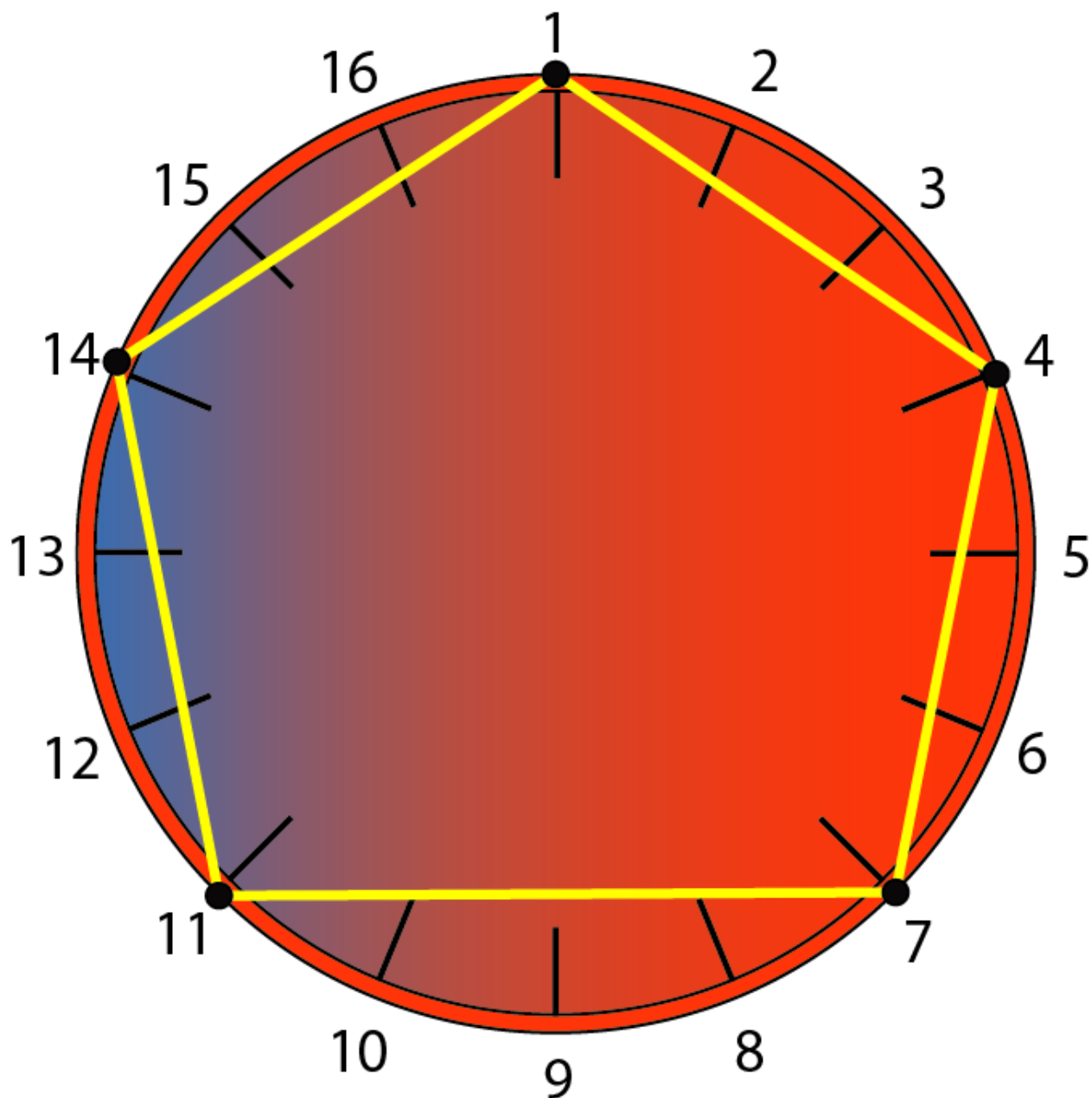


Bossa Nova Clavé

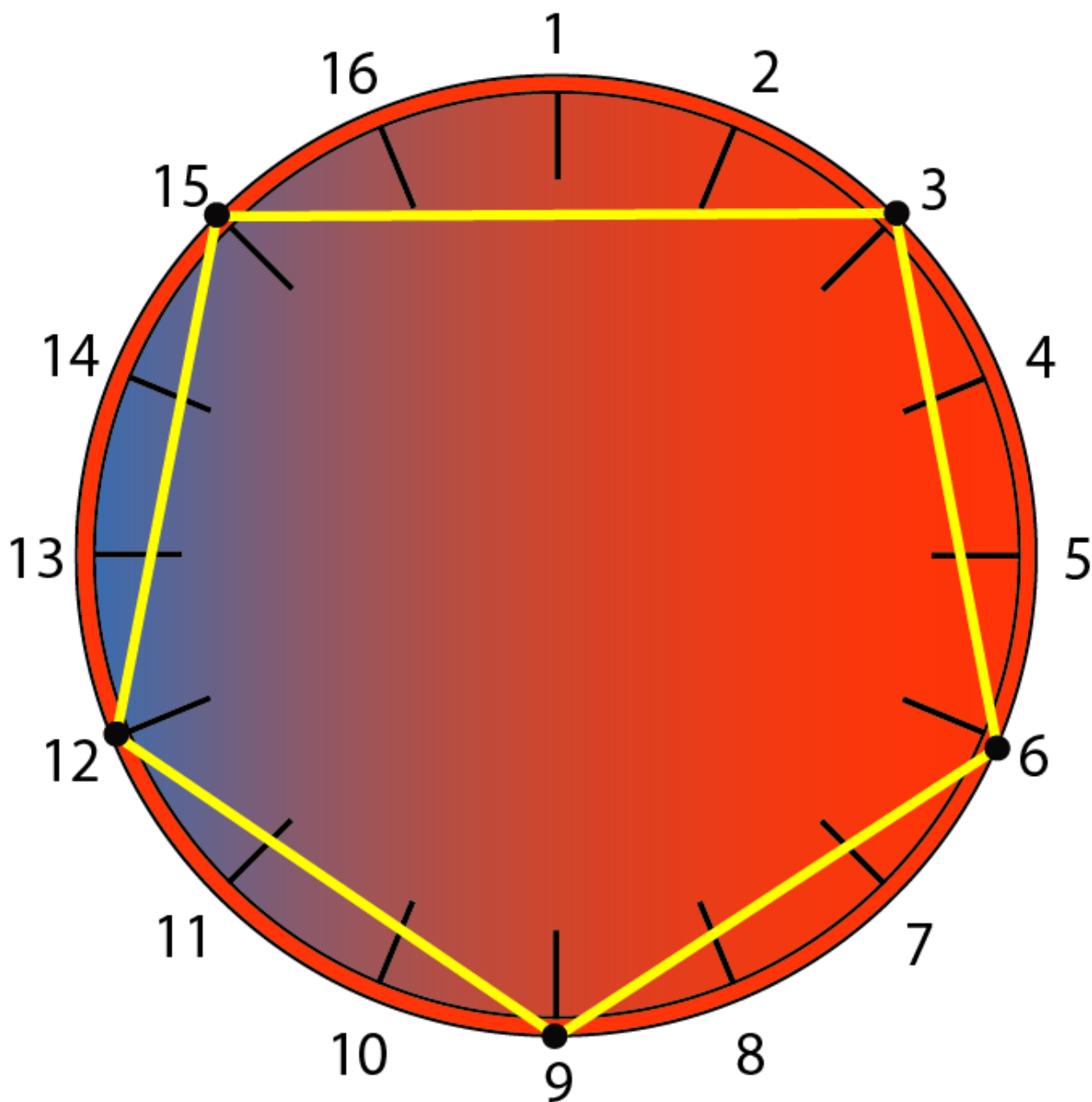
A timeline overview
by Jonathan Dimond



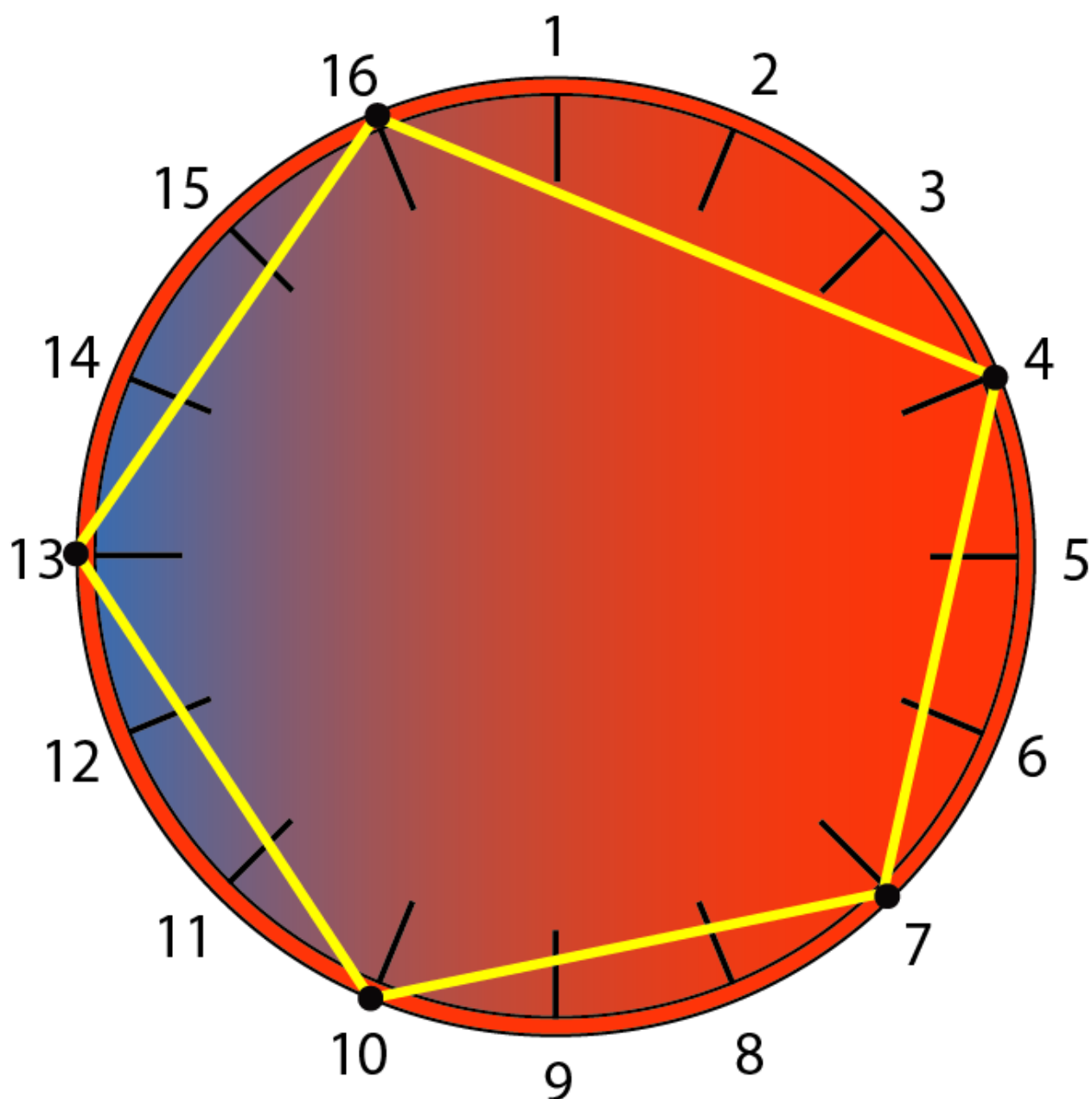
The Brazilian *bossa nova* clave is a five-onset pattern geometrically illustrated above, and notated below. The numbers in the notation correspond to the inter-onset intervals on the clock face timeline. These durations are measured in eighth notes. The beat should be felt as half notes.



The symmetry of the *bossa nova* clave is reinforced by the mirror-image reflection of the normal timeline previously illustrated. This second version is often called the 'reverse' clave, as the two bars are switched in order. In combinatorial mathematics this timeline is considered a *bracelet* of the previous rhythm, as it is an inversion – it's flipped over.



Because the *bossa nova* clave is not an isometric rhythm (i.e. not a beat), it has not two but 16 potential rotations – called *necklaces*. Illustrated and notated below is a third of the 16 possibilities, which can be seen as a displacement of the prior version by one pulse.



Though not traditionally occurring in *bossa nova*, interesting grooves can be discovered by exploring all 16 necklaces of this rhythm. Practice singing, playing and clapping these rhythms whilst keeping a steady beat with a metronome (set to half notes). Explore the options that occur harmonically by delaying or anticipating the chord changes, aligning with the onset nearest to pulse 1.