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ART

High-Tech Graffiti: Spray Paint Is So 20th Century

By GEETA DAYAL

NEW YORK CITY may have given birth to modern-day graffiti art, but how is it keeping up with the times?

Graffiti in its traditional form — involving aerosol cans of spray paint and an inviting flat surface — still dominates on the streets. But online things are evolving quickly.

Techniques are debated in forums, and photos of tags, or signatures, are constantly uploaded and swapped on popular photo-sharing Web sites like flickr.com. Sites like Wooster Collective (woostercollective.com) function as digital galleries and as clearinghouses for street art on an international level.

Now New York has its own center for the study of graffiti technology. The nascent Graffiti Research Lab is masterminded by two tech-minded artists, Evan Roth and James Powderly, and run from the Eyebeam gallery in Chelsea, a nonprofit arts and technology center where both men are fellows.

The purpose of the project is to rethink how people make and look at graffiti and street art, not by making the stuff but by developing tools that graffiti writers could potentially use. "I'm not a graffiti writer," Mr. Powderly, 29, said. "I like to say I'm a graffiti engineer."

Using their odd combination of training — Mr. Powderly's background is in aerospace robotics and NASA-financed Mars missions; Mr. Roth's is in coding, architecture and Web design — they develop new methods of self-expression. These include, so far, a panoply of digital projection techniques, L.E.D.-driven light art and specially written computer programs.

"As more and more people learn to program at a younger age, and computers get cheaper, graffiti is eventually going to have these technological elements as a part of it," Mr. Roth said.

Mr. Roth, 28, is a wunderkind in his tiny but thriving world. A valedictorian of the Parsons School of Design's graduate program in design and technology, he developed a thesis project called Graffiti Analysis, which used sophisticated motion-tracking techniques and custom-written code to analyze and record a graffiti writer's hand movement over time. Working with several graffiti writers, Mr. Roth created a series of striking digital projections of graffiti being "written" at night on various New York buildings. No physical mark is left on the building by this ghostly process, but it looks shockingly real while it's happening.

In a related project, Graffiti Taxonomy, Mr. Roth photographed hundreds of graffiti tags on

the Lower East Side, and created detailed typographic charts of various letters of the alphabet based on the visual data he collected.

A flurry of New York-based graduate thesis projects in recent years have explored new forms of technology-oriented graffiti, including John Geraci's Grafedia, a method of creating hyperlinked graffiti on city streets, and Joshua Kinberg's Bikes Against Bush, which uses text messaging and a custom-built dot-matrix printer connected to a bicycle to print giant chalk letters on the sidewalk.

So far the Graffiti Research Lab's activities include the Electro-Graf, a simple method of using magnetic and conductive paint to embed L.E.D. electronics inside a graffiti piece, surrounding the graffiti with a halo of brilliant light; L.E.D. "throwies," tiny and colorful battery-powered lights attached to magnets, designed to be thrown onto urban surfaces; the Night Writer, an inexpensive device of the kind MacGyver might have used that posts foot-tall messages in glowing L.E.D. lights on metallic surfaces in a single fluid motion; and Jesus 2.0, a recent light sculpture collaboration with the street artist Mark Jenkins of Washington. The lab is also working to refine various digital projection ideas that Mr. Roth explored in his Graffiti Analysis project.

The Graffiti Research Lab's values follow the idea-sharing philosophy of the open source movement: Mr. Roth and Mr. Powderly provide free and detailed online documentation on their Web site (graffitiresearchlab.com) so that anyone can follow — and replicate — their work. Mr. Roth also teaches a popular class at Parsons entitled "Geek Graffiti."

Mr. Roth realizes that eager companies may co-opt the lab's work, although he is strongly anticommercial. "Marketing people went crazy over the project," he said of Graffiti Analysis, "because it's cool and it's big and it's projected in public. They look at Graffiti Analysis and see their company's image inserted in there."

The projects are intentionally designed to be cheap, user-friendly and not illegal. "The kind of stuff I've been doing is intentionally geared to a wider audience," Mr. Roth said. "One of the goals with the Graffiti Research Lab is to try to remove some of the negative connotations that graffiti has. It's an easier pitch to sell to Mom and Dad than getting arrested every night."

A former collaborator on Graffiti Analysis, the graffiti writer Avone, was recently arrested while tagging in Williamsburg, Brooklyn. "These people are taking a lot more risks than we are," Mr. Roth said.

Mr. Roth's interest in studying graffiti and street art blossomed after he moved to New York from Los Angeles. A turning point, he said, was seeing the classic documentary "Style Wars," which immortalized the 1980's face-off between the Metropolitan Transportation Authority and graffiti writers. "They were hacking the subway to transport these huge art pieces from borough to borough," Mr. Roth said of the artists. "That movie makes graffiti feel like such a movement."

Studying New York's graffiti soon became his preoccupation. "I did get totally obsessed with it," he said, "to the point where I couldn't walk down the street and have conversations with people without having my gaze sidetracked by a tag. I wouldn't leave the house without a camera."

Graffiti and other forms of street art are gaining recognition in major New York museums. The Museum of Modern Art recently acquired three oversize woodcuts and linoleum cuts by the current street art sensation Swoon; the pieces are being shown as part of the exhibition "Since 2000: Printmaking Now," now on view. On Friday the [Brooklyn Museum](#) is to open "Graffiti," a major exhibition of large-scale graffiti paintings that includes works by 80's trailblazers like Lady Pink (Sandra Fabara) and NOC 167 (Melvin Samuels Jr.).

The M.T.A. recently proposed a \$25 million plan to combat acid-based window etchings, also called scratchiti, on subway cars. The agency is also considering the use of surveillance cameras to track down graffiti writers.

"There's a strong crackdown, and gentrification changes the streets," said Marc Schiller, the founder of Wooster Collective. "But it's a great time to be creative in general. Creativity is so accessible now. On the street and off, on the Web, the barriers to being creative have never been lower."

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