TOWARD A THEORY OF EXPOSURE

Brian Rappert
University of Exeter

Gustav Kuhn
University of Plymouth

ABSTRACT

Excited attention towards the disclosure of methods – what is termed 'exposure'– infuses both popular and practitioners' portrayals of entertainment magic. As an art associated with 'doing the impossible', the disclosure of methods is widely held as ruining the prospects for experiencing astonishment. For all its familiarity, however, exposure is rarely subject to extended consideration in the thoughts and theories of professional magicians. In response, this article offers a multidisciplinary theorization of exposure grounded in novel empirical research. In line with the tradition of conceiving of magic as a form of social interaction constituted through the relations between audiences and performers, this article advances the notions of 'boundary work' to provide means for doing justice to the nuances of what it means to expose the secrets of magic. As an intervention into ongoing debates about what counts as appropriate conduct, the ultimate aim of the article is to help re-imagine what is at stake in conjuring.

Keywords

Disclosure, secrecy, social interaction, ethics, magic

TOWARD A THEORY OF EXPOSURE

> "But you see, this ball has returned. Now the reason for that is very simple: I swindled you. See, I pretend to take it in this hand…magicians call that misdirection. See I only pretend to put it in my pocket. I bring it down with my little finger with the pinkie, drop it behind the cup, and see it is not really there at all".[1]
>
> - Dai Vernon

The injunction against magicians sharing the methods for their tricks is likely to be familiar to many with only a passing knowledge of modern conjuring. As an art associated with 'doing the impossible',[2] the disclosure of methods is widely held as ruining the prospects for experiencing astonishment.

And yet, for all the long running attention garnered by notions such as the Magician's Code or Oath, exposure is under-theorized. While such a claim might be made of many other central concepts in entertainment magic too – for example, misdirection[3] – arguably this is especially so in the case of exposure. Perhaps due to the manner it is so often cast as self-evidently problematic, exposure is rarely subject to extended consideration in the thoughts and theories of professional magicians or in academic writings on modern conjuring.

The contention that exposure is a slippery concept that merits greater scrutiny figures as both a starting motivation for and a final conclusion of this article. Exposure is slippery in that it is multiply defined. In being multiply conceived, it is varyingly evaluated in practice despite commonplace condemnations. Exposure is significant too. The examination of what it is and how to make sense of it raise fundamental questions for performing arts, such as: How do the conative and cognitive combine in producing affect? How do those identified as performers and as audiences make occasions and make meaning (together)? Who is in a position to judge what is in the interests of an art?

While entertainment magic is hardly the only profession that keeps 'strategic secrets',[4] some features of conjuring make the exposure of its methods particularly knotty and noteworthy. As entertainment magic typically entails a magician seeking to deceive an audience that suspects it is being deceived, the positioning of methods can be characterized as involute. Magic produces experiences of the impossible by running along two distinct, but also inter-dependent, parallel tracks: the presented story of what apparently happens

and the hidden story related to methods.[5] A classic "Cups and Balls" routine, for instance, on the surface involves balls placed under inverted cups inexplicably teleporting, multiplying, transforming or simply disappearing altogether. And yet, while the presented and hidden story run in parallel, they can also intersect.[6] The in-performance quote above from the well-known magician Dai Vernon in which he overtly states to his TV audience how misdirection features in his "Cups and Balls" routine illustrates how reference to the hidden can figure in the presented story. And yet, such references to the hidden are not simple outings. As will be developed below, exposing patter about methods can work to obscure methods, at times. This potential complicates tidy assessments of exposure.[7]

Rather than offering a definitive account of what exposure is and how it ought to be judged, the central goal of this article is to promote recognition of the assumptions and implications associated with how disclosure is conceived.[8]

The sections that follow mix descriptive, explanatory and normative arguments. The next section offers some preliminary characterizations of exposure. Within the argument of the article as a whole, it draws out the scope for varying conceptions and assessments of this notion. Extending this initial argument further, section three sets out alternative ways exposure can be understood. The fourth one turns to how practicing magicians evaluate and more widely make sense of the disclosure of methods through recounting two empirical studies undertaken by the authors. As with previous sections, this one contrasts the in-general bar against disclosure with the in-practice nuances of applying that bar against specific performances. Building on the prior sections, the fifth one proposes treating exposure as an 'essentially contested concept.'[9] Based on this understanding, the sixth section forwards the notion of 'boundary work' as a way of examining what is at stake in exposure.

Within these sections, the place of experience, agency, judgement and knowledge in the relation between performers and audiences will figure as central themes. As an intervention into contemporary discussions about what counts as appropriate conduct, the ultimate aim of the article is to help re-imagine modern conjuring.

EXPOSURE: PROHIBITIONS, VARIETIES AND JUSTIFICATIONS

The general censure against the exposure of methods is expressed in the written codes of prominent professional societies. A joint ethical statement

from the International Brotherhood of Magicians (IBM) and the Society of American Magicians (SAM), for instance, calls on its members to:

> Oppose the willful exposure to the public of any principles of the Art of Magic or the method employed in any magic effect or illusion.[10]

In an effort to elaborate the forms exposure can take, psychologist Gustav Kuhn broke it down into four types:

> (i) Exposure for cheap thrills: The 'how to' revealing of methods to the general public for self-promotion and reward; as in performances of the Masked Magician in the TV programme *Breaking the Magician's Code*.
> (ii) Exposure and debunking: Outing the methods used by fraudsters who do not admit they are drawing on methods associated with entertainment magic (for instance, purported psychics);
> (iii) Exposure as part of the performance: The inclusion of more or less explicit references to methods (for instance, in the quote by Dai Vernon in the previous section);
> (iv) Inadvertent exposure: Giving away methods because of a lack of proficiency.[11]

The inclusion of (iv) set against the IBM and SAM statement indicates one line along which conceptions of exposure can vary; namely, whether it is necessarily intentional. Other variations can be identified. As with IBM and SAM, the Magic Circle expects that its members refrain from the willful disclosure of 'magical secrets other than to magicians or bona fide students and historians of magic.'[12] However, in acknowledgement that exposure can serve positive ends, the Magic Circle has also set out circumstances in which it is permissible. On a case-by-case basis, today the Magic Circle's Council may approve, for instance, exposing gambling scams in the public interest so long as the scams are not described as "tricks" to the public.[13] Whereas some forms of exposure are permitted by the Circle, others are curtailed. While the Magic Circle still has a dedicated Paranormal Investigation Committee to examine claims to supernatural powers, it also discourages members from exposing the underlying methods used by those claiming paranormal abilities, if possible, as exposing might have a knock-on effect for those performing entertainment magic.[14]

Perhaps the most well-known historical instance of a magician falling foul of formal ethical codes is that of the first President of the Magic Circle, David Devant. His case also indicates how exposure can be alternatively assessed. As Edwin A. Dawes detailed, Devant was forced to resign from the Circle in 1936 after he published extracts from his book *Secrets of My Magic* detailing methods for some of his routines in the popular *Windsor Magazine*.[15] Responding to the Circle's request for resignation, Devant offered varied forms of justification for this popular publication, namely: these were his tricks, exposure stimulates public interest in magic, divulging methods forces magicians to devise new tricks, and the real secrets of magic lie in the artistry of performance.

The last of Devant's justifications is of particular interest because it touches on long-standing debates about the limitations of 'how-to' methods in and of themselves to generate experiences of wonder, awe and impossibility. Jim Steinmeyer's well-known phrase, 'Magicians guard an empty safe',[16] speaks to something of a professional 'dark secret'[17] incompatible with many public imaginations of conjuring. That being: 'there are few secrets that [conjurors] possess that are beyond the capacity of a high school science class, little technology more complex than a rubber band, a square of mirrored glass, or a length of thread. When an audience learns how it's done, they quickly dismiss that art: "Is that all it is?".[18] Herein, exposure is dubious because it leads to disappointment – disappointment in magic and in magicians.

And yet, it does not always do so. Dai Vernon's illustration of misdirection in his "Cups and Balls" routine was not meant to disappoint – far from it. Nor did it lead to his professional censure for breaking the Magician's Code[19] – far from it.[20]

The previous paragraphs indicate the scope for varying conceptions and assessments. Debates about the rights and wrongs of exposure can turn on thorny questions about what counts as the crucial secrets of magic and who is in a position to decide what is detrimental to the Art. The previous paragraphs also signal how exposure is conceived and assessed: namely, through consequentialist forms of reasoning. Exposure can be treated as lamentable, full stop. But often, its appropriateness is taken to depend on what results – for magicians who seek rewards for their labours, for the Art of Magic in general and for audiences' affective experience. In its typically consequentialist framing, the exposure of methods in magic differs from other kinds of esoteric information that is regarded as pertaining to the ineffable or sacred.[21] In an effort to advance when the benefits might outweigh any

downsides, some have set out justifications for exceptions to the overall bar against exposure, such as in capturing audiences' attention, misdirecting gaze and enhancing the effects of tricks.[22]

EXPOSURE: WHAT IS IT?

Let us then move on from these brief introductory points to closely dissect what counts as exposure.

To begin, consider one example. David Copperfield's television recorded performance of "Immaculate Connection" entails the inexplicable linking and delinking of three playing cards that have holes in their centres.[23] As part of making those holes in front of the audience, Copperfield first folds a few cards in half and then tears out a semi-circle along the folded side. These actions are given meaning and justification through patter. At the start, Copperfield introduces the principle of marked playing cards. He then demonstrates 'the newest principles of marking'. The first is making 'a little tiny bend' (named as the "Gambler's Crimp") which Copperfield illustrates by overtly folding the cards in half. The second is making 'a little tiny notch' in these cards (named as the "The Invisible Notch") which Copperfield illustrates by tearing out a large semi-circle from the folded cards and tossing away the torn sections. These manipulations are accompanied by jokes that draw out the distinction between what he says about the subtleties of marking and what he grossly does to his cards.

How can this performance be interpreted through the notion of exposure?

Among various meanings, the *Collins Dictionary* defines exposure as:

> - the act of exposing
> - disclosure, as of something private or secret
> - an act or instance of revealing or unmasking, as an impostor, crime, or fraud[24]

These formulations conceive of exposure as an *act*; that is as an undertaken deed. In relation to the topic of this article, the deed at hand is the disclosing of methods. Copperfield's marking patter as part of "Immaculate Connection" would count as exposure in this sense of the term – methods are relayed to the in-studio and recording audiences.[25]

Conceived of as an act, instances of exposure can be enumerated and assessed. For instance, in an effort to establish condonable disclosures, in 2018 the Magic

Circle produced a listing of the types of actions approved or subject to qualified approval by its Council. Approvals included:

- Lessons / courses for which participation has been paid and the student is expected to "keep the Magician's Code" and not share the secrets
- Creating online content revealing methods, as long as there is a paywall or the content is not generally available
- Sucker tricks[26]
- Secrets exposed to theatre or tv technical crew or production team where they have a need to know for the effective or safe execution of an effect

While these examples can be interpreted as acts – meaning, undertaken *deeds* – it is important to recognise that this listing is more accurately characterized as referring to *relations*. Herein exposures are not simply acts done by magicians, but done by magicians for others — students, internet browsers, spectators, assistants, etc.

Conceiving of exposures as a *relation* between people rather than an act done by the magician alone suggests the need – in some manner – to mind the knowledge, meaning making, experiences, acquired abilities and so on of those on the receiving end of exposures. To take a plain example, it would seem odd to label some act as exposure if audiences simply did not grasp what was presented (for instance, the verbal telling of methods in Mandarin to an English-only speaking audience). Let us turn to some of the ways audiences can be minded vis-à-vis conceptions of exposure.

Exposure can be conceived of in ways that refer to *outcomes* for audiences. In other words, exposure = deed + result. This is in line with another definition of exposure in the *Collins Dictionary*: 'the fact or state of being exposed'.[27] Taking an outcome-based definition means considering more than whether some sort of disclosure was made; but what follows from this act. Along these lines we can ask:

> * Does a specific instance of disclosure merit the designation 'exposure' because some given audience *might* be able to discern how a trick was done, because they are *likely* to discern how, or because they *actually* did discern how? Relatedly, how much does exposure entail more than just the presentation of information, but the ability of those on the receiving end to translate that information into a form of 'know how'?
> * Further, we can ask what is meant by words such as 'discernment' or 'knowledge'? Copperfield's highly exaggerated handling of the cards

> in "Immaculate Connection" probably made it plain that the mentioned techniques had not been properly displayed to the audience. And yet, they still learned something about how cards might be marked in hearing about crimping and notching.[28]
>
> * Does it make sense to use the term exposure in relation to magic effects and illusions directed toward automatic visual and cognitive processes that work even when audiences are aware that their perceptions are being manipulated?[29]

Stated differently, once we move from act- to outcome-based conceptualizations, a whole host of choices and questions can be posed about exactly what type of outcome is of concern.[30]

Many of the above questions about the cognitive effects of disclosing methods can be posed about the emotional effects of exposures for audiences. Does a specific instance of disclosure merit the designation 'exposure' because a given audiences' emotional reactions *might* be affected, because they are *likely* to be affected, or because they *actually* were affected? While exposure of methods is often treated as reducing the audience's experience of wonder, awe and surprise, what if the disclosures enhanced (some aspect of) the experience?[31] The blatant disclosure of principles in "Immaculate Connection" was presumably intended to enhance the emotional engagement of audience members and appeared to do so for some in the recording studio.

There are additional kinds of queries that can be raised about outcome-based definitions of exposure. While they have the advantage over acts-based definitions of moving beyond a narrow focus on magicians' isolated actions, the distinction in magic between the given and the hidden story also renders it problematic to ground designations of exposure on outcomes. The blogger named The Jerx proposed an example for consideration along these lines. Imagine a trick with the basic premise that a magician can find any card chosen by a spectator after it is lost somewhere in a shuffled deck. The hidden method could be the use of marked cards. One way this trick could be made more interesting is by offering a presented story that the card is being located through a mobile phone app that can track the movement of cards in a deck. This presented story would be a 'goof' in the sense of being made-up and offered as made-up. As he contends though, there is a combination of apps that taken together could function to identify a selected and shuffled card along these lines. In other words, the presented patter could not simply be a fallacious story but reflect the hidden story too. As The Jerx argues, the resulting situation is puzzling:

> if you do this trick with a marked deck, you're a thoughtful magician putting some effort into presentation. If you do it with the app, you're exposing the trick and breaking a cardinal rule of magic. **But the experience for the spectator would be (essentially) identical regardless of which version you performed.** In fact, even a knowledgeable magician might have no idea which version you did if they were just watching. The president of the IBM might say, "If that trick doesn't use an app, I'd like to write up your presentation in the Linking Ring.[32] If that *does* use an app, then you're kicked out of the IBM for exposure."[33]

As suggested here, audiences' experiences cannot in themselves provide a basis for designating what ought to count as an exposure and how it ought to be judged. Some combination of act + outcome thus seems necessary, but how they need to be brought together is more difficult to resolve.

A limitation of the *act* and *outcome*-based definitions outlined in the previous paragraphs is the manner they cast exposure as time bounded and episodic. Any one instance of the disclosure of methods, however, can be situated within a historical and cultural context.[34] For instance, the matters of how to designate and assess Copperfield's patter about the general principle of marking and the more specific references to the "Gambler's Crimp" and "The Invisible Notch" could be treated as depending on the audiences' prior knowledge. References to marking, crimps and notches are not likely to be labelled as exposure – or, at least, not problematic exposure – if such techniques are regarded as 'widely known' (see the next section). In this way, an individual disclosure takes its meaning by how it stands against prior ones. It is a *contextually conditional* designation.

Prior exposures though need not serve simply to make methods more widely known. Instead, they can serve to befuddle or 'poison' the comprehension of methods. As The Jerx argued:

> most adults have heard of the concept of marked cards, but most have never seen a marked deck. If you "expose" a marked deck to someone, and it's the kind of marked deck that you have to really study the back of the card and do a bunch of mental calculations to determine what the card is, then you've helped establish in their mind what a marked deck is. So if, at a later time, you use a different marked deck (one that allows you to know the card's identity with

> just a glimpse, perhaps from a few feet away) and you somehow know what card they picked without studying the back of the card, they'll assume it *wasn't* a marked deck.[35]

The manner in which exposure can work to poison the comprehension of methods speaks to a third story involved with magic: not only need we distinguish between the 'presented story' of what is perceived and the 'hidden story' of methods, but there is also the third story of audiences' interpretations of performances.[36]

Further in terms of conceiving of exposure as relational and contextual, some instances of exposure-concealment are tightly coupled. For instance, the film *The Honest Liar* documents former magician James Randi's efforts to out how purported psychics, faith healers and others accomplished their extraordinary feats. In particular, the film included extended analysis of the attempts by Randi to disprove the claimed paranormal abilities of Uri Geller in the 1970s and 1980s.[37] The relation between the two was cyclical and reciprocal. Attempts at the exposure of methods by Randi led to new feats by Geller which led to further exposures, and so on. This back and forth, action-reaction dynamic meant, in no small way, it would be wanting to explain the career trajectories of Geller or Randi without reference to the other.

In varied ways, the previous paragraphs suggest the importance of not treating individual instances of the disclosure of methods in isolation. Rather than referring to a one-off act, exposure needs to be understood as interplay – interplay between one instance of disclosing and some sense of the wider backdrop for making sense of that instance. It follows that what counts as exposure is time-sensitive, situated and emergent.

Finally, another way to conceive of exposure is through the notion of a *transaction*. Entertainment magic is an art, but as an art it is also a form of business. The business dimensions of magic point to the manner it entails a relation between a buyer and a seller; roles that come with expectations. In relation to the disclosure of methods, some of the transactional aspects of exposure have already been noted. The Magic Circle's approval of its members engaging in paid instructions to students that are expected to "keep the Magician's Code" likewise applies to books, DVDs and downloads.[38]

Treating exposure as a transaction brings to the fore the moral economy of learning magic. In the past, face-to-face instructions and specialized books

served as the prime means of limiting access to information about methods, while enabling beginners to learn, while also rewarding magicians for their labour. Today, in an era of mass online tutorials in which vloggers create instructional content with a view to attracting likes, subscribers and, perhaps above all else, attention, traditional transactional expectations that served to police the dissemination of information are ever more under strain. While the moral compact that those buying method instructions would "keep the Magician's Code" was always more aspiration than prognosis in the past, today when methods for vast numbers of magic effects are only a few keystrokes away, the prospects that information about methods will be closely bound is ever more remote.

It is not just the presence of 'how to' instructions that impinges upon exposure. When Dai Vernon and David Copperfield performed the tricks noted above, they could be fairly sure viewers would have limited ability to later scrutinize the recordings. The possibility today to watch, pause and rewatch recorded routines that involve some sort of disclosure of methods (as well as those that do not) enables viewers to inspect methods in a manner unimaginable in decades past. So too does the peer-to-peer ability of viewers to comment on performances through social media platforms.

Table 1 provides a summary of the multiple ways of conceiving of exposure surveyed in this section.

Table 1: A Typology of Exposure

Exposure as…	**Aligned with the commonplace dictionary definition(s)…**	**Attends to…**	**Assessing the appropriateness of a disclosure can be done by…**
…an act.	…such as: - the act of exposing. - disclosure, as of something private or se cret. - an act or instance of revealing or unmasking, as an impostor, crime, or fraud.[39]	…what the magician does.	…comparing acts to professional guidelines and codes.
…an act with an outcome.	…such as: - 'the fact or state of being exposed'.[40]	…what results from magicians' acts.	…determining what audiences comprehend. …determining what audiences can do as a result of what they learn. …determining what audiences feel.

…a relation whose outcome is situationally dependent.	…of the 'dialogical'; meaning individuals exposures are 'characterized by dialogue'[41] with what else is known.	…contextual considerations beyond any specific performances.	…situating what magicians do in relation to audiences' prior knowledge as well as cultural understandings of magic.
…transactionally dependent.		…economic and moral relations.	… considering how it aligns or not with the expectations and conventions between buyers and sellers.

HOW DO MAGICIANS ASSESS EXPOSURE?

Thus far, this article has advanced a series of arguments:

> - While exposure is often glossed as an act of disclosure by the magician, exposure can be conceived in alternative, relational ways owing in large part to the manner magic entails an interaction in which the performer seeks to influence an audience. The potential for varied conceptions suggests the need for caution regarding the presumptions informing how exposure is discussed and evaluated;
> - Relatedly, although exposure is widely condemned within conjuring communities, forms of exposure can be woven into performances and condoned by professional societies. The justifications for exposure often turn on its (perceived) consequences.

Against these points derived from surveying policies of magical societies, cases of leading magicians and the reflections of prominent commentators, this section turns to how practicing magicians determine what counts as exposure and how to assess it.

To start, it is worth noting that very few academic studies have directly examined the impact that exposure has on people's experience of magic, nor is it a topic that is frequently elaborated within magic literature. Medeiros and colleagues examined how exposure of general magic principles affects people's experience and attitudes.[42] In 2019, the Wellcome Trust ran a free exhibition that explored the psychological principles that underpin magic and ways in which this deceptive artform has helped debunk pseudoscientific claims. Parts of the exhibition involved exhibits that illustrated scientific studies on misdirection, and discussed the ease by which misdirection can manipulate what people see. Medeiros led a qualitative and quantitative survey examining the impact that this exhibition had on people's experience of magic. Their results indicated that learning about the psychological mechanisms that underpin magic, and the general deceptive principles in magic significantly

enhance people's appreciation for magic and the magic community in general, as well as the anticipated wonder that magic will elicit in future.

Quantitative Survey

To help address some of the deficits of the existing literature, one of the authors (Kuhn) set out to measure magicians' attitudes towards forms of exposing. This was done as part of a survey that quantitively captured the views of a significant number of magicians (n=197) on a wide range of professional issues. Thus, the exposure-related questions were embedded within a larger agenda. No reference was made to specific magic tricks or specific methods in relation to exposure. Instead, we focused on the context and the intention of the disclosure of methods. We attended to five different dimensions (see Box 1).

To expand, our survey asked magicians about whether it was acceptable to expose magic secrets to nonmagicians, before questioning them on more well-defined examples. The first set of questions focused on the differences between exposing methods for the sake of knowing the secret methods as opposed to knowing the secret so that the trick can be performed by others. We expected the latter to be more acceptable. The second set of questions examined whether the identity of the person who invented the trick influenced whether magic tricks could be exposed. To do so, we probed three different contexts: exposing a trick that was invented by themselves, a magician who passed away and a magician who was still alive. We expected that exposure across these contexts would become progressively less acceptable. Our third dimension examined whether it was more acceptable to expose a magic trick if this was done to promote a further pursuit, rather than simply gaining public visibility. In this regard we measured the acceptability of exposure to protect the public from fraud, enhance wellbeing, enhance scientific research, or when it is included within educational and corporate programs. We predicted that exposure would be more acceptable if it was intended to advance other domains, but we had no clear predictions as to whether any of the listed purposes were more or less acceptable. We were also interested in how the financial transactions involved in acquiring the secret influences the acceptability of exposing a magic trick. Does paying to learn the secret make exposure more acceptable? How does the nature of this transaction, in other words the place of purchase affect the acceptability of exposure? We expected that it was more acceptable to expose magic secrets when the tricks are bought in a specialized magic shop, rather than one marketing to a more general audience. Relatedly, we were also interested in whether it was acceptable to expose a trick that is typically found in children's magic sets. Our final question examined whether it was

acceptable to expose tricks within a performance, such as when it is framed as a sucker trick.

Box 1: Exposure Survey Questions

Neutral baseline

- A non-magician asks the magician how the trick is done

Set 1: Intention of learning to perform magic as opposed to simply knowing the secret

- A nonmagician pays the magician to know how the trick is done for the sake of knowing the secret
- A non-magician asks the magician how the trick is done, so that he can perform it

Set 2: Identity of the individual inventing the trick

- Exposing a trick you invented yourself
- Exposing a trick that has been invented by another magician who has passed away
- Exposing a trick invented by another magician, who is still alive

Set 3: Exposure to apply knowledge to other domains

- Exposing a trick to gain public visibility
- Exposing a trick as part of educational and corporate programs
- Exposing a trick to enhance wellbeing
- Exposing a trick to expose a card cheat
- Exposing a trick to aid scientific research
- Exposing a trick to debunk a fraudulent psychic
- Exposing a trick to train government agents to fight crime and fraud

Set 4: Financial transactions

- Exposing a trick that is frequently sold in kids magic sets
- A nonmagician buys a magic trick in a public shop
- A nonmagician buys a magic trick in a magic shop

Set 5: Within performance exposure

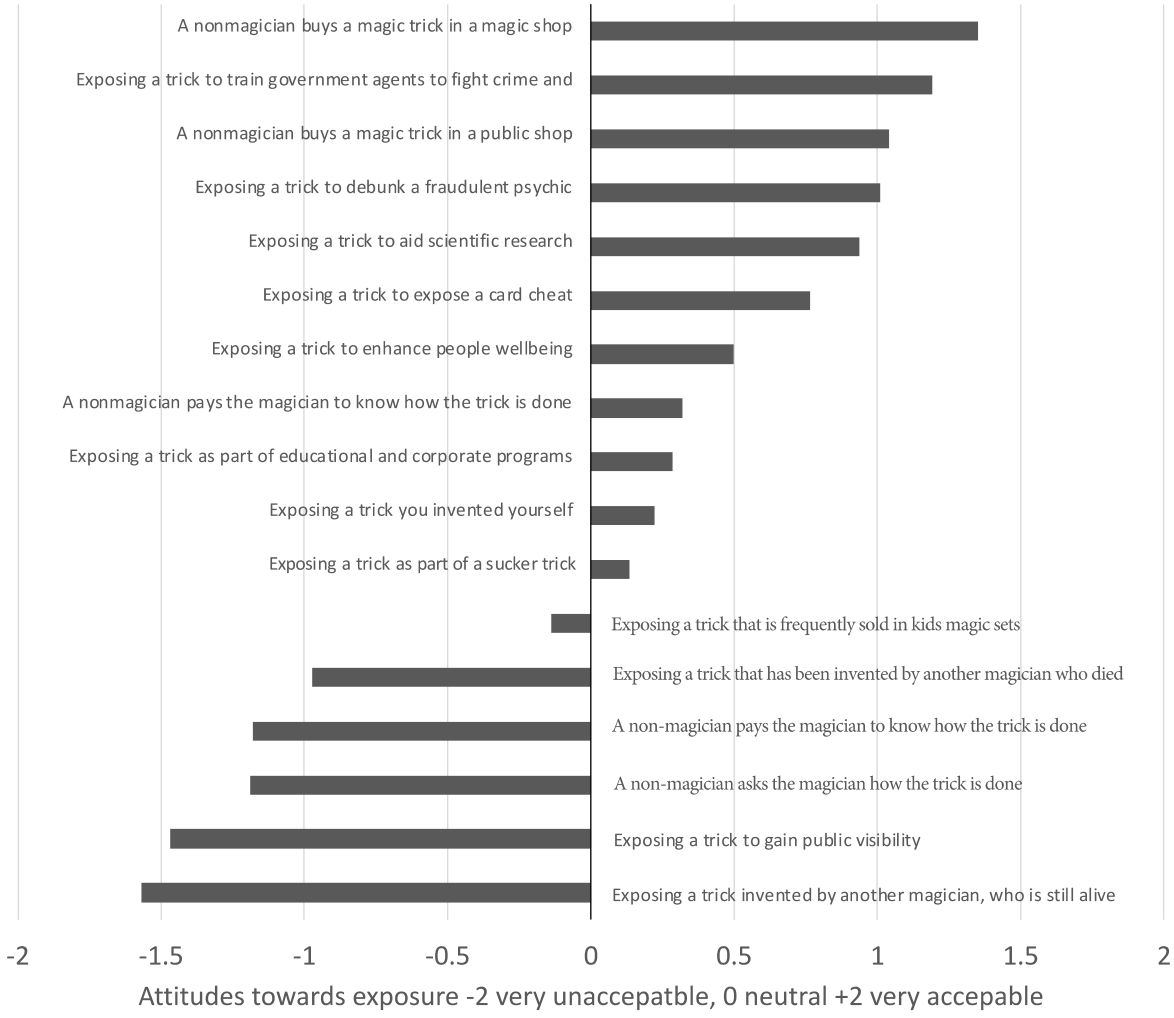
- Exposing a trick as part of a sucker trick

Participants were recruited by posting a link to the survey on social media groups only frequented by magicians and through magic society mailing lists.

We also recruited magicians at Vanishing Inc.'s 2023 "The Session" convention in London. Since this study was exploratory, we did not conduct a power analysis. 197 magicians completed the survey (8 female, 175 male, 2 non-binary, 13 preferred not to say). Responses from 12 participants were excluded due to missing data. The average age of the magicians was 46.8 (SD = 15.8) and they reported and average of 26.5 years of experience (SD = 18.5).

We asked respondents to use a 5-point scale [(very unacceptable (-2), unacceptable (-1), neither acceptable or unacceptable (0), acceptable (+1), very acceptable (+2)] to rate their attitudes of the appropriateness of revealing magic secrets under the situations listed above. The results are given in Figure 1. We adopted Bonferoni corrections for each of the sub disciplines to correct for multiple comparisons.

Figure 1: Exposure Survey Responses



The items are ordered from most unacceptable to most acceptable. The figure reveals a large range of scores. For example, less than 3% of participants felt that it was acceptable to expose a magic trick of a magician who was still alive, whilst 78% of magicians thought it was acceptable to expose the secret if a non-magician buys the trick in a magic shop. Indeed, a Friedman test revealed a significant difference between the groups – X^2 (16) = 1643, p < .0001.

Let us now examine some of the more specific research questions. Respondents felt that asking for a secret in order to perform the trick was more acceptable than when someone simply ask for the purpose of knowing how the trick is done (z = 10.4, p < .0001). Exposing a self-secret was significantly more acceptable than when the trick was invented by a magician who was either alive (z = 10.7, p < .0001), or had passed away (z = 9.4, p <.0001). Furthermore, it was also deemed more acceptable to expose magic tricks that were invented by magicians who had passed away, than those who were still alive (z = 9.4, p < .0001).

Further, we examined the impact of different motivations. Since there were 7 conditions, we applied Bonerfoni correction accepting p values smaller than 0.0005 as significant. Figure 2 presents the post hoc tests in order of ascending acceptance of the exposure. Exposing a magic trick to gain public visibility was rated significantly less acceptable than any of the other motivations (all ps <.0001). Interestingly, exposing a magic trick as part of a corporate or education program was numerically less acceptable than to enhance wellbeing, but this difference was not statistically significant (z= 2.52, p = .012). Wellbeing scored numerically, yet not significantly lower than exposing card cheats (z = 2.95, p = .003), and there was no significant difference between exposing card cheats and scientific research (z = 1.72, p = .003). There was also no significant difference between science and debunking fraudulent psychics (z = 0.95, p = .344). Moreover, exposing magic secrets to debunk fraudulent psychics was not rated significantly more acceptable than training government agents to fight crime and fraud (z=2.16, p = .031). Notably, besides exposing magic tricks for the purpose of gaining public visibility, the exposure ratings for all other domains were positive, indicating that it was generally felt to be acceptable to expose a magic trick if it was intended to enhance some other related domain.

Next, consider the impact that financial transactions have on exposing a magic trick. Respondents indicated it was significantly more acceptable to reveal the secret to a trick that was bought in a magic shop than a public shop (z = 4.56, p <.0001) or as part of a kids magic set (z = 10.3, p <.0001). Moreover, magicians rated exposing magic tricks that are frequently found in kids magic sets to be

significantly less acceptable than those bought in public shops ($z = 8.80$, $p < .0001$).

Finally, the survey examined whether magicians felt that it was acceptable to expose a magic trick when it was part of a sucker trick. There was much ambivalence about whether this was acceptable, with essentially equal number of magicians feeling in favour, and opposing it. On the one hand, this is surprising given that sucker tricks are established and pervasive. On the other hand, this is not surprising given the varied and conflicting bases for assessing the disclosure of methods as previously elaborated in this article.

Our quantitative data indicates that the context and intention of the exposure significantly affects magicians' views about the acceptability of exposing magic secrets. Revealing to gain public visibility, or to people who simply want to know the secret for the sake of knowing is largely seen as unacceptable. Interestingly, the ownership of the magic secret, as well as the nature of the financial transaction made to purchase the secret affects whether exposure is seen as acceptable or not (in-line with the transaction approach to exposure noted above). Exposing tricks that have been invented by individuals who are alive is less acceptable than when they have passed away, or the trick has been invented by the person undertaking the exposing. Buying magic tricks in a magic shop is also seen as more acceptable than when it is sold in a public shop. In the past, magic shop owners often acted as informal gatekeepers to specialist magic tricks,[43] but the emergence of digital marketplaces has largely replaced such restrictions, and yet magicians consider the exposure of magic secrets through magic shops as being more acceptable. It is also interesting to note that magicians felt it appropriate to expose when this was done to promote a further pursuit, such as enhancing wellbeing, undertaking scientific research or protecting the public from fraud.

Qualitative Focus Groups

While closed-ended surveys enable standardized data to be gathered and compared, they also suffer from some drawbacks. Notably they fix in advance the kinds of questions and language posed, allow little to no opportunity for respondents to elaborate the reasoning behind their answers, and isolate each respondent from each other. These limitations diminish the ability of respondents to elaborate, nuance, challenge, etc. proposed questions and answers. Focus groups offer a contrasting method. Although what is included under the label can vary enormously, focus groups generally bring together multiple participants to jointly discuss issues and questions under the guidance of a moderator. In promoting joint discussion, one of the promises

attached to this method is that 'participants learn from each other, and things learned can shape attitudes and opinions. The discussion is evolutionary, building on previous comments and points of view.'[44] An implication of this interactive aspect though is that individual groups can develop along unique lines owing to who responds, how, and in what order. This emergent status of the discussion makes it problematic to derive cross-group comparisons or generate quantitative statistics on the strength and prevalence of responses.

During Vanishing Inc.'s 2023 "The Session" magic convention in London, one of the authors, [Rappert], ran four groups with over a hundred attendees to explore their thinking about exposure. All "The Session" attendees were notified prior to[45] and during the convention about these groups and attendees voluntarily chose to participate.[46] As part of the groups, participants were asked to assess the appropriateness of the disclosure of methods within performances related to three examples:

> - Watching a segment of Slydini's video performance of "Flight of the Paper Balls"[47] (exposure-wise, this trick involves Slydini vanishing balls of paper for a seated audience member by simply tossing the balls over his head while misdirecting his attention. All this time the rest of the audience is looking on at the scene as a whole);
> - Watching a segment of Dai Vernon's video performance of the "Cups and Balls" mentioned above;
> - A verbal description of a version of the "Anniversary Waltz"[48] (exposure-wise, this trick involves handing out a "gimmick" double-faced card to spectators that includes both individuals' signatures on each face even though they had [seemingly] signed separate (normal) single-faced cards previously).

As preliminary overall points, one notable feature of the discussions was that participants readily adopted the stance that they as individuals were able to determine the appropriateness of exposure. Although, as detailed below, participants varied in the kinds of criteria and concerns they identified as relevant to making assessments of appropriateness, they forwarded what each individual regarded as significant criteria. In this regard, only one person across all the four groups suggested anything like the need to refer or defer to rules of magic societies to determine whether a given exposure was appropriate.

Another notable overall feature was the comparable lack of concern aired about the featured forms of exposure. For each of the three examples,

expressions defending the disclosures of methods were given 6+ times more often than those offering criticism. Further, and in line with the promise of focus groups[49], some participants took the opportunity to contest how key terms such as 'exposure' and 'gimmick' were set out at the start of the groups by Rappert; and in ways that reduced concerns about potential consequences of exposures. For instance, one participant commented:

> The fact that you are talking about methods does not necessarily mean you are exposing something because I suppose people know we are not real wizards, that we do magic and there is a method to the tricks. So if you do a gambling demonstration and show a false shuffle and a second deal,[50] or whatever, I don't think you are destroying magic or harming magic in any way just because people will be aware of the fact because you are not connecting the dots, you are not explaining the trick or why the trick works.

Herein exposure was said to require more than recounting the methods for individual elements of 'how it was done' (for instance, as given by Dai Vernon's reference to 'misdirection'), but instead a comprehensive explanation for a trick.[51]

In the remainder of this sub-section, we want to draw out how participants made sense of the rights and wrongs of exposure. In particular, we do so by returning to the theme in the previous section regarding how exposure is conceived. Framework analysis identified three loci for assessing exposure within the focus group discussions: magician-centric, audience-centric and Art-centric.[52] In terms of *magician-centric*, such accounts referenced matters concerned with the domain of conjurors; such as the intentions and desires behind exposures as well as the manner they were framed within performances. In doing so, they made reference to acts. *Audience-centric* accounts concerned the relation between what was done and the witnessing audience – including considerations about audiences' pre-existing knowledge, what they could likely infer about methods, how exposures emotionally affected them, as well as what understandings and capabilities resulted from exposure. In doing so, they made reference to outcomes. *Art-centric* accounts directed regard toward the long term and systemic implications of exposure for magic. In doing so, they made reference to outcomes but also wider relations between magicians and others.

Figure 2 – When is Exposure within Performances Appropriate?

	Magician-centric			**Audience-centric**					**Art-centric**
	Intention/ Desires	*Requisites*	*Performance framing*	*Existing knowledge*	*Inference possibilities*	*Resulting knowledge*	*Affect*	*Resulting abilities*	
Appropriate when…	* doing so is aligned with performers' goals. * the intent is to entertain or push the art forward. * the motivation is to be commercially successful.	* there is little to no skills required for a trick other than presentational ones.	* incorporated as a gag within a trick. * given meaning through wider storytelling. * magicians foster a cooperative environment.	* what is exposed is common knowledge. * reference to methods is given in a coded language that requires knowledge of magic to decipher.	* the elements exposed cannot be linked to the effect (by an intelligent spectator). * the impossible objects given to the audience appear as the result of magic.	* the audience learn terminology that does not enable them to discern methods. * the culmination of exposures is that audiences are left confounded about what is true regarding methods. * any knowledge gained is unique to this trick.	* exposure helps build rapport. * audience members are left still interested in magic. * exposure enables audiences to re-live the magic later. * it enhances emotional experiences.	* if audiences cannot perform the trick themselves.	* audience members take up an interest in magic. * what is learned cannot be applied elsewhere. * exposure functions as a form of teaching. * limited to generic principles.
Inappropriate when…	* the motivation is attention seeking, money seeking or self-gratification.	* the methods are sleight of hand techniques that are demanding to acquire.	* magicians foster a confrontational environment. * exposure reduces a sense of wonder or mystery, or is otherwise misaligned with the desired style. * it is not necessary.	* what is exposed confirms pre-existing, but fallacious, beliefs.		* the audience learns key terminology that enables them to find more information. * when exposure reaches a large audience.	* it decreases emotional experiences or regard for magic.	* if audiences learn enough to perform the trick themselves.	* others' performances are negatively affected. * gimmicks and other devices are exposed that audiences could (rightly or wrongly) interpret as at play elsewhere. * audiences are likely to see magic in the future.

Figure 2 summarises the arguments given by participants at The Session through this three-part classification scheme. The indebtedness of the responses to the interactive dimensions of focus groups means that the responses mapped out are not taken as representative of any segment of magicians, but rather offered as illustrations of how magicians can reason about exposure.

By way of pulling out some implications of these comments, we offer the following reflections:

* *Compatibility*: Individual lines of reasoning given for or against exposure are noteworthy for how they (do not) square with each other. For instance, participants to the focus groups expressed unanimity regarding the appropriateness of giving a double-faced card to audiences at the end of an "Anniversary Waltz" card trick.[53] Principally this was because the existence of such an 'impossible object' directly followed from the presented story of the performance. However, outcomes *not* following on from the presented story were also said to justify exposure. Dai Vernon's reference to the 'misdirection' of a false transfer in his "Cups and Balls" performance was deemed acceptable to some focus group participants because it was followed by the production of much larger balls that could not be produced by such misdirection.

* *Contextual determinations*: The lines of reasoning in Figure 2 suggest contextual factors that might be behind the previously mentioned quantitative survey findings. For instance, the relation between magicians and the audience (whether it is cooperative or conflictual) can drive alternative assessments about the appropriateness of exposure. So too can assumptions about what is common knowledge. Likewise, the quantitative findings summarized in Figure 1 suggest ways to unpack the focus groups responses in Figure 2 (for instance, the rights and wrongs of exposure in relation to teaching).

* *Audience presumptions*: Beliefs about audiences infused the moral reasoning offered. This included what audiences already knew (for example, about the existence of thumb tips or palming to hide objects[54]), what they would likely be able to deduce, and how they would react to any exposure. For instance, since audiences were said to know about palming, referencing or even illustrating this type of sleight were portrayed as not problematic. As part of the reasoning offered, little attempt was made to differentiate sub-populations of audiences. Instead, as is commonplace in our experiences within wider professional discussions in magic, simple binary distinctions between magicians and audiences were drawn. The presumptions made about audiences begs the question of how well performers really do understand what audiences know and discern. Recent research provides much evidence that magicians' beliefs about how audiences experience magic can be very different from how

audiences report experiencing magic. For example, there are several empirical papers that have directly examined magicians' understanding of relatively basic magic principles (e.g. use of misdirection in the criss-cross force[55]) which seriously challenge prevalent professional beliefs about how and why magic works.[56]

Taking together the findings of the survey and the focus groups, Box 2 sets out some research questions for the future. Just as the above argument drew on empirical and theoretical work within history, sociology, psychology, drama studies and elsewhere to underpin an analysis of exposure in entertainment magic, so too has it suggested the need for an interdisciplinary future research agenda.

Box 2: Suggested Questions for Future Research

Pertaining to magicians

* What alignment exists between how lay audiences perceive and reason about the methods for tricks to magicians' beliefs about how lay audiences perceive and reason?
* Are there (additional) cases of (condemnable) exposure? How are such exemplars defined? What characteristics serve to split assessments about whether one case is sufficiently close to an agreed exemplar to be similarly categorized?
* Does the acceptability of a given act of exposure depend on what is artful (or not), well intended (or not), and so on? Does acceptability vary depending on the identity of those doing the exposing (for instance, is it more or less acceptable for a leading magician to expose secrets than a novice?)? Relatedly, how do magicians' appraisals of exposure differ depending on their experiences or other characteristics?
* How does the commercial market success of performances that involve exposing affect the assessment of its acceptability?
* Is it acceptable to expose methods within a performance if the actual methods use for the tricked undertaken remain concealed?

Pertaining to audiences

* How do audience members assess exposure patter?
* How readily are members of the public able to find out how (named) tricks are done through consulting on-line or other sources? How often do audiences seek to determine how tricks are done after performances? How good are people at applying exposed magic methods to novel contexts?
* When and how does knowledge of hidden methods affect individual's appreciation of magic?
* What methods of magic are 'common knowledge' and for who?

* What distinguishes exposure that promotes people's enjoyment of magic compared to exposure that decreases enjoyment?

Pertaining to magic societies

* In the face of the pervasiveness of exposing methods within and outside of performances, what explains the limited number of individuals that have been censured in relation to societies' ethical codes?
* If codes against exposing are not in practice serving as rules for policing members' conduct, what functions are they serving for individual magicians, magic societies and the Art as a whole?

Addressing these and other questions is likely not simply to inform our understanding of entertainment magic, but long-standing questions about performer-audience relations.

Answering many of the questions above is likely to be tricky. While it is possible to query individuals' *general* attitudes in a manner that allows for comparisons in relation to varied socio-demographics, the previous sections have given reasons to suggest that assessments about the appropriateness of exposure are likely to vary according to how *specific* situations are imparted with meaning[57]. For instance, the motivations for, purposes of and effects of specific disclosures of methods seem likely to shape whether and how exposures are deemed appropriate. These considerations are likely to be informed by yet further issues; such as the perceived relation between a magician and their audience.

Situational attentiveness can be taken along a different direction. In terms of methodology, we can ask how in and what ways might magicians assess exposing differently depending on the research methods used to gather data. For instance, are the voiced judgements of magicians like to differ when they are put in conversation with each other (as in focus groups) versus isolated from each other (as in a quantitative survey)?

EXPOSURE: A CONTESTABLE CONCEPT

Following on from the previous sections we wish to offer the reflection that exposure is subject to disagreement. There are two types of disputes:

1. What counts as an exposure
2. Whether exposing is appropriate

As well, much like concepts such as 'deception',[58] exposure is charged. Its evocation can be a way of signalling something condemnable has taken place. And yet, alongside this commonplace face-value meaning, how individual instances are related to the notion of exposure and then evaluated can differ markedly. As a result, in

offering a theorization of exposure, it is necessary to acknowledge the complicated ways it is given meaning.

To do so, we draw on philosopher W.B. Gallie's notion of 'essentially contested concepts.'[59] Gallie associated such concepts with five characteristics: (i) the concept is appraisive; (ii) it is based on a complex set of characteristics; (iii) what is signalled through the concept can be varyingly described; (iv) what is referred to through the concept can shift over time in ways that cannot be prescribed or predicted ahead of time; and (v) those employing the concept recognise that others might contest their interpretation and, therefore, that they need to defend this interpretation against rivals. Consider one example. The term 'Art' often functions to appraise; what accomplishment is accredited through the term is often treated as internally complex and describable in different ways; what counts as artistic achievement has proved highly mutable over time; and the suitability of the label 'Art' for any particular object is widely regarded as open to challenge.

For the purposes of this article, Gallie's notion of essentially contested concepts is useful for the manner it casts attention to the role of exemplars. In his formulation, while versions of essentially contested concepts differ in what characteristics are treated as most relevant, what they share are a sense of exemplar models which almost everyone agrees should be included within the scope of the concept. The issue then becomes whether another case is sufficiently similar to the exemplar to be fittingly categorized in the same manner.

Arguably there are exemplar cases in magic. The performances given by the Masked Magician in the TV programme *Breaking the Magician's Code* were billed and would almost certainly be regarded as instances of exposure. For magicians and magic societies, the exposures have been treated as highly problematic ones.[60] This is consistent with the aforementioned survey results in Figure 1 indicating that 'Exposing a trick to gain public visibility' and 'Exposing a trick invented by another magician, who is still alive' were the most negatively assessed actions.[61]

Moving outside this exemplar case, the applicability of and implications that follow from exposure are much more fraught. In relation to efforts to reveal methods to the general public, today step-by-step 'how to' video dissections of routines – such as those that figure on programs including "America's Got Talent" – can appear on social media platforms shortly after the performances.[62] Whether such breakdowns should receive the same moral appraisal as *Breaking the Magician's Code* seems an open question though.[63] For in-performance exposures, the disclosure of methods can be celebrated. Penn & Teller's iconic versions of the "Cups and Balls"[64] include step-by-step descriptions, descriptions that are often billed by Penn & Teller as given in direct defiance to the rules of magic.[65] Despite such characteristics, these versions are often hailed for their ingenuity. Conversely, exposure can go unrecognized. For instance,

in the promotional video for a trick called "Permanent Record", Ben Seidman states to his assembled spectators, 'This is a legit deck of cards, they truly are all different'.[66] Such commonplace patter functions to expose in the manner it signals the possibility that there are non-legit decks of cards. And yet, whether such patter counts as an exposure and whether it is problematic appear to be matters open for debate within magic communities.[67]

EXPOSURE: HOW CAN IT BE THEORIZED?

In the main, the previous sections attended to the questions 'What is exposure?' and 'How is it assessed?'. By way of offering a theory of exposure – that is, a framework for relating it to other concepts concerned with understanding social interactions – this section attends to the question 'What is accomplished through exposure?'. More specifically, in-line with symbolic interactionists perspectives within sociology, it considers how the disclosure and concealment of information about the methods of magic help constitute meaning and identity. In doing so, the intent is not to set out *the* definitive and exhaustive framework for how exposure should be theorized. Instead, the intent is to offer one way of conceiving exposure that brings to the fore pertinent considerations.[68]

Exposure as Normative Organization

In positing the question 'What is accomplished through exposure?', one response could be this: the production and reproduction of normative standards. Norms herein could be treated as rule setting out appropriate conduct — they tell people how to act. Such standards could take the form of codified decrees (as in the joint ethical statement by IBM and SAM), loosely defined expectations (such as the varyingly formulated 'Magician's code'), or unconscious conventions. Understood through a concern with norms, instances of disclosing methods could be approached for how magicians violate, validate, transform and so on existing standards through their disclosures. When conceived as rules that establish appropriate conduct, questions that might be asked of norms include whether they are clear and specific enough to steer action, how they get (or not) internalized, as well as what magicians do in the face of multiple norms.

While exposing is clearly implicated with notions of right and wrong, we wish to argue that theorising exposure through a norm-based approach also has limitations. One set of limitations relates to the underlining way norms tend to be conceived. As argued by some social scientists, norms do not function as some simple guides or rules for action.[69] This is because what it means to adhere to a norm is always at some level indeterminate.[70] Moreover, since instances of social life are never identical, the future application of standards cannot be determined once and for all. As a result, individuals must manage the relevance of norms as well as what it means to follow or depart from them. Some norms might be taken by everyone involved to have a practical-for-all-purposes application in a certain situation, but such a direct line of

relevance cannot be assumed. For any norm about how to act, it is likely that a counter norm can be identified that suggests an alternative or even opposing course of action.[71] Therefore, norms are not so much rules for assessing behaviour as they are resources that can be drawn upon to impart (contingent) meaning to specific situations.

The justification for conceiving of norms as resources (rather than rules) was evident in the focus group findings given in section four; respondents variously and creatively made sense of the apparent exposure of methods. Whether certain actions were instances of exposure, whether norms applied in a specific circumstance, how they applied and what evaluations followed from them were all matters participants actively and variably interpreted.

In attempting to theorise exposure as an activity of normative transgression or affirmation, one complication is the sheer complexity of trying to specify what norms were at play in specific instances. As noted above in varied ways, outside of the limited number of exemplar cases, the rights and wrongs of exposure can be subjected to considerable contest and/or uncertainty. This is particularly so for in-performance disclosures. With the ingrained incorporation of exposure within performances today, asserting that magicians are acting or could act on the basis of enculturated rule-based standards seems highly questionable. Take, for instance, the place of truth in deciding what is appropriate vis-a-vis norms. In commenting on the references to methods made by Dai Vernon as part of his "Cups and Balls" performance, one focus group participant commented:

> I think it is worth pointing out for that example that even the information he gives is not what he is doing. The claim that Vernon makes there is that he holds the ball and drops it behind the cup. But that is obviously not what he is doing. Anyone that knows the methods for Cups and Balls knows that those balls are genuinely under the cup. So I think that is actually less exposing than what Slydini is doing because what [Vernon] is doing is giving a fake method […] And here it feels like Vernon is explaining it, but he never says 'Actually the ball you see I loaded thirty seconds ago', he says 'The ball I hold on to and I drop it'. He did not drop it, he is pre-loading that ball into a different cup. So I think this is further from Slydini's one in terms of exposure because with Slydini you do see the move. [Vernon] has not showed you the move, he has made something up, probably something that the audience is guessing anyway and then, yeah, when the next ball comes out and it is huge, the method offered cannot be the explanation.

Herein, Vernon's exposure is downplayed as problematic because the explanation given is false. And yet, while the truth status of the patter was taken by this participant as mattering, for others the concern could alternatively be with how the

patter affects audiences' experience. The fear would be that the audiences' (albeit erroneous) conviction that they know how it was done will diminish their sense of awe, wonder or astonishment. The potential for such varied ways of positioning how the truth matters reduces the prospects that appeals to enculturated rule-based standards can, in practice, be analytically useful.

Exposure as Boundary Work

The previous discussion suggested that attempts to theorise exposure need, on the one hand, to address its normative dimensions while, on the other hand, to also acknowledge the wide-ranging scope for contestation regarding what exposure is and what is at stake with it.

This section does so through proposing how varied formulations of the notion of 'boundary work' can productively serve as a response to the question 'What is accomplished through exposure?'. This notion refers to discursive efforts to advance an authoritative understanding of the relation between two paired concepts (for instance, the relation between nature-society, art-science, and so on).

To begin, much of the cultural relevance of magic stems from how it meets conventional beliefs. In *Performing Dark Arts*, Michael Mangan drew on a formulation of 'boundary work' as developed in theater studies[72] to detail how conjurors have both challenged and reaffirmed popular notions of what is possible/impossible, human/animal, human/machine and so on.[73] For instance, in terms of challenging conventional boundaries, Baron Wolfgang von Kempelen's "Chess Player" presented late eighteenth-century audiences with the curiosity of an automata that appeared to be able to undertake intellectual tasks believed to be confined to humans.[74]

The potential for magic to challenge or reaffirm prevalent cultural distinctions in no small part derives from another kind of boundary: that between the presented story to the audience and the hidden story of methods. As has been made clear in the previous sections, that boundary can be managed in a variety of ways. At times, a stark division can be sought by magicians between what is presented and what is hidden. Performers bring this distinction into effect through their patter, movement, dispositions, mannerisms and other actions. Herein, exposure amounts to transgression. At other times, a much more permeable boundary is created. As elaborated previously, magicians can parade the (purported) secrets of their trade. In bringing the otherwise hidden into what is presented, references to methods add a further dimension for audience engagement to what might otherwise be regarded as meaningless or trivial feats – for instance, the identification of a selected playing card or the unexpected position of a ball.[75] Allusions to methods also provide the basis for specific kinds of performance possibilities (for instance, sucker tricks, false solutions[76]).

How magicians manage the boundary between the presented and hidden stories has implications not just for the effects displayed but the identity of the performers. In being seen to transgress or uphold the boundary between what is allowed and forbidden, individual magicians can promote an image of themselves as deviant, playful, knowledgeable, professional, mischievous, etc. In this way, akin to everyday disclosures of private information,[77] exposure can function as a means of interpersonal boundary regulation (or, more precisely, a means of controlling access to a staged self-image).

Television programs such as *Penn & Teller: Fool Us* demonstrate the variety of ways that magicians can manage the boundary between the presented and hidden stories.[78] For instance, the ninth series episode titled "Chicken Trickin" featured magician Caleb Morgan.[79] Morgan performed a classic effect: stuffing a silk bandana into his clenched hand only to open his fist to show the bandana had transformed into an egg. Morgan then revealed the egg was, in fact, plastic with a hole in the back for the bandana to enter, only then to subsequently crack the egg to demonstrate it was, in fact, a normal egg with yolk inside.

The format *Penn & Teller: Fool Us* has implications for identity beyond the featured performers. The competition format of the show incorporates exposure-talk. *Penn & Teller: Fool Us* is set up as a test. If Penn & Teller cannot determine the hidden methods at play, the performers win a "Fool Us" trophy and the acclaims that come from deceiving leading figures in conjuring. In the case of well-known tricks, such as the sucker silk and egg one performed by Morgan, the demand on Penn & Teller is to discern subtle but important alterations designed to confound their pre-existing expectations about the methods employed.[80] Their ability to do so affects their standing as well as that of the performer. In short, the identities of those featured in *Penn & Teller: Fool Us* form through an emergent interactional process.

Also at stake in *Penn & Teller: Fool Us* vis-à-vis the boundary between the presented and hidden stories is the identity of the audience. Penn typically indicates the guessed at methods for the tricks through making more or less cryptic statements and questions to performers. Those witness to deliberately coded exchanges about methods are invited – through what they learn they can discern, decipher and infer – to reflect on their own acumen and competencies.[81]

Yet still other kinds of boundary work are at stake in magic then those mentioned so far. In the field of Science and Technology Studies, Thomas Gieryn advanced the notion of boundary work to denote the ways scientists and others attribute 'selected characteristics to the institution of science (i.e., to its practitioners, methods, stock of knowledge, values and work organization) for purposes of constructing a social boundary that distinguishes some intellectual activities as "non-science."'.[82] In concerning themselves with this kind of boundary work, Gieryn and others have

attended to how appeals to science attempt to ground the authority (and superiority) of certain knowledge claims. Gieryn and colleagues have elaborated how demarcations between 'science' and 'non-science', 'objective' and 'subjective', and so on have been varyingly drawn, redrawn and blurred over time. Through engaging in boundary work, scientists have been able to achieve much: to garner funding for research, to gain the ear of policy makers, to establish professional autonomy, to escape blame, etc.

In a parallel manner to Gieryn, we can approach debates about exposure as entailing boundary work over what counts as magic, what counts as entertainment as well as who is an expert.[83] For instance:

> * Exposure in the name of debunking is invariably tied with determinations about what claims are fraudulent or pseudo;
> * Assessments about the appropriateness of the disclosure of magic methods are often bound up with notions of what is artful (or not), well-intended (or not), and so on. If judged positively in some respects, exposure can often be justified overall.
> * Attempts to definitively assert what is artful, well-intended and so on rest on the authority of those making appraisals. For instance, the popularity of the show *Penn & Teller: Fool Us* for practitioners despite the (more or less) coded declarations of methods arguably rests on the ongoing ability of Penn & Teller to position themselves as leading figures in modern conjuring.
> * Disputes over the significance of the disclosure of methods can turn on what counts as important in making assessments (for instance, acts versus consequences). Again, such determinations rest on the authority of those making the pronouncements about what counts.
> * Determinations of the consequences of exposure often turn on presumptions about the relation between magicians and audiences; in particular the similarities and differences between how 'lay' audiences and magicians perceive and reason.[84] Whether magicians can persuade their colleagues that they know (better than others) how lay audiences really experience magic is central to whose views count as credible and whose can be discounted.[85]

These are some of the ways exposure is tied in with establishing and policing boundaries of authority.[86]

Fault Lines of Science-Magic

Overall, with multiple kinds of boundary work potentially at stake for magic in general and exposure in particular, the matter of how such forms of work depend on, inform, intersect and so on with each other is of some importance. By way of further understanding this and illustrating the utility of boundary work for conceiving of

exposure, we can turn to the kind of negotiations taking place at the intersection of magic and science.

To begin, some background. In many respects, modern entertainment magic and modern psychological research can be said to have grown up together.[87] In terms of exposure specifically, since at least the late 19th century, attempts have been made to use the emerging scientific methods of the day (often informed by collaborations with professional magicians) to test (and as more often than not, debunk), claims to extra-ordinary abilities by psychics, clairvoyants and others.[88] More widely, magic tricks have served as experimental stimuli in efforts to research visual perception and cognitive heuristics.

Today, under the name of 'The Science of Magic' renewed attention is being dedicated toward understanding the psychological mechanisms underpinning magic.[89] Such work has underscored the fallibility of human perception, cognition, and memory.[90] In this way, the Science of Magic has challenged existing beliefs about what is possible/impossible, subjective/objective, perceived/real and so on. Such challenges have not only been directed at the perception, cognition and reasoning of the general public, but experienced magicians as well.[91] For example, empirical investigations into forcing have challenged long held beliefs about the psychological mechanisms that underpin some forces and the necessary conditions for such principles to work effectively.[92] One group of magician-scientists have gone further to actively challenge traditional approaches for learning magic by advancing more scientific and evidence-based techniques.[93]

Questions about how the boundary between the presented stories and the hidden methods of conjuring relate to each other have been integral to questions about how science and magic can inform one another. In disproving claims to the paranormal, science has been marshalled to out underlining methods as well as to demonstrate how methods of simulation and dissimulation can result in the acceptance of presented stories.[94] In such ways, the intersection of science-magic has relied on or drawn a distinction between what is presented and hidden. And yet, references to science have also come to figure within presented patter of performances in ways that act to obscure methods.[95] Take the case of the British mentalist and magician Derren Brown who rose to prominence in the 2000s. Early on when he gained public notoriety, the importance of debunking flawed thinking and pseudo-scientific beliefs (for instance, in spiritualism) was a central theme of his work.[96] However, Brown was criticized by some for himself promulgating flawed thinking and pseudo-scientific beliefs by the manner he provided audiences explanations for his feats that made reference to the principles of psychology, hypnotism and subliminal messaging. When spurious, while such exposures served to misdirect audiences from the actual methods employed, they promulgated pseudo-beliefs - in this case about science itself.[97]

How the relation between the presented and hidden is managed is inexorably tied to the identity of those involved. In the case of Brown, his exposure patter that made reference to psychology, hypnotism and subliminal messaging contributed to a persona as someone highly schooled in esoteric forms of knowledge. In the case of the Science of Magic, by contrast, the image of humans typically offered – be they world renowned magicians, lay audiences, accredited psychologists, etc. – is that of flawed observers that need to appreciate their limitations.[98]

Thus, at stake in the intersection of science-magic in relation to exposure are fundamental questions about:

(i) the relative authority of kinds of claims to expertise; and
(ii) the legitimacy of contrasting values and conventions.[99]

On (i), as with other attempts to promote evidence-based practice,[100] efforts to ask how the performances of magicians can be informed by science raise questions about how to combine the experiential knowledge with the more abstracted claims deriving from research. To put the matter sharply: If the experiences of a practitioner are out of line with the conclusions derived from research, how ought that magician act?

On (ii), the scientific study of magic raises fundamental questions about how the conventions between magic and research align. For instance, scientific publications on magic can necessitate a level of disclosure to non-magician audiences[101] that is often at odds with professional codes. To date, more than 100 scientific papers have been published on adults' perceptions of magic[102] and most of these publications expose secrets in one form or another.[103]

Having made this point, science-related exposure has attracted very little criticism from the magic community. Despite their incongruous views on exposure, organizations such as the Science of Magic Association actively collaborate with magic clubs (such as FISM). As highlighted by our survey in section four, most respondents regarded exposure to aid research as acceptable.

But this is not always so, as elaborated in Box 3.

Box 3: Smoke and Mirrors

In 2019, the Wellcome Trust put on an exhibition, entitled *Smoke and Mirrors*, that examined the relationship between magic and science. Some of the exhibits explicitly explained general principles in magic, such as misdirection and forcing. The exhibition was intended to celebrate the long history of the collaboration between magic and science. Instead, it caused much controversy within the Magic Circle community. Some magicians saw the free access of such information as a

violation of the society's exposure rule, especially since the key contributor (co-author Gustav Kuhn) was a member of the Magic Circle. The exhibition elicited a heated online debate, resulting in over 800 comments on the Magic Circle's Facebook group, and Kuhn was formally investigated by the Magic Circle's Exposure Committee. In alignment with a transactional definitions of exposure, the Exposure Committee subsequently expressed concern that access to the exhibition was free, and that this increased the risk of members of the public stumbling across secret methods. It thus seems very unlikely that the exhibition would have created the same kind of controversy had visitors been charged an entry fee. There was a genuine fear that informing the public about the psychological mechanism involved in misdirection could prevent magicians from using this principle in their own performances.

More than 190,000 visitors attended the *Smoke and Mirrors* exhibition and, as previously mentioned, Kuhn with colleagues ran a survey documenting the positive impact that the exhibition had on people's views on magic.[104] Kuhn presented this evidence to the Exposure Committee in his defence. However, the Committee decided that in discussing misdirection and other magic principles in a public science exhibition, Kuhn had broken rule 5.12.1 which prohibits its members to "disclose one or more methods used for achieving magic effects other than in circumstances specifically specified by the Council". Unlike its previous president Devant, Kuhn was not expelled from the Magic Circle, but instead shamed through the publication of a letter of censure, though this letter was only accessible to members of the Magic Circle. The Exposure Committee did see value in scientific publications on magic, but insisted that Kuhn should consult with the Committee prior to publication of subsequent scientific papers as to whether they were in accord with the Magic Circle's exposure rules. In an assertion of professional authority, Kuhn replied refusing to accept this requirement since it compromised his independence as a scientist.

CONCLUSION

Excited attention toward the disclosure of methods – what is termed 'exposure'– infuses both popular and practitioners' portrayals of entertainment magic. This is hardly surprising given that this art typically rests on a recognition by the audience of a distinction between the presented story of what apparently happens and the hidden story of methods.

In line with a tradition of conceiving of magic as a form of social interaction constituted through the relations between audiences and performers, this article has offered a theorization of exposure.[105] As part of offering a comprehensive and multi-disciplinary analysis, the article has included descriptive, conceptual and normative components. As contended, exposure is a fraught notion to theorize because:

- Diverse types of it can be identified;
- Exposure is varyingly conceived through act, outcome, contextual and transactional perspectives;
- Opposing assessments about the appropriateness of the disclosure of methods are evident in relation to specific performance instances and in-general discussions about magic;
- Considerations cited as pertinent to assessing exposure can support contrary conclusions;
- The disclosure of methods is bound up with persistent tensions between the need to protect secrets, while also enabling new entrants into the art, while also rewarding magicians for their individual contributions;
- Notions about the types, kinds and appropriateness of exposure rest on presumptions (for instance, about what audiences know). As such, ethical questions about what is right and wrong can be underpinned by socio-psychological beliefs (beliefs that might be more or less well grounded in evidence).

In short, and fittingly for magic as an art form, exposure has been treated as enigmatic.

A trick for this article has been to find ways of doing justice to this enigmatic status. In part, we have done so by shifting our efforts away from trying to provide a definitive conceptualisation of exposure and instead focused on what gets accomplished through it. The notion of boundary work has served to elaborate the stakes associated with the manner magicians manage the relation between presented and hidden stories. As argued, through that management much is accomplished: identities are crafted, credibility and authority are invested, imaginations of the possible are advanced. In short, boundary work serves as a form of social organisation.

In drawing attention to questions of authority and credibility in how boundaries are performed, the previous argument invites attention to how this article too manages the relation between what is presented and what is not. Since the article directly deals with, and arguably includes, instances of exposure, the question arises as to how we can justify the choices made about what was included. In recognition of the scope for contest about what counts as appropriate exposure, we decided to consult the Magic Circle regarding its assessment of the appropriateness of the text. A completed draft of the article was sent to the Circle's Exposure Committee on 13 October 2023. On 23 January 2024 the Committee provided the following response:

The Magic Circle was founded in 1905 upon the tenet of protecting the secrets of magicians. We represent circa 1600 members worldwide, many of whom are professional and earn their living from magic and there has, for time immemorial, been an understanding amongst practitioners of magic that the mystery and astonishment lies in protecting the methodology of the performance.

Indeed, almost every beginner's magic book or set that contains a 'magicians code' will assert as one of the core values 'a magician should never reveal their secrets'.

Nevertheless, over a century on we recognise that times change, things move on and the access and freedom to information has never been more prevalent than in this digital age.

This is one of the reasons we have a dedicated exposure committee who evaluate every reported incident of exposure amongst our membership on a case-by-case basis. Not surprisingly, many of the arguments and contentions outlined in your article have been discussed, reviewed and considered on multiple occasions. However, we would also concur that whilst magic is one of the most written about subject throughout history, the ramifications and implications of exposure are a grey area which are little understood and understudied by the majority of magicians.

To that end, whilst The Magic Circle is intent on upholding the tenet upon which our society was founded and protecting the professional interests of our members worldwide – we welcome and applaud any research of this nature that helps us all to gain a better insight and understanding to facilitate the decision-making process outlined above.[106]

Endnotes and References

[1] https://www.youtube.com/watch?v=De2tyFK8WA0&ab_channel=cardante979
[2] Aronson, S. (2013) 'The illusion of impossibility.' in *Magic in Mind: Essential Essays for Magicians* Ed. J Jay (Vanishing Inc.): 35.
[3] See Kuhn, G., Caffaratti, H.A., Teszka, R., & Rensink, R. A. (2014) 'A psychologically-based taxonomy of misdirection.' *Frontiers in Psychology*, 5, 1392. doi: doi: 10.3389/fpsyg.2014.01392 and Macknik S, Martinez-Condes (with Blakeslee, S) (2011) *Sleights of Mind: What the Neuroscience of Magic Reveals about our Brains.* Profile Books, London.
[4] To take a term from Goffman, Erving (1956) *The Presentation of Self in Everyday Life* New York, NY: Doubleday: 87.
[5] Smith, Wally (2021) 'Deceptive strategies in the miniature illusions of close-up magic.' in *Illusion in Cultural Practice*, ed, K. Rein London: Routledge: 123 – 138.
[6] Or appear to intersect. More on this to follow. Maybe you should read the next note too while you are in this section of the paper.
[7] Thanks for coming to the notes section. There will be a lot going on here besides the usual tangential side comments, reference details or nagging qualifications. With the distinction between what appears on the surface and what is really going on so integral to magic and exposure, we thought to use the notes to also run some subterranean tracks to the (comparably) neat (if lengthy) depictions of exposure given in the main text. Through the juxtaposition between what is here and there, the argument of the article will exemplify rather than just represent notions of exposure. That is important because, on the face of it, setting out to discuss what should not be exposed is a troubled (if not downright paradoxical) task. Our intention is to illustrate the entanglements of concealment-disclosure through the question begging relation between the notes and the main text.
[8] If you are interested in rabbit holes, we suggest you enter into one through visiting the previous note.
[9] Gallie, W.B. (1956) 'Essentially contested concepts.' *Proceedings of the Aristotelian Society*, 56, pp. 167–198.
[10] International Brotherhood of Magicians and the Society of American Magicians. (1993) *Joint I.B.M. and S.A.M. Ethics Statement*. Available at https://www.magician.org/pdf/JointIBMAndSamEthics.pdf
[11] Kuhn, G. (2022) 'Breaking' the magician's code: The problem with exposure rules.' *VANISH* November & December.
[12] See rule 2.5 at Magic Circle. (2021) *The Magic Circle – Rules* Available at: https://themagiccircle.co.uk/about/the-societys-rules/. Since the authors are members of the Magic Circle, the bar against disclosing methods applies to our analysis as well. More on that to follow…
[13] Magic Circle (2018) *The Magic Circle Exposure – Ancillary Document* London: Magic Circle.
[14] Kuhn, G. (2022) 'Breaking' the magician's code: The problem with exposure rules.' *VANISH,* November & December.
[15] Dawes, Edwin A. (2007) 'Rule 13.' *Cabinet,* 26. See https://www.cabinetmagazine.org/issues/26/dawes.php.
[16] Steinmeyer, Jim. (2003) *Hiding the Elephant: How Magicians Invented the Impossible and Learned How to Disappear.* New York: Carroll and Graf: 17. And yet, interestingly, despite such declarations about the lack of significant secrets, arguably the revelations of how tricks were done – so, how did Houdini fashion a box so that an elephant disappears on stage in front of thousands of people? – grounds much of the affective pull for readers of *Hiding the Elephant*.
[17] To take a term from Goffman, Erving (1956) *The Presentation of Self in Everyday Life.* New York, NY: Doubleday: 87.
[18] Ibid.

[19] In 1994, John Lenahan was expelled from the Magic Circle for exposing the Three Card Montee, a famous gambling tick, on TV. He was the first person to have been expelled from for 85 years, and he successfully used the publicity that his controversial expulsion generated to promote his career. In a sign of reconsideration, the Magic Cycle later reinstated John Lenahan membership and he was even promoted to become a member of the Inner Magic Circle.
[20] Which might justify the appropriateness of re-telling the misdirection reference in this article. Or not, but more on that to follow.
[21] As detailed, for instance, in Halbertal, Moshe. (2007) *Concealment and Revelation: Esotericism in Jewish Thought and its Philosophical Implications.* Jackie Feldman (trans) Oxford: Princeton University Press.
[22] See, for instance, The Jerx (2018) 'Four uses of exposure.' *The Jerx*, 14 March available at https://www.thejerx.com/blog/2018/3/14/four-uses-of-exposure
[23] https://www.youtube.com/watch?v=-pVPuCn0c2g&ab_channel=DAVIDCOPPERFIELDCHANNEL
[24] https://www.collinsdictionary.com/dictionary/english/exposure
[25] At least that is one way of making sense of the scene. More subtly, though, this example also prompts the question of what makes an exposure. Copperfield's patter might name real-life techniques for marking, but the linking and unlinking of playing cards (the effect) is not related to marking. The patter of marking instead serves a justification to audiences for Copperfield's manipulation of the cards. For this specific instance then, does the disconnect between effect and the method cited warrant rejecting the designation 'exposure'?
[26] These are not defined by the Magic Circle in its rules, but 'sucker tricks' can be loosely defined as ones in which the audience is purposefully led to conclude a trick is accomplished by one method only for this belief to be subsequently revealed as incomplete or outright wrong.
[27] https://www.collinsdictionary.com/dictionary/english/exposure
[28] To be clear, in case you do not know, crimping and notching refer to actual techniques in card magic. More to follow on whether it is appropriate to offer this clarification…
[29] Ekroll, Vebjørn, Bilge Sayim and Wagemans, Johan. (2017) 'The other side of magic.' *Perspectives on Psychological Science*, 12(1): pp. 91–106. https://doi.org/10.1177/1745691616654676.
[30] Which implies that whether the recounting of disclosure of the methods by Vernon and Copperfield in this article should count as exposure depends on how you as the reader are making sense of what is given. What has resulted from the argument for you so far? Conversely, one consideration rarely raised in discussions about the rights and wrongs of exposure is the identity of those that disclose methods. Much like celebrities, sportspeople or politicians, since David Copperfield and Dai Vernon are major figures in the magic world, it could be argued that they should adhere to higher standards for conduct than other magicians. We as authors, however, have not found such a line of reasoning in any of the secondary literature surveyed or primary fieldwork undertaken. Of course, the same reasoning about how status affects the legitimacy of exposing could be applied to the rights and wrongs of the disclosures given in this article. So, it could be argued that while it might be fine for Copperfield and Vernon to incorporate exposure patter into their routines, as established academics we ought not be repeating and elaborating on such disclosures in our text. More on this to follow…
[31] Empirical work has shown that exposure can enhance the experience of a magic trick, notably Pailhès, A., Fihlo, R. & Kuhn, G. (2022) 'Sharing secrets: The effects of sharing the secret method behind a magic trick on perceived trustworthiness, closeness, and the art of magic.' Presented at the Science of Magic Association Conference, London, 21-22 July 2022.
[32] The members' magazine of IBM.
[33] The Jerx (2019) 'An exposure koan.' *The Jerx*, 3 May available at: https://www.thejerx.com/blog/2019/5/2/an-exposure-koan.
[34] Which begs the question of whether the number and sequencing of examples of exposure given throughout this article raises concerns about what has been recounted about the methods of magic. Much has been said about marked decks, for instance. Is this appropriate because staying with

marking as the primary example delimits the scope of what is disclosed while still grounding our analysis on a real example, or is staying with marking problematic because it builds a cumulative insight that would not be possible if we had switched between examples? More to follow…

[35] The Jerx (2018) 'Four uses of exposure.' *The Jerx,* 14 March available at https://www.thejerx.com/blog/2018/3/14/four-uses-of-exposure

[36] For discussion of this see Earl, Ben. n.d. *Inside Out.* London: Studio 52.

[37] The film also focuses on Randi's relationship with his partner of 25 years, José Alvarez, who at the time of filming, had been discovered to be living under a false identity.

[38] Magic Circle. (2018) *The Magic Circle Exposure – Ancillary Document.* London: Magic Circle. Of course, in some transaction there need not be any stated exposure expectations. In the authors' experience, for instance, magic conventions routinely do not distinguish between expert magicians novices and non-magicians. As long as you have purchased a registration ticket (i.e., the financial transaction) you are in a position to learn the magic secrets, even then there is no intention on your part to perform.

[39] https://www.collinsdictionary.com/dictionary/english/exposure

[40] https://www.collinsdictionary.com/dictionary/english/exposure

[41] https://www.collinsdictionary.com/dictionary/english/dialogic

[42] 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/doi: https://doi.org/10.5920/jpm.1260

[43] Rissanen, O., Pitkänen, P., Juvonen, A., Räihä, P., Kuhn, G., & Hakkarainen, K. (2017) 'How has the emergence of digital culture affected professional magic?' *Professions and Professionalism*, *7*(3), 1957.

[44] Krueger, R. (1998) *Developing Questions for Focus Groups.* London: Sage: 11.

[45] As at https://www.vanishingincmagic.com/magic-conventions/the-session/schedule/

[46] Owing to the time demands and the size of these groups, no demographic information was gathered. Only four individuals were identified by Rappert as female, a figure not out of line with the overall gender composition of The Session attendees. For another write-up of the focus groups, see https://www.vanishingincmagic.com/blog/to-expose-or-not-to-expose .

[47] https://www.youtube.com/watch?v=MLpq9CvN_pA&ab_channel=CenKyne%27sGames%2CVRandASMR

[48] https://www.conjuringarchive.com/list/search?keyword=Anniversary+Waltz

[49] See Kitzinger, J. (1994) 'The methodology of focus groups,' *Sociology of Health & Illness,* 16, 1: pp. 103–21.

[50] The appropriateness of naming the names of sleights and gimmicks was contested in the focus groups. Some regarded reference to the names for methods as dangerous given that audiences could subsequently find additional information on-line, while others regarded names as of no significance. In writing this article we were faced with a similar question of how to think about key words; in this case for a journal focusing on magic but also one that is freely available on-line. More to follow on this below…

[51] This philosophical premise underpins the TV program *Penn & Teller: Fool Us*. Herein Penn routinely makes (more or less elaborate) verbal references to the methods used in certain aspects of the performance (e.g., switching), without purportedly giving the methods for the trick as a whole away. For one of many instances of this see https://www.youtube.com/watch?v=9txc8CEzvgE&ab_channel=ZakMirz.

[52] In alignment with tenants of framework analysis, as in Srivastava, A. and Thomson, S.B. (2009) 'Framework analysis.' *JOAAG,* 4(2), pp. 72–79.

[53] So much unity existed about this trick that it relieved any lingering concerns we as authors had about providing a descriptive gloss of the gimmick at play in this article.

[54] Both of which were often regarded as widely known. This status was portrayed as in contrast to something called the 'double lift', a technique central to card magic and regarded by many in the focus groups as not for sharing with audiences. We note that we are referring to the 'double lift' in this article, but only obliquely…

[55] Pailhès, A., & Kuhn, G. (2020) 'The apparent action causation: Using a magician forcing technique to investigate our illusory sense of agency over the outcome of our choices.' *Quarterly Journal of Experimental Psychology*, *73*(11), pp. 1784-1795. https://doi.org/10.1177/1747021820932916.

[56] Cole, G. G., & Millett, A. C. (2023) 'Visual cognition and the science of magic.' *Vision*, *7*(3), 56. https://www.mdpi.com/2411-5150/7/3/56 and Pailhes, A., & Kuhn, G. (2023) 'Don't read this paper! Reverse psychology, contrast and position effects in a magician forcing technique.' *Journal of Performance Magic*, *7*(1). https://doi.org/doi: https://doi.org/10.5920/jpm.1264

[57] What follows is that the appropriateness of the method disclosures given in this article hinge on the specific details of the arguments made, rather than the appropriateness of the disclosures being something that can be determined in advance by appealing to an in-general, pre-existing rule. If you do not concur, then you might well wish to question some of the conclusions drawn in this article.

[58] Shulman, David. (2007) *From Hire to Liar: The Role of Deception in the Workplace.* Ithaca, NY: ILR Press.

[59] Gallie, W.B. (1956) 'Essentially contested concepts.' *Proceedings of the Aristotelian Society,* 56, pp. 167–198.

[60] And yet, the previous argument also suggests that what it means to expose and why 'breaking the magicians' code' should be lamentable could be open for varied lines of reasoning.

[61] And yet, not all cases motivated by the desire to gain public visibility or that involve a trick invented by an alive magician would necessarily be widely condemned. Consider if you will, dear reader, a type of exposure wherein exposing is "framed" around humour: https://www.youtube.com/watch?v=t5s7RAJ7v-4

[62] Although examples of such explanations are numerous, easy to find and often accompanied by viewers' comments suggesting their appreciation of magic has grown finding out 'how it was done', we as authors cannot bring ourselves to include any citation references to such videos. Watching such dissections is just too easy.

[63] For instance, in relation to the lack of direct financial rewards for or the anonymity of those doing the exposing.

[64] As one example, see Penn & Teller's iconic performance of https://www.youtube.com/watch?v=8osRaFTtgHo&ab_channel=prozacbear

[65] But maybe not in defiance in practice. As one participant in The Session focus groups maintained, 'When you look at Penn & Teller doing their Cups and Balls and you actually listen to the explanation that Penn gives, he does not explain anything. It just feels like he is explaining it but that itself is the misdirection.' If that is indeed the case then, it could be said that while Penn might tell he does not impart. Is, though, this participant's assessment of the inadequacies of Penn's patter correct?

[66] https://www.vanishingincmagic.com/card-magic/permanent-record/

[67] We did not pick this example out of the blue. In the focus groups, the example of magicians drawing attention to the normalcy of cards, coins and other props was repeatedly said to be problematic by participants. And yet, despite such condemnations, this type of patter can still figure in high end promotional materials without ado.

[68] While invariably backgrounding others.

[69] Leiter, Kenneth (1980) *A Primer in Ethnomethodogy.* Oxford: Oxford University Press.

[70] See, as well, Hart, HLA. (1961) *The Concept of Law.* Oxford: Oxford University Press.

[71] For instance, the need to refrain from disclosing methods could be juxtaposed against the counter norm to out those fraudulently claiming extraordinary power through covertly using conjuring methods.

[72] Chaudhuri, Una. (2004) 'Zoo stories: "Boundary work" in theater history' in Peter Holland and W. B. Worthen (eds), *Theorizing Practice: Redefining Theatre History.* London: Palgrave Macmillan: pp. pp. 136–150.
[73] Mangan, Michael. (2007) *Performing Dark Arts: A Cultural History of Conjuring.* Bristol: Intellect.
[74] Standage, Tom (2002) *The Mechanical Turk: The True Story of the Chess-Playing Machine that Fooled the World.* London: Penguin.
[75] Smith, Wally. (2021) 'Deceptive strategies in the miniature illusions of close-up magic.' In: *Illusion in Cultural Practice*, K. Rein (Ed.). Routledge: pp. 123–138
[76] Tamariz, Juan. (2019) *The Magic Rainbow.* Hermetic Press.
[77] Altman, Irwin. (1975) *The Environment and Social Behavior*. Monterey: Brooks/Cole.
[78] Or, at least, what we as authors take to be in-performance exposures, such as the display of the gimmicked egg in "Chicken Trickin".
[79] Penn & Teller: Fool Us Season 9 Episode 13: "Chicken Trickin" https://www.youtube.com/watch?v=6F7MwvziMIU&ab_channel=CalebMorgan
[80] In this case, the expectation that the plastic egg had been "switched" for a real one.
[81] With regard to "Fool Us", it would likely be insightful to examine whether magicians or Penn's patter are perceived as exposure by non-magicians. Are audiences able to decipher the code? Do they understand that magic secrets are being disclosed? How does this affect their experience of the program? There is so much to research…
[82] Gieryn, T. F. (1983) 'Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists.' *American Sociological Review*, *48*(6), 781–795: 782. https://doi.org/10.2307/2095325 and Gieryn, Thomas F. (1999) *Cultural Boundaries of Science: Credibility on the Line*. Chicago: University of Chicago Press.
[83] Of course, in offering a split between the surface level of the main text and the under the surface level of the notes, this article is itself engaged in a form of boundary work. In terms of the intended effects, one hope is that we as author-magicians can do more than just talk-the-talk about magic as an activity that involves the skilful management of boundaries, but show we as author-magicians can also walk-the-walk of the skilful management of boundaries.
[84] Magicians need not always be regarded as superior, see Rappert, B. (2022) *Performing Deception: Learning, Skill and the Art of Conjuring*. Cambridge: Open Book Publisher: Chapter 4.
[85] Ibid.
[86] Of course, the depiction of magic and exposure given in this article are likewise boundary work exercises in authority. We made choices to highlight certain issues and sideline others. To claim otherwise would be to refute our own assessments about the utility of the notion of boundary work. More to follow on the appropriateness of how this was done later.
[87] Lamont, P. (2006) 'Magician as conjuror.' *Early Popular Visual Culture, 4*(1): pp. 21-33.
[88] Noakes, Richard (2002) '"Instruments to lay hold of spirits": Technologising the bodies of victorian spiritualism," in *Bodies/Machines*. ed. Iwan Rhys Morus Oxford: Berg Publishers: pp. 125–63. In turn, such efforts have been integral to professional standards, such as the place for deception in the design of experiments (see Pettit, Michael (2013) *The Science of Deception: Psychology and Commerce in America.* Chicago: University of Chicago Press: pp. 95-107.)
[89] See, for instance, Kuhn, G., A.A. Amlani, and Rensink, R.A. (2008) 'Towards a science of magic.' *Trends in Cognitive Science*s, 12(9): pp. 349-354; Rensink, R.A. and Kuhn, G., (2015) 'A framework for using magic to study the mind.' *Frontiers in Psychology*, 5; Macknik, S.L., et al., (2008) 'Attention and awareness in stage magic: turning tricks into research.' *Nat Rev Neurosci*, 9(11): pp. 871-9.
[90] Ekroll, V., et al., (2016) 'Illusory visual completion of an object's invisible backside can make your finger feel shorter.' *Current Biology* 26(8): pp. 1029-1033; Ortega, J., et al., (2018) 'Exploiting failures in metacognition through magic: Visual awareness as a source of visual metacognition bias.' *Consciousness and Cognition*, 65: pp. 152-168; and Ortega, J., et al., (2021) 'Differential Effects of

Experience and Information Cues on Metacognitive Judgments About Others.' *i-Perception* 12(4): p. 20416695211039242.

[91] Kuhn, G. (2019) *Experiencing the Impossible.* Cambridge, MA: MIT Press. ttps://doi.org/10.7551/mitpress/11227.001.0001

[92] Pailhès, A., & Kuhn, G. (2020) 'The apparent action causation: Using a magician forcing technique to investigate our illusory sense of agency over the outcome of our choices' *Quarterly Journal of Experimental Psychology*, *73*(11), 1784-1795. https://doi.org/10.1177/1747021820932916.

[93] A group that includes one of the authors, see Pailhes, A., & Kuhn, G. (2023) *The Psychology of Magic - From Lab to Stage*. Sacramento, CA: Vanishing Inc.

[94] Lesaffre, L., et al. (2018). 'Magic performances – when explained in psychic terms by university students.' *Frontiers in Psychology*, 9(2129); Lan, Y., et al. (2018) 'Fake science: The impact of pseudo-psychological demonstrations on people's beliefs in psychological principles.' *PLOS ONE* 13(11): p. e0207629; and Kuhn, G., et al. (in press) 'Experiencing misinformation: The effect of pre-exposure warnings and debunking on psychic beliefs.' *Quarterly Journal of Experimental Psychology*, 17470218221116437.

[95] As this article sits under the title of 'The Science of Magic', we must leave it to readers to ponder whether any of our attempts as authors to relay underlying methods in this article have actually been devised to obscure methods.

[96] As in Brown, Derren. (2007) *Tricks of the Mind.* London: Channel 4 Books.

[97] See Brown, Derren and Swiss, Jamy Ian. (2003). *A Conversation in Two Parts: Part I. June* Available at http://honestliar.com/fm/works/derren-brown.html; Singh, Simon. (2003) 'I'll Bet £1,000 That Derren Can't Read my Mind', *The Daily Telegraph* 10 June, and *Magic, Charlatanry and Skepticism,* SOMA Workshop. https://scienceofmagicassoc.org/blog/2021/4/29/magic-charlatanry-skepticism-webinar-cd6cy. As a variation of this line of criticism, it has also been argued that even when Brown exposes his own scientific patter as mere pseudo-explanations, the resultant effects on audiences might be to reinforce pseudo-beliefs (see Malvern, Jack. (2019) 'Magicians Accused of Casting Pseudoscience Spell on Audiences', *The Times* 2 January).

[98] Kuhn, G. (2019) *Experiencing the Impossible.* Cambridge, MA: MIT Press: 221. https://doi.org/10.7551/mitpress/11227.001.0001.

[99] For instance, as noted previously, the use of keywords referring to (actual) sleights, gimmicks and other techniques for magic is one of the exposure-related matters on which magicians can disagree. In offering an analysis of exposure as part of the Science of Magic, whether or not to include keywords in this article was one of the questions we faced. Unlike entertainment forms of exposure for the general public, however, there was less scope in our case to contend that the inclusion of keywords might stimulate the readership of this journal to take up magic (as in Husband, Andrew. (2017) 'Penn Jillette on four seasons of 'Fool Us' and why the future will be filled with female magicians.' *UPROXX,* 13 July. https://uproxx.com/tv/penn-jillette-fool-us-interview/). In the end, we made the decision to include (at least some) key terminology. More on this to follow…

[100] Wilkinson, K., K. Boyd, M. Pearson, H. Farrimond, I. A. Lang, D. Fleischer, A. Poole, N. Ralph & B. Rappert. (2017) 'Making sense of evidence: Using research training to promote organisational change.' *Police Practice and Research*, DOI: 10.1080/15614263.2017.1405266.

[101] It could be noted though, returning to a transaction model of exposure, that many of these scientific publications are placed behind paywalls, which means that they are not freely available to the general public, under some interpretations they do not break the exposure rule.

[102] https://scienceofmagicassoc.org/home#research

[103] This may stem from an unwritten code of conduct within the science of magic community (Rensink, R. A., & Kuhn, G. (2015) 'A framework for using magic to study the mind.' *Frontiers in Psychology*, *5*. https://doi.org/10.3389/fpsyg.2014.01508), which respects the need for minimising the exposure of magic secrets to non-magicians. Most academics in the science of magic community take

great care to only expose magic secrets when necessary. For example, Olson and colleagues (Olson, J. A., Landry, M., Appourchaux, K., & Raz, A. (2016) 'Simulated thought insertion: Influencing the sense of agency using deception and magic.' *Consciousness and Cognition*, 43*:* pp. 11-26. https://doi.org/http://dx.doi.org/10.1016/j.concog.2016.04.010) used a mentalism conjuring method which enabled the researchers to emulate a device capable of inserting thoughts into their spectator's mind. As in a typical scientific paper, the authors explained the methodological details that are required for others to replicate the study – exposing the magic secret. However, as a respect to the art of magic, Olson chose not to reveal the details of the trick, and instead simply referenced magic books that describe the general principle. Olson also invited individuals interested in replicating the study to contact him directly. Most other scientific studies on magic are more explicit about the deceptive principle employed. However, such papers discuss general principles of deception and it is questionable as to whether the non-magician reader can apply this abstract knowledge to specific tricks.

[104] 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/doi: https://doi.org/10.5920/jpm.1260

[105] As pursued elsewhere such as Rappert, Brian. (2021) 'The magic of social life.' *Journal of Performance Magic* 6(1). doi: 10.5920/jpm.840 and Jones, G. (2011) *Trade of the Tricks*. London: University of California Press.

[106] To sum up, in the notes section of this article, we as authors have repeatedly raised questions about the appropriateness of what we have disclosed about magic. While we have and could elaborate further reasons for the choices made, the argument given in this article suggests it is not viable to present such decisions as grounded in definitive and universal arguments. In the end, we opted for authority as a basis for resolving questions about what should be disclosed. In this case the authority of the body we are both members of: The Magic Circle.