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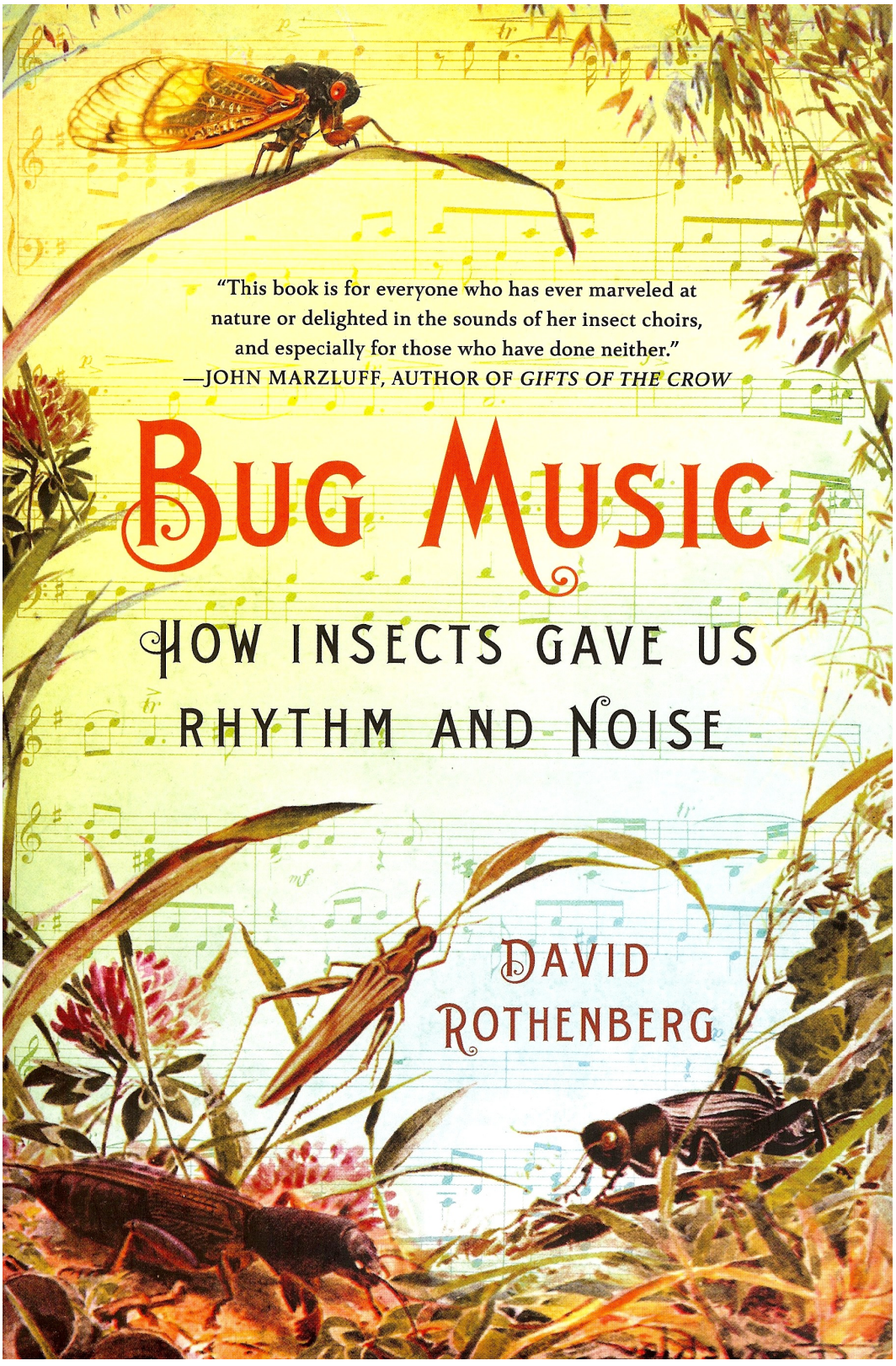
BUG MUSIC – BOOK [EXCERPT], NEW YORK, APRIL 2013



beat and pulse can grab our musical attentions. That's one way to make our own human Bug Music, and it's a strategy I employ extensively to reveal incipient insect musicality on the CD released in tandem with this book. Experimenting with the unevenness characteristic of the insect soundscape allows the human musician to understand, through practice, just what makes a chorus of insects have musical value. Hundreds of independent, irregular rhythms, perhaps listening to each other, perhaps following their own internal drummers, all but part of a giant rhythmic surge where females in the midst must find their eventual mates—a familiar image and a familiar situation.

Yet maybe the musicality is not so simple. Perhaps the texture itself is worth performing through. We've heard enough above about the limitations of natural sound and making strange, bug whine notes to be played on a regular keyboard, like the pioneering but somewhat dated sound in Graeme Revell's *The Insect Musicians*. Today we have heard so much of sampling, little rhythmic fragments that give a new dance piece some instant pure funk from another era, or strange bits of tone that produce instant exotica. No wonder some musicians have been tempted to bend the rules, to find ways of delving deeper into the periodic possibilities of repeating structures.

The musicality of the cicada may be in the precision of its noise, easy to see in the sonogram and possible to hear once we take the time to learn to listen. Is this textural music far-off and extreme? Actually these techniques are used in musics designed first and foremost to be danceable and popular. The German electronic musician Robert Henke, also known as Monolake, is one of the developers of the popular electronic music program Ableton Live, used by DJs and devotees of techno music to make repetitive, danceable beats. But above all else, Henke says that in music he is most interested in complex textures.

Henke's musical sensibility comes out of 1990s Berlin, but the software he inspired, Ableton Live, can do almost anything onstage live. In contrast to most computer software programs, this one is designed to be used by musicians performing onstage, tweaking their laptops on the fly, using the machine to instantaneously make music, rather than just play prerecorded parts. You can play any sound file on your computer, transform it, play with it in the moment, and if you want, synchronize everything automatically so it all follows a steady beat of your choosing. Or, you can turn off all that synchronization and listen to the in-and-out phasing of overlapping irregular loops, like the melee of many insect species all singing through a dark, summer night at once.

The musician-friendly aspect of this software has given rise to a whole new kind of electronic music-making, where the computer becomes a much more friendly device for the live transforming of sound. Although I mostly use this software, and its ability to host and manage all manner of electronic effects to transform the live sound of my clarinets, in these years I'm spending influenced by insect sounds, I continue to learn how to "insectify" all the sounds I've got. Henke has created a tool called Granulator, that excels in constructing bug-like sounds, because it is designed for making textures. Henke is deeply interested in textural sounds, which he likes to overlay on top of signature, regular, mechanical-sounding beats. "I like slowly evolving sounds . . . and I like sharing my ideas," he announces in a video explaining the tool. It plays back a stream of loops of very tiny fragments. "I can randomize the position where the sample starts playing . . . it produces a swarm of possibilities." It builds on the theories of Curtis Roads to divide the sound you start with into microscopic, tiny instances of tone or noise. These can then be recombined in layers of complexity and irregularity. It literally produces a swarm of sound, so no surprise it is perfect for insect emulation and learning from entomological

tunes. Inside Granulator, we are all arthropods, and a tiny blip of our sounds can be made infinitely large.

Who *likes* sounds of this nature? Ambiguous, cloud-like, swirling, and transforming textures are quite appealing, especially if the ground of your music is a regular, addictive machine-like dance beat and you don't want to be tied to the limitations of tonality or harmony. Clouds of sound become music if they just allude to chords and progressions. Rough noises can be softened, pure tones can be roughened, but the results are unpredictable. Some of the techniques programmed into Granulator are simply wrong according to electronic music theory: You can modulate the sound with a wave of pure noise, rather than anything with discipline. "In music," says Henke, "what is totally wrong can sometimes be right." If the sound begs you to listen further to it, explore its enveloping possibilities. I saw Henke perform a concert alone in a black-box room with two hundred and fifty speakers; he was also projecting videos on all six surfaces of the space. He stood behind his computer, smiling when his machine produced a powerful sound blending together with others producing results he did not expect. You had to be there. You are supposed to be there. It will never happen exactly like that way again.

In 2012 Henke released an album as Monolake called *Ghosts*. The record was made entirely in the studio, but comes with liner notes of a story that brings in insects and death from an imaginary rainforest scientific expedition. It's clear Henke knows there is something beautifully entomological about his project. Here's the story he tells about it:

> How I hate those dirty little flies. Impossible to sleep, it is too hot, no wind, just motionless humid air. Five weeks with no change and the gods are laughing at us. Every part of my body hurts, and I cannot think straight. Last Friday

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the solar panel cracked in the middle of the night, I have no idea why and I almost don't care anymore, they will not find anything here anyway. Am I awake now?

They set up tons of equipment and the results so far: The strange noises during the nights got louder and louder. Some kind of monotonous moans that seem to come from nowhere. The scientists run around and pretend that they know what goes on but they have no clue. And they are frightened, I can see it. How they look around, how they stop chatting when they get closer. How they avoid talking with me about their work: Ah yeah, we make some progress, it takes time to initialize the system, we have some preliminary data but things need to be calibrated first . . . The fact that Jonathan died in the cave whilst connecting the data lines does not help much to improve the situation. He was not afraid. I am also not afraid. I am just here to write things down. They tell me what they say is important for the world and I write it down. I had more demanding jobs. Apart from the flies.

I asked Robert whether he ever takes his laptop into the wilderness into situations like the tale he weaves above. "Well," he told me, "once I was barefoot at an outdoor rave in Australia, and I felt a searing pain in my toe that immediately went right up to my head, and I suddenly blacked out. 'Crikey,' said my hosts, 'you must've been bitten by a bull ant, mate.' After that I decided it was safer to stay home in Berlin and imagine such journeys."

Since so much of what comes out of Granulator sounds like it is made by insects, I decided to put some of my own insect sounds into it and see what it feels like to play them in this expanded instrument that is so much more than a basic sampler. I load in a piece of Jean Roché's fabulous recording of some night bugs in Cameroon. Isolating a particularly rhythmically interesting fragment,

I start messing with it, adding some frequency modulation harmonic richness to get a solid, thrumming beat. But wait—do I really want a thrumming beat? It does sound like the slowed-down experience of being inside an insect's head, reminiscent of that remarkable molecular mosquito recording. But what does it have to do with my original source of night-thrumming bugs? At first, it seems hardly anything. But then I listen back, and some sense of the organic richness of the source sound does remain. What is most interesting about the process still is that the musical ways of transforming the sound are so convoluted and unfamiliar.

My whole motivation in making my own music comes from incessant boredom. I have always questioned my abilities as a teacher of music because I'm really not interested in sounding quite like anyone else, and if I'm teaching, I always ask students to create their own unique musical identities, rather than telling them how to do the job, how to make the sounds required from them that someone might ask them to make. I'm always looking for something I've never heard before, a movement of sound that will surprise me but still remain perceptible as something musical. That's why I like music tools that do not explain themselves too readily.

Creating spontaneously, with improvisation, doesn't mean aimless tweaking and buzzing around. The key is to make something meaningful out of all these strange noises and unfamiliar textures. The early pioneers of turning all noises into music, like Luigi Russolo, John Cage, and Edgard Varèse, all dreamed of a world where the full arena of sounds could be available directly to composers, without the difficulty of finding musicians to realize the sounds they were hearing in their imaginations.

Now we have that world where any sound is fair game for musical transformation, but we still have not advanced in a clear sense of aesthetic on how to make sense of it all. Pierre Schaeffer tried

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to explain the meanings of all these sounds in the aforementioned *Treatise on Musical Objects,* but his theorizing did not penetrate the general musical aesthetic. What did happen is that all this sonic experimentation made its way more easily into popular music than classical music, probably because pop music always wants to sound a little bit new without sounding too new; it must be familiar enough for people to like it, catchy enough to hook you in with something only slightly different from all you've ever heard before. That's what critics of the whole thing like Theodor Adorno hated about it, and that's what the rest of us like. It's got the same catchy beat, but a slightly different sound, a new sort of buzz, a bit of a weird texture that still lures us in.

The very machine-like limitations of the electronic beat seemed at first too perfect, then a whole genre of music emerged to love it. The crisp strangeness of digital sound at first seemed cold compared to the warm, body-touching hum of analog electronics, but then a new audience grew to love the glitch and skip and crisp sound of the computer error, where all sounds run together like that digital soundmaking toy when its batteries run low. Like so many great human innovations, what began as a mistake ends up as innovation. We start to like what at first annoys, later lures us in for reasons we don't understand, and then we can't get enough of it.

If people dance to it, even the weirdest of sounds can cross the line into popular music. Robert Henke's music is usually based on a 4/4 machine-made rhythm, because that is the axiom upon which his whole musical journey is based. I start by thinking it is boring, that we tend to restrict ourselves and dance to beats too simple and predictable, but after a while I start to like it, too. Within the greatest constraints we reach the greatest heights, or so Stravinsky is supposed to have said. As long as the crowd is dancing they are happy to take in strange swirling sounds that

cannot be grounded in their experience. We hear things that sound like no instrument anyone could singularly play. What's that you say? It is the munching noise of hundreds of tiny beetles boring their way through distraught evergreen forests? Wow! But the sound does not give its origins away, it only swirls and delights in directions that move us. This is where nature becomes music, where the field of recordings turns into art.

So when does texture need a beat? When it makes the listener too uneasy all on its own. With the pulse behind it, we can accept any manner of strangeness. Insects with their irregular rhythms provide a fair contrast to our love of regular rhythms. The sounds swirl and amass, grains piling upon grains, tiny moments of noise straining for big ideas.

If Monolake seems far afield from the music of bugs, then consider the work of Irene Moon of the Begonia Society, a performance artist who began her work as part of the Athens, Georgia, music scene in the 1990s, playing in between sets of the college town's famous alternative rock bands. An entomologist by day, Moon has created a unique form of performance art which turns Powerpoint, the conventional tool of scientist and marketer alike, into a demented tool for musical philosophizing. She tells tales out of the scientific literature of social insects, mixed with collage and strange song, reading academic texts in a slightly satirical manner to uncover the deep absurdity beneath them to produce an art form totally unique. No musician I have ever heard knows more about entomology through firsthand experience—Moon has worked in entomological laboratories from Florida to Tennessee and has a PhD in the field. She wouldn't have minded that Australian barefoot rave at all. "The sting of the bull ant," she tells me, "is supposed to be good for you." A true love of bugs informs her works, and her live shows are full of wild bug costumes, strange ditties, and the sounds of chewing ants and pulsing crickets. No one