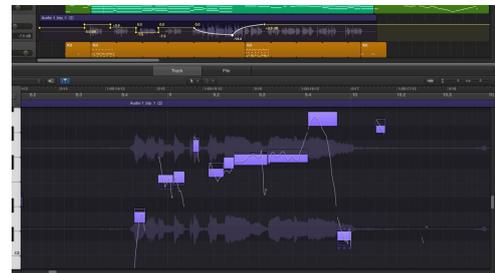
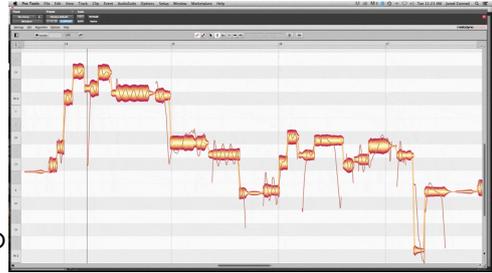


PITCH & RHYTHM CORRECTION

AoS1: PITCH AND RHYTHM CORRECTION AND MANIPULATION

Pitch Correction

- Automatic pitch correction allows you to re-tune a recording
- Modern DAWs provide plug-ins used to change **specific notes** in a piano roll editor
- Single notes can be **pitch shifted** by a specific number of **semitones** or **cents**
- Smaller errors can be corrected by cutting and pasting material from elsewhere in the track



Logic – Flex-Pitch

Cubase – VariAudio

External plug-ins – Auto-Tune and Melodyne

1 semitone = 100 cents

Some plug-ins allow you to choose a scale to specify exactly what notes should be played

Response time = how quickly the plug-in retunes the notes (fast time = more unnatural sounding – used creatively in R&B)

Can also use formant shifting

Formants are the harmonic frequencies that occur in the human voice (determine timbre (e.g. nasal sound versus chest sound) don't affect pitch or rhythm)

Listen to – Cher – Believe (0:35) (earliest recorded use of autotune as a creative effect) Kanye West – Heartless (start of lead vocal)

Rhythm Correction

- Audio quantise can be used to correct rhythmic mistakes in a recording
- The transients of the waveform are analysed and time-stretched to snap to a grid
- These transients can be adjusted manually
- Smaller errors can be fixed using the scissor tool and by manually moving out of time notes



Flex-Time – Logic

Similar to quantising MIDI

Used a lot to tighten up drum parts and other rhythmic elements

Transient = high-amplitude, short-duration sound at the beginning of a waveform

Things like groove templates can also be used to quantise audio