Paul D. Miller -- DJ Spooky aka That Subliminal Kid -- bridges diverse genres and subjects, creating something new.

Editor's note: This is the third in a weekly series on characteristics of creativity. Part 1 looks at Brian Wilson and passion; part 2 is on Jennifer Egan and the success of failure. Next Saturday's piece will focus on roboticist Heather Knight, intelligence and improvisation.

(CNN) -- As a living space, Paul D. Miller's Lower Manhattan studio apartment is fairly sparse: futon on the floor, tiny kitchen, couch and a couple chairs, all crammed into a single elongated room overlooking the street.

As a repository of information, however, it's something else again. Along the walls there are shelves and shelves of CDs and DVDs and books, a laptop, audiovisual equipment. Media dominates every free space, whether old-school rap CDs or 1970s foreign films or books about art and philosophy. It is the living space as laboratory, the lair of a multimedia scientist, a place for cutting and shaping and retooling bits and bytes and ideas in an effort to bring forth something new.

Miller goes by the nom de technologie DJ Spooky, aka That Subliminal Kid -- the latter a moniker borrowed from a William S. Burroughs character. When he isn't in his apartment, he's traveling -- performing in far-flung locales such as Beijing or Ottawa or Weimar (and, sometimes, the East Village or Brooklyn). On a recent autumn evening, he was across town doing a "beta-test party" in The Stone, a bare-bones room just off Houston Street on Manhattan's Lower East Side.

Armed with a pair of iPads and a mixing board, accompanied by a cellist and a fellow composer, Miller was offering an informal class in how to merge art and technology. He ran John Coltrane's "Naima" through his own iPad DJ app, adding echo, bells and percussion until the composition took on a tone of dreaminess and flight; he displayed images from "The Book of Ice," his recent chronicle of a trip to Antarctica and the ideas it inspired; and sampled reggae, rap and Led Zeppelin's "Good Times, Bad Times." What emerged was a musical conversation between eras and genres.

Technology was not always Miller's friend on this informal evening. There sometimes didn't seem to be enough connections between the iPads, mixer and A/V equipment, leaving a projector screen displaying "no signal" warnings while Miller groped with the machines. Other times the electronics needed to be recalibrated so as to prevent feedback or, worse, silence.

But when it worked -- when he played the iPad like Paganini, or when the cello blended with a Moog synthesizer app just so -- the result was otherworldly, awakening not just connections between sounds, but connections in the minds of the audience members.

Which, Miller says, is precisely the point.

"I'm seeing a lot of selective amnesia," Miller says. "And it's crucial right now to think of the long term."

"The beautiful thing about our era is we live in the Information Age. That is absolutely a crucial component if you think about culture as information," he says. "The good news ... is that everyone has access. But at the same time it doesn't mean they're actually going to access and use it."

In such an instant epoch, he points out, it's easy to forget about connections to other arts, other disciplines, other histories.

"I'm seeing a lot of selective amnesia, where people are unaware of basic currents of history and how culture evolves, because they're caught up in the moment."

"That can be an issue if you're thinking about how people think about the long term -- and it's crucial right now to think of the long term."

'I really don't think of music, film and art as separate'

Establishing those links -- and building on them -- is an inescapable part of the creative process. Even people who seem to come up with new ideas out of thin air are building on the discoveries and advances of others -- whether they're aware of the influences or not. Isaac Newton probably put it best in his much-repeated quotation, from a 1676 letter to fellow scientist Robert Hooke: "If I have seen farther it is by standing on the shoulders of giants." (Newton also quoted from giants: similar expressions of thought have been traced back at least as far as the 12th-century philosopher Bernard of Chartres, reaching back to the story of the blind, mythological Greek figure Orion carrying his servant on his shoulders.)

"Creativity isn't magic," says Kirby Ferguson, a New York-based filmmaker who's produced a series of videos called "Everything is a Remix."

"It starts out simply enough -- you're copying and then you're fiddling with whatever you've copied, and then you're merging whatever you copied with something else."

"It's only over time, with years of practice, that you start to get results that are breakthrough."

Miller, 41, grew up in Washington. His father was the dean of Howard University Law School and his mother owned a popular boutique, Toast and Strawberries. He remembers being surrounded by a rich record collection, one that included The Police and Prince as well as jazz, hip-hop and reggae. (He shunned that classic mix of yesterday and today, commercial radio: "I couldn't stand normal radio," he says.)

He began his career as a writer and artist -- he got his degrees from Bowdoin College in Maine in both photography and French literature -- and primarily spent the '90s exploring visual styles such as collage.

Eventually, his focus turned to music -- but it wasn't just about the lyrics and melody.

"Music wasn't music -- it was information," he says. "It was about sampling, about a kind of tool to pull information into different perspectives."

In recent years, his focus has shifted to environmental issues, with "environment" defined broadly -- including the way we live and interact with the planet and each other. His most recent work, "The Book of Ice" -- along with his multimedia work "Terra Nova" (which draws on composer Ralph Vaughan Williams' "Sinfonia Antarctica") and...
his graphic art project "Manifesto for a People's Republic of Antarctica" -- observes that both the word and concept of "ice" have powerful overtones: water, hardness, cold, riffs on black culture (Ice-T, Ice Cube) -- even age.

The ice in Earth's polar regions can be drilled to determine changes in the planet's climate over millennia -- and the graphical patterns found in those ice samples can be used as "data landscapes" that Miller expresses in other forms. He traveled to the lonely continent to research the works, recording sounds, taking pictures and seeking out connections between it all.

"You have to think of Antarctica as a terrain of possibility," he says in an interview included in "The Book of Ice." We see what we want to see: "It's a surface we project onto, but it doesn't reflect back." The cold, icy mirror of the continent lends itself to a host of possibilities, including the posters from "Manifesto," which owe a design debt to the commanding, brusque propaganda art of 1930s Russia.

"I really don't think of music, film and art as separate," he says. "There's a seamless connection -- it's the creative mind at work."

The movement of ideas

What Miller is doing is nothing new. Sometimes the idea can be conceptual, as with novelist John Dos Passos' use of newsreels, journalism and stream-of-consciousness to capture the hurly-burly of early-20th century America for his "U.S.A." trilogy, published in the 1930s. Other times -- particularly in recent years -- the cycle is commercial: the sampling of a familiar riff in hip-hop songs, the churn of cultural references in the TV show "Community," the making of bestselling books into movies into musicals and back around again, all a way of squeezing golden eggs out of the same goose. (Consider, for example, John Waters' "Hairspray": Originally a movie focusing on the fans of a TV music dance show, it then became a Broadway musical, which was in turn brought back to the screen.)

Miller himself talks about such forbears as James Joyce, whose layered, punning "Ulysses" and "Finnegans Wake" densely pack references to countless other works within their pages; Jack Kerouac, who wrote "On the Road" as a single paragraph on a taped-together 120-foot scroll, evoking the open highway he traveled; and Public Enemy's Chuck D, who once called rap "black America's CNN."

The 2007 film "Hairspray" was based on a 2002 Broadway musical, which in turn was based on a 1988 film.

Good ideas don't stay in their place, either. In the 1970s and '80s, the British TV writer and personality James Burke created the shows "Connections" and "The Day the Universe Changed," showing how one person's innovation or fresh take percolated through the ages, with math influencing the visual arts, the visual arts affecting music, music touching social movements, social movements providing fodder for science, up and down and around and around.

Connections don't always follow one another in orderly fashion. In his 2010 book, "Where Good Ideas Come From," author Steven Johnson shows that some concepts are fostered by tightly webbed environments that allow for speedy exchange, alteration and expansion of thought. Think of a densely packed city, or even the Internet.

Fareed Zakaria GPS: Steven Johnson on the history of innovation

Other times it's a critical mass of developments coming together, often by contemporaries working independently, that makes innovation seem inevitable: Among Johnson's examples are the discovery of sunspots (by four scientists in different countries in 1611) and oxygen (by Joseph Priestley and Carl Wilhelm Scheele in the 1770s).

And then there are ideas that take years, even decades, to come to fruition, built by painstaking accumulation of research and study, a process Johnson calls "the slow hunch." It's more often the norm, not the exception. "The Vaseline-daubed lens of hindsight tends to blur slow hunches into eureka moments," he writes. Charles Darwin, he points out, may have painted his realization about evolution as an epiphany, but the idea had been brewing for months in his notebook.

"It is not merely that Darwin possesses the puzzle pieces but fails to put them together in the right configuration," Johnson writes. Even after a key insight, the great naturalist took another several weeks before he finally wrote down the rules of natural selection in November 1838 -- which was, it should be noted, 21 years before he published "On the Origin of Species" in 1859. (And -- in another example of contemporaries arriving at the same point -- Alfred Russel Wallace was conceiving of similar ideas at the same time. Today, the Linnean Society, an organization that promotes the study of the biological sciences, honors advances with the Darwin-Wallace Medal.)

'There's no end to it'

Filmmaker Ferguson, who is in postproduction on his fourth "Everything Is a Remix" (the first three parts focused on music, movies and the elements of creativity; part four, due out soon, will concern legal and ownership issues), finds that nuggets that trace influences backwards and forwards are a continuing source of inspiration.

"There's no end to it," he says.

"I'm an artist, but art can teach and music can educate," Miller says.

And by being able to show such cross-pollination through his own remixing -- clever editing, informative graphics (Ferguson trained as a graphic designer) and dissemination on the Web -- he hopes he's enlightened a few viewers who believe the world began with the invention of the personal computer.

"Seeing the examples make it hit home for people," he says. Take "Star Wars": Many people may realize George Lucas was inspired by Akira Kurosawa's films, World War II dogfight footage and Joseph Campbell's "The Hero with a Thousand Faces." But actually seeing clips from Lucas' film mixed in with 1954's "The Bridges at Toko-Ri" and Kurosawa's "Hidden Fortress" bring Ferguson's point home in a way that a textbook never could.

For Miller, it's all part of a package. He's already put D.W. Griffith's 1915 classic "The Birth of a Nation" through the remixing wringer, adding a new, pointed film score -- among other concepts -- and retitling it "Rebirth of a Nation." Griffith's film, he observes, still influences culture today, its then-innovative cuts and composition now mainstays of cinematic language, its sympathetic view of the Confederacy (and coarse portrayals of African-Americans) reverberating in our politics.

With everything he does, he recombines information so that he can make new points, get across new ideas. He hopes his work entertains -- and instructs.

"I'm an artist, but art can teach and music can educate. It's not like one is separate from the other.

"There's a connection to everything," he says. "The world is my archive."