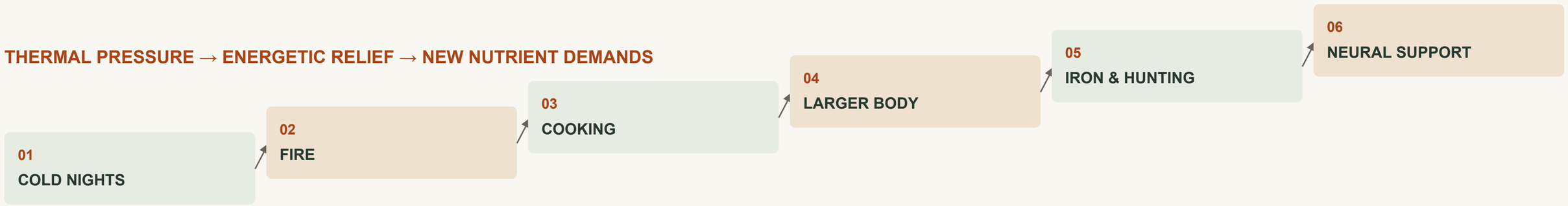
The proposed metabolic staircase

Each proposed solution relieves one constraint while creating new demands. Nutritional support and the proposed neural trigger play different roles.

THERMAL PRESSURE → ENERGETIC RELIEF → NEW NUTRIENT DEMANDS



01 Highland nocturnal cold

The model places recurrent thermal stress upstream of habitual fire use for protection.

02 Fire provides thermal protection

The proposed initial benefit is protection from highland cold; fire then becomes available for food processing.

03 Cooking releases usable energy

Greater food-energy returns and reduced digestive work help support a larger frame in the proposed sequence.

04 A larger body creates an iron burden

Expanded blood and tissues add iron requirements; the paper combines these with locomotor and sweating-related losses.

05 Habitual hunting secures key nutrients

Animal tissues supply concentrated nutrients, including heme iron and vitamin B12, in the paper’s proposed response.

06 Support for later neural expansion

The model argues that an established dietary pipeline helps finance larger later neural architectures.

What this staircase explains: how additional tissue could be sustained. The separate caffeine hypothesis proposes a pressure favouring neural expansion. Cooking does not initiate every earlier increase in neural capacity in the paper’s account.

Source: corrected Version 2, highland cold, fire, body-size and encephalization sections. The order and causal links shown are the author’s reconstruction. Step height does not represent elapsed time, body size or an energy measurement; no date for proven habitual fire control is assigned.