Analysis and Progress

The piece of music being created for this module has been given the title "Robots". It was written as an [admittedly opinionated] response to seeing a demo of "LaDiDa" for the first time - an intelligent auto-tuning/generative music application for the iPhone. The track is in fact intended as the final piece of a concept album based around the evolution of music and asks an open question; what will happen if commercial recording continues down the road of auto-tuning, hard quantizing and writing every production in a formulaic manner?

In the authors opinion these tools can be used creatively with a lot of artistic merit, but when left on 'default' - as is happening in popular music (e.g. T-Pain & others following his lead) - they tend to create a very generic sound that lacks expression. To an extent "Robots" could be considered a musical oxymoron; the lyrics stating one point of view, while the production aims to demonstrate another, though hopefully in an interesting manner.

Intended course of action

Click Track - Complete
The click track is the first element of the production. The tracks tempo had a good deal of human variation when played live, and it simply did not sound right when recorded to a continuous tempo. Playing free however lead to discontinuity between repeated sections and gave an overly loose feel.

To remedy this an approximately correct rough take was tracked into Pro Tools using a piezo pickup taped to the drummers hi-hat, a room mic for reference and a DI guitar signal. The tempo was then mapped by using tab to transient on the piezo channel and then utilising the add beat command (cmd-I) on every bar. Then the grid value was changed to semi-quavers (16th notes in 4/4), before using the 'Separate on Grid' command to splice the audio. By changing the audio tracks from samples to ticks the sliced regions then moved in relation to any tempo adjustments and provided a reference for fine tuning (although audio would play back with a lot of stutter). After creating this click track with the correct tempo shifts/time signatures guide vocals were also recorded with a guitar comp to facilitate later drum tracking.

Drum Tracking
Given the track deals with both old and new production techniques the intent is to track drums in two locations; in EFS 1 directly to Pro Tools for a clean rock sound, and to tape in Vestry Hall to record the final reverberent 'fanfare' outro section.

Verse
This will primarily contain a double tracked acoustic, drums, bass and vocals. The final lyrics of each verse will most likely contain a few harmonies which would be double tracked. Once the foundation instruments are recorded a final melody line will be sketched out using midi as a guide due to a key change taking place on the third chord which gives several possible ways to sing the line. Certain lyrics such as "can't sing" or "auto-tuned" may be processed with pitch correction software though this is dependent on the result.

Chorus

Here the lead vocals will be double tracked along with additional harmonies or failing that as a crowd chant.

Solo section "war"

This section is intended as a point where the two ideologies collide, this is shown through the preempting lyrics "were going to take over someday" before various synthesizers and samples are to be played against traditional instruments in a musical face off - starting with drum fills between the hanging chords. An acoustic guitar may be played through an amplifier to add some extra weight to this section along with a short electric guitar solo.

Outro "fanfare"

On the final chord of the solo section the tempo drops in a ritardando before the fanfare style outro begins. This chord sequence repeats several times but after the first loop the final chord (B maj) builds over a longer period before repeating; here the intention is to add a progressively longer/deeper tom fill - which will be tracked separately - finishing ideally on the timpani (if its possible to secure their use) other wise samples may be used.

Finally the song finishes with a suspended chord to figuratively leave an open question mark on the track; in previous work[1] the author has automated up a reverb send to great effect (e.g. Ship of Fools)[2], however given this is envisioned to be the final track of an album it may prove more effective to have a tempo/pitch drop to mimic that of a record player being switched off.

Research

In terms of writing the track, repeated listening of the King Crimson albums and their multiple changes in time signatures and tempo were certainly a large influence and retrospectively I now hear a few chord progressions may have unintentionally resurfaced in "Robots". Naturally due to the time period of their earlier works, the recordings were not made to a click track, though the musicianship was top quality. Any tempo shifts occurring were likely deliberate and would have stemmed from the band's natural groove. In the authors case this is not so; tempo shifts are mostly unintentional due to lack of technical ability and so the custom click track was created in an attempt to imitate such a vibe. While trying to find a suitable way for doing this I found a post on a metal forum detailing one producers workflow which seemed appropriate after some modification.

Unlike the bands discussed under human influence the author will be attempting to synthesize a feel from the studio rather than obtain it naturally through the musical synergy of a mostly live recording. This is mainly as a practicality, and hopefully a viable one; although it should also be noted that a parallel could be drawn in that said musicians were continually making extensive use of studio technology - the author simply has access to current tools.

Further research involves improving on editing/mixing skills, signal routing and processing with modern equipment (possibly Kyma for the robot voices) and some older technology such as the Vestry tape machine. Ultimately the authors goal is to improve as an engineer while crafting a sonic artifact which will require new skills to produce.

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[1] Neon Flea Circus (2010) - Fistful of IOUs - Independent [available: www.NeonFleaCircus.com]

[2] The Doors (1970) - Morrison Hotel; Ship of Fools - Elektra Records

Appendix 1 - Discography

King Crimson (1969) - In The Court of The Crimson King - Island
King Crimson (1970) - In The Wake of Posidon - Island
King Crimson (1970) - Lizard - Island
King Crimson (1971) - Islands - Island
King Crimson (1973) - Larks' Tongues In Aspic - Island
King Crimson (1974) - Starless and bible Black - Island
King Crimson (1974) - Red - Island
King Crimson (1981) - Discipline - Warner
King Crimson (1982) - Beat - Warner
King Crimson (1984) - Three of a Perfect Pair - Warner
King Crimson (1995) - Thrak - Virgin
King Crimson (2000)- The ConstrucKtion of Light - Virgin
King Crimson (2003)- The Power to Believe - Virgin
Fripp and Eno (1973) - No Pussyfooting - Island
Robert Fripp (1979)- Exposure - Editions EG
Robert Fripp (1981) - Let The Power Fall - Editions EG

Pink Floyd (1968) - A Saucer Full of Secrets - EMI
Pink Floyd (1969) - Ummagumma - EMI
Pink Floyd (1970) - Atom Heart Mother - EMI
Pink Floyd (1971) - Meddle - EMI
Pink Floyd (1972) - Obscured by Clouds - EMI
Pink Floyd (1973) - Dark Side of The Moon - EMI
Pink Floyd (1975)- Wish You Were Here - EMI
Pink Floyd (1977) - Animals - EMI
Pink Floyd (1979) - The Wall - EMI
Pink Floyd (1987) - A Momentary Lapse of Reason - EMI
Pink Floyd (1994) - The Division Bell - EMI
David Gilmore (2006) - On an Island - EMI

Appendix 2 - Human Influence

Both Robert Fripp and David Gilmore amongst their primary bands - King Crimson and Pink Floyd - have had a massive impact on the development of music production as we know it. This can be seen from both artists huge body of musical works spanning over forty years. Despite contributing so much in the form of their primary bands both artists have also produced several solo works and are credited with production on others albums.

Use of Space

The most dominant similarity between Floyd and Crimson is their extensive use of reverb as a tool for concept realisation; a absolute necessity in creating Floyd's early space rock sound on tracks such as *'Echoes'* or the introspective feel of Crimsons *'I Talk to the Wind'* and *'Epitaph'.* In the authors opinion this deliberate contrast between the dry and wet instrumentation brings a sense of dimension to the recordings that stylistically define their sound.

Both groups also experimented with radical panning effects. For instance this is audible on the Crimson track *'Cat food'* where we can hear Keith Tippets keyboard wandering around the stereo field while an acoustic guitar and its reverb are hard panned to opposite speakers. Pink Floyd's *'Us and Them'* is another a great example of early spatial experimentation, where several tape machines were rigged up in order to record the successive vocal delays for panning around a quadrophonic system (using the Auzimuth Coordinator)[3].

In terms of musical space Fripp's guitar parts are often minimalistic in nature[4] blending into the groups greater dynamic which gradually became more intricate to the point where he referred to later works such as *'Discipline'* as *"[beginning] to sound like a rock gamelan".*[5] This is also seems true of Gilmour's playing to a large extent, where he states that the band members started to become less isolated from each other in their playing style around the time of *'Meddle*[6] which can be heard in the form of broken chord fragments dancing around the other instruments on tracks such as *'Time'* on *'Dark Side of the Moon'.*

Technology

Throughout their careers both musicians and their bands have pioneered the use of new technology; most evidently both guitarists have made extensive use of delay lines while also exploiting as much of the studios potential as possible. In the case of Fripp we can hear this on his 'Frippertronics' experiments with Brian Eno where tape loops are manipulated in realtime; while in Gilmours case its an ingrained part of his signature lead guitar sound.

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[3] Alan Parsons (1975) - Four Sides of The Moon - Studio Sound Magazine [On-line reissue: http://www.stereosociety.com/FourSides.shtml]

[4] A good example can be found on: Lizard (1970) - Track 1; Crikus - Island

[5] Eric Tamm (2005) - Fripp Book - [Online: http://www.progressiveears.com/frippbook/ch09.htm]

[6] Classic Albums (2003) The Making of The Dark Side of The Moon - Eagle Rock Entertainment, US.

On early recordings such as *'A Saucer Full of Secrets'* and *'In the Court of the Crimson King'* we hear extensive use of the Mellotron; one of the earliest forms of sampling. This was just the start however with elaborate efforts made by Floyd to create the tape loops used in 'Money' amongst other tracks and Crimson in fact sample *'In the Court of the Crimson King'* on their second album *'In The Wake of Posidion'*; where the grand build up of the first albums title track is used in the final collapse of *'The Devils Triangle'.*

By definition a progressive band continually evolves along with their sound, which can easily be seen between the technology they were using, line up changes and a bands instrumentation. In the case of Crimson it was prominently instrumentation and line-up, with Fripp as the only consistent member amongst a myriad of musicians and sounds drafted in - for instance the v-drums and the more eclectic instruments such as warr guitar and chapman stick - throughout the group history. In Floyds case the line up change was less frequent, however session musicians such as singers and sax players were often recruited, although most notable is the colossal amount of equipment they used; predominantly keyboards and later samplers played by Rick Wright.[7]

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[7] A realitivly complete list of floyd synths and keys: http://sparebricks.fika.org/sbzine28/WrightGear-rev156.pdf

Appendix 3 - Production Diary

The song "Robots" was written while taking the Digital Audio Interface Design module last year. It started life as two chords strung together (Amin and Emin) with the initial lyrics "we've got these robots" after seeing LaDiDa for the first time - a generative/ auto tuning application for the iPhone, billed as a "reverse Karaoke app". After seeing this for the first time I was seriously impressed with the technology, while simultaneously horrified by the audio-output (music?) which brought about the general concept for the track. This piece of technology was begging the question: whats going to happen if everything goes down the route of "let the computer fix it" instead of using a decent musician giving it their best attempt?

In the authors opinion we've seen popular music go from artistic expression (e.g. Pet Sounds) to the radio of recent which has gotten more and more generic as the years have passed. Of recent times the chords all have the same progressions in the standard 4/4 time signature, the lyrics usually had little content worth pondering and the 'artist' was usually little more than a beautiful/handsome fashion icon (the epitome of which possibly being Rihanna singing about her Umbrella to an Apple Loop). Unfortunately this trend continued and with people like T-pain popularizing hard quantized auto-tuned vocals, the production values of popular music seem to have dropped even further.

Robots is the authors attempt at expressing these thoughts in a musically productive fashion. The lyrical content makes its point to an extent though the chord progression and structure were of more interest as the author primarily a guitarist. In all the song wanders over several keys and with a time signature I still struggle to calculate correctly; this is primarily because beats were arbitrarily dropped in places and because it simply felt right.

With the song written and the structure set it was possible to jam it out to decide on the micro timing of the different sections and where the tempo should be pushed and where it should slow. Although a perfect performance was not possible, a roughly correct version could be tracked to aid the process of creating a click track that accommodated the natural feel of the track. To do this a piezo was soldered to a TRS jack and taped to the kits hi-hat so a guide take could be recorded though fills and playing of the ride cymbal was mostly excluded so that it was mostly clean transients from the pickup that were recorded. After this the best take was chosen and a tempo map was created using tab to transient to find the start of each bar and then hitting cmd-I/add beat. With the whole song mapped this way the recorded audio was spliced into 16th notes and swapped to ticks; this allowed for fine tuning of each part to create an ideal master tempo track, which was then used to re-track guitar/vocal guides with for the coming studio sessions.

Click Tracking:
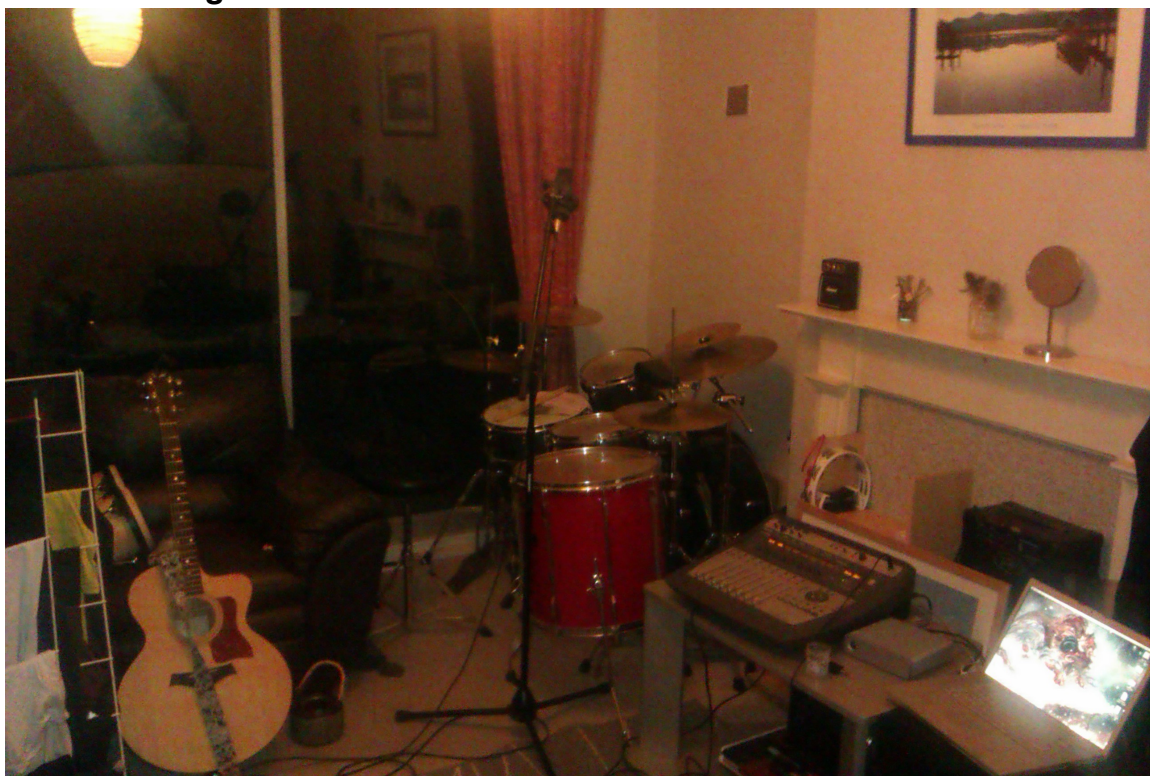
Pickup on the hi-hat:
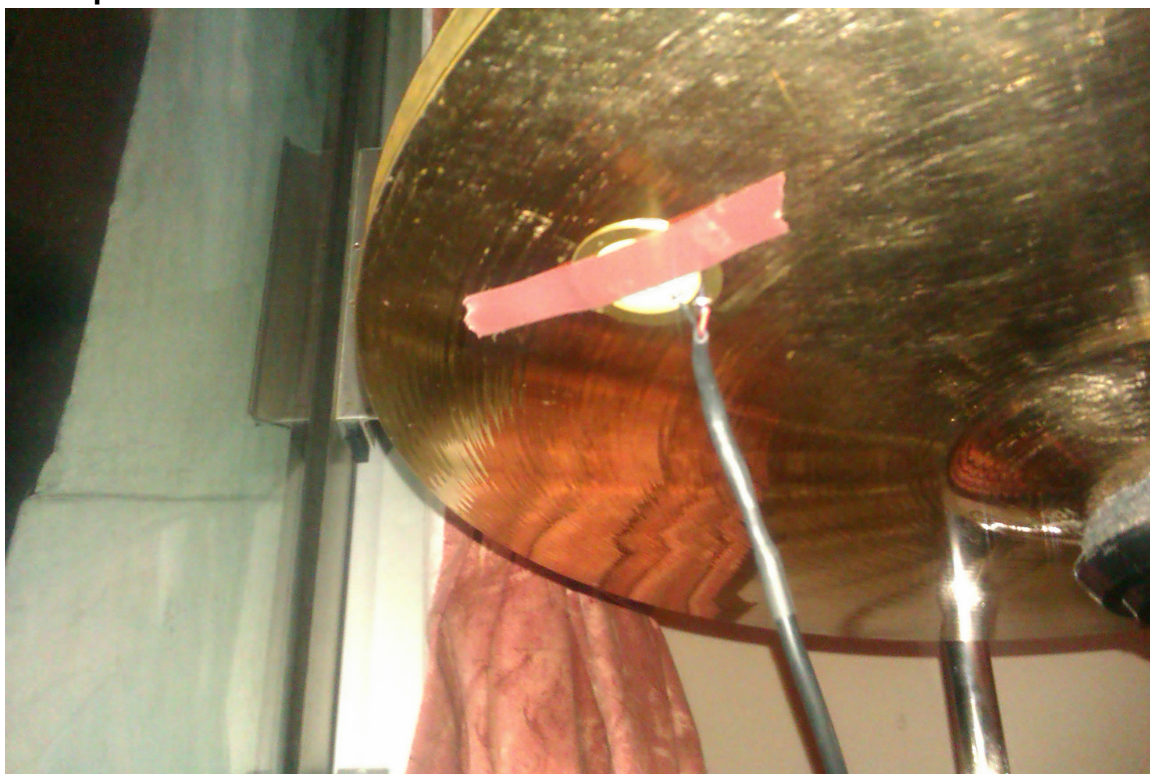
Appendix 4 - Lyrics and Structure

Intro

Verse 1
We've got these, robotic,
human imitation, can't sing, auto tuned super stars;
to them its just about their name

It all started when, we forgot,
Musics meant to be, much more than a glorified cash crop

Chorus
We've got faults not circuit boards,
and thats what makes us tick,
We've got thoughts not ones and naughts,
'cos feeling you cant encrypt

Verse 2
Real song writers; are scraping by,
while these cloned sensations are born overnight
I know my industry can survive

If its ever asked how and why did music die
people are gonna point these crooks will have no alibi

Chorus
We've got faults not circuit boards,
and thats what makes us tick,
We've got thoughts not ones and naughts,
'cos feeling you cant encrypt

War section
What have you got to say?
Were gonna take over someday.
We won't obey!
Launching missile array...

Solos

Outro fanfare
And now who will win the war?
'cos if its something worth fighting for;
you better give your all

And now who will win the war?
'cos if its something worth fighting for;
you better give your all