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To hear Troy Grady discuss his project, you can only help but feel a sense of urgency and adventure. Grady, a lifelong guitar devotee and shredder himself, realized one fateful day that a select group of guitar gods could perform musical feats that shock the mind and numb the hands. The unfortunate catch was very few of us could figure out just how to replicate those wicked fast runs. While a dedicated group (including Grady) would spend hours watching and rewinding Yngwie Malmsteen instructional videos, the rest of us were more content to just shrug our shoulders and cop slower licks.

By Adam Moore

Eventually Grady's innate curiosity got the best of him; the humble Brooklynite recently set out to discover the secrets of

the shred gods and bring fire back to Earth. Investing in a \$2,500 dollar camera capable of capturing over 130 frames of full color video per second (for reference, the typical movie camera captures 30 frames per second), Grady set out to produce a documentary, now titled *Cracking the Code*, which will attempt to dissect the playing and mechanics of some of the fastest guitarists around.

Make no mistake; this isn't just a movie of metal-heads pounding out lightning-fast riffs. Grady looked up players with bluegrass, jazz and even classical inclinations, all in an attempt to discover what techniques and tricks unite these various musicians. He has set up an informative blog to track his effort, and he's even garnered the attention of national press outfits like *Newsweek* and MTV News. It's an interesting and impressive effort, and he was kind enough to give us a few minutes to discuss what he's learned so far.

What brought you to this shred crossroads? Do you feel you're qualified to explore such a mysterious, alluring area of the guitar?

I think I do a decent job of synthesizing critical observations into digestible nuggets. I've done a lot of thinking and also a little writing on the subject of guitar technique going back at least fifteen years – some of which appears on my web site and is perhaps the best available example of whatever strengths I may have as a technician and critic. I also have a healthy appreciation for the scientific method. I'm innately curious about the way things work – in a “hey, let's drop the old TV tube off that abandoned building” kind of way – and as a player I can execute much of the material you'll see in the film.

But the truth is, I wasn't really thinking about any of this when I decided to make the movie, and it would be more than a little egotistical if I was. The story of the *Code* is essentially autobiographical – it's the story of how I learned to play, charting a path from novice to able practitioner that probably mirrors what most guitar players struggle with as they learn the instrument. So I'm an entirely ordinary guy, and this will hopefully hit home with anyone who's ever watched one of the masters at work and thought, hell, how do they do that?

The title of the documentary, *Cracking the Code*, sounds incredibly intense. As the secrets unfolded, was there a eureka moment, where everything just clicked?

Sophomore year of college, I had been watching Yngwie's instructional REH video all year, pissing off my roommates to no end. One day I was working on a lick I had developed, a three-octave harmonic minor run, fully picked, and for whatever reason it was going well – very well. In fact by the end of the day it had gone from a non-starter to total burn, completely clean. Shocking.

After looking at it for several weeks, in concert with the video, I decided there were things Yngwie was doing – and things he wasn't doing – that were true of this lick as well. I was off and running. I spent the next couple years elaborating the concept and analyzing a zillion players, who all, I had decided, used the same technique as Yngwie. I ended up writing a manuscript on these observations and getting course credit for it at Yale.

Tell us a little about the “shredcam” and its origins.

Eight or ten years out of college, I decided to put a band together, and in the process figured I should polish the chops. So I went out and bought a stack of instructional videos I had always wanted to see; these were things like Michael Angelo's *Star Licks* and *Speed Kills* videos, and Paul Gilbert's *Intense Rock*. *Intense Rock* was a landmark, a ton of players cite it as an influence, and Mike's videos are, of course, as scary as they come. And lo and behold, the technique I'm seeing is entirely different from Yngwie's.

At some point along the way I began thinking, ok, for as many star players that exist, are there as many effective mechanical formulae? I had a little recurring daydream about retiring from a rock guitar career to a comfy spot in the guitar department at Berklee, and using my academic clout to convince master players to submit to videotaped pseudo-scientific investigations of their technique. Then I thought, hell, I'm a recruiter with guitar skills – I don't need a rock career or a chair at Berklee, all I need is a camera!

Rusty Cooley was my guinea pig. I had not yet worked out the details of the shredcam, so I flew down to Houston with my

pocket digital camera for a private lesson. With this thing a few inches from his picking hand, I still wasn't able to get clear footage of what was going on – Rusty was faster than the camera was – and I knew I needed better tools. That's when I found the Basler camera that I use in the film, which can do hundreds of frames per second depending on the resolution you request of it. I started writing the software for it, and I went back a couple more times to film Rusty and iron out the kinks.

Overall it was hours and hours of footage. And playing for the shredcam is not easy. The camera records uncompressed video, so even a 5-second clip is hundreds of megabytes. It records directly to RAM because disks aren't fast enough, so I can only record up to about 15 seconds per clip on the laptop I use. So when I say go, you basically have a few seconds to nail your best stuff. Do this for an hour or two, it's like doing wind sprints.

Who are some of the players you've tapped (sorry) to explore the world of shred?

Rusty figures prominently in the film because of his role in the story of developing the shredcam, and of course also because he's about as scary a player as you're likely to find. Marshall Harrison also lives in Houston and was one of the early guys I filmed. He's an interesting case – a Gambale-level sweep picker and fusion harmonist who's also done interesting work in translating Romantic piano works – Romantic as in Chopin, Beethoven, that era – to the guitar.

Otherwise I'm knee-deep in filming as we speak. I filmed this fantastic player and songwriter from Canada, Conrad Simon. If you haven't heard his demo, *The Wrath of Con*, you're missing out – amazing playing with highly developed compositional sensibilities. I met Joe Stump at Berklee a few weeks ago, who is a rigorous technician and also greatly relaxed beneath the shredcam. I'm meeting Stephane Wrembel,



Rusty Cooley playing for the shredcam

“The idea that virtuoso players can play “anything” without really thinking about it is a fantasy.”

a world-class gypsy jazz player, and have dates to speak with Frank Gambale and Jimmy Bruno. I've spoken to Ron Thal's people and to Chris Impellitteri via email. It's not just about metal players, it's about the universality of great technique, and the many forms it can take.

How did you go about approaching these players about your project? Were they generally receptive to the idea?

I've been pleased with the reception so far. More people seem to share my curiosity than I initially expected, particularly in the mainstream (i.e. non-guitar) media, which was surprising. My initial thought was, how do I explain and pitch this project, and who's going to care? I was a little worried that advanced players would see the whole technical focus of the investigation as less than relevant to the goal of making good music. But in certain genres of music, like the metal/shred scene, the idea of technical development is at one with the creative process – great riffs often emerge from mechanical practice, for example, and everybody, even the players that already have the technique, practices when they can.

the layout of the strings and the implement we use to play them, i.e. the pick. It was designed to be fingerpicked, where the multiplicity of fingers (unless you're Django!) makes it much easier to select a particular string to play on. The major obstacle therefore in plectrum-based playing is getting from one string to another with a degree of efficiency. The secondary concern is synchronizing the hands such that each pickstroke is mated to only the note you intend. If you can succeed in doing these two things, you can play cleanly, and you can do so at speed.

Witness, for example, that playing cleanly on a *single string* is relatively elementary. The only issue to deal with in this case is the issue of hand synchronicity. Yngwie has a great formula for this – you create patterns that repeat with the same pickstroke, and you lock that pickstroke to metrically strong divisions of the time.

When you get into multi-string licks, all hell breaks loose, and the film will delve into the various combinations of techniques that players use to execute them. Yngwie, for example, only ascends via sweep picking, though he descends with a combina-

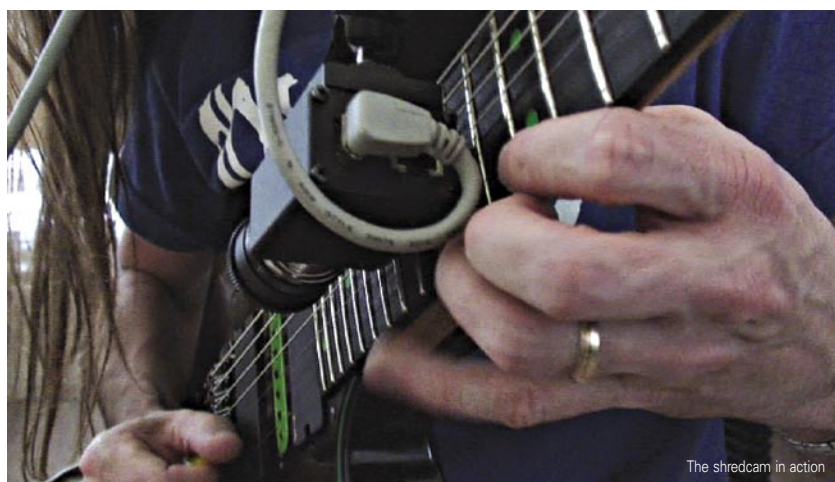
plays it. Paul on the other hand does not commonly use combinations of sweeping, alternate, and legato to play strictly scalar passages, though this complex stew of techniques would be routine for Yngwie. Doesn't mean Paul hasn't done it, and doesn't mean he couldn't do it, of course – it's just not part of his active right hand vocabulary, what I call his *pick model*.

You might tend to see all this as a limiting factor but the truth is that the guitar is a limited instrument anyway. On a keyboard instrument like a piano, you press a button, and sound comes out. As many buttons as you can press simultaneously, that's how many sounds you can make. It's very powerful. If you lift the lid and peek inside, you realize just how much complexity is being shielded from you by the instrument itself. The guitar exposes all this. It's up to you, the player, to discover the most efficient way to play something – and that involves whatever combination of left-hand fingerings and right-hand pick motions your pick model gives you.

The idea that virtuoso players can play “anything” without really thinking about it is a fantasy. It's a question of what your pick model can handle. Once you accept this reality, you can start to make the music you want to make, without worrying that you don't have enough technique to do it.

What about all the guitarists you've interviewed? Is there something that ties them all together, that even they might not realize?

The concept of a pick model is what ties them together. I know this is a bit like saying the concept of gravity is what ties everyone together on planet earth, but it's true. Even non-shredders have movements which are comfortable for them based on their default hand position and which are therefore commonplace in their playing. Many of the clichés of modern rock guitar exist because they fit neatly into one or more common pick models, and not because of anything inherently musi-



The shredcam in action

What have you learned so far about technique?

The basic idea is that the guitar is an inherently inefficient instrument to play given

tion of alternate picking and legato – but almost never sweeping. Something like what shred guys call the *Paul Gilbert Lick*, for example, would be completely alien to Yngwie, and for that reason he never



Rusty Cooley's pickwork up close

cal about the licks. That unison bend that everyone plays on the top two strings of the box position blues scale, that's one of them.

Your website has some interesting words about metronome usage and practicing. How do you view a metronome's effectiveness in improving a guitarist's speed?

You shouldn't expect a metronome to tell you how to maneuver the pick any more than you should expect a speedometer to tell you how to steer. But both are useful tools in telling you how fast you can take the next turn without wiping out, and both can help you gauge your progress in practice situations. There's no question that you should develop cleanliness and efficiency before speed, and in the context of the film, metronome usage takes an interesting twist. Some of the techniques you see under the shredcam are actually difficult to play slowly, because they rely on momentum. So metronome usage can help in simulating what happens at high speed.

Most practice is a memorization exercise – it's not an athletic workout, you're not sup-

“...many important pick motions happen only at high speed...”

posed to “feel the burn” like you do at the gym, that's different. In fact it's dangerous, and can lead to tendonitis if you're not careful. In musical practice, when you're learning new motions, you're teaching the brain a new way of organization, and to do this correctly, the frequency of repetitions, and the exactitude of those repetitions, matters most. You need to repeat something soon enough after the last repetition – a matter of seconds, typically – and you need to repeat it enough times. And you need some way of certifying that you're playing it *exactly* the same way every time. Marking the relevant hand motions to different time divisions on a metronome or drum machine is a good way to do this when the tempo you're practicing at might not be fast enough to supply the necessary momentum.


The fact that many important pick motions happen only at high speed is also why, when it comes to some of the more esoteric ones, the players themselves are only partially aware of them. Every guy I've filmed so far has had some lick he plays where he doesn't exactly know what's going on, and we have to film it to find out. Each time, it's like, hurry, get it quick before I forget what it is. I know from my own playing that if you stop me mid-sequence and ask me what I just played, or what pickstroke I used, I very often cannot tell you. And this is me, the guy with the film, and I'm supposed to be the expert on this stuff.

When can we expect this documentary to hit the streets? What's after that?

I would love to get this done in the next six months, but let's just say 2007, to be conservative. Readers in search of more granular updates on the film's progress can sign up for the mailing list on my site.



Conrad Simon plays for the camera

There's been a fair amount of interest from the community on the instructional side, and a few music schools have even gotten in touch. But I'm wary of milking the concept, so I'll only do an instructional if there's significant interest. I'd love to get past the mechanics and into the creative zone, write some songs and get a band thing going. I've also considered putting together a concert with some of the guys in the film. I am in New York after all. Other than that, I would like to use my vast analytical abilities to explain why Ginsu knives never need sharpening and to quantify just how much quicker of a picker-upper Bounty is. 



Joe Stump warming up

Troy Grady

Cracking the Code
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