

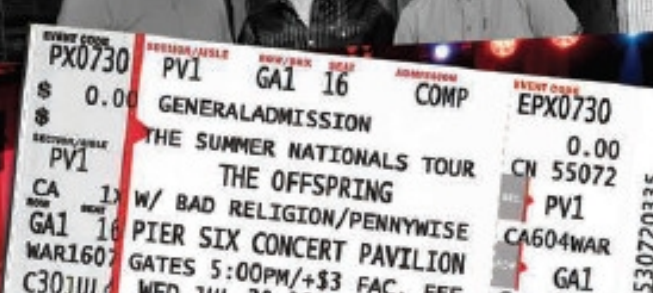
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# ASBMB TODAY

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DEFYING STEREOTYPES:  
**PUNKS WHO PUBLISH**

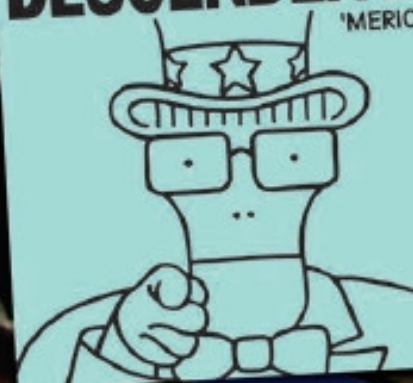


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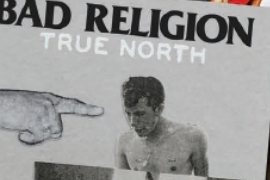
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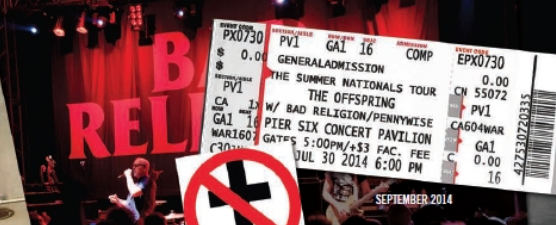






*"Punk rock, at its best, embraces an openness to experience, a reliance on reason and evidence, and a questioning of received wisdom. Science, which is based on the naturalist perspective, is also about questioning and not settling for dogma."*

—GREG GRAFFIN, "ANARCHY EVOLUTION"



# DEFYING STEREOTYPES: PUNKS WHO PUBLISH

By Geoffrey Hunt and Rajendrani Mukhopadhyay

Is there something inherent to punk rock that attracts scientists? At first blush, there would seem to be little overlap between the methodical deliberation of science and the loud aggression of punk. Yet, upon deeper inspection, the similarities start to become apparent. Both are magnets for individuals willing to question convention. Both involve a search for truth. And both rely on creative insights and breakthroughs that spur passion and excitement.

"If I write a song, to me, it's no different than if I make some discovery in the lab," says Milo Aukerman, a plant biochemist working at DuPont who also fronts the punk-rock band Descendents. "Your heart races, and you have this sense of exhilaration."

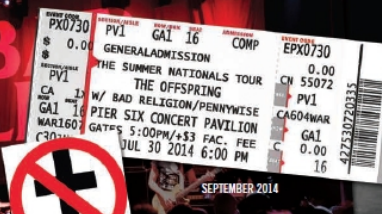
Bad Religion lead singer Greg Graffin, who also is an evolutionary biology lecturer at Cornell University, agrees: "I think there's a tremendous similarity in creativity in science and in music or art."

So what is it about punk that

makes it so amenable to creative people? Punk is "thinking for yourself and doing what you want — and not accepting something as truth just because someone else says it," explains Dexter Holland, the lead singer for the Offspring, who is working on his Ph.D. at the University of Southern California. He says that the "attitude of questioning things" appeals to people who like to think deeply about issues.

The profiles of Aukerman, Holland and Graffin featured in this issue explore how each musician-scientist has used his creative energy to foment successful forays in the lab and on stage. Moreover, what they have to say about the juxtaposition of their scientific and musical careers goes a long way toward erasing the stereotypes of the geeky, introverted, lab coat-clad scientist and the angry, impulsive, Mohawk-sporting punk.

Holland captures it best when he says, "Something that is established doesn't necessarily mean it's true."



# Against the grain

Whether he's fronting the punk-rock band Bad Religion or delivering a lecture on evolution, Greg Graffin is constantly challenging his audiences to question convention

By Geoffrey Hunt and Rajendrani Mukhopadhyay

*"Early man walked away as modern man took control / Their minds weren't all the same, to conquer was his goal / So he built his great empire, and he slaughtered his own kind / Then he died a confused man, killed himself with his own mind / We're only gonna die from our own arrogance."*

— BAD RELIGION

If you're hoping to get a punk-rock performance in his evolutionary biology class, Greg Graffin is quick to dash your hopes. "You can't slam dance when you're listening to me lecture," says the Cornell University lecturer and lead singer for the legendary punk band Bad Religion.

For more than thirty years, Graffin has been studying, researching and teaching evolutionary biology while

simultaneously fronting one of the most influential bands to come out of the hardcore punk scene. Moving back and forth between these two identities, Graffin seeks to inspire his audiences to question orthodoxy and search for truth, whether in a lecture hall or in a music club.

Graffin's dual lifestyles trace back to his high-school days in the late 1970s in California's San Fernando Valley. A Midwestern transplant with a fondness for progressive rock bands like Utopia and King Crimson, Graffin became fascinated by evolution in his biology class. "My parents never raised me with any religion," he says. Evolution "gave me a mythology of where I came from that wasn't based on any stories in the Bible."

His decidedly unpopular interests drew him to punk rock, which at that time was a refuge for all types of outcasts. "These unpredictable

things came together [at] that time in my life," he remembers. Inspired by the poetic lyricism of punk rock peers like The Germs as well as the intellectual freedom he found in the theory of evolution, Graffin teamed up with fellow misfits Jay Bentley, Brett Gurewitz and Jay Ziskrout to form Bad Religion, a punk band that has deliberately defied and offended convention but in a decidedly philosophical way. "My personal discovery of evolution and starting a punk band called Bad Religion — they were nicely harmonious," states Graffin.

One of the first songs Graffin wrote for Bad Religion, titled "We're Only Gonna Die," was directly inspired by the final sentences of Charles Darwin's "Origin of Species." Since then, his interests in music and science have continued to grow in parallel.

"They became the two threads of my life," says Graffin, who first began his instructional duties in 1987 as a graduate teaching assistant for a comparative anatomy course at University of California, Los Angeles, around the same time Bad Religion began to achieve a degree of prominence within the punk-rock community.

As the band's fortunes continued to improve, science got temporarily pushed to the side, with Graffin putting his academic pursuits on hiatus for several years before finally obtaining his Ph.D. in zoology from Cornell in 2003.

In the interim, Bad Religion's grow-

ing popularity resulted in an ever-expanding audience becoming aware of the sophisticated brand of intellectualism that the band was promoting. Graffin says Bad Religion's mantra has been to "liberate the closed-mindedness of punk rock" by rejecting the vacant anarchism and brutal nihilism often associated with the genre. "Part of the beauty of punk tradition is not giving into stereotypes," he says.

Jumping back into academics as a full-time lecturer at UCLA in 2007 was therefore a relatively smooth transition for Graffin. "I think there's a tremendous similarity in creativity in science and in music," he says.

As an instructor, Graffin readily admits that "my reputation precedes me sometimes," leading to potential confusion and disappointment for his students who sign up for his class in hopes of seeing an exhilarating punk-rock performance. "It's nowhere near as exciting," says Graffin. "I'm not a loud, boisterous lecturer."

Yet keeping his audience members on their toes is something Graffin excels at. "I know people look at me as some kind of schizophrenic person who's doing these two things but not focusing on any one," claims Graffin. But as he sees it, the process of constructing and then delivering a lecture on evolutionary biology relies on a

similar approach to songwriting, one that is based primarily on storytelling. "How you approach a subject like extinction or the fossil record, there's really a story to be told there," Graffin says. Similarly, the "songs that I've written are stories in themselves."

The nature of those songs is what sets Graffin and his band apart. Johnny Ramone supposedly once described The Ramones' songs as being "fairly long songs played very, very quickly." In much the same vein, listening to Bad Religion songs is like listening to a lecture given very, very quickly.

The wide-ranging subject matter and extensive vocabulary in Bad Religion lyrics demand concentration, attentiveness and even research, something that Graffin says is consciously part of his songwriting and lecturing processes. "Certainly one of my interests in songwriting is to challenge people to think," he states. "Similar to my goals in lecture."

Graffin uses his songs to inspire his audience to question and analyze the validity of conventional institutions. Topics drawing Graffin's discerning ire include pop culture, religion, government, and even science and technology.

Targeting science may seem to

CONTINUED ON PAGE 36

*"We are One People, and we can all strive for one aim: the peaceful and equitable survival of humanity. To have arrived on this earth as the product of a biological accident, only to depart it through arrogance, would be the ultimate irony."*

— CHARLES DARWIN, ON THE ORIGIN OF SPECIES



From left: Bad Religion "Crossbuster" logo (IMAGE COURTESY OF EPICOR RECORDS); Bad Religion performing live (IMAGE COURTESY OF ROBERT WAGHARRO); Bad Religion's "Suffer," "Against the Grain" and "True North" album covers (IMAGES COURTESY OF EPICOR RECORDS).





IMAGE COURTESY OF MYRUM SANTOS  
Bad Religion band members, from left, Brian Baker, Greg Nelson, Brett Gurewitz, Greg Graffin, Jay Bentley, Brooks Wackerman

CONTINUED FROM PAGE 35

conflict with Graffin's proclamation to be a naturalist, but he sees it as a healthy part of the scientific process. "You can't just have blind faith in something," he cautions. "You need to temper it with evidence." Sticking with his nonconformist approach, Graffin even prefers Charles Darwin's "Voyage of the Beagle" to the canonical "Origin of Species," which he considers "pretty dry reading."

Currently, Graffin co-teaches an introductory course on evolution at Cornell during the fall semester, leaving him plenty of time, as he puts it, to "take care of band business." Graffin acknowledges that his musical forays outstrip his efforts in the classroom, at least for now. "I've performed far more concerts than I have given lectures," he says.

While he looks forward to continuing with both his passions, what

matters to Graffin, ultimately, is the impact his work is having on his audience. For Graffin, "the astonishing phenomena that come from the connection you can make with an audience member is something that I want to tap into and try and find."

Graffin says he strives to improve his own performances. "I've written something like 300 songs in my life," he says. "I think I've gotten better and better as I've done more of them." Likewise, Graffin continues to improve his teaching skills. "My [class] reviews have all been good," he says, but "I'm trying to get more experienced at lecturing."

Here, finally, Graffin notes a small disconnect between his two passions. "I'm not going to clubs every night, because I'm preparing for lecture," he says. Though it may be blasphemy to his punk-rock peers, this is a statement with which most professors can empathize.



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