BROWN: Vacation proves great art often defies rigour of analysis

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Summertime, and the living is easy at least there are no teaching duties for me at university.

I take the time to travel a bit. As a mathematician, I am always not far from my office, which resides between my two ears.

Most often, I don't need a computer or a desk to work — just a pencil and paper, if that.

It is a blessing and curse. But I have learned to accept the fact that I see mathematics in most things, and let my perspective enhanc rather than detract from my experiences.

About two weeks ago, my wife and I took a couple of days off work and made an impromptu trip to New York City. It was meant to be a busy time, filled with as much fun as possible.

New York is a great city, filled with all sorts of art and culture, so that is what we set out to experience.

The first night we took in a Broadway production of Porgy and Bess, the great George Gershwin musical. And here I could sit back and enjoy the patterns that circled around me.

Patterns? Indeed, you can't appreciate art without appreciating patterns.

Mathematics is often called the "science of patterns" because it has the language and tools to recognize and study them. And all of us, whether we acknowledge it or not, and whether we consider ourselves mathematical or not, love patterns.

Art is concerned with the interplay between expectations (as set up by patterns) and surprise. We are relieved when we calculate rig and foresee the future, and are pleasantly amazed when what we predict is upended. Two, four, six, eight, goose. But all is for naugl if the audience can't extrapolate the patterns to form expectations.

Broadway shows are often formulaic, but what tickled me about Porgy and Bess was the way the happy ending I was predicting faile to materialize, in much the same way that the music was full of interesting surprises.

I found more of the same at a concert by Boz Scaggs, the Doobie Brothers' Michael McDonald and Steely Dan's Donald Fagen the next night.

The music, a mix of jazz and rock, was chock full of exquisite melodic and harmonic patterns. And much of the music on both nights was based on the blues, a unique sequence of chords that defies the ages in terms of its attraction.

I wrote a research article a few years ago on the mathematical basis for why the blues are the way they are, with the kind of precisio that is "built to thrill."

And a trip to the Guggenheim Museum brought the same thoughts to mind. The artwork reflected many directions, but many of the best pieces, from my point of view, were the ones that drew me in with visual patterns that ended up surprising and challenging me.

Finally, of course, I had to pay homage to John Lennon by visiting the Dakota building and the Imagine section of Central Park.

A week or so later, I saw an eternally young Paul McCartney singing Hey Jude at the Olympics. And, once again, I was drawn to thinking of mathematics.

I have analyzed songs such as Lennon's Strawberry Fields Forever or McCartney's Hey Jude, and as much as I find that is brilliantly

mathematical in the music, there is yet so much more that defies analysis. And that is, in the end, what great art is about, whether it a painting, a song or a mathematical proof.

Jason I. Brown is a professor of mathematics at Dalhousie University in Halifax. His research that used mathematics to uncover how the Beatles played the opening chord of A Hard Day's Night has garnered worldwide attention. He is also the author of Our Days Are Numbered: How Mathematics Orders Our Lives.

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