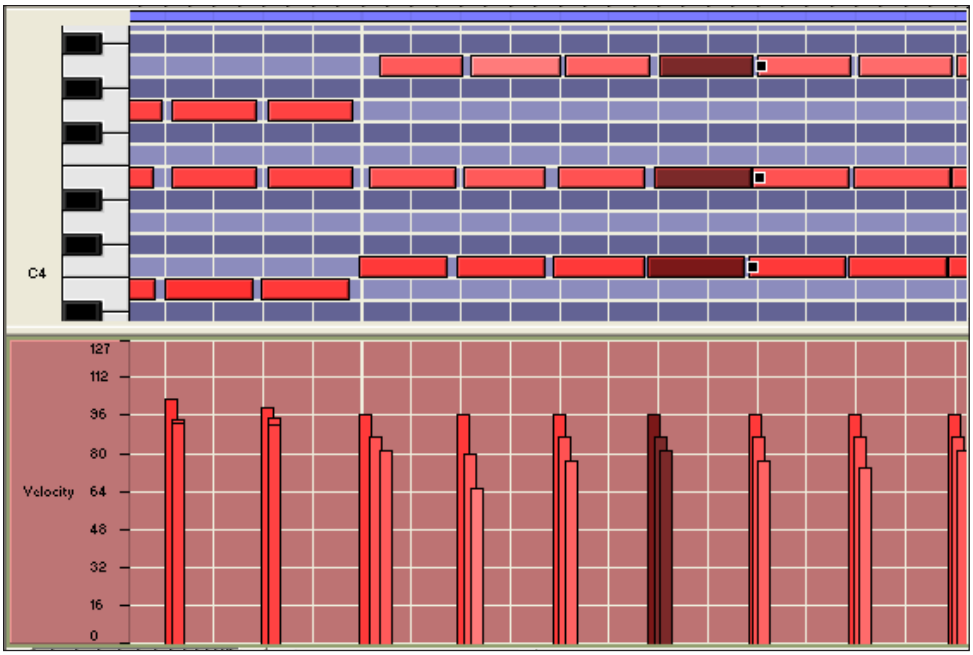

Fig. 14: Velocity variance in Still D.R.E.

The second critical detail is *velocity.* If you look at the bottom half of figure 14, you notice the pink panel with red bars of varying heights. Those heights indicate the velocity of the note. Velocity refers to how hard they keys of a keyboard are struck. Velocity can alter a variety of parameters, but most commonly – and in the case of Dre's hook – it controls a note's volume or amplitude. In tha illustration, the low, beginning notes of each chord are struck slightly harder than the high, later notes producing a brief, yet effective decrescendo or loud-to-soft dynamic. This last subtle, finishing touch renders a much more realistic re-creation.

As you've now discovered, though it seemed at first a few easy chords on a keyboard, upon closer examination Dre's hook is more complex. For instance, if the dynamics explained above weren't present, the hook – though helped along by the drum programming and Dre's mighty lyrical delivery – would be simply less powerful. Dre, like all top producers, draws from a comprehensive arsenal of musical dynamics know-how. So far, we've only touched the surface of this skill arsenal. But now you know to avoid tha all-too common inclination for novice producers to snap or quantize notes completely to grid. Though it's okay for some song elements to be rock-solid dead on the grid, a song should have feel, and feel is the product of deliberate imprecision and velocity dynamics. Leave making the bland, non-musical, robotic beats to tha

amateurs. Let's now dive further into the must-know concepts of musical dynamics starting with a more detailed analysis of velocity dynamics.

The style of any acclaimed musician, composer or producer will be marked, in large part by his or her use of velocity dynamics. That is their ability to play softly, then loudly, in calculated transitions, to add to the mood and feel of the song and the song's phrasing. So listen up! You might be under tha impression that a classical pianist just sits down at the piano bench, reads the scored music, and doesn't add anything new to the piece he or she is playing. Truth is, dawg, each player's own dynamics will set them apart from other players alike. Due to musical dynamics, all classical musicians will deliver a unique performance of the same piece. As a producer, everything in this book can contribute to your style; music production is a much broader arena for differentiating yourself. Yet, despite the great number of ways to set yourself apart as a producer, you must know as much about dynamics as a classical musician. So let us relate three introductory velocity dynamics concepts: accent, crescendo, and decrescendo.

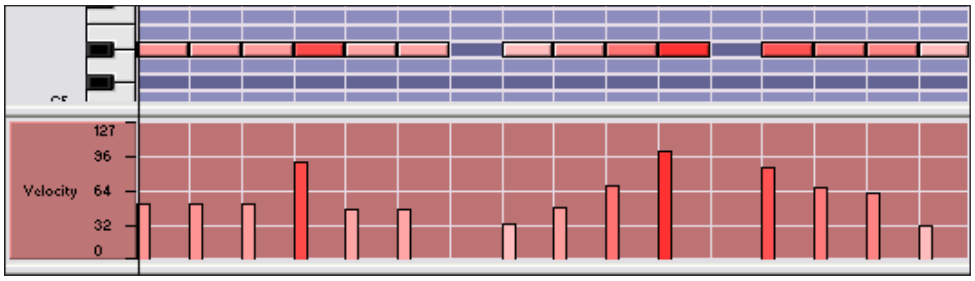

Fig. 15: Loud and soft dynamics controlled via velocity levels.

Figure 15 shows each of these three dynamics concepts from left to right: a single accent, a crescendo, and a decrescendo. Tha accent is a note that is abruptly louder than the notes preceding it for the purpose of emphasizing that note. The crescendo is a gradual increase in loudness over a series of notes and a decrescendo, as illustrated above, is tha opposite. Control of loud note emphasis, control of soft note expressions, and control of fluid evolving note passages is paramount to musicality. Accents, crescendos, and decrescendos

bring your music to life. Knowing of them is one thing; applying and using them in all your music is something much more. There's just no point in having a lifeless, unaccented, monodynamic, robotic melody or rhythm in your music productions. It sounds weak, boring, typical, and amateur. So, do tha opposite: always nurture your beats with a healthy dose of dynamics.

Just as important as note emphasis and feel is note duration. When it comes to note duration, there are two ends of a spectrum. At one end is *staccato*: brief, enunciated notes that are sharply defined and that don't take up their whole note value. At tha other end is *legato*: long notes that take up the whole note value and slur together slightly. "So what makes staccato different from playing a 16th note instead of an eighth note? Isn't it the same thing?" Not exactly. Think of it as how much of the note you use up. For example, a series of eighth notes that are played staccato might only be slightly longer than a 16th note or perhaps slightly shorter. By contrast, Legato eighth notes will slur together slightly, perhaps with the musician playing just a little bit longer than an eighth note each time. In either case, it is the *feel* of the playing that is being we're discussing. Staccato notes are tight and tense, where legato notes are more loose and relaxed.

Finally, a rounded knowledge of dynamics for the studio producer would not be complete without skills of the pitch wheel. Since forever, musicians of every genre have understood the power of pitch bends to create more soulful, expressive melodies that grab listeners' attention. What's more, since most hip hop productions today do not use live musician performances, it is even more important for producers to add back the lost expression and pitch bends to sequenced melodies as exists in live music. Conventional players of many string and wind instruments perform soulful, heartfelt pitch bends via a variety of live techniques. To create similar pitch bends on the keyboard, we must utilize the keyboard's pitch wheel. On most keyboards and keyboard midi controllers there are two wheels (or, in some cases, one wheel that moves on two axes) at the left of the keyboard. One is the mod wheel, tha other is