

RESEARCH ESSAY

Between Beat and Grid: Rhythmic Ambiguity in Digital Production

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A drum pattern placed exactly on a digital grid can feel less stable than one whose attacks arrive around it. Rhythmic ambiguity often emerges from the listener's negotiation between measured position and embodied expectation. How do producers create several plausible pulses inside a timing system built to display one? Digital rhythm exceeds the grid when microtiming, timbre, grouping, and automation encourage the ear to reorganize the same sequence in competing ways. Rather than asking whether the object is inherently progressive, authentic, communal, or memorable, the interpretation asks how session files, onset measurements, spectral envelopes, producer testimony, listener tapping, and alternate loop boundaries organize the dynamic between visible timing and heard accent in operation.

A kick marks regular quarter notes while a dry clap arrives slightly late and a filtered sample accents every third subdivision. The screen shows an orderly loop, but the ear alternates between duple weight and a longer cross-cycle. Several readings remain possible, yet they are not equally supported. The case gives priority to the explanation that accounts for its delimited sequence and material limits. It thus turns the interdependence between discernible timing and heard accent into a bounded conclusion, one connected to this situation rather than elevated prematurely into a universal rule.

Sequence supplies the most useful discipline. Session files, onset measurements, spectral envelopes, producer testimony, listener tapping, and alternate loop boundaries should be ordered according to when participants could know, act, revise, or object. This chronology reveals where the interdependence between perceptible timing and heard accent enters the process and prevents later justification from being read backward as origi-

nal intention. The interpretive threshold remains whether an assessment accounts for more than one stable hearing and identifies what triggers the shift at the moment a choice could still be changed.

The proposed approach is close production assessment coordinated with perceptual trials and repeated embodied listening. It begins with a descriptive pass that postpones motive and records variations before grouping them. A second pass asks which variation changes access, sequence, or authority. The final side-by-side inquiry uses whether an assessment accounts for more than one stable hearing and identifies what triggers the shift as a discriminating test, so explanation cannot expand merely by collecting attractive examples.

In another track, quantized notes remain fixed while envelope changes move the perceived attack. What looks metrically exact becomes supple because brightness, not onset alone, tells the body where an event begins. The case adds friction rather than confirmation. Its details force a distinction between formal similarity and equivalent effect. Once that distinction is made, the tie between observable timing and heard accent can be evaluated through concrete effects instead of assumed from the category under which the event is presented.

Together, the cases distinguish category from operation. Two examples can share a medium yet organize the alignment between observable timing and heard accent differently because control, duration, and access have changed. Close production assessment coordinated with perceptual trials and repeated embodied listening makes that difference legible. The concept remains useful only when it identifies a mechanism and when whether an reading accounts for more than one stable hearing and identifies what triggers the shift can be evaluated rather than assumed.

The language of ambiguity can romanticize ordinary programming errors or project diagnostic complexity onto groove that listeners experience directly. The objection changes the proposal by making its boundary explicit. The concept is useful only where the record demonstrates whether an study accounts for more than one stable hearing and identifies what triggers the shift. Elsewhere, it may remain a descriptive possibility, but it cannot carry the ethical or historical conclusion that a stronger case would support.

Analysts should compare waveforms with muted stems, describe bodily entrainment, and avoid treating software coordinates as the final ontology of rhythm. The proposal also redistributes expertise. Technical staff, stakeholders, caretakers, performers, users, and local knowledge holders may see divergent failures. A process that allows those observations to redirect the work is more informative than consultation whose only product is institutional reassurance.

A larger corpus should be assembled by variation rather than convenience. Cases need to differ in institution, audience, duration, and degree of person involved control while remaining comparable through the connection between discernible timing and heard accent. Sampling only celebrated instances would confuse public visibility with investigative importance; including abandoned and routine cases reveals the ordinary work that makes the phenomenon possible.

The framework is not a universal rating system. The tie between open to view timing and heard accent may be valued differently across communities, and public documentation may itself violate privacy or cultural protocol. The approach must permit restricted evidence, collective reading, and refusal, even when those choices limit external verification. Accountability sometimes depends on re-

specting a boundary rather than making every process transparent.

Longitudinal research is needed because the apparent success of an encounter can reverse after circulation. Following records of session files, onset measurements, spectral envelopes, producer testimony, listener tapping, and alternate loop boundaries would reveal who retains access, credit, control, or interpretive authority. The decisive question is whether

whether an assessment accounts for more than one stable hearing and identifies what triggers the shift survives when the initial facilitators, technologies, or funding arrangements are no longer present.

A further implication concerns institutional memory. Without records of rejected alternatives and changing conditions, later practitioners inherit a polished result but not the judgment that made it possible. Preserving that judg-

ment creates a basis for learning rather than simple replication.

The relational study replaces a broad celebration of the form with a testable account of its operations. The grid is a production instrument and a graphic proposition, not a complete description of musical time. Between beat and grid lies the active listener, repeatedly deciding which event makes the next one feel early, late, or exactly placed.