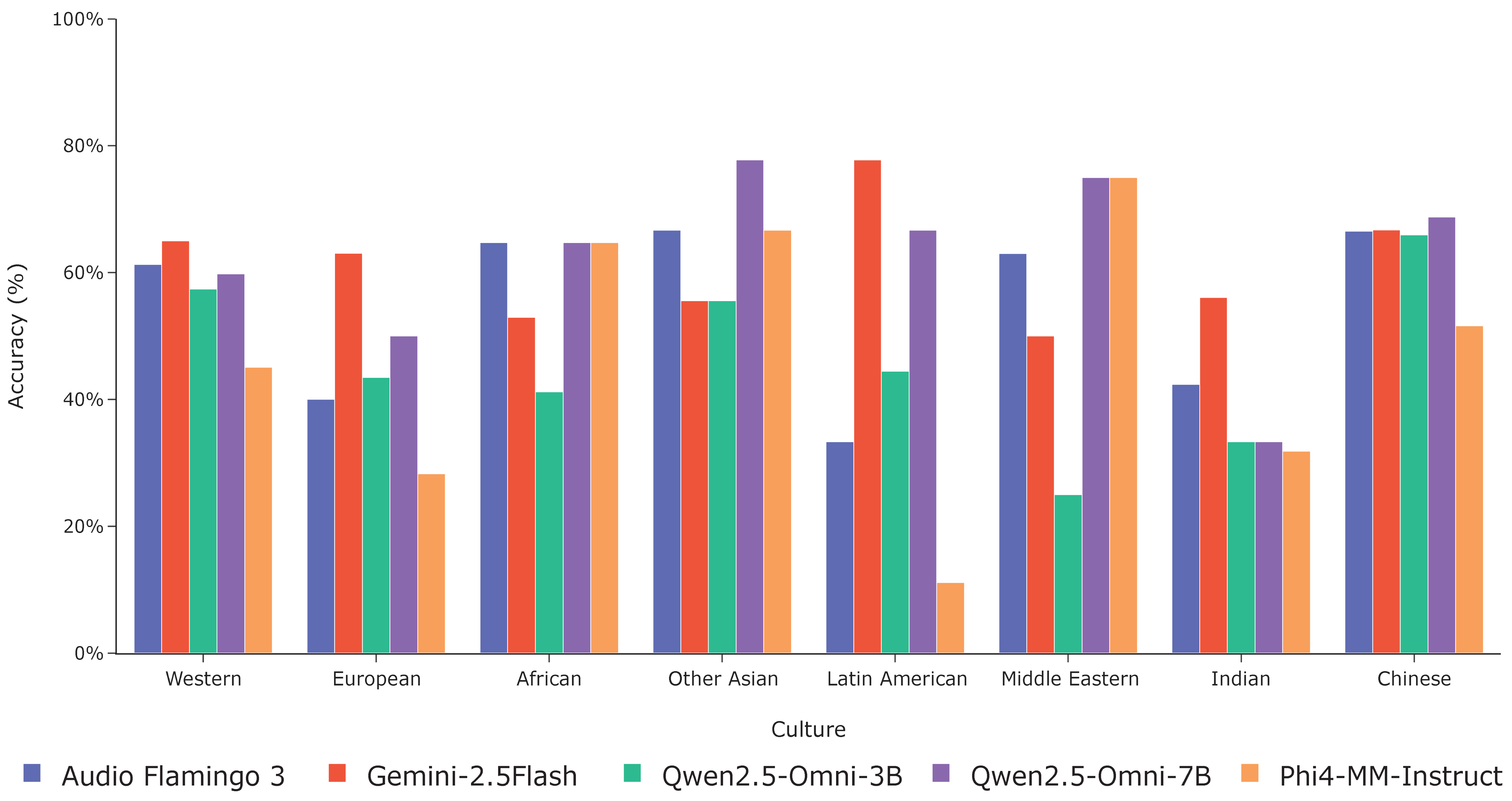
Speech-Sound-Music Mix

Question: Which of the following songs is made according to the speaker?

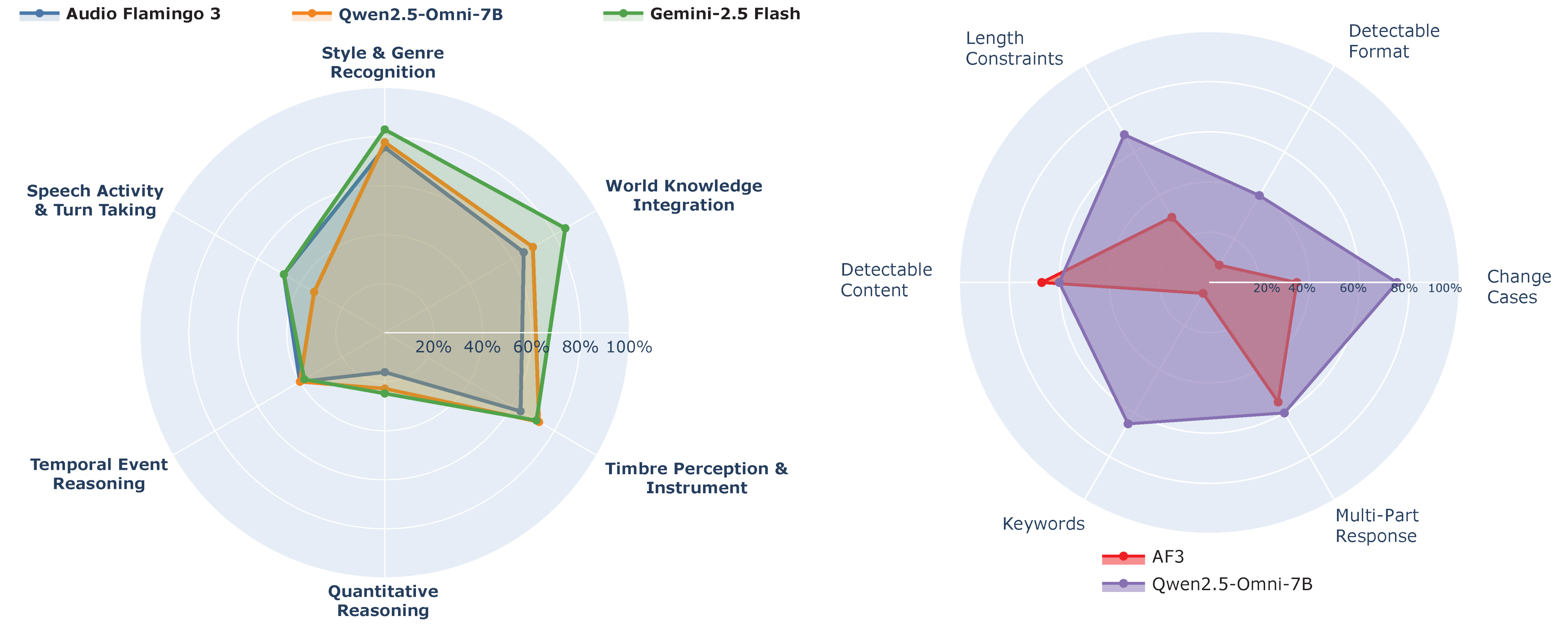
Options:
(A) Not Like Us
(B) Star Biy
(C) All the stars
(D) HUMBLE

Answer: (D) HUMBLE





Accuracy by music culture for five LALMs on the MMAU-Pro benchmark. Each bar group shows per-culture performance for AF3, Gemini-2.5 Flash, Qwen2.5-Omni-3B, Qwen2.5-Omni-7B, and Phi4-MM-Instruct, highlighting significant drops on



(Left.) Comparison of top 3 best and worst performing skills.
(Right.) Performance comparison of instruction following capabilities.

- We introduce MMAU-Pro, a comprehensive new benchmark for auditory intelligence featuring **5,305 expert-annotated Q&A pairs**, 49 skills, and challenging new tasks like spatial and multi-clip reasoning using long-form audio (up to 10 minutes).

- Top performers like Gemini 2.5 Flash only achieving 59.2% accuracy, and the best open-source models (Audio Flamingo 3, Qwen2.5-Omni) scoring just 51.7% and 52.2%, respectively.