Identifying the boundaries of magic: A qualitative study of expert magicians

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ABSTRACT

Magic is ill-defined, and few published works in magic directly address magic's underlying aesthetics or its theoretical basis. Instead, information is transmitted informally between magicians through lectures and personal conversations (see Rissanen et al., 2013). In order to capture some of this socially-disseminated information, we carried out a series of interviews with six acclaimed, expert magicians who think deeply about the techniques and meaning of their magic. We probed their personal definitions of magic, their beliefs about what constitutes "good" and "bad" magic, and their attitudes about the aesthetic boundaries of performance magic. We report the outcomes of a thematic analysis of these interviews. Participants highlighted many of the same fundamental features of good magic. However, they differentially weighted these features, perhaps explaining variability in their performing styles. These magicians felt that there may be no entirely adequate, singular definition of magic because magic is a non-linear system where small changes in the performer, audience, or environment feed forward in unpredictable ways to impact the experience of magic.

KEYWORDS
Science of magic, Aesthetics, Magicians.

IDENTIFYING THE BOUNDARIES OF MAGIC: A QUALITATIVE STUDY OF EXPERT MAGICIANS

> [Magic] is so big that a simple definition seems impossible, so vague as to be an empty vessel waiting to be filled with meaning. How are we to determine what we are talking about when we use the word magic? (Neale & Parr, 2002, p. 6)

Magic is famously difficult to define. Magic has many styles, is performed in a variety of contexts, and relies on disparate mechanisms. Some magic is self-working; the apparatus accomplishes the illusion, freeing the performer to focus on theatrics. Some magic relies on skilful dexterity or on controlling how the audience deploys their attention. Some magic works via deception, mimicking the appearance of remarkable skill (i.e., memory demonstrations), whereas other magic uses legitimate demonstrations of skill that parade as the impossible (i.e., the human blockhead).

In their treatise on meaning and magic, Neale and Parr (2002) initially eschewed the possibility of establishing a simple, unifying definition of performance magic, but other magic theorists have tried (with varying degrees of success). In their early book on magic theory, Nevil Maskelyne and David Devant (1911) highlighted the essential roles of *deception* and the experience of *impossibility*: "Magic consists of creating, by misdirection of the senses, the mental impression of supernatural agency at work" (p. 176). Folletto (as cited by Jay, 2015) provided a similar, but less nuanced, definition: "[Magic is] the art of @#$%ing with people without seeming like you are" (p. 26). Yet most theorists see deception as one of many tools: "magic is not simply about deceiving. It's about creating an illusion, the illusion of impossibility" (Ortiz, 2005, p. 15).

Nearly every conceptualization of magic has at its heart notions of impossibility. Teller, of the magic duo Penn & Teller, said that "magic is a form of theater that depicts impossible events *as though* they were really happening" (Stromberg, 2012). Reynolds (2003; as cited by Jay, 2015) defined magic as, "the theatrical art of creating the illusion of impossibility in an entertaining way" (p. 27). This definition was partially inspired by a seminal essay by Simon Aronson (1990), *The Illusion of Impossibility*, that situated impossibility in the interplay of performer and audience: "The essence of magic is 'doing the impossible.' The 'doing' is

accomplished by the performer, but the 'impossible' must ultimately be supplied by the audience" (Aronson, 1990, p. 172).

Modern academic definitions of magic have largely ignored the "doing" part of Aronson's definition, focusing instead almost exclusively on the audience's psychological experience. Thomas Fraps, a prominent magician and scientist, said:

> The essence of a magic performance is emotional, not rational: the unique gift to shut down - at least for a few seconds - any problem-solving faculties in the minds of an audience, to melt down the cognitive coordinates, to disrupt reality and create the emotional experience of wonder with seemingly impossible events. This experience is intellectually and emotionally different from being fooled by a deception, like a trompe l'oeil painting, an optical illusion, or a mediocre magic trick (p. 53).

Leddington (2016) delved more deeply into the "melt down" of an audience's "cognitive coordinates," noting that the experience of magic is built upon an inherent conflict between what one *knows* to be true about how the world works (e.g., "gravity holds things down) and what their senses are telling them about the world they're experiencing in a magic show (e.g., "David Copperfield is flying before my very eyes"). While the presence of a magician is implicit in these definitions, the experience is contingent upon the mental processes of the audience members.

Counterintuitively, audience members must be sceptical to appreciate magic. In a magic show, magicians attempt to create a mismatch between the audience's beliefs and their experiences and to maintain this "cognitive dissonance" for as long as possible. If an audience member lacks scepticism and believes that real magic is possible, then they experience no conflict between their beliefs and what they have witnessed. Similarly, the moment an audience generates *any* non-magical explanation (however absurd) for what they're witnessing, the experience of magic is weakened (Leddington, 2020).

Grassi and Bartels (2021) proposed a Bayesian model based on predictive coding to help explain our experience of magic. They described the magic experience as a prediction error that results from a mismatch between our beliefs about the world and the things we perceive. In a further development of this theory Grassi et al.

(2023) argued that the experience of magic is best characterized by three key epistemic emotions. The spectator first views an incredible occurrence which elicits *surprise*–this is the jaw dropping "Wow!" moment you experience when the rabbit appears from the hat. Next, the viewer becomes *curious* about the event they have witnessed, and they look for solutions and attempt to reconstruct the event. In most successful tricks the spectator will fail to explain away what they have witnessed, which will evoke *confusion* or bafflement. According to Grassi it is these three epistemic emotions (surprise, curiosity, and confusion) that lie at the heart of magic.

There is relatively little empirical research that examines the nature of performance magic or why we seem to enjoy the experience that such illusions elicit. Medeiros and colleagues (2023) conducted a large (n = 397) quantitative study that examined the things that people enjoyed and disliked about magic. People reported enjoying a wide range of things, such as the entertainment and the feelings that magic evokes (mystery, wonder, surprise, and amazement), aspects of the magician themselves, as well as beliefs in the impossible and the child-like feelings that magic evokes. Parris et al. (2009) used fMRI to measure brain activation while participants watched a wide range of magic tricks. Results from such studies (see also Danek et al., 2015) support the view that cognitive conflict lies at the heart of magic. Kuhn (2019) has argued that this cognitive conflict is the driving force for our captivation by magic (see also Harris, 1995). For example, infants are drawn towards causal violations. Infants' developmental trajectories for acquiring physical knowledge directly relate to adults' interest in different types of magical effect (Lewry and colleagues, 2021). Moreover, Bagienski and Kuhn (2023) have shown that subjective experiences of impossibility elicited by a magic trick are directly related to people's enjoyment of such tricks (see also Kuhn, 2023).

Although Neale and Parr (2002) opened their book by questioning whether it was possible to generate a satisfying definition of magic, they ultimately articulated a definition that both echoed earlier attempts and added new substance to theatrical notions of performance magic. Their culminating definition stated that, "Magic is the performance exercise of imaginative mastery that grants symbolic power over life and death by means of ritual control over change in the artful play of impossible effects of being, doing, and relating" (p. 55). Inherent in this definition is an assumption that magic is performative: It *requires* an audience. Further, the performer's expertise lies in their ability to control the imagination of their

audiences. Neale and Parr also suggest that nearly all magic is symbolic and ritualistic; it builds upon the audience's understanding of symbolic relationships and evokes greater ideas.[1] Finally, Neale and Parr categorize all magic effects as falling into one of three categories: *being* (the state of a thing, including its existence), *doing* (the manner in which a thing behaves or functions), or *relating* (the way objects interact with each other physically or symbolically).

THE CURRENT RESEARCH

We sought insights on the nature of magic from six of the world's top working professional magicians, all of whom are widely considered thought leaders by the magic community. We selected magicians with diverse backgrounds and performing styles in hopes of identifying interesting points of disagreement and consistency.

In semi-structured interviews, we asked each magician about the definition of magic and its relationship to so-called "allied arts" like juggling and theatrical pickpocketing, and we explored how their own definitions of magic and thoughts about the boundaries of performance magic mesh with notions from the classic magic literature. We completed a thematic analysis of their responses to find points of agreement and disagreement. Ideally, these analyses will help aestheticians identify meaningful, practical conceptions of where to situate magic among the performing arts.[2]

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[1] Scientific confirmation of magic's exploitation of implicit ontological hierarchies was provided by Griffiths (2015).

[2] As with any art, there is a risk that engaging in the sort of deep analysis that reveals the workings and internal logic of magic will damage the experience of magic. Davies (as cited in Reynolds, 2003) suggested that magic itself may not survive attempts to understand it:

> *What is magic? Is it not the production of effects for which there appear to be no causes? Behind all magic there is an explanation, but it is unwise to seek it too vigorously; there are lots of things in life which are more enjoyable when they are not completely understood. A good piece of magic is a work of art and should be respected as such; it is a flower, not an alarm clock, and if you pull it to pieces to find out what makes it work, you have destroyed it, and your own pleasure* (p. 31).

METHOD

PARTICIPANTS
Six working world-renowned professional magicians were interviewed for this study: Joe Diamond, a mentalist and magician (http://www.joediamondlive.com/), Jamy Ian Swiss, a magician, magic theorist, and author (https://jamyianswiss.com/), Carisa Hendrix, a renowned performer of magic and reigning Magic Castle Stage Magician of the Year at the time (https://www.carisahendrix.com/), Jeanette Andrews, a sensory illusionist (https://www.jeanetteandrews.com/), Tom Stone, a performer, magic coach, author, and magic theorist (https://www.tomstone.se/en), and David Parr, a theatrical magician and author (https://www.davidparr.com/). All participants had a personal relationship with AB, but not with the student interviewer on the project. These participants were recruited because of their prominence within the magic community and the diversity of their performance styles and perspectives. All participants consented to the interview and to having their identities and interviews shared publicly. They received no compensation for participating in this study.

RESEARCH DESIGN
All protocols were approved by the Carthage College Institutional Review Board (protocol #1733255). Sarah Tuchel and one other undergraduate psychology student carried out semi-structured interviews with the magicians over Zoom. Neither interviewer was a magician, but both had a background in the science of magic and a basic understanding of performance magic and its terminology. The interviews closely followed a script (see Appendix A) that was developed by all the authors, but the interviewer did occasionally add spontaneous follow-up questions. The interview script was designed to be exploratory, and the questions were not driven by predetermined research hypotheses. Each interview lasted approximately one hour.

After the interview, each magician was offered the opportunity to identify aspects of the interview that they did not want to be shared publicly (e.g., they shared secrets of magic or named a performer when identifying what constitutes "bad

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Despite this warning, we believe that magic can withstand and benefit from coherent, qualitative analysis. In asking magicians to introspect on the philosophies that drive their choices as performers, we hope that the position of magic within the arts will be elevated.

magic"). When participants requested a redaction, the content was removed from the transcript and the video footage, and it did not contribute to subsequent analyses. The videos and transcripts of all of the interviews are available on the Science of Magic Association website at:
 https://scienceofmagicassoc.org/blog/2024/7/1/interview-series-on-magic-misdirection.

The script covered two main lines of questioning about magic and misdirection. The first asked about the definition of magic. Participants were asked to define magic in their own words and to discuss its main categories and the differences between good and bad magic. They also were read a list of allied arts (e.g., pickpocketing, sideshow demonstrations, mentalism) and were asked to categorize each as magic or non-magic, explaining the logic behind their classifications. A second line of questioning asked participants about misdirection. This paper reports outcomes for the first line of questioning about the definition of magic, but the questions about misdirection will be reported elsewhere.

ANALYSIS
Each recorded interview was transcribed and analysed to identify overarching themes (using the MAXQDA software) as well as similarities and differences in definitions of magic and the perceived boundaries of magic and misdirection. The analyses were conducted by Anthony Barnhart, a cognitive psychologist and (at one time) professional magician, and Sarah Tuchel, an undergraduate psychology and criminal justice student who has studied the science of magic.

Each interview transcript underwent a thematic analysis (see Braun & Clarke, 2006), with AB and ST independently coding recurring themes and points of agreement and disagreement across participants. AB and ST generated a code list for recurring themes (e.g., "context" or "illusion of impossibility") after independently analyzing the same two interviews. They then compared their code lists to identify codes they had in common and jointly generated a single code list to apply to the remaining interviews. Occasionally, when fresh themes emerged while coding the interviews, AB and ST worked together to refine the code and reapply it to the other interviews. After their independent analyses were completed, AB and ST compared their analyses and discussed points of disagreement to come to a consensus on the recurring themes and relevant quotations across interviews.

RESULTS & DISCUSSION

DEFINING MAGIC

Although historical definitions of magic have not resulted in a consensus about what elements constitute magic, our interviewees agreed on numerous elements that must be present for the experience of magic. All performers made statements highlighting the necessity of an "illusion of impossibility." When asked "what is magic?", David Parr responded:

> To me, magic is simulated impossibility. It is a representation of things that cannot exist in the day-to-day world. And that's part of its purpose—its purpose is to give us a brief respite from the rules that—and parameters—of the day-to-day world. Give us a brief escape from it.

While many of those interviewed reiterated that magic is contingent on an illusion of impossibility, impossibility was often mentioned alongside a similar feature: mystery. For example, Jamy Ian Swiss said, "I think that magic, at its best, at its deepest, is a reminder that the world is filled with mystery." The necessity of mystery for the creation of magic is inherent in the "illusion of impossibility." When a trick appears physically impossible to an audience, the experience of magic they have results from the mysterious nature of the trick and the mismatch between what they know about the world and what their senses tell them in the moment. The audience is left asking how such a feat could be possible. The magicians agreed that if an audience does not have this experience of mystery, then there is no magic.

The magicians largely agreed that the illusion of impossibility and conjuring feelings of mystery requires deception about the inner-workings of the magic tricks. Carisa Hendrix pointed out that an audience must be naive to some information about the trick in order to experience the trick as magic: "...secret information, information has to be held secret, because if you knew all the information, then you would just know what the truth is. And it would no longer feel like magic." Without a secret method, tricks fail to create the appearance of the impossible, and subsequently, fail to produce the experience of magic. The importance of a secret method reappeared throughout the interviews when the magicians were queried about endeavours that might or might not count as magic, and that component of magic ended up playing a sizable role in what these magicians considered to be magic. For example, Carisa Hendrix noted that

demonstrations of skill can become magic with the introduction of deceptive actions. In describing contact juggling (a style of juggling where balls are balanced and rolled around parts of the body), Hendrix said:

> Is the skill you're displaying actually what's happening? So, I'm going to balance the ball in my hand, and I'm communicating to you that I'm balancing a ball in my hand, and I am balancing the ball in my hand, that's not magic. However, when I hold the ball in a certain way…and rotate my hand around it so it looks like that is fixed in space, that is creating an illusion, because that is not what's actually happening. So, that trick is magic. But the art form primarily focuses on a display of skill as it is happening.

GOOD VS. BAD MAGIC

Despite reaching consensus on essential elements of the experience of magic, the magicians differed on one point in their personal definitions of magic: Who gets to decide what counts as good or bad magic? This became apparent when they described what constitutes good versus bad magic. Jamy Ian Swiss expressed that "it's up to the individual artist to decide what magic means." In his view, the performer gets to dictate what constitutes magic, and this sentiment was shared by some of his counterparts. Carisa Hendrix observed that:

> You have to leave it up to the artist's intention, on some level, as to what they intended to do. So good magic is when it effectively does the thing the artist intended it to do. So if your magic is intended to be very funny and deceptive, and your magic is funny and deceptive, then it is good magic. If you intend for your magic to be solemn and terrifying, and it is, then I would say that that is successful for you. It fit into the artist's intention.

In contrast, other interviewees focused on the audience's perception, rather than the magician's intent, as the determiner of whether magic is good or bad. Joe Diamond noted that "magic allows people to be the hero of their own stories." He shared an anecdote about people remembering their magic experience in a way that makes it about them rather than the magician. He described a classic sponge ball effect where a ball vanishes from the magician's hand and appears in the spectator's hand, noting that the spectators often forget that the magician held a ball at the start. "But I find it fascinating that with almost all of them the

magician—they don't even remember his name. And so the fact they completely have edited out of their memory, the whole half of the trick that involved the magician, it's all about them and their journey." Diamond reiterated that the audience is a key player in the experience of magic when he said, "I also think good magic is about the audience. It's about the people."

Even though the interviewees did not reach consensus on who gets to decide whether magic is good or bad, it is evident from the varying definitions of magic they provided that both the magician and the audience play key roles in the creation of magic. Indeed, David Parr focused on the interplay of performer and audience when speaking about the responsibility of the magician to create meaningful magic:

> Whereas my feeling is: If I'm gonna get up in front of a bunch of people, and take up their time and attention for an hour, not to mention their money, I better have something to say…Well, I can have something to say about me and who I am. I can have something to say about us and who we are collectively as people. And I can have something to say about the world around us. Those are the things I can have something to say about…We don't go to the theater to, to, to bond with objects. Like we don't…bond with the set and props, we bond with people. That's why we go to the theater…to have an experience with people to get to know people.

According to Parr, good magic has a voice and perspective that invokes ideas that resonate with the audience. The importance of meaning in magic was echoed by Jeanette Andrews, who said:

> I have watched people do incredible things that I could not care less about watching. Because the person presenting it is just, I'm just like…'I'm just kind of bored by this.' And then there's other people who I've watched do what most people deem is rather basic or kind of mundane magic, but because of how they're framing it, because they're genuinely doing something new, something different, they themselves are interesting to watch, they're telling a story in an interesting way…Whatever their sort of thing is that they're bringing to the table, even if they're maybe not doing something that is the most like mind-bending magic, you're like, "That was actually very interesting to

watch. And it actually made me, you know, kind of think about this in a different way.

These quotes suggest that good magic sometimes is more about the framing than the effect. The effect can be a vehicle for communicating or highlighting some greater theme.

Central to many performer's notions about good versus bad magic was the depth and complexity of the magician's deceptions. Tom Stone said:

> Bad magic is lacking the cat and mouse game. It's usually a single layer deception. It's usually where the dramatic effect and what causes it happens at the same time even…While good magic tricks, I would say is, it's tricks that you can explain in detail for the audience, and then immediately perform it when they know everything, and they will still go, "How is this possible?" …When at least three deceptions are working in collusion with each other, it doesn't matter if you know what's happening because your gut reaction will be a reaction of surprise. So, I would say that good and bad tricks, it's all about the structure of them.

Jamy Ian Swiss offered a simpler, more direct articulation of the deceptive quality of good magic, saying, "The best compliment you should be getting as a magician is, and this is the thing that people say about [Juan] Tamariz all the time is, 'But he didn't do anything.' You asked me, 'What's good magic?' 'But he didn't do anything.'"

Swiss and Stone both point to strong, effective magic layering deceptions in such a way that they are not just intractable, but completely invisible to the audience. It is worth noting that 'he didn't do anything' also distances the performer from the effect. Perhaps it aids in making the magic about the spectators (or about something bigger) in the way that Joe Diamond suggested.

Hendrix, Andrews, and Swiss hedged on identifying the boundaries of good and bad magic, noting that those boundaries are heavily dependent on the intentions of the performer and the context in which the magic is being performed. Jamy Ian Swiss articulated the complexity of labelling magic as "good" or "bad" by saying:

If magic requires compelling, convincing, irrevocable evidence of an impossible illusion, in other words, a perfect deception, well, if it fails to do that, it's bad magic. If it succeeds to do that, it's good magic. But that doesn't say anything about whether it's good or bad art. Or you can have a great fooling, deceptive piece. It's not a very good performance, because it just has a good method. Or you can have something that's kind of not very convincing at all, but might be extremely entertaining. So one has to do with the definition of magic; one has to do with the definition of good or bad art.

The form our questioning took allowed performers freedom to focus on the elements they saw as most important for successful (or unsuccessful) magic. In analysing their responses, it became clear that performers varied in which levels of the performance hierarchy they looked to for evidence of "goodness." Some performers (e.g., Tom Stone & Jamy Ian Swiss) looked to deceptive techniques and effects for those features that defined good magic, whereas others (e.g., David Parr & Carisa Hendrix) looked to the narrative themes in which those effects are embedded. Frequently, responses moved between levels of the performance hierarchy, highlighting the dynamic nature of performance magic.

CATEGORIES OF MAGIC
We queried participants on what they perceived to be the main categories of magic, with the hope that their answers would help us understand how they put their definitions into practice. Most of the category structures provided by the performers did not appear to relate to their personal definitions of magic, and we were surprised that some performers resisted answering the question. David Parr articulated a rationale for avoiding categorization in magic:

I tend to avoid categorizing things. Because I think that categorizing…tends to narrow your view of things so that magicians end up, you know, they specialize in coin magic, or they specialize in card magic, or they, they identify as manipulators, or they identify as illusionists, or they identify as escape artists or whatever. And what happens is that it narrows their view of magic to the point where they don't explore areas outside of their, their usual mode…And so whole swaths of magic literature go unexplored. Because, because they haven't, you know, jumped the fence and explored these other areas. So I tend to avoid fencing things. Because I think that, from an artistic point

of view, the most interesting art comes from cross pollination of various genres and styles, right? And so, I don't want to put up fences around the things that I do.

Parr's perspective was echoed by Tom Stone, who said,

"I've been sort of groomed into thinking about magic according to a certain taxonomy. And it is taking me a while to liberate myself from that kind of thinking, because, in the end, I found those brackets, I found them to be an obstacle for me as a creator of magic."

Jeanette Andrews, Carisa Hendrix, and Jamy Ian Swiss invoked traditional taxonomies from the magic literature. Swiss specifically mentioned a taxonomy by Sharpe (1932) as the most useful for magical performers:

Sam Sharpe categorized magical effects into six categories: vanish or disappearance, appearance or production, transposition (things moving from one place to another), transformation (something is small, then its large; it's red then its green)…Category Five was the "natural laws defied." That's what I think of as the -tion effects…levitation, animation, penetration, restoration…and then the sixth category is "apparent mental phenomena." And under that we include clairvoyance, telepathy, precognition, etc. I think that's a very effective system.

Joe Diamond invoked a system developed by Weber (2003) that focused not on the effects, but on the audience's emotional experience of those effects. Weber's system identifies three categories: puzzles, tricks, and extraordinary moments. Diamond explained these categories through three variants of the age-old detached thumb trick. In its basic form, with no additional presentational choices, the effect is a *puzzle*. Diamond described it as an optical illusion. "As good as that looked, you know I did not pull my thumb off…Most people even if they have that initial 'oh my god' response, the more they think about it, they go well, maybe it was this, maybe it was that." With added effort, the puzzle can rise to the level of a *trick*.

I think with the right amount of presentation, I could- you could bring this up to like a really good trick. Like maybe you got prosthetics…Let's say you initialed my thumbnail, and I was able to then pull it off and it

was still there…You wouldn't be thinking "okay, he definitely pulled his thumb off." But you'd be like, "Okay, did he transfer the initials over to the other thumbnail? Maybe it was a shell that moved over? I don't know." That's when he gets it a little closer to *trick* [italics added].

According to Diamond, the primary distinction between a *trick* and an *extraordinary moment* is "how long that wonder holds," and it is clearly linked to the strength of the illusion.

And extraordinary moments would be if I just said…"Go and reach over slowly, slowly lift up" and you lifted my thumb up, you could look at a few moments and put it back. I wouldn't have to say much more than that. I could say, you know, "thanks, bye" and walk away and that would be the extreme. I don't have a method for that extraordinary moment.

Consistent with Diamond's definition of magic, which is primarily audience-centric, Diamond's preferred categorization structure focuses on the audience experience, not a taxonomic structure that would require a magician's understanding of the breadth of possible magic effects.

Although David Parr initially eschewed categorization, he did describe the system developed by Robert Neale (Neale & Parr, 2002) that we presented earlier in this paper. That system categorizes effects according to the symbolism they invoke: being, doing, and relating. These categories imply that magic requires an interplay between performer and audience.

BOUNDARY CONDITIONS
The importance of context in defining magic (both good and bad) emerged even more strongly when we queried participants about the relationship of magic to a variety of allied arts, performers, and controversial tools that are sometimes used by magicians. David Parr and Jeanette Andrews both offered an important distinction between "magic" and the "magical." Parr noted that, "I think there's room for things to be magical without being magic. Right? There are points in my show that are magical. In other words, they, they cause a feeling of, 'Oh, wow, that's cool.' But they're not, they're not necessarily, 'Oh, I can't figure out how that happened.'" Carisa Hendrix's anecdote about contact juggling sometimes crossing the boundary between magic and non-magic is consistent with a distinction

between magic and the magical. When a contact juggler creates the illusion that a ball is locked in space, that illusion is likely to be more "magical" than "magic."

While the magicians agreed on many essential elements that must be present for magic to be experienced, not all of them agreed on what kinds of allied arts satisfied the definition of magic. Interviewees were asked whether the following endeavors counted as "magic": mentalism (simulated mindreading), escapes, juggling or cardistry, sideshow demonstrations, gambling demonstrations, pickpocketing, and optical illusions. They were also asked whether it was still "magic" if it used camera tricks or stooges (i.e., confederates) and whether Uri Geller (a performer who claims to have real magic powers) was a magician. Figure 1 depicts the proportion of the interviewees who identified each item as falling under the umbrella of "magic."

FIGURE 1

The frequency with which magicians categorized allied arts and practices as falling under the umbrella of "magic."
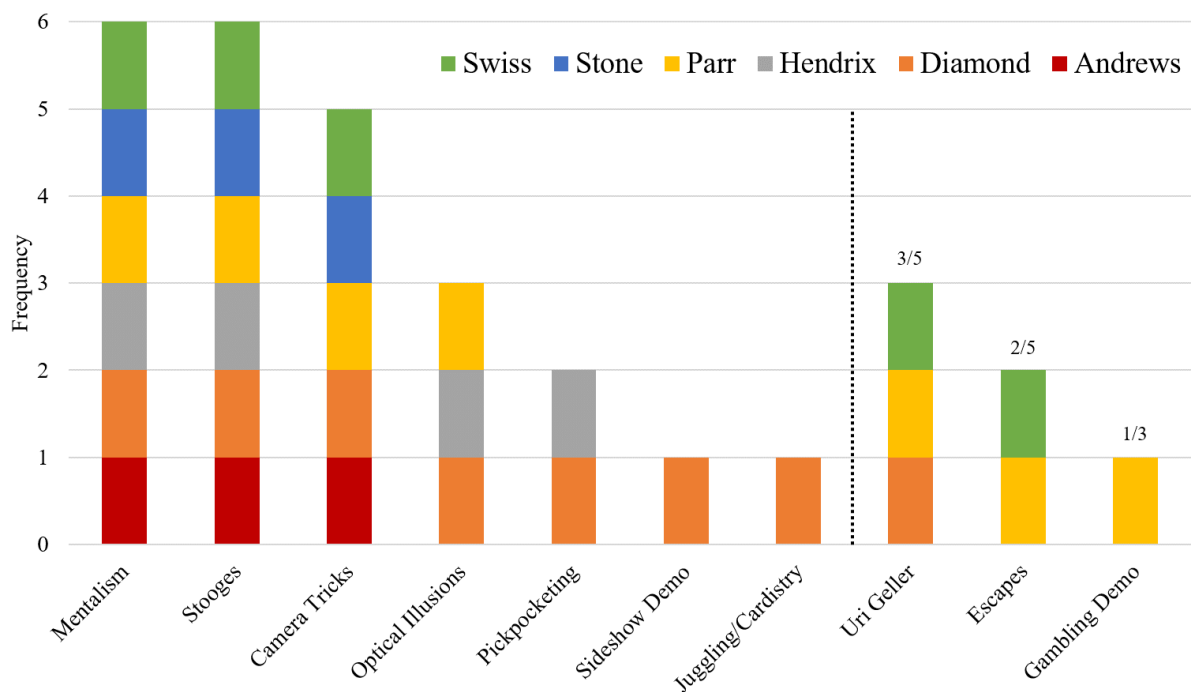
Note. Some participants did not fully commit to a particular classification. This is our best attempt to honor the internal logic of their judgments. Further, participants often added caveats to their initial classifications, complicating

categorization of their responses. For example, Swiss initially classified Uri Geller as a magician, but then qualified that statement with many caveats about what it means to be a magician. Subsets of our interviewees (denoted by fractions) were queried about items to the right of the vertical line. Gambling demonstrations were added to the interview protocol halfway through data collection, so JA, JD, and CH were not asked to categorize them. JD was not asked about juggling. JA was not asked about Uri Geller.

Mentalism was universally agreed to be a type of magic, as it commonly relies on withheld information and the "illusion of impossibility." Generally, interviewees deemed displays of skill (e.g., juggling, gambling demonstrations, sideshow, etc.) to be outside the realm of magic. Jamy Ian Swiss summed this up quite simply when he said, "And juggling isn't magic. It's an open display of skill, period." Swiss also expressed a similar opinion regarding gambling demonstrations (where a performer seemingly teaches about the sleight of hand techniques used by card cheats):

> Well, the fact of the matter is…that most magicians who do gambling demonstrations are very often using magic techniques, but they're using magic techniques to demonstrate something that is apparently explicitly a demonstration of skill. And that's the difference. If you're doing an explicit demonstration of skill, whether it's pickpocketing or cardistry or gambling techniques, if you're doing an explicit demonstration of skill, it's not magic.

Other considerations of whether these endeavors constitute magic considered the audience's perception of them when performed. For example, most audiences are naive to the physiology that enables sideshow demonstrations to occur, and Joe Diamond discussed how they can create the "illusion of impossibility": "And in many ways, it made me realize that, oh, it doesn't matter if it's real or fake…it's going to create the same feeling in people." This classification of sideshow stunts as magic further illustrated points made by these magicians about the audience's key role in the experience of magic: If the audience does not view the trick as impossible, then it isn't magic.

Many of the discrepancies in classifications of the allied arts arose because of context. Variability in the environmental or narrative context can impact perceptions of magic. A demonstration of skill in one context becomes a

demonstration of magic in another. For example, some of the interviewees felt that pickpocketing could be considered magic depending on when and how it was being done. Carisa Hendrix said, "So, the skillset of pickpocketing is very much connected to the skill set of magic, but it only appears as magic if you get that moment of disbelief." The moment of disbelief would result from manipulation of the narrative context. Meanwhile, Joe Diamond noted that the environmental context also matters: "If I'm on the streets, then I reached for my wallet, it's not there. That's not magic. That's a crime."

The classification of optical illusions as magic or not relied both upon the narrative context and the lack of deception. Even though optical illusions themselves were not generally considered to be magic by those interviewed, they could be used in context to make them magic. Unlike escapes, optical illusions do not involve a secret method and they lack a deceptive quality. Carisa Hendrix explained that "In order for it to be magic, you'd have to use that…optical illusion to then subvert people's expectations." David Parr mentioned the use of optical illusions in performances that involve black art and 45-degree mirrors to accomplish tricks, and in those instances, optical illusions can be a part of the creation of magic.

When the magicians were asked whether Uri Geller qualified as a magician, the magicians were conflicted. His use of magic techniques was not questioned. David Parr said, "But, but I mean, his whole shtick was denying that he's a magician while doing magic." But the magicians questioned whether his presentation of magic as reality meant that he should not be classified as a magician. Some thought he should not be called a magician because he himself never claimed to be one. Carisa Hendrix expressed this sentiment when she said, "Because Uri Geller does not self-identify as a magician, you know, he's pretending that what he's doing is very real, I would never want to give him a role he has not accepted for himself." Others struggled to classify him as a magician from a moral standpoint because Geller's persona does not honestly reflect his magical practices. Jamy Ian Swiss said, "So in Geller's case, and his ilk, he's using magic techniques, but he's presenting it as something different. He's presenting it as real, and so he does not have the right to call himself a magician in the moral sense, because he doesn't meet the moral requirement of that."

The consideration of Uri Geller's title from a moral standpoint highlights an aspect of magic that is worthy of further discussion: the need for trust between a magician and their audience. Carisa Hendrix explained, "You have to create a non-

combative performance environment where that person feels safe being fooled. So if you didn't do that, that magic is not going to be successful." Although the interviewees were not all in agreement on whether Uri Geller is a magician, their thoughts on him highlighted the important role that narrative context plays in the creation and experience of magic.

Most of the magicians deemed camera tricks and stooges to be fair game for magic, although they provided caveats and boundary conditions. Some warned that audiences see camera tricks and stooges as a parsimonious explanation for what they are witnessing, so magicians should avoid using them. Tom Stone put it succinctly:

> The thing is that, a good rule for magic is that: Don't use what people will expect, unless you have a way to cancel it out. And if you are on television, and they just have watched "Shazam," and "The Avengers," and stuff like that on TV, and that's a magic show. There is an assumption that you will use camera trickery. And that's the reason not to because you should not use the method that people are jumping to. Unless you have a way to cancel it out, like, make people believe that you're not using camera tricks, because, then, I think, you can use it.

Jeanette Andrews and Carisa Hendrix both invoked Georges Melies in discussing camera tricks as a tool in the magician's arsenal. Andrews qualified her categorization of camera tricks as magic by saying:

> When we look at the history of camera tricks - I'm looking at Georges Melies - then you go, "Okay, well, this is coming from magic. This is a form that arose from magic." Yet I could throw up a Zoom green screen background right now to show that I'm in France instead of sitting in my studio apartment in New York. Is that magic? I don't think so. But then you also get into the Arthur C. Clarke Third Law: "Any sufficiently advanced technology is indistinguishable from magic." I think technology can seem magical, but I don't think it's the same as performance magic in the way that I'm speaking about it. Especially because I think magic has a very specific phenomenology: I think magic needs a human embodied experience to be able to happen, and so I think if that's just purely facilitated, like a camera trick, I don't, I don't think so.

Jamy Ian Swiss begrudgingly agreed that effects using camera tricks and stooges could be categorized as magic saying:

> Yeah, it's shitty magic…Magicians within the culture of magic regard stooges, the use of stooges or confederates, as a kind of low end of the gene pool. And it's done. It's done all the time. But it's frowned upon. And you don't gain the respect of your peers for doing that…So my answer to your question has to be a little nuanced to be fair, which is, if a camera trick helps a conventional conjuring effect on television, and the audience does not suspect the use of a camera trick, that might be okay. But I also have to say "might" because right now, we're in the midst of a current phenomenon where on social media, like Tik Tok and Instagram, there are a handful of performers who are using very clever, computerized special effects, to do very short things that look like real magic tricks. And yet, they're impossible and only an expert can tell the difference. And I know a number of professionals who find that really offensive, that if you're presenting yourself as a magician, there are rules of the road.

David Parr, on the other hand, described camera tricks as often *magical*, but not *magic*. "Then it's a special effect. But special effects can be magical, right? And if the audience doesn't understand how special effects work and many don't, then, then it can be magic too."

SYNTHESIS

The interviewed magicians provided a diverse set of perspectives on performance magic. They agreed on many core aspects of how magic is defined and practiced, and to one degree or another, they all emphasized the importance of context. In the most extreme cases, what can be perceived as magic in one environmental context is perceived as a crime in another (i.e., pickpocketing and gambling demonstrations). A more nuanced examination of context points to magic as a dynamic system: Magic requires a performer, an audience, and a shared environment, and changes to one of those elements can cascade into major (and sometimes unexpected) shifts in whether or not the performance constitutes magic. We examine each in turn.

The identity and philosophy of the performer is a determinant of the experience of magic. Only half of participants categorized Uri Geller as a magician. When he performs an effect that would be perceived as a magic trick in the hands of another performer, it is not perceived as such by his audiences because he explicitly does not present himself as a magician (he now self-identifies as a "mystifier"; https://www.urigeller.com/uri-gellers-short-biography/). Carisa Hendrix, who performs her magic as a variety of characters, described a less extreme example of the importance of identity. Her most famous character is "Lucy Darling," a quick-witted, sometimes caustic 1930s-era Hollywood starlet partially inspired by Dorothy Parker. Hendrix noted that the style of magic she performs varies substantially with her character and that the character dictates the type of methods that can be employed. Extroverted characters must use misdirection differently than introverted characters, for example: "The bigger you are, the more you kind of get away with in terms of being a little bit sloppy because the movements in general are so wild. But the more refined you become, even a little movement of your thumb, we're so aware of that."

The audience composition also has a discernible impact on the experience of magic. Magic must be designed to work with diverse audiences, but subsets of the audience may experience it differently based on their backgrounds. Jeanette Andrews noted that audiences, "bring to [the show] their own personal, cultural, and natural and scientific expectations." The beliefs of audience members can lead to magic being perceived as non-magic. When he invoked the example of the detached thumb trick, Joe Diamond shared an anecdote about Sir Arthur Conan Doyle and his wife, who were devoted believers in spiritualism and, as such, sometimes experienced magic as more than magic.

> I actually just recently found out in the book "The Witch of Lime Street", that…Harry Houdini performed [the detached thumb trick] for Sir Arthur Conan Doyle and Lady Doyle in a cab in New York, and lady Doyle nearly fainted. And the book says he removed his thumb at the joint. Unless he had some kind of weird work that we don't know about, I'm pretty sure it was that.

Lady Doyle's cultural expectations led to an experience of magic that was beyond what most performers would predict.

Finally, the setting itself affects the experience of magic. In most cases, the audience *knows* they are watching a magic performance. In others, though, they might not. Jeanette Andrews explains:

> "Usually, it's very obvious, you're…sitting down, you're all looking in one direction, or you're at a cocktail party and you're…at a company event or you're in a theater…you're in some sort of space that denotes that you're going to be watching a performance or you're at an event that's preordained for that, as opposed to if you're just going about your daily life."

When an audience is primed to experience magic, that allows the performer some leeway in the narrative structures they are implementing. However, without that priming, the magic may need to take a different form. Tom Stone notes:

> I would probably make a separation between like, social, conversational magic, and the formal, performance magic. Like one is that you do among your friends, and you just happen to do something…or you emulate that atmosphere, even though you, as a magician, plan it like a stage performance…How it's perceived, is still like, a bit haphazard, like, "Oh, we're out with a couple of friends. And this just happens." That's a big difference from a formal magic show.

When magic is presented in an environment where magic is unexpected, it can lead to differences in how people perceive the magic. David Parr discussed how the pandemic necessitated a shift to virtual magic, which set up different expectations for the audience and allowed for a different set of methods than could be used in live performance:

> What I realized during the pandemic was…that this visual frame opens up all kinds of possibilities for me to use methods that could never use in person. Because shenanigans can be happening right outside this frame. Inches outside this frame. Right? And nobody knows. And…that was liberating to me. It was like, "Oh, wow, let me see what I can do with this medium to use it for what it does best." So I, I created all kinds of magic for my virtual show that I could never perform in person.

The performers largely agree on the core components of magic, but subtle differences in the weighting of those factors from one performer to the next led to meaningful differences in their approach to magic. And those points of divergence are interesting for scholars of magic. We did not explicitly ask the magicians about the roles of the performer and spectator in defining magic, yet many of them articulated positions that seemed to prioritize one or the other, and those different priorities appeared related to how each of them approached the creation of compelling magic.

Joe Diamond presented the most audience-centric view of magic. Indeed, he argued that good magic "allows people to be the heroes of their own stories." Diamond also was the only one of the six magicians who primarily performs as a mentalist. Many of the central themes of mentalism are about the personal, lived experiences of audience members. When he was asked to opine on whether mentalism was a form of magic, he noted a distinction that some mentalists make:

> I saw someone say that they're trying to differentiate between magic and mentalism, which I don't see it, and they tried to say it as magic is all about the magician, but mentalism is all about the audience. And I just thought, okay, sure, but good magic should be about us. It should be about all of us together.

Diamond differs from other mentalists in believing that both magic and mentalism are about the audience. He may have arrived at his view of the importance of the audience by generalizing from his training as a mentalist.

Jamy Ian Swiss and Tom Stone took a more performer-centric view. Swiss stated that, "there is no absolute definition of magic…It's up to the individual artist to decide what magic means." Of course, he acknowledged that the audience is an important part of the experience, saying, "it really is up to the original artist to provide a point of view, what audiences seek." Among magicians, both Jamy Ian Swiss and Tom Stone are renowned for their approaches to sleight of hand magic and attentional misdirection. Since these deceptive techniques are almost entirely driven by the performer, that might contribute to their comparatively performer-centric philosophies.

David Parr articulated a middle-of-the road perspective in which magic is about the relationship between the performer and the audience. Similar perspectives

were implicit in statements made by Carisa Hendrix and Jeanette Andrews. All three adopt highly theatrical, character-driven performing styles, and their philosophy of balancing performer and audience interests may stem from approaching magic as theatre.

CONCLUSIONS

As with all qualitative research, readers should be hesitant to generalize the findings of our work to any population. We interviewed a small number of magicians (most of whom were based in the United States) who were not randomly selected. Indeed, we invited these magicians to participate because of their nuanced views of magic. Interviews with a different set of participants might lead to different conclusions. Still, their insightful comments in these interviews will allow researchers to generate new, testable hypotheses about magic.

The magicians were remarkably consistent in articulating the fundamental features of magic. However, the relative weighting of these features varied with characteristics of the performer. Future research should look to the *inconsistencies* in performer responses for particularly fruitful avenues toward understanding the nature of magic. Not only was there between-participant variability, but participants were not always self-consistent in their responses. For example, some participants expressed strongly audience-centric views that they later contradicted with strongly performer-centric views. There could be additional, unidentified variables at play that resolve these inconsistencies. Just as contextual factors can shape the experience of magic, they can also shape interview responses in the moment. The order in which we asked our questions and the participants' knowledge of the researchers could have shaped the form responses took. An important next step will be to explore whether audiences are sensitive to the factors that these expert performers articulated. The exercise of defining magic will be most meaningful if the understanding gained has real consequences for audiences experiencing magic in the wild.

REFERENCES

Aronson, S. (1990). *The Aronson approach.* Savaco, Limited.

Bagienski, S. E., & Kuhn, G. (2023). A balanced view of impossible aesthetics: An empirical investigation of how impossibility relates to our enjoyment of magic tricks. *i-Perception*, *14*(1), 20416695221142537. https://doi.org/10.1177/20416695221142537

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Danek, A. H., Öllinger, M., Fraps, T., Grothe, B., & Flanagin, V. L. (2015). An fMRI investigation of expectation violation in magic tricks. *Frontiers in Psychology*, *6*, 84. https://doi.org/10.3389/fpsyg.2015.00084

Fraps, T. (2021). Illusions, magic and the aesthetics of the impossible. In K. Rein (Ed.), *Illusion in cultural practice: Productive deceptions* (pp. 53-70). Routledge. https://doi.org/10.4324/9781003188278

Grassi, P. R., & Bartels, A. (2021). Magic, Bayes and wows: A Bayesian account of magic tricks. *Neuroscience & Biobehavioral Reviews*, *126*, 515-527. https://doi.org/10.1016/j.neubiorev.2021.04.001

Grassi, P. R., Plikat, V., & Wong, H. Y. (2023). How can we be moved by magic? *The British Journal of Aesthetics, 64*(2), 187-204. https://doi.org/10.1093/aesthj/ayad026

Griffiths, T. L. (2015). Revealing ontological commitments by magic. *Cognition, 136*, 43-48. http://dx.doi.org/10.1016/j.cognition.2014.10.019

Harris, P. L. (1994). Unexpected, impossible and magical events: Children's reactions to causal violations. *British Journal of Developmental Psychology*, *12*, 1-7. https://doi.org/10.1111/j.2044-835X.1994.tb00615.x

Jay, J. (2015). *Magic in mind: Essential essays for magicians.* Vanishing Inc.

Kuhn, G. (2019). *Experiencing the impossible: The science of magic*. MIT Press.

Kuhn, G., Pailhès, A., Jay, J., & Lukian, M. (2023). Experiencing the improbable: How does the objective probability of a magic trick occurring influence a spectator's experience? *Decision*. Advance online publication. https://doi.org/10.1037/dec0000220

Leddington, J. (2016). The experience of magic. *The Journal of Aesthetics and Art Criticism, 74*(3), 253-264. https://doi.org/10.1111/jaac.12290

Leddington, J. (2020). Comic impossibilities. *The Journal of Aesthetics and Art Criticism, 78*(4), 547-558. https://doi.org/10.1111/jaac.12762

Lewry, C., Curtis, K., Vasilyeva, N., Xu, F., & Griffiths, T. L. (2021). Intuitions about magic track the development of intuitive physics. *Cognition, 214*, 104762. https://doi.org/10.1016/j.cognition.2021.104762

Maskelyne, N., & Devant, D. (1911). *Our magic*. Routledge.

Medeiros, G. T., Tomkins, M. L., Bagienski, S., & Kuhn, G. (2023). Not just a trick: A survey study exploring how 'exposing' exhibition visitors to science of magic concepts impacts their appreciation of magic. *Journal of Performance Magic, 7*(1). https://doi.org/10.5920/jpm.1260

Neale, R. E., & Parr, D. (2002). *The magic mirror: Reflections on the nature and relevance of magic.* Hermetic Press.

Ortiz, D. (2006). *Designing miracles.* A-1 Magical Media.

Parris, B. A., Kuhn, G., Mizon, G. A., Benattayallah, A., & Hodgson, T. L. (2009). Imaging the impossible: An fMRI study of impossible causal relationships in magic tricks. *Neuroimage, 45*(3), 1033-1039. https://doi.org/10.1016/j.neuroimage.2008.12.036

Reynolds, C. (2003). On a definition of magic. In J. Jay (Ed.), *Magic in mind: Essential essays for magicians*. Vanishing Inc.
Rissanen, O., Palonen, T., Pitkänen, P., Kuhn, G., & Hakkarainen, K. (2013). Personal social networks and the cultivation of expertise in magic:

An interview study. *Vocations and Learning, 6*, 347-365. http://doi.org/10.1007/s12186-013-9099-z

Sharpe, S. H. (1932). *Neo-Magic*. George Johnson, Magical Publications.

Stromberg, J. (2012, February 22). *Teller speaks on the enduring appeal of magic.* Smithsonian Magazine. https://www.smithsonianmag.com/arts-culture/teller-speaks-on-the-enduring-appeal-of-magic-97842264/

Weber, K. J. (2003). *Maximum entertainment: Director's notes for magicians and mentalists.* Ken Weber Productions.

APPENDIX A
INTERVIEW SCRIPT

What is magic?

If you had to categorize magic tricks, what would you see as the main categories? What are some examples of tricks that fall in each category?

What differentiates good magic and bad magic?

We are interested in finding the boundaries between magic and other forms of entertainment.

   a. Is pickpocketing magic? (If not, why not?)
   b. Are visual or optical illusions (like the duck/rabbit illusion or the face/vase illusion) magic?
   c. Are sideshow demonstrations magic?
   d. Are gambling demonstrations magic?
   e. Is mentalism magic?
   f. Is it magic if it uses camera tricks?
   g. Is it magic if it uses stooges? Instant stooges?
   h. (open ended) We're curious whether you think contact juggling, cardistry, or escapes are magic.
   i. Are people like Uri Gellar magicians?
       i. Is the use of a secret method necessary for the experience of magic? Can a magic effect exist without a secret method? [[is magic the effect, the method, or the conjunction of the pair?]]