

Last word

Rick O'Neil

Mastering U and Your Intuition 2

Do you remember when you first learnt to drive a car? Remember how at first it was kinda hard and everything was scary? Remember how you needed to keep a constant watch on everything just to stay on the road? Then, at some point, everything became instinctive, almost like you were on autopilot – you just get in drive, and figure out what to do as it happens. Well folks, that's the same as engineering – that's what we do. And that's the way it should be. It has to be an instinctive, intuitive, cause and effect process – it's a human decision-making thing.

The other month I was parking my car near my work. And as you might guess, it's not real safe to leave your car on the streets in Kings Cross, so I put it in the underground car park. As I was driving through the concrete bunker, I noticed a strange noise bouncing around the thick grey walls. It was kind of like the sound of my car, but with a great deal of bottom end 20s reverb and an unusual ringing just as the car changed down from second to first gear. I hadn't heard the noise before, but in my car (a 1964 Ford Futura) any new noise is a bad noise,

so I moaned, put it into park and went on with my day. As I left the car park late that night I heard the same noise, but it only happened on levels three and four. Once I got to the exit and out on the street I couldn't hear anything strange at all, no matter how fast or slow I drove. Sure enough the next day, down on level four, the ringing was back, and when I got out on the street it was gone. I figured it must be some kind of harmonic thing involving the car, the walls, and the reverb. Regardless, I went to see my mechanic. He's the kind of guy who has been servicing these cars exclusively for 30 years and he knows them inside out. He knows every spit grind and shudder they can make, and he knows exactly where to look when something's amiss. I told him about the new harmonic noise in the gearbox, he nodded slowly and went for a drive. After a while he returned, put the car on a hoist, removed the access plate to the transmission, fiddled around for a while and told me there was absolutely nothing wrong with the car and "that will be \$75 for the service thank you". I politely explained that there was a new noise... he got kind of cross and snapped something

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about him “being the mechanic” and “what the hell would I know about noises?”. Anyway, he couldn’t hear anything, told me “not to be smart-arse” and that the “gearbox is strong as an ox”. I knew he was wrong, but what do you do?

Now, I’m telling you all this because, as you might have predicted, the gearbox blew up two days later. I knew something was amiss because of that weird ‘level four’ sound. I heard something and acted instinctively and intuitively in reaction to it. When they disassembled the transmission, they found the second gear band had an elliptical crack in it. In 30 years of fixing these cars nobody had ever seen anything like it. Oh yeah, and “that’ll \$650 for the rebuild thanks”.

That’s my thing for this column – reacting instinctively and intuitively to sounds. Knobs are good for that kind of stuff, mice are bad, faders (lots of faders) are real good... Anyway I won’t get into the whole knob vs mouse debate. I’m telling you this stuff because I listen to things for a living. When I hear something I don’t like or understand, I investigate the source of the sound, explore the options and fix the problem. I do this stuff real fast all day. It’s my job, it’s a cause and effect vocation. You need that kind of instinctive, intuitive sixth sense to survive in the sound business – your job absolutely relies on it.

I remember while I was working at Festival Records, U2 where about to release the *Joshua Tree* album. I received an EQ’ed quarter-inch analogue Dolby production master from a big UK mastering house. The thing to do was align my reel-to-reel machine to the tones on the tape, set the Neumann cutting lathe up for the desired optimum ‘time versus level’ settings, and cut the grooves in master lacquer flat – that’s it. No one was to touch the tape’s sound, because, in theory, the master tape I had was provided by U2 exactly how they wanted it to sound. It was my job to cut the grooves and get the records pressed for Australasia – they did this instead of shipping container loads of discs around the world... standard stuff.

At that stage U2 were at a real turning point in their career, there was a real buzz about this album. So as soon as the tapes cleared customs they were sent straight down for an immediate cut. The word got around that “Tuesday was U2 Day” and instead of just being the young cutting guy (I was 18 or 19) I was suddenly involved in an unprecedented listening party for all the record executives (and as many Australian rock stars that could squeeze in the mastering room). I aligned the tape and played the album. At the end, after all the back-slapping and self-congratulations that went on (remember U2 were not in the room and nobody had ever met them), somebody asked me what I thought of the album. I remember saying it’s an awesome record but I was going to have to “brighten it up a fair bit”. Well, didn’t the shit hit the fan then! Suddenly all of the people in the room were sound experts, mastering geniuses and general know-all. The only other guy who could actually cut a groove in vinyl slipped out of the room and said, “kid you’re on your own with this one”. One of the local rock stars in the room told me Brian Eno had produced this record with Lanois, and that “U2 liked the sound as it was”. After all, they mixed on AR-16 speakers, and I just had Tannoys and NS10s, “who the hell did I think I was to compromise U2’s artistic freedom if they wanted it like that?”. U2 weren’t dull, the world was bright. I replied: “I’m the mastering engineer and it’s my job to make sure its okay for release”.

The managing director at the time overheard this conversation

and demanded the sound not be touched – it was a production master and that was that. So I tried to explain how it might have gotten dull, how the Dolby might be out of whack, or how the tape might be off azimuth, or any other myriad things that would cause that sort of sound. He told me that in 10 days time the album would be released simultaneously worldwide and to just “cut it as was and get the test pressing out immediately”.

Everybody left the room and I rechecked the tape machine, and rechecked the sound of every other U2 record we had. I knew the sound was dull in a very weird way, but I did as I was told. The next day when I got the test pressing to check out and ship to U2 for final approval, I slipped a note inside querying the sound – “do you really want it this dull?”. All that week I defended my actions as people taunted me for doing my job – “you don’t question a band like U2”.

Again, I’m telling you this because, as you might have guessed, the band read my note.

The band contacted the producer and then they rejected every test pressing from every corner of the globe, delaying the release several weeks. Something *had* gone wrong at the UK mastering house and all production masters were faulty, (double Dolby if I recall correctly). We received a digital 1610 a few days later which sounded much better and I cut the 1610 digital tape flat (but using every vinyl mastering trick I had gathered using the ‘cause and effect’ method that I hold so dear). The bottom line here is, the record went out sounding right. It was a bit late, but it went out right. The band stopped it because they cared about the sound, not the release date, and the damn thing sold tens of millions. A little later, the band’s management sent me a telex (before faxes) to tell me the boys thought my new cut was the “best sounding cut of that record in the world” – something I am immensely proud of to this day. I am doubly proud because that was the first time I knew that I actually understood what I was doing, and even though everybody was laughing at me, I stood my ground, and it made a huge artistic and cultural difference.

(As a side issue: because quality control went out with vinyl pressing, U2 now have their own quality control department that checks every release from every country for correct sound and printing integrity before release.)

I’m writing this column not to brag about what a great mastering engineer I am, because the U2 episode was a long time ago and, hell, nowadays everybody seems to be a mastering engineer. This column is to encourage you to trust your judgement, act instinctively and stand or fall on your own merits. Now *you* know I want you to take your mastering to a *professional* mastering house, but if you insist on doing it yourself... do it right. Listen to the sound and react intuitively. If you’re still not sure what I’m talking about, then it’s time to go and pay somebody who does. It doesn’t cost that much really and your record will thank you for it in all kinds of ways.

And, oh yeah, now my car’s transmission sounds normal on the third level of the car park, but the front suspension sounds a little weird when I drive down to the fourth level. My intuition tells me not to drive down to the fourth level ever again.



Rick O’Neil runs Turtleneck Productions and is currently trying to master the art of installing his car’s air-conditioning system without have any extra pieces left over.