

1 COPYRIGHT AND CREATIVITY

Policy decisions in pursuit of creativity shape many if not most of the environments in which we live. Businesses design workplaces to unlock innovative thought. Urban planners set city priorities in an effort to attract “the creative class.” Teachers adjust their pedagogy to encourage creative thinking in students. Intellectual property law is no exception. To earn a patent, inventors must exercise more than “ordinary creativity.”¹ Creativity receives the greatest amount of legal attention in copyright law, with it being settled doctrine that that area of law’s “fundamental objective” is “to foster creativity.”²

At the same time, the creative process has long represented a mystery – its importance recognized but its secrets closely held. Artists themselves offer little insight, referring to the act of creation as “magic” or “subconscious.” Frustrated judges complain of their inability to understand the process or recognize truly creative works for what they are.

Creativity’s unknowable nature is beginning to change, however. Inquiries into the biology of creative thought, which now represent a large share of all psychological studies of creativity, bring new insights into the creative process – insights that clash with the uninformed guesses of a century’s worth of copyright jurisprudence. What the research shows is that creative activity has certain hallmarks – and that these hallmarks are disregarded in contemporary copyright law. There is plenty of blame to go around for the law’s misguided approach to evaluating creativity, but the main malefactor is one of the most renowned judges of all time: Oliver Wendell Holmes.

A “SUBSTANTIVELY IMPOTENT” TEST

There is a creativity paradox at the heart of American copyright law. On the one hand, statements as to the centrality of creativity to copyright protection are omnipresent. According to the US Supreme Court, the “ultimate aim” of copyright law is “to stimulate artistic creativity for the general public good.”³ Hearing this message, lower courts repeatedly describe the promotion of creativity as copyright law’s guiding purpose. To this end, the law requires every copyrightable work to be “original,” and every work must demonstrate creativity in order to be considered original.⁴

On the other hand, for all its supposed importance, copyright’s creativity requirement is a paper tiger. Ill-defined, the requirement remains inchoate, anchored only by words and phrases indicating just how skimpy this requirement is. In announcing a formal creativity requirement in 1991, the Supreme Court used terms like “minimal,” “low,” “slight,” and “modicum.”⁵ According to another court, “just a scintilla of creativity” will do.⁶ Scholars describe the creativity requirement as “substantively impotent,” “uncertain and confused,” and playing “little or no useful role in copyright analysis.”⁷

In fact, courts do their best to avoid any scrutiny of the requirement, hastily determining that the bare minimum of needed imagination exists and then moving on to other legal issues. Rather than putting any teeth into the requirement, judges award copyright protection to works that are entirely conventional as well as ones that are completely accidental. For example, management training materials so bland that they were described as “aggressively vapid,” so filled with jargon and “platitudinal business speak” that a judge thought they could be grist for satirical send-ups of workplace culture like the sitcom *The Office* and the film *Office Space*, and so “obvious” that they offered nothing more than “common sense” were still considered sufficiently creative.⁸ It is hard to argue that the requirement is furthering copyright law’s ultimate goal of spurring artistic creativity when its application in actual cases represents the kind of test that everyone passes.

Courts go to great lengths to avoid denying copyright protection to a work for lack of creativity. Less-than-inspired song lyrics, like repetition of the phrase “uh oh,” have been considered sufficiently creative.⁹

Even when elements of a work are identical to another work, judges take pains to downplay glaring similarities that augur against creativity. When pop diva Mariah Carey was accused of infringement, Carey maintained the other artist's song was insufficiently creative to enjoy copyright protection. In support, she noted that a seven-note sequence in the first measure of the song was identical to the first measure of the folk song "For He's a Jolly Good Fellow." A federal court rejected Carey's argument, reasoning that the first measure could be creative in the musical genre of R&B, even if it was uncreative in folk music.¹⁰

This is not to say that the creativity requirement is a completely empty vessel. There is a certain zone where someone's attempt to create is not creative enough to warrant copyright protection – otherwise the Supreme Court's pronouncement of a creativity requirement would be fatuous. But this zone only occupies the "narrowest and most obvious limits."¹¹ Most famously, in the case of *Feist Publications v. Rural Telephone Service*, the Supreme Court denied copyright protection for a telephone directory listing names, addresses, and phone numbers by alphabetical order. "[T]here is nothing remotely creative about arranging names alphabetically in a white pages directory," the Court explained.¹² Copyright has also been denied for lack of creativity for random number generation,¹³ a single sentence posted to a listserv,¹⁴ and a chart listing horse-racing statistics in a functional grid.¹⁵

Yet such cases are the exceptions that prove the rule. Only in situations where it is difficult to discern any degree of choice or selection in the plaintiff's work is there the possibility for a judgment that creativity is lacking. In *Feist*, the Court deemed the alphabetical ordering of names insufficiently creative because such ordering was "universally observed," "so commonplace that it has come to be expected as a matter of course," and "practically inevitable."¹⁶ Likewise, the terse listserv post asking about an accounting firm's billing practices and the grid listing dates and betting amounts for horse races arguably had few ways to be alternately composed. Copyright was denied for random number generation because it was "arbitrary," i.e., it involved no selection at all.¹⁷

Creativity surely means more than making a choice between two options. In the popular imagination, creativity refers to acts of

extraordinary talent.¹⁸ For their part, courts use phrases like “creative judgment,” “intellectual conception,” “intellectual invention,” “true artistic skill,” and “intellectual production” to describe creativity. At the same time, however, they are extremely generous in considering works that are the product of very few intellectual choices as creative. Seemingly uncreative works – from an exact miniature copy of an existing sculpture, to a standardized test answer sheet, to instruction manuals, to the use of arrows and placement of text in a catalog to highlight particular products – are routinely deemed sufficiently creative.¹⁹

The law’s generous approach to creativity has consequences. Without a true screen for artistic originality, just about every communication becomes the subject of copyright protection. In the mid-1970s, Congress abrogated the formalities once required to enjoy a copyrightable interest, like affixing a notice of copyright to the work or registering the work with the government. Copyright protection now automatically springs into being without the need for notice, registration, or other any affirmative action from the author.²⁰ Congress has also dramatically expanded the length of copyright protection, moving from a mere twenty-eight-year term (with the possibility of renewal for a second twenty-eight years) at the beginning of the twentieth century to a current duration of the life of the author plus seventy years more. The end result is an ever-growing avalanche of copyrighted content. When every social media post and selfie snap, no matter how pedestrian, becomes the subject of a copyright for more than a century, the amount of material available in the public domain for true artistic output shrinks. Meanwhile, the population becomes an unwitting army of infringers as they violate copyright each time they resend or repost someone else’s expression. Some fear the growing chasm between the letter of the law and citizen behavior threatens the viability of copyright law itself.²¹ Many different legal rules contribute to this law/norm gap, but at least some of the fault lies in decisions pronouncing almost any expressive act sufficiently creative to warrant copyright protection.

Why has copyright law fallen into this paradox? Why not heighten the creativity requirement, as some legal scholars have suggested, so that it is doing work to actually incentivize originality in authors and preserve an expansive public domain? The reasons why this path to

resolving the paradox has not been taken have to do with judicial understandings of the nature of creativity itself. As described below, the requirement's anemic state specifically stems from legal choices to blind judges and juries to key information – an author's intentions toward their work and the work's reception in the relevant artistic community – that could be used to raise the creativity bar. The courts consider such information immaterial; neuroscience reveals it is directly relevant to understanding the creative process.

THE ACCIDENTAL AUTHOR

Courts have adopted their minimalist conception of the creativity requirement out of a belief that creativity is impossible to measure. If the creative process is unavoidably subjective – a form of “magic” understandable only to the artist herself and perhaps not even to her – then the courts should avoid paying it much attention. Instead of interrogating a question for which there is no probative evidence, courts should simply presume creativity in all but the rarest of cases.

This view is best represented by Oliver Wendell Holmes's influential majority opinion in the case of *Bleistein v. Donaldson Lithographing Co.* The 1903 case, which involved the copyrightability of poster art advertising a traveling circus, sets an extremely low bar for satisfying the originality requirement and adopts a correspondingly generous view of human creativity. As described by Holmes, the creative process is natural, inevitable, and found in everyone: “Personality always contains something unique. It expresses its singularity even in handwriting, and a very modest grade of art has in it something irreducible which is one man's alone.”²²

This description of creative thought as mere “personality” is far different from the one in the popular imagination. Most people consider something creative by virtue of its statistical infrequency. Yet Holmes rejected the popular definition for the courts, at least in part, because creativity is so difficult to evaluate. His description of creativity as inherently personal signaled a belief that creativity is not susceptible to outside measurement. Because artistic works cannot be judged

in any objective fashion, copyright law had to impose a subjective standard of originality.

One might assume that this stance would have led courts to examine the artist's own mindset for evidence of creativity. Even if the court's measurement of a work's creativity against some objective scale is improper, consideration of the artist's own subjective beliefs during the creative process might help provide at least some data for a creativity assessment. If someone sets out to be creative, maybe it is more likely that they will succeed in being creative. We see such analyses in other legal regimes. Scrutiny of mental state is a central component of many if not most areas of the law from determining *mens rea* for different crimes to looking for the presence or absence of a particular state of mind in tort law (e.g., actual malice in a defamation case). Indeed, many areas of copyright law, outside of the evaluation of creativity, take pains to scrutinize the motivations of the parties.²³

Despite all of these other areas of willingness to consider evidence of mental state, copyright doctrine insists that any inquiry into the motivations of an author is improper when evaluating creativity. Objections to such inquiries are longstanding. In 1945, Judge Jerome Frank sounded the alarm against using a would-be author's intentions to determine if his changes to an existing work were sufficient to be considered original. A prominent New Dealer and legal scholar before he became a judge, Frank's innovative decisions exerted a lasting impact on copyright as well as other areas of the law. Like Holmes, Frank's objection to evidence of authorial intent stemmed from concerns over the inability of outsiders to understand the creative process. "It is not easy to ascertain what is intended and what inadvertent in the work of genius," he explained. "That a man is color blind may make him a master of black and white art; a painter's unique distortions, hailed as a sign of his genius, may be due to defective muscles."²⁴

Six years later, Frank reaffirmed his position in the case of *Alfred Bell v. Catalda Fine Arts*. In that case, the plaintiff asserted copyright in mezzotint engravings of paintings from the late eighteenth and early nineteenth centuries. Mezzotinting involves using a roughened metal plate to make a print of another work. Frank deemed the engraved reproductions copyrightable, explaining that originality "means little more than a prohibition on actual copying." Even though the plaintiff's

avowed goal was to reproduce the original paintings as accurately as possible, because the mezzotinting process could not produce perfect replicas, the plaintiff could not be accused of “actual copying.” The fact that the subtle changes and imperfections in the mezzotinted works the plaintiff sought to protect were unintentional did not matter to Frank. “[E]ven if their substantial departures from the paintings were inadvertent, the copyrights would be valid,” he explained. Frank even speculated that mistakes made when translating a literary work from one language to another would similarly be eligible for copyright protection.²⁵

Frank’s call to ignore consideration of artist motivations echoes throughout more modern cases. In a case involving promotional photographs taken of copyrighted toys, the holder of copyrights in the toys maintained that because the photographer intended the photos for the “purely utilitarian function” of identifying products for consumers, the photographs were ineligible for copyright protection. The court rejected this argument, explaining that the “purpose of the photographs” was irrelevant to the originality analysis.²⁶ Another court analyzed the copyrightability of photographs, this time of automobile transmission parts for a catalog. The court held the photographs copyrightable, explaining that it did not matter how the plaintiff thought about its design process or that it embarked on its catalog project with no creative conception in mind.²⁷ This discounting of the importance of artistic mindset can be found in the frequent incantation in modern copyright decisions that it is the ultimate product that matters for the creativity requirement, not the process that led to that product.²⁸

The assumption that creativity is detached from motivation reaches its apotheosis in judicial discussion of works that are the product of accident. If the purpose of copyright protection is to incentivize the production of creative works, there would seem to be no need to grant protection to accidental creations. After all, an author or artist who creates inadvertently cannot be said to have been incentivized by the law. Given that copyright protection imposes costs on downstream actors by blocking them from using someone else’s copyrighted materials, a strong argument can be made for excluding accidental creations from the benefits of copyright protection.

Nevertheless, the law is quite clear that accidental works of art not only satisfy the creativity requirement but they receive just as much protection and benefit as works that were the conscious products of artistic genius. In *Alfred Bell*, Frank shared a story from the ancient Greek philosopher Plutarch. According to the story, “A painter, enraged because he could not depict the foam that filled a horse’s mouth from champing at the bit, threw a sponge at his painting; the sponge splashed against the wall – and achieved the desired result.”²⁹ The implication of the story seems to be that artistic products of accident are just as deserving of copyright as any other work eligible for copyright protection. In accord, courts today routinely mention that copyright protection applies to accidental steps and unconscious choices. As the leading copyright treatise explains, “[t]he independent effort that constitutes originality may be inadvertent and still satisfy the requirements of copyright.”³⁰

NO SKILLS OR TRAINING NECESSARY

At the same time that the creativity requirement eschews subjective inquiry into authorial motives, it also refuses other means to scrutinize an author’s creative capabilities. Evidence of an author’s skill or training in the art is not considered when assessing creativity. Contrasting authors with inventors, a late nineteenth-century court explained that the latter term implies the use of more than “only ordinary skill” whereas the former requires little skill as evidenced by the “multitude of books [that] rest safely under copyright.” The court listed various lowbrow works found to enjoy copyright, including a dramatic scene of someone being rescued from a speeding train and a comic song called “Slap, Bang, Here We Are Again!” to demonstrate that “the courts have not undertaken . . . to measure the degree of originality, or literary skill or training involved.”³¹

Along similar lines, more modern decisions hold that the amateur status of photographers and videographers is no barrier to passing the creativity threshold.³² After the Supreme Court in *Feist* instructed that mere “sweat of brow” does not render something creative, lower courts took pains to emphasize that the author’s skill in the art did not impact

their creativity determinations.³³ Martin Scorsese is no more likely to meet the necessary creativity threshold than anyone with an iPhone.

If expertise makes one no more likely to be creative, it also makes one no more capable of assessing creativity in others. In *Bleistein*, Holmes bolstered the case for a minimalist creativity standard with a closing prudential argument that still shapes the contours of copyright law over a century later. He maintained that even if a court were somehow capable of assessing creativity, the dangers of aesthetic discrimination were not worth the risk:

It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits. At the one extreme, some works of genius would be sure to miss appreciation. Their very novelty would make them repulsive until the public had learned the new language in which their author spoke. It may be more than doubted, for instance, whether the etchings of Goya or the paintings of Manet would have been sure of protection when seen for the first time. At the other end, copyright would be denied to pictures which appealed to a public less educated than the judge. Yet if they command the interest of any public, they have a commercial value – it would be bold to say that they have not an aesthetic and educational value – and the taste of any public is not to be treated with contempt.³⁴

Because the twin mysteries of artistic genius and mass appeal must always remain somewhat opaque to judges, the argument goes, it is better to simply allow all but the most egregious copyists to claim the “creative” mantle.

Holmes was not just singling out judges as somehow failing to recognize innovative art at the time it is made. Throughout the opinion, he dropped references to various European artistic masters, revealing his own erudition as well as the limits of his supposedly self-deprecatory stance. Holmes knew that he, and many other judges, actually knew quite a lot about art. His position was that *no one* could appreciate artistic contributions in their own time, necessarily implicating art world experts as well as judges and everyone else. By articulating a view of experts as always behind the creativity curve, Holmes walled off informed outsiders from offering help to judges trying to decide whether something was creative or not.

A century later, Holmes is applauded for banishing credentialism and expert gatekeepers from the creativity determination and thereby making admission to the society of copyright holders “democratic.”³⁵ The modern creativity requirement displays the same judicial antipathy to aesthetic expertise as courts decline to rely on expert testimony to certify originality. Judges invoke various strategies to exclude or discount such testimony. One tactic is to reprimand the expert for applying too high of a creativity standard in order to ignore their testimony. Judges also reject expert testimony on creativity for usurping the role of the trier of fact. As one court explained in justifying its exclusion of experts on both sides of a case involving jewelry designs, expert testimony on “the subjects of originality and creativity . . . [is] analogous to having expert witnesses testify in a personal injury action that a party’s conduct was negligent,” an issue exclusively within the province of the judge or jury.³⁶

So if the courts cannot look to authorial skill or expert opinion to assess creativity, what can they use? The substitute for undemocratically taking into account individual authorial capabilities or trained judgment in the creativity analysis is to rely solely on market forces. If someone had the financial motive to replicate your work, that is proof that your work is creative. The leading treatise on copyright maintains that if someone copies off you, it must mean that what you did was creative: “[O]ne may initially posit that, if any author’s independent efforts contain sufficient skill to motivate another’s copying, there is ipso facto a sufficient quantum of originality to support a copyright.”³⁷ Along the same lines, the *Bleistein* decision instructs that originality of a combination of expressive elements “is sufficiently shown by the desire to reproduce them without regard to plaintiff’s rights.”³⁸ More modern courts adopt the same logic. For example, the label on Pledge furniture polish was deemed copyrightable because a rival polish manufacturer intentionally used a similar label.³⁹

Although there is a bit of circular reasoning in using the presence of copying to satisfy copyright’s creativity requirement, we can see how this approach is in keeping with a democratic view of artists and artistry. Copyright’s current creativity test does not pick winners and losers. By judging creativity only through the economic incentives of others to copy, courts can avoid charges of aesthetic elitism. Equating

creativity with mere personality enacts an egalitarian vision of the creative process that respects everyone's creative potential, but at the cost of considering almost everyone and anything they produce legally creative. Behind these doctrinal choices is a view of creativity as inherently unknowable to outside parties. As we will see, even if it was once true that creativity is impervious to outside measurement, this state of affairs has changed thanks to the techniques and tools of neuroscience.

CREATIVITY: A NEUROSCIENTIFIC VIEW

Psychologists have been attempting to unlock the secrets of the creative process for decades. Much of their early efforts polled artists themselves, but with little yield. Artists refer to a process that is indescribable, confirming the instinct of legal actors that artistic creativity is impossible to measure. A typical example comes from the experimental composer Leo Ornstein. "I have no theory," he said. "I don't write music out of any preconceived theory at all. I just write what I hear. Sometimes as a matter of fact . . . some of the things I have written . . . I wonder why I should have heard what I did. I can't explain it to myself."⁴⁰ Or take this pronouncement from Bruce Springsteen: "Creativity is an act of magic rising up from your subconscious."⁴¹ Unable to learn from artists' own recountings, some psychologists resorted to Freudian theory, attributing creative behavior to the sublimation of sexual desires, a view of creativity that has now been discredited.⁴²

Yet if talking to and psychoanalyzing artists was a mostly losing proposition, using neuroscience to study the creative process has generated significant insights. Instead of relying on self-reporting, neuroscientists examine the neural activity of artists as they are engaged in creative tasks such as generating a humorous caption for a cartoon, improvising music, or crafting a metaphor to capture the meaning of a given adjective. For these experiments, experts in the relevant artistic domain independently evaluate each artistic output for its relative creativity compared to the group of outputs as a whole. If the expert rankings display a sufficient level of consensus, their creativity ratings are considered valid. The outputs can then be ranked on a spectrum of

low to high creativity and compared against each participant's neural behavior. To those who question how any study can proclaim itself able to separate the creative wheat from the non-creative chaff, it has been shown time and time again that the use of expert panels offers high intra-panel reliability. Regardless of the domain studied, experts in a domain tend to agree in their judgment of expressive works. The same is not true when researchers ask novices to rate artistic output for its creativity.⁴³

Perhaps the chief revelation from this research has been an ability to measure what was once unmeasurable. Contrary to the central premise of *Bleistein* and a century of copyright creativity jurisprudence, some aspects of the creative process can be objectively quantified. Not every part of the creative process can be tracked and mapped by neuroscientists. But even a partial inventory of this process represents a great leap forward in understanding. A brief description of research on "alpha waves," the physiology of mental imagery, and the connectivity of relevant brain regions illustrates the objective means neuroscientists can offer for describing creative success and failure.

Findings involving alpha waves represent some of "the most consistent findings" in creativity neuroscience.⁴⁴ EEG (electroencephalogram) signals oscillate over a variety of frequencies. These frequencies are divided into a series of frequency bands. It is possible to compute the band-specific frequency power for different periods of time and to contrast the power in a specific frequency during a cognitive task and compare this reading to a referent when the task is not being performed.

Studies consistently reveal increased activity in the "alpha" EEG frequency band during particular aspects of creative thinking. For example, college students rated "highly creative" by their instructors exhibited higher alpha signals during the inspiration phase (as opposed to the elaboration phase) of a creative writing project but no such difference existed for the less creative students.⁴⁵ More recent research allows for a more fine-grained view of creative ideation by dividing the broad alpha range into several sub-frequencies. Lower frequencies in this range are more likely to apply to general task demands like alertness and attention whereas higher frequencies are more sensitive to specific task requirements like recalling relevant words or numbers

from memory. Other studies show relationships between types of alpha activation and a person's subjective rating of their own ideas as original as well as more successful performance of different creative activities, including, for example, improvisational dance.⁴⁶ These findings do not tell nearly all of the story when it comes to creative thought. But the "reliable and robust" relationship between alpha power and creative ideation shows that objective measurement of some aspects of creative thought is entirely possible.⁴⁷

Neuroscience also allows us to distinguish between creative and non-creative uses of internal images. Intuitively, we already associate the creative process with the generation of mental imagery. It turns out that the generation of such imagery is critical to visual and non-visual creativity alike. Not all uses of imagery are creative. For example, merely recollecting previously seen images is not a sign of creative activity. Having a photographic memory might be useful in life, but it does not make someone an artist. Luckily, scientists can distinguish between the neural correlates of new mental images and the signs of retrieving old images from memory. They conclude that the brain's imagining of new images "certainly represents a crucial capacity underlying creative thought."⁴⁸

Finally, neuroscience tells us that the stronger the interplay between three particular brain systems, the more creative the person. When the strength of a person's connections in this neural network is measured, that measurement strongly correlates with how someone performs on a test for originality. Researchers find "a person's capacity to generate original ideas can be reliably predicted from the strength of functional connectivity within this network, indicating that creative thinking ability is characterized by a distinct brain connectivity profile."⁴⁹ For example, the greater the coupling between the brain's default and executive control networks, the better test subjects completed an exercise asking them to suggest uncommon verbs to pair with a given noun.⁵⁰

Nothing I have written thus far should imply that neuroscience can precisely measure creativity or that current technologies can provide admissible neurological evidence of a particular creator's mental state. Creativity is a complicated mental process that scientists continue to explore. Some parts of creative ideation have moved into sharper focus

thanks to neuroscience. Others, like the incubation period needed for some creative insights, are less susceptible to testing in a laboratory setting. Adding to the difficulty, the brain regions studied in these tests of creativity can be involved in many different activities, not just creative expression.

Nevertheless, two decades of creativity neuroscience studies provide some valuable lessons. Some stages of the creative process are more amenable to neural study than others, but even a partial understanding of this process is better than none. Reverse inference is a concern, but if applied carefully, it can have significant predictive power and reveal useful correlations that can be further tested. Most importantly, neuroscientific study of the creative process is uncovering evidence of mental phenomena that we are not aware of or cannot describe ourselves. Because we lack the tools to articulate the creative process as it occurs in our heads, neuroscientific research offers a particularly promising mechanism for understanding this process. Measurements of alpha waves, mental imagery, and inter-network connectivity do not tell us everything we need to know about creativity but they do offer objective details of a behavior that *Bleistein* and other copyright decisions assumed had to remain shrouded in mystery. More specifically, this research reveals that the evidentiary items deemed irrelevant by the courts – artistic motivation and expertise – are not just relevant but are essential elements in understanding human creativity.

MOTIVATION

There is widespread agreement among psychologists studying creativity that motivation is a vital element of creative activity. Motivation increases artistic skill. Intentional seeking of novelty is critical to creative success. The neuroscientist Antonio Damasio puts motivation at the top of his list for requirements for human creativity.⁵¹

To the extent copyright law is meant to promote creativity, it would seem that it should reward motivated creative behavior and not reward non-creative behavior or behavior that accidentally produces novel

artistic output. Psychologists note that motivation results in more creative ideas being generated. Someone who is unmotivated may generate only one solution to the task at hand whereas a motivated artist is likely to generate many, resulting in greater and superior creative production. In other words, motivated artists are more productive and the more productive you are, the greater the chance that you will hit upon some creative ideas in your different artistic outputs. The accidental creation of art described by Plutarch – a painter throws a sponge in anger and inadvertently creates a masterpiece – is not the way the vast majority of artistic breakthroughs are made. “[M]ore often than not, the unconventional tendencies of truly creative people are intentional and discretionary. They know what they are doing.”⁵²

Two particular attributes relating to motivation strongly correlate with creative output. Focus, which can be detected by the techniques of neuroscience, is a key ingredient in artistic production. Creativity demands an ability to ignore outside stimuli. According to creativity researchers, originality requires the capability “to stay deeply absorbed in self-generated thoughts, despite the constant exposition of potentially interfering sensory stimulation.”⁵³ A variety of studies links focused attention to success on divergent thinking tasks, i.e., tasks that involve coming up with multiple solutions to a problem, a favorite metric for evaluating creative potential.⁵⁴ Neural scans describe a relationship between focused attention and success in generating novel ideas.⁵⁵

The focus necessary for creative activity is not just to keep out external stimuli. Artists also need to be single-minded enough to inhibit their own habitual responses. This may be why high originality scores on a variety of creative projects correlate with brain areas that relate to executive actions. Innovators need to be able to block out the voices in their heads that tell them to take the cognitive path of least resistance by doing things in a routine or traditional way or by simply copying what came before. Originality demands that we ignore internal and external forces that draw us to the average and the familiar.

Artists must not only be able to focus on the task at hand, but commit themselves to sustained action in pursuit of a creative goal. Most psychologists believe that the creative process occurs in various

phases and that the process begins with an early “preparation” phase that is “difficult and time-consuming,” rather than sudden and effortless.⁵⁶ “[C]reativity isn’t a burst of inspiration; it’s mostly conscious hard work.”⁵⁷ Studies of successful creators show this to be the case. For example, artists spend more time reworking their drawings than non-artists.⁵⁸

Copyright law has long been enamored of metaphors suggesting that artistic creativity appears like a bolt of lightning out of nowhere as with the story of Plutarch’s painter. The *Feist* decision amplified this unfortunate tendency to equate creativity with speed. In that case, the Court used the phrase “creative spark” to describe what was needed to satisfy the creativity requirement, suggesting that artistic creativity is a sudden and unforeseeable phenomenon. Along similar lines, the *Alfred Bell* decision attributed copyrightable material to the immediate influence on the artist of a “clap of thunder.”⁵⁹

Metaphors involving sparks and claps of thunder oversimplify the creative process and promote the false narrative of the accidental artist. Creativity involves multiple stages that take a significant amount of time. By portraying creativity as a sudden phenomenon that comes out of nowhere, copyright law’s operative metaphors imply that focus and sustained effort are irrelevant to the creative process. In truth, “[c]-reative thought involves the generation of complex mental representations that need to be maintained over extended periods of time for stimulation and elaboration.”⁶⁰

This is not to say that creative problem-solving occurs in a linear, even-paced fashion. There are moments of insight. EEG studies are particularly suited to uncovering particular brain regions involved in those moments, which can involve seemingly sudden shifts in perspective. But it is important to realize that these moments of insight are not all that is needed to generate something that is new and appropriate to the artistic undertaking. It turns out that creative activity requires control over both outside stimuli that threaten to break our concentration and internal forces that threaten to distract us from the task at hand. Creativity is rarely speedy and rarely an accident. “Even when ideas come in a flash, focus and persistence are required to put them to good use.”⁶¹

EXPERTISE

Copyright law's anti-expert posture enacts two myths about the creative process into the substance of copyright law. First, the law presumes that we are equally situated for creative success, ignoring evidence of authorial experience and training. In truth, our creative abilities differ. This is probably no surprise to most of us. We have our own thoughts about how creative we are compared to the average person. Recent neuroscientific studies provide a wealth of evidence confirming the unequal distribution of creative capacity. Most important for our purposes, these studies reveal that the likelihood of generating creative output is strongly correlated with expertise.

Sheer familiarity with an art form produces dramatic physiological differences during creative thought. In one experiment, neuroscientists scanned the brains of experienced professional comedians, aspiring comedians, and a control group possessing the same high intelligence as the rest of the research subjects but with no experience as comedians. All were given the task of coming up with captions for a blank *New Yorker* cartoon. Although it might seem that the quality of humorous creations is subjective, it turns out that humor typically has high agreement across individuals and can be evaluated for quality through rankings as well as by listening for spontaneous laughter in audiences. The study revealed significant differences in the experts' brain functioning while they devised their captions as compared to the other participants.⁶²

Other research reveals differences in neural responses based on experience. Experienced writers show stronger activation of the brain regions associated with memory retrieval and emotion processing than inexperienced writers.⁶³ Familiarity with professional design concepts facilitates the inhibition of irrelevant visual memories in the brain's prefrontal cortex, allowing greater focus on the development of a new industrial design.⁶⁴ This biological data complements older research claiming that those recognized for great creative achievements needed significant amounts of time to master their discipline. A common postulate in the literature is that theoretical breakthroughs typically require ten years of deep involvement in a domain.

It is not just experience but the kind of experience someone has in an artistic discipline that matters. “Brain imaging studies have found that people with musical training actually think about music differently, people with artistic training actually think about art differently, and people with dance training think about dance differently.”⁶⁵ Contrary to the popular belief that lengthy periods of institutional schooling stunt creative potential, there is no slump in creativity as training continues. Children are no more likely to be creative than adults. Given this research, scientists now believe that even spontaneous creative mental states are better fostered through systematic institutional training than informal training or no training at all.⁶⁶

The second myth contends that no one – not even experts – can appreciate the aesthetic avant-garde. This was one of Justice Holmes’s prudential arguments for broadening the definition of artistic creativity to include anything that is the “personal reaction of an individual upon nature.” Holmes warned that if courts failed to take such a hands-off approach to copyright’s creativity requirement, new “works of genius” from modern-day Manets would be cast aside since they could not be aesthetically appreciated in their own times.

Creativity research calls Holmes’s supposition into doubt, at least when it comes to experts in the relevant domain. One enduring misconception about creativity in Western societies is that creative people are so far ahead of the rest of us that their brilliance can never be appreciated during their lifetime. Creativity scholar R. Keith Sawyer contends that, in actuality, most creative contributions are fully recognized as such at the time they are made.⁶⁷ Many of the most important creative contributions result not from something that transforms the discipline but from a relatively straightforward process like redefinition or combination of two previously uncombined fields. These are creative leaps whose value can be appreciated by experts when they occur. Quantitative studies confirm that artistic reputations stay consistent over time and it is rare for a previously unrecognized artist to be embraced as a genius after death.⁶⁸

Holmes also raised the specter of judges privileging what they know rather than what is new when it comes to expressive works. This concern could surely apply to experts as well. Bias toward the familiar is certainly a risk when evaluating new forms of expression. But

familiarity bias is a risk when evaluating all sorts of things, not just art. Despite Holmes' concerns, the creativity requirement need not be synonymous with judicial taste for the familiar. Instead, it is possible to evaluate creative contributions against a baseline of what has come before rather than by an expert's or a judge's personal preference. Judges already perform this sort of analysis when ensuring that inventive activity must be "nonobvious" to be eligible for patent protection. Along similar lines, a more specified creativity standard could prompt judges to look for art that represents some departure from the status quo.

Truly creative works are not happy accidents. Neuroscience confirms that they are the product of a particular process that involves lengthy planning, deliberation, and focus. Yet judges blind themselves to information on the creative *process*, evaluating creativity by exclusive reference to the final *product* – the allegedly creative work itself – and repeatedly insisting that even accidental and unconscious conduct can be creative. Considering authorial motivation and expertise in the relevant artistic domain could bolster the creativity requirement and bring copyright law into better alignment with the means by which creative works are actually born.

Notes

- ¹ *Intercontinental Great Brands, LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1346 (Fed. Cir. 2017).
- ² *Warner Bros. v. ABC*, 720 F.2d 231, 240 (2d Cir. 1983).
- ³ *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975).
- ⁴ *Feist Publ'ns v. Rural Tele. Serv. Co.*, 499 U.S. 340, 345–46 (1991).
- ⁵ *Id.* at 345–46, 362.
- ⁶ *Luck's Music Library, Inc. v. Ashcroft*, 321 F. Supp. 2d 107, 118 (D.D.C. 2004).
- ⁷ Dennis S. Karjala, *Copyright and Creativity*, 15 UCLA ENT. L. REV. 169, 171 (2008); Michael J. Madison, *Beyond Creativity: Copyright as Knowledge Law*, 12 VAND. J. ENT. & TECH. L. 817, 830 (2010); Dale P. Olson, *Copyright Originality*, 48 MO. L. REV. 29, 31 (1983).
- ⁸ *Situation Mgmt. Sys. v. ASP Consulting Grp.*, 560 F.3d 53, 60 (1st Cir. 2009).
- ⁹ *Santrayll v. Burrell*, 39 U.S.P.Q.2d 1052 (S.D.N.Y. 1996). See also *Tin Pan Apple, Inc. v. Miller Brewing Co.*, 30 U.S.P.Q.2d 1791 (S.D.N.Y. 1994) (rap song lyrics "Hugga-Hugga" and "Brr" sufficiently creative).
- ¹⁰ *Swirsky v. Carey*, 376 F.3d 841, 850 (9th Cir. 2004).

- ¹¹ ABS Entm't, Inc. v. CBS Corp., 908 F.3d 405, 422 (9th Cir. 2018).
- ¹² Feist, 499 U.S. at 363.
- ¹³ Mitel, Inc. v. Iqtel, Inc., 124 F.3d 1355, 1374 (10th Cir. 1997).
- ¹⁴ Stern v. Does, 978 F. Supp. 2d 1031, 1042 (C.D. Cal. 2011).
- ¹⁵ Victor Lalli Enters., Inc. v. Big Red Apple, Inc., 936 F.2d 671, 673 (2d Cir. 1991).
- ¹⁶ Feist, 499 U.S. at 363.
- ¹⁷ Mitel, 124 F.3d at 1373–74.
- ¹⁸ Phillip McIntyre, *Creativity and Cultural Production: A Study of Contemporary Popular Western Music Songwriting*, 20 CREATIVITY RES. J. 20, 20 (2008). Psychologists largely agree on a definition of creativity as requiring something that is new and appropriate to the circumstances. Dean Keith Simonton, *Taking the U.S. Patent Office Criteria Seriously: A Quantitative Three-Criterion Creativity Definition and Its Implications*, 24 CREATIVITY RES. J. 97, 97 (2012).
- ¹⁹ Eagle Servs. Corp. v. H2O Indus. Servs., 532 F.3d 620, 622–23 (7th Cir. 2008); Decker Inc. v. G & N Equip. Co., 438 F. Supp. 2d 734, 743 (E.D. Mich. 2006); Harcourt, Brace & World, Inc. v. Graphic Controls Corp., 329 F. Supp. 517, 523–24 (S.D.N.Y. 1971); Alva Studios, Inc. v. Winninger, 177 F. Supp. 265, 267 (S.D.N.Y. 1959).
- ²⁰ Though registration is not required for copyright protection, it is required to initiate an action for infringement. 17 § U.S.C. § 411.
- ²¹ JOHN TEHRANIAN, INFRINGEMENT NATION (2011).
- ²² 188 U.S. 239, 250 (1903).
- ²³ See, for example, NXIVM Corp. v. Ross Inst., 364 F.3d 471, 478 (2d Cir. 2004) (bad faith relevant to fair use determination); Past Pluto Prods. Corp. v. Dana, 627 F. Supp. 1435, 1444 (S.D.N.Y. 1986) (intent to avoid infringement considered strong evidence that two works are not substantially similar).
- ²⁴ Chamberlin v. Uris Sales Corp., 150 F.2d 512, 513 n.4 (2d Cir. 1945).
- ²⁵ Alfred Bell & Co. v. Catalda Fine Arts, 191 F.2d 99, 103, 105–06 (2d Cir. 1951).
- ²⁶ Schrock v. Learning Curve Int'l, Inc., 586 F.3d 513 (7th Cir. 2009). See also FrangranceNet.com, Inc. v. FrangranceX.com, Inc., 679 F. Supp. 2d 312, 324 n.4 (E.D.N.Y. 2010) (noting that commercial motivation for creation of images “has no bearing on their copyrightability”).
- ²⁷ Whatever It Takes Transmission & Parts, Inc. v. Capital Core, Inc., No. 2:10-CV-72, 2013 WL 12178585, at *7 (S.D. Ohio Mar. 22, 2013).
- ²⁸ ABS Entm't, Inc. v. CBS Corp., 908 F.3d 405, 419 (9th Cir. 2018) (“The process used to create the derivative work is seldom informative of originality in the copyright sense.”); Meshwerks, Inc. v. Toyota Motor Sales U.S.A., Inc., 528 F.3d 1258, 1268 (10th Cir. 2008) (“[I]n assessing the originality of

- a work for which copyright protection is sought, we look only at the final *product*, not the process.”).
- ²⁹ Alfred Bell & Co. v. Catalda Fine Arts, 191 F.2d 99, 106 n.23 (2d Cir. 1951).
- ³⁰ 1 DAVID NIMMER, NIMMER ON COPYRIGHT § 2.01 (2020).
- ³¹ Henderson v. Tompkins, 60 F. 758, 764 (C.C.D. Mass. 1894).
- ³² Cruz v. Cox Media Grp., 444 F. Supp. 3d 457, 462, 465 (E.D.N.Y. 2020); Time, Inc. v. Bernard Geis Assocs., 293 F. Supp. 130, 142–43 (S.D.N.Y. 1968).
- ³³ *E.g.*, ABS Entm’t, 908 F.3d at 419 (“The remastering engineer’s application of intensive, skillful, and even creative labor . . . does not guarantee its copyrightability.”); Alcatel USA, Inc. v. DGI Techs., Inc., 166 F.3d 772, 789 (5th Cir. 1999) (“[N]o amount of time, labor, skill, and money can bestow copyright eligibility on a work that is devoid of creativity.”).
- ³⁴ Bleistein v. Donaldson Lithographing Co., 188 U.S. 239, 251–52 (1903).
- ³⁵ Annemarie Bridy, *Coding Creativity: Copyright and the Artificially Intelligent Author*, 2012 STAN. TECH. L. REV. 5, 6 (describing *Bleistein* as a “democratizing recalibration”); Justin Hughes, *The Photographer’s Copyright-Photograph as Art, Photograph as Database*, 25 HARV. J. L. & TECH. 339, 369 (2012) (“*Bleistein* provided American law with an originality threshold low enough that all can enter, giving us a deeply egalitarian, democratic copyright law that has neither place nor need for the creative genius.”); Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1149, 1241 (1998) (*Bleistein*’s “[e]schewing any criterion of value except what people are prepared to pay . . . has the appeal of the democratic.”).
- ³⁶ Paul Morelli Design, Inc. v. Tiffany & Co., 200 F. Supp. 2d 482, 487 (E.D. Pa. 2002).
- ³⁷ 1 NIMMER, *supra*, at § 2.01.
- ³⁸ *Bleistein*, 188 U.S. at 252.
- ³⁹ Drop Dead Co. v. S. C. Johnson & Son, Inc., 326 F.2d 87, 93 (9th Cir. 1963).
- ⁴⁰ LEO ORNSTEIN, *QUINTETTE FOR PIANO AND STRINGS*, Op. 92, at xxv (2005).
- ⁴¹ David Brooks, *Bruce Springsteen and the Art of Aging Well*, THE ATLANTIC, Oct. 23, 2020.
- ⁴² R. KEITH SAWYER, *EXPLAINING CREATIVITY: THE SCIENCE OF HUMAN INNOVATION* 15–23 (2d ed. 2012).
- ⁴³ James C. Kaufman et al., *Furious Activity v. Understanding: How Much Expertise Is Needed to Evaluate Creative Work?* 7 PSYCH. AESTHETICS, CREATIVITY & ARTS 332, 333 (2013). Quantitative methods can also be used to measure creativity as with divergent thinking tests that are scored based on number on responses as well as the statistical rarity of those responses.

- Sameh Said-Metwaly et al., *Approaches to Measuring Creativity: A Systematic Literature Review*, 4 *CREATIVITY* 238, 245 (2017).
- ⁴⁴ Simone M. Ritter et al., *Eye-Closure Enhances Creative Performance on Divergent and Convergent Creativity Tasks*, 9 *FRONTIERS PSYCH.* 315, 316 (2018).
- ⁴⁵ Andreas Fink & Mathias Benedek, *EEG Alpha Power and Creative Ideation*, 44 *NEUROSCI. & BEHAV. REV.* 111, 113 (2014).
- ⁴⁶ Andreas Fink et al., *Brain Correlates Underlying Creative Thinking: EEG Alpha Activity in Professional vs. Novice Dancers*, 46 *NEUROIMAGE* 854 (2009); Roland H. Grabner et al., *Brain Correlates of Self-Rated Originality of Ideas: Evidence from Event Related Power and Phase-Locking Changes in the EEG*, 121 *BEHAV. NEUROSCI.* 224 (2007).
- ⁴⁷ Fink & Benedek, *supra*, at 119.
- ⁴⁸ Rex E. Jung et al., *A New Measure of Imagination Ability: Anatomical Brain Imaging Correlates*, 7 *FRONTIERS PSYCH.* 496 (2016).
- ⁴⁹ Roger E. Beaty et al., *Robust Prediction of Individual Creative Ability from Brain Functional Connectivity*, 115 *PROC. NAT'L ACAD. SCI.* 1087, 1087 (2018).
- ⁵⁰ Roger E. Beaty et al., *Creative Constraints: Brain Activity and Network Dynamics Underlying Semantic Interference During Idea Production*, 148 *NEUROIMAGE* 189, 195 (2017).
- ⁵¹ Antonio R. Damasio, *Some Notes on the Brain, Imagination, and Creativity*, in *THE ORIGINS OF CREATIVITY* 59, 64–65 (Karl H. Pfenninger & Valerie R. Shubik eds., 2001). See also Panagiotis G. Kampylis & Juri Valtanen, *Redefining Creativity: Analyzing Definitions, Collocations, and Consequences*, 44 *J. CREATIVE BEHAV.* 191, 198 (2010).
- ⁵² MARK A. RUNCO, *CREATIVITY: THEORIES AND THEMES* 84 (2007).
- ⁵³ Mathias Benedek, *Internally Directed Attention in Creative Cognition*, in *CAMBRIDGE HANDBOOK OF THE NEUROSCIENCE OF CREATIVITY* 180, 189 (Rex E. Jung & Oshin Vartanian eds. 2018).
- ⁵⁴ Darya L. Zabelina, *Attention and Creativity*, in *CAMBRIDGE HANDBOOK OF THE NEUROSCIENCE OF CREATIVITY* 161, 164 (Rex E. Jung & Oshin Vartanian eds. 2018).
- ⁵⁵ Mathias Benedek et al., *To Create or to Recall Original Ideas: Brain Processes Associated with the Imagination of Novel Object Uses*, 99 *CORTEX* 93 (2018).
- ⁵⁶ Ulrich Kraft, *Unleashing Creativity*, 16 *SCIENTIFIC AMERICAN MIND* 16, 22 (2005).
- ⁵⁷ SAWYER, *supra*, at 387.
- ⁵⁸ Zabelina, *supra*, at 164.
- ⁵⁹ Alfred Bell & Co. v. Catalda Fine Arts, 191 F.2d 99, 105 (2d Cir. 1951).
- ⁶⁰ Benedek, *supra*, at 189.
- ⁶¹ Zabelina, *supra*, at 164.
- ⁶² Ori Amir & Irving Biederman, *The Neural Correlates of Humor Creativity*, 10 *FRONTIERS HUM. NEUROSCI.* 1, 1–2, 10 (2016).

- ⁶³ Katharina Erhard et al., *Professional Training in Creative Writing Is Associated with Enhanced Fronto-Striatal Activity in a Literary Text Continuation Task*, 100 *NEUROIMAGE* 15 (2014).
- ⁶⁴ Yasuyuki Kowatari et al., *Neural Networks Involved in Artistic Creativity*, 30 *HUM. BRAIN MAPPING* 1678 (2009).
- ⁶⁵ SAWYER, *supra*, at 203.
- ⁶⁶ Joel A. Lopata et al., *Creativity as a Distinctly Trainable Mental State: An EEG Study of Musical Improvisation*, 99 *NEUROPSYCHOLOGIA* 246, 255 (2017).
- ⁶⁷ R. Keith Sawyer, *The Western Cultural Model of Creativity: Its Influence on Intellectual Property Law*, 86 *NOTRE DAME L. REV.* 2027, 2043 (2011).
- ⁶⁸ DEAN KEITH SIMONTON, *GENIUS, CREATIVITY, AND LEADERSHIP* 19 (1984); Kathryn Graddy, *Taste Endures! The Rankings of Roger de Piles and Three Centuries of Art Prices*, 73 *J. ECON. HIST.* 766, 766 (2013).