



# PATIENCE, FORTITUDE REMAIN LIONS

NEW YORK — The artist Edward Lanning is hardly a household name, but to generations of visitors to the New York Public Library's 42nd Street and Fifth Avenue building, his work is as familiar as "Patience" and "Fortitude," the two lions that stand guard outside Manhattan's great repository of knowledge.

Each day, thousands of readers pass Lanning's work on their way through the McGraw Rotunda to the library's reading rooms. The Rotunda is home to Lanning's most famous work: five painted panels that tell "The Story of the Recorded Word." Nestled between 17-foot high Corinthian walnut pilasters, and beneath a barrel-vaulted ceiling mural — also by Lanning, and which depicts the Greek hero Prometheus bringing the flame of knowledge to earth from the heavens, "The Story of the Recorded Word" was commissioned in 1938 by architect, library trustee, and author of *The Iconography of Manhattan Island*, Isaac Newton Phelps Stokes, and completed in 1942. Employed as an artist by the Works Progress Administration, Lanning had already completed a number of large-scale public commissions, including a series of murals at Ellis Island, before he was invited to create this cycle of paintings for the NYPL. Aged just 32 at the time, and an acquaintance of famed left-wing muralist Diego Rivera, Lanning's commission reportedly raised eyebrows in some quarters. Yet his quintet of Biblical, historical, and futurological paintings is today one of the library's best-known, if idiosyncratic, attractions.

Proceeding chronologically, the first panel, situated on the west wall, shows Moses descending from Mount Sinai bearing the stone tablets on which God has engraved his Ten Commandments. Lanning's Moses is muscular and determined, a rock of a man battling tempests and torment — a depiction in debt both to the drama of the Italian baroque, yet also prefiguring Hollywood's spectacular Biblical epics of the 1950s. Lanning's Moses is filled with righteous ire; he paints him smashing the tablets in anger at seeing his people worship the golden calf. Here, the recorded word is a symbol of divine power, but also hints at its own future history; according to the story, God later ordered Moses back up the mountain to receive a fresh set of tablets — The Ten Commandments, 2nd edition.

Next to Moses is the second panel, which shows a medieval monk copying an illuminated manuscript. Despite the ostensibly scholarly subject matter, this is no less dramatic than Moses's fury at the Israelites; through the monastery windows we can see the brutal pillaging of a local village — a reminder that these monks guarded the teachings of antiquity through dark and violent times. (It is a little known fact that the manuscript depicted here at the scribe's feet is a copy of the fourteenth-century *Tieckhill Psalter*.)

Directly opposite, on the east wall, we see a hopeful-looking Johannes Gutenberg presenting the first proof of his Bible to Adolph of Nassau, the Elector of Mainz. Gutenberg is credited with having invented the printing press and movable type around the middle of the fifteenth century — the technological leap forward that enabled the rapid distribution of information — and a copy of his famous Bible is one of the NYPL's most famous treasures.

From Gutenberg we shoot forward to the late nineteenth century and Ottmar Mergenthaler's Linotype machine, which revolutionized printing, especially in the newspaper industry. In a style that could almost be described as a capitalist version of Socialist Realist painting, Lanning depicts Mergenthaler at the keyboard of his Linotype, his brooding gaze turned towards the Brooklyn Bridge in the distance, and a newsboy shouting the latest headlines. In the foreground is Whitelaw Reid, politician and editor of *The New York Tribune*, examining a page printed by the new machine. Reid supported Mergenthaler's development of his invention, and it is said, christened it the "Linotype."

In the final painting — a freestanding panel affixed to a mahogany- and walnut-veneered trolley that visitors can move around the library — Lanning gazes into the future; or rather, what appears to be our present. Unlike its four siblings, the fifth panel is oriented landscape, rather than portrait (partly to allow the painting to be moved easily from room to room), and Lanning uses the wide-screen format to paint a scene that looks as if it were lifted straight from Fritz Lang's *Metropolis* or a Le Corbusier drawing. In the center of the image, we see a young man working at a typewriter. By his side are a notebook and camera, items that suggest he is a reporter. From his typewriter extends a meter of sleek tubes that shoot from his keyboard into the middle-distance of the left-hand side of the painting. Above the pipes, ranged across hillsides behind which a rosy-fingered dawn is breaking, are a series of buildings — not too dissimilar in style to the Beaux-Arts NYPL itself. Each carries a different national flag: U.S.A., Britain, France. Radio masts crown these buildings, from which — perhaps in homage to RKO's famous logo — concentric circles emanate. In the lower left quadrant of the panel, we see teams of white-coated technicians attending vast banks of machines housed in grand interiors reminiscent of the McGraw Rotunda.

To the right of the young writer, in the immediate foreground, is a woman looking into what appears to be a human make-up compact, but is engraved on the outside with the words "Daily News." Next to her, a group of school children are seen carrying leather satchels that are one or two in the group also appear to be using as exercise books. Behind them, factory workers in a canteen read from a giant screen while they eat. But all is not necessarily well in Lanning's future of the recorded word: older, white-bearded men guard vast stacks of books from a marauding crowd, as printing presses are fed into smelting furnaces. The sky behind them has turned from beautiful dawn into an abstract, Kandinsky-esque spectrum of color.

Many, including Lanning's patrons, dismissed the fifth panel as left-wing subversion or, contemptuously, as "modern art." Despite the efforts of a small group of Lanning supporters, who, each year on Lanning's birthday, wheel the panel from the empty corridor to which it has been banished back into the Ro-

tunda for all to see, the final installment in his "Story of the Recorded Word" remains neglected. Yet to our contemporary eyes the fifth panel now seems urgent and vibrant, perhaps vindicating Lanning's assertion, in a *Life* magazine article from September 1940, that, "My murals don't condescend to people. What I am trying to do is paint pictures that are sensuous, alive, and real." (DF) ■

## 20 QUESTIONS INVERTED

NEW YORK — Two years ago, on March 25, while on the way to a barbecue in Topenaga Canyon, I foresaw my own death. I had been visiting Los Angeles for a week. Naturally, I was spending a great deal of time in cars. As my friend and I drove up the two-lane Topenaga Canyon Road in his converted diesel that afternoon, we approached a sharp curve, with a grassy embankment to our right and a drop-off of several hundred feet to our left. Out of the corner of my left eye, I noticed them: that the white sedan speeding downhill in the oncoming lane was moving too quickly to hold the curve. I registered instantly that the vehicle was, in fact, out of control. I registered instantly that, given our current trajectory and the white sedan's current trajectory, a head-on collision was, in fact, imminent. My friend, the driver, saw the same future and automatically reached for me with his right hand to brace against the impact. Then, something strange happened. Time slowed down. To a crawl. Almost a halt. During the second in which I registered what was about to occur, I had the very clear and emotionally unremarkable realization that this would be the end of my life. I surveyed the scene. Magic hour. The sun was setting. I had no further thoughts, no analysis, no plan, but suddenly I could see every color, every distant tree leaf in ultravivid detail. Not that anything seemed sudden. I watched as the front end of my friend's car passed ever so slowly through the back end of the white sedan. With my view of the white car partially obstructed by the hood of my friend's car, I couldn't see the other car's rear bumper until it emerged again on my right, following its front end directly into the embankment. We had cleared the sedan by a hair. As we skidded to a stop on the gravel shoulder, time sped up again. We dashed from our car to the embankment where four teenage girls in bikini tops and shorts emerged from the wrecked sedan, dazed, but unscathed. Minutes later, as the shock settled, my friend and I returned to the diesel. We continued on our drive. He assured me repeatedly that "It wasn't our time," but for the next few hours, I couldn't shake the thought that I might be dead. My sense of sight remained unusually acute for at least two weeks following the episode. Back in New York, I was sometimes overwhelmed, emotionally, by my awareness of too much color, too much detail. I couldn't concentrate with my eyes open.

Over the past two years, I've thought only rarely about this experience of time made elastic, then stretched and suspended. I set it aside as a curious anomaly, as unlikely to recur, as to be adequately addressed by science, or even believed by any audience with whom I hadn't already established considerable credibility. Then, two weeks ago, while Murch, amateur astronomer, polymath, sage, pioneering sound and image editor of cinematic benchmarks including *The Conversation* and *Apocalypse Now*, and author of a book about blinking — explained the exact phenomenon I had experienced during an interview he gave in New York while in town to present some of his astronomical findings to a small audience at NYU.

Murch described the perception of slow motion that occurs during extremely heightened emotional states as an effect of a physiological change to one's normal flicker fusion rate, a psychophysical concept that can be compared to a frame-rate in film. At a projection speed of 24 frames per second, most people stop noticing individual images flickering quickly on screen, and perceive smooth motion instead. At fewer frames per second, the film appears to jerk. The film's flicker rate has dropped below the frequency of the typical viewer's flicker fusion threshold. Every species has a specific flicker fusion rate, which differs slightly among individuals. For humans, the rate is approximately 50 milliseconds. This is the frequency at which most people would perceive a strobe light that is flickering on and off to be glowing steadily. In a life-threatening situation, the brain's flicker fusion threshold rises considerably. The eye can perceive sharp detail that would otherwise appear as a blur. Imagine looking at a rapidly rotating propeller and distinguishing individual blades, rather than a single, solid disc of color. The human eye and brain are capable of this degree of visual acuity, but the mental resources required to sustain it are tremendous, and are therefore reserved only for emergency use.

Murch learned much of what he knows about perception in the course of his work as a film editor. He occupies the territory of master auteurs like Stanley Kubrick, and his innovations in the mechanics and technique of their craft paralleled the ambition and quality of their productions. He began his career as a sound designer, working on the first feature made by his friends Francis Ford Coppola and George Lucas, who'd been his classmates at USC film school. While creating sound for Lucas's 1971 science fiction film *THX 1138*, which he co-wrote, Murch discovered that people also have a threshold for distinguishing overlapping sounds. He found that the footsteps of two people in a frame must be synchronized perfectly to the frame, but once there are three people, synchronization is irrelevant. The brain does not map with precision three distinct, simultaneous sounds of a similar type. However, different parts of the brain process different types of sound, so additional layers of sound can be distinguished if certain of the sounds are of a categorically different type. After further work as an editor — craft being roughly analogous to laboratory experimentation and empirical observation in Murch's analytical methodology — he eventually arrived at a theory of density and clarity in aural perception which describes sound as a spectrum from encoded (speech) to embodied (music) types, and provides a framework for understanding how layered sound operates (or fails to operate effectively) in film as a function of the left-right duality of the brain, ultimately concluding that "simultaneous density and

clarity can only be achieved by a kind of subterfuge."

Murch is forthcoming about his process for creating subterfuge. In fact, Murch is generally forthcoming in his knowledge as well as his curiosity, both of which he seems to possess in inordinate supply, directly proportional to his generosity.

When Murch, at a dinner during his visit to New York at the entire table of guests remained rapt for several hours after the plates were cleared, engrossed by a conversation in which Murch stiched filmmaking to astronomy to studies of human perception to the congruence of the belief systems of Hopi Indians, ancient Greeks and contemporary physicists. At one point, Murch described the inherently complex, collaborative process of filmmaking as a game of Inverse Twenty Questions, a variation on Exquisite Corpse. In the standard version of Twenty Questions, a designated "guesser" leaves the room while the remaining players select an object together. The returning guesser's objective is to identify the chosen object through the course of asking up to twenty questions of the other players. In a game of Inverse Twenty Questions, the players do not come out while the guesser is out of the room. Instead, as the guesser asks each question, all the players continually modify their assumption about what the object might be. Ideally, the entire group of players arrives at an object together, without having initially agreed upon a winning answer. Sometimes, the game simply falls apart.

*The Conversation* was the first feature for which Murch was editor of both sound and image. The 1974 film, directed by Coppola, stars Gene Hackman as an eccentric audio surveillance expert who becomes increasingly entangled in a knot of suspicion and deception surrounding an object of surveillance — a conversation — which he cannot unambiguously interpret. While editing *The Conversation* (which Murch did with very little input from Coppola, who typically refrains from the editing process when working with Murch), he first became aware of the significance of a blink marking the mental transition between discrete thoughts. The basic story is now legendary among film editors. As Murch told it, two weeks ago, he had been up all night, cutting close-ups of Hackman, and had noticed that more often than not the point at which he chose to cut — the point that felt right for the cut — happened to be on a blink. He headed out of the editing room to pick up breakfast in the Bowery district of San Francisco. On his way, he passed by a Christian Science reading room, which happened to have a copy of *The Christian Science Reader* featuring an interview with John Huston, who had just finished making *Fat City*. In the interview, when the subject of editing comes up, Huston directs the interviewer to look back and forth from Huston to a lamp in the room. Huston then points out to the interviewer that he blinked each time he transitioned from one to the other. With each change of view, there is a blink, there is a cut. The blink is a physical punctuation in the thought process, which has its analogue with a cut in a film. Without paying conscious attention to blinks, people nevertheless develop an intuitive understanding of their rhythm as related to the rhythm of thought, so that when one's blinks are out of sync with one's speech or actions, others will feel distrustful. When someone blinks at the wrong moment, especially an actor in a close-up shot, the person will likely be perceived as untruthful or deceptive. Similarly, when an editor's cuts are off, an overall dissonance is felt in a film. There are expected rhythms in the cognitive order.

In his field, Murch has consistently redrafted the horizon of what is technically possible, often by first patiently illuminating patterns in the way things have already been done. Recently, he has been bringing his ingenuity to bear on an amateur interest in astronomy, which he describes as "a rabbit hole he fell down" in between editing films. On October 31, in an upstairs cinema at the NYU Cantor Film Center, Murch appeared at the invitation of Lawrence Weschler to present his current project, an attempt to devise a reliable formula to describe and predict the patterned arrangement of large celestial bodies. To this end, he has been revisiting the long-discredited Bode's Law, which he hopes to rescue from disrepute, pending a few necessary adjustments. Bode's Law is a mathematical formula derived by the German astronomer Johann Titius in 1766, subsequently popularized by the younger, more charismatic Johann Bode in 1786, and later discredited by the extraordinarily credible Johann Gauss, one of the most prolific and influential mathematicians of recent centuries. Bode's Law caught Murch's attention exactly one year ago, when, at the Mauna Kea Observatory in Hawaii, planets were observed for the first time in orbit around HR 8799, a distant star 129 light years away from earth. The position of these planets — scantily named b, c, and d — relative to one another and to their sun corresponds almost exactly to the positions of Earth, Mars, and Ceres, relative to our sun, and also to the positions of Jupiter's moons — Europa, Ganymede, and Callisto — relative to Jupiter, despite their widely incongruous masses. Bode's Law describes all of these and hundreds of other observed orbits accurately. Murch realized that Exoplanetary systems, which Bode could not have observed, are organized in Bodean intervals.

Murch's presentation of his findings began modestly, with a definition of *apophenia*, "the tendency of human beings to seek patterns where none exist." Then proceeded systematically through a description of the phenomenon Bode described mathematically, to Gauss's criticisms of Bode's formula, then to the Murch modifications of Bode's Law, which address Gauss's specific objections. Murch arrives at a simplified formula that happens not only to accurately describe the spatial arrangement of large celestial bodies (those greater than 40km in diameter) in a regular, predictable pattern, but also corresponds to just intonation — in other words, Murch has found that the distances between large masses orbiting around the same object in space correspond, proportionately, to the distances between notes in a tonal series. Just intonation also accords with the wave pattern of a ripple, which Murch refers to as the "vibrations of nature." If Murch is correct, space is harmonic. When asked what the implications of a revival of Bode's Law would be, Murch replied simply, "Known laws do not explain why this phenomenon should occur. That's a big deal. Some new explanation will be required." (AK) ■

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