Video Conferencing and Performance Magic

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More than a century after it was first imagined by electrical engineers and authors of science fiction, videotelephony became a broadly accessible communication tool with the internet and was widely adopted due to the Covid-19 pandemic. As self-isolation necessitated a shift away from in-person interaction, this not only replaced business meetings and birthday parties, but also the performing arts that could no longer take place in front of audiences in their usual spaces. Artists had to come up with ways to perform online, using the software that was available to them and to their audiences. In this way, video conferencing applications designed for business use became a virtual space for artistic performances. Among the artists who shifted their performances to online video conferencing platforms at the beginning of the Covid-19 pandemic were magicians.

Combining practical and theoretical knowledge, this chapter explores the connection between video conferencing and performance magic. It is equally informed by current performative practices of magic and its virtual adaptation, as well as by an academic approach from the perspective of media history. We have previously explored areas such as the shift from traditional in-person activities to video conferencing platforms in domains including performance, medical practice, and education (Houstoun and Thompson 2021; Kneebone, Houstoun and Houghton 2021; Houghton et al. 2021) as well as the use of media technologies in magic around 1900 (Rein 2015; Rein 2019; Rein 2023). This chapter combines these areas of expertise to explore how magic changes as it migrates to new transmission media.

In this chapter, we focus on a particular kind of magic—the kind that Simon During defined as *secular magic*, as opposed to *real* or *supernatural magic*. Secular magic, he writes, "is different from the magic of rituals, myths, and fetishes, as well as that of spirits, universal sympathies and antipathies, or of superstition or credulity. It is a self-consciously illusory magic, carrying a long history, organized around still-beleaguered lightness or triviality, which it also massively exceeds" (2002, 27). Because this kind of magic is performed for entertainment purposes, we call it performance magic. Moreover, it is received by audiences who are aware that they are witnessing illusions accomplished by techniques (of the body) or technology, while not understanding exactly how. For this reason, we exclude related

but distinct performers like spiritualist mediums, who typically appear in a context in which the illusions are marked as the result of supernatural occurrences (on the distinction between spiritualism and magic as a matter of framing, see Lamont 2006).

The relationship between performance magic and video conferencing (as well as other technical media) takes place on at least three different levels. All three are interconnected and therefore touched upon in this chapter, while the focus is on the third one. The first is the "magification" of technical media. This level is related to cultural imagination and works both ways: On the one hand, technologies become the subject of "magical" fantasies; on the other, a sense of magic latches on to existing technologies. One expression of this is the suspicion of technical media's uncanny potential to function as spiritualist mediums—that is, to facilitate communication not only between the living but also with other worlds. This aspect has been well researched, for instance by Jeffrey Sconce (2000) and Anthony Enns (2015). Technology's spiritual and mystical connotations, too, have been discussed, for instance by Erik Davis (2004, 11), who writes that "the spiritual imagination seizes information technology for its own purposes. In this sense, technologies of communication are always, at least potentially, technologies of the sacred, simply because the ideas and experiences of the sacred have always informed human communication." This includes not only existing technologies but also fictional ones, with the boundaries between them often being blurred. Throughout history and fiction, various media have been imbued with supernatural qualities, becoming the object of fantasies of a utopian or dystopian, highly technical future. Videotelephony is one of those "magical" technologies that was the subject of fantasy long before it became reality. Not only has videotelephony been one of the central futuristic devices of science fiction literature and film from Jules Verne to *Metropolis* to *Blade Runner* and countless others, it has also sparked numerous scientific fantasies of "seeing by electricity" and its implications since Victorian times.

The second kind of relationship between magic and technology concerns their direct interplay in performative practices: Performers present both existing and imagined devices in their shows as "magical"—that is, apparently fulfilling magical functions such as restoring broken objects, reading minds, and teleporting people. Often, this performance practice directly taps into the cultural imaginary generated by technological progress. Technologies are also often employed covertly in order to create an illusion without audiences being aware of their existence, for instance when concealed transmitters convey messages that are allegedly received telepathically (see Rein 2015).

The third level of performance magic's relation to technology pertains to its own mediatization. Performance magic has been disseminated through textual, auditory, and visual media for a long time, displaying a remarkable ability to adapt to various production and distribution practices. While magicians traditionally appeared

at fairground shows, in streets and marketplaces, they invaded theater and opera stages with great success in the second half of the nineteenth century, a move that resulted in the "golden age" of conjuring around 1900.[1] In the following century, magic was transmitted via letters, telegraphy, radio, television, and now the internet.

This chapter examines how illusionistic performance practices change as magic shows migrate across media, particularly in the context of video conferencing technology. While this primarily concerns the mediatization of magic that would traditionally be performed in person, it also involves the way conditions of a particular medium can be used for illusions that would not be possible in other settings. That, in turn, charges the given medium with magical potential, which then feeds into the cultural imaginary.

In order to understand video conferencing and its relationship to performance magic today, it is necessary to understand the technology's historical association with "magical" practices. The history of video conferencing technology takes us back to the late nineteenth century and the golden age of magic. In the late 1870s, electrical engineers first envisaged sending images, along with the sound that had recently become transmittable via telephone. While these early concepts partially fed into television technology, which switched to a one-way transmission model, experimentation with videotelephony continued throughout the twentieth century. We examine how magic ties into this history of technology by first migrating to television, despite being deemed unfit for this medium. We argue that a similar, equally striking media change occurred in 2020 as Covid-19 instigated magic's successful adoption of online video conferencing technology. For this reason, and due to the historical proximity of television and videotelephony, these two media and their relation to performance magic are both considered in this chapter. Both simulate telepresence that, in the realm of performance magic, has further been reflected in illusions that stage teleportation, different versions of which serve as case studies in this chapter.

The Magic of Transmission

In 1923 the crème de la crème of the North American magic business met at the McAlpin Hotel in New York for the nineteenth annual banquet of the Society of

1 There are different views on when exactly this golden age began, and how long it lasted. It is always placed around 1900. While, for instance, Mike Caveney (2009) proposed a period of 50 years, his is a US-centric perspective, beginning in the 1880s, when the popularity of magic made its way across the Atlantic. We, however, hold with a longer time span such as the one proposed by Jim Steinmeyer (2005), which extends from 1845 to 1936. Taking European magic history and its significant impact on US magic into account, it represents historical developments more accurately.

American Magicians. A certain "Doc Wilson," former dean of the Kansas City University of Medicine and Surgery and editor of *The Sphinx*, one of the pertinent magicians' trade journals, was invited as a guest of honor. He was not able to attend in person, star magician Harry Houdini announced at the banquet, but his address would be transmitted live[2] from Kansas City. For this purpose, Houdini had an authentic-looking radio cabinet installed by the Radio Corporation of America, complete with technicians in boiler suits pretending to be busy on the transmission. Suddenly, Wilson's voice emerged from loudspeakers installed around the dining room. Occasionally interrupted by static noise, he spoke of a vision of the future in which not only sound could be wirelessly transmitted across distances, but in which images, and even people, would be sent by radio waves. At the end of this address, Wilson surprisingly stated that he would test the latter claim right away, and subsequently "[t]o loudly crackling static, Wilson toppled out of the radio cabinet, eyes blinking, coat mussed, hair disheveled … . Houdini, almost losing his balance, reached over the table to shake Wilson's hand, having produced what in mediumistic terms would be a full teleportation" (Silverman 1996, 305). While in part anticipating future technologies, the conjuring of Doc Wilson also manifestly illustrates the connection between magic and media: starting from the wireless, a medium that was still relatively new yet real, the demonstration went on to imagine and stage the fantastic possibility of teleportation, drawing on the idea of technical media's supernatural abilities.

This presentation is an example of the second kind of relationship between magic and technology described above, in which both existing and imagined technological devices are presented in a show as fulfilling a "magical" function, while it also taps into the first level—that is, technology's perception as potentially magical in the cultural imaginary. This illusion references several themes of its time: the radio as the medium which went mainstream in the early twenties; spirit manifestations in the contexts of entertainment culture and Spiritualism (see Natale 2016), which reached a never-again attained peak in the aftermath of the First World War; and fantasies about radio waves transmitting something other than music and voices of the living. Such ideas were, at the same time, pursued by radio pioneers like Guglielmo Marconi, Manfred von Ardenne, and Oliver Lodge (see Hagen 2002, 232–35), while science fiction literature amalgamated electrical engineering and fantasy. One of the topics of this collective imagination was videotelephony (on late-nineteenth-century fantasies of "distant vision" see Burns 1998, 78–100). "Victorian engineers," Ivy Roberts (2019, 20) writes, "pictured mirror-like screens

2 In this article we refer to performances as being "live" when they have not been prerecorded but are transmitted in real time while they are taking place. We use the term "in person" to designate cases in which the audience and the performer share the same physical space—that is, are in the same room together, such as a theater hall.

and devices modeled after electrical telegraphs." In line with this project of "seeing by electricity," Jules Verne first described videotelephony in his short story "In the Year 2889" in 1889. Here, the "telephote" allows for the instantaneous "transmission of images by means of sensitive mirrors connected by wires" (665) along with the sound conveyed by a telephone.[3] Videotelephony subsequently became a staple of science fiction literature and film from Hugo Gernsback's *Radio for All* (1922), which envisions a "television and an automatic radiophone" (image caption "The Future of Radio," n. pag.) to the regulatory terrorism in the workplace depicted in Charlie Chaplin's *Modern Times* (1936) to *Back to the Future II* (1989), which imagines videotelephony as an everyday communication technology in the year 2015. Videotelephony recurs throughout history and fiction, for example in Hanna-Barbera's Space Age animated sitcom *The Jetsons* (1962–63), in which characters put on "morning masks" to hide their untidy appearance when called at an inconvenient time (Hanna and Barbera 1962).[4] These diverse examples show that, contrary to the narrative that sees videotelephony as a failed technology—at least until the advent of the smartphone made it mobile and more accessible (see, e.g., Held 2020), it was in fact one that was highly inspirational on various levels. Since its early days, videotelephony stimulated technological innovation, and it brought up issues of privacy and surveillance, which are prevalent in today's media culture. It also served as an ongoing source of inspiration for fiction and popular culture for over a century. The fact that, for over a century, numerous attempts to establish videotelephony as an everyday communication tool failed was, in fact, not followed by the technology's abandonment by engineers. Instead, energy continued to be invested into implementing its wide use in fiction as well as in reality.

Among the early Victorian inventors who were attempting to construct devices for videotelephony were the most renowned electrical engineers of the time: Edison announced a "Telephonoscope" in 1878, shortly after Bell presented his telephone to the public, and a "Far-Sight Machine" in 1889. Nikola Tesla, too, stated that he was working on an invention by the name of "visual telegraphy" which transmits images as well as sounds during phone calls (M'Govern 1899, 295–96). Edison's failure to deliver videotelephony got lost in the whirlpool of public excitement over two other inventions that he unveiled in 1891: the Kinetograph and Kinetoscope (see Roberts 2019, 22). This evidences that early endeavors to create videotelephony ultimately fed into the creation of cinema.

3 Published under the name of Jules Verne, this work is now believed to have been authored by his son Michel, probably based on the ideas of his father, who also mentions the "telephote" a few years later in *The Carpathian Castle* (1892, 177n).

4 This is in fact not an avatar that appears, as Tobias Held (2020, 59) writes, but a physical mask worn by the characters.

Another invention that arose from these attempts is television. While early mechanical-optical approaches did not prevail, the first successful demonstrations of fully electronic television devices took place in 1926. Along with other pioneers that shaped this new medium, the Bell Telephone Company was working on a device which was to transmit images along with voices, with the telling name of "Ikonoscope" (see Roberts 2019, 192–205). This device, Ivy Roberts shows in *Visions of Electric Media*, contributed to the paradigm shift in the conceptualization of television by turning away from a two-way communication device to a one-way transmitter. The first presentation of Bell's early television system took place in 1927, the year in which Fritz Lang's cinematic future fantasy *Metropolis* was released, which envisages videotelephony as an everyday communication medium of the rich and the privileged. Bell Labs' demonstration included the broadcasting of an address by Herbert Hoover, then Secretary of Commerce, from Washington, DC, to Bell Labs in New York, followed by a vaudeville act, which was broadcast from a studio in New Jersey (*New York Times* 1927; see also Burns 1998, 227–32; Roberts 2019, 196–99).

Hoover's voice emanating from loudspeakers and his image appearing on a screen may not have seemed any less magical than Houdini's "teleportation" did just a few years earlier, even though the speaker did not fully materialize in the end. In 1923, at the Society of American Magicians' annual banquet, the technological transmission of images, and even people, over vast distances, was presented as magic. A few years later, it had indeed become possible to send moving images in real time. The technology initially conceptualized as a two-way transmission, eventually split in two: television, in its practical implementation shifted to a one-way model, while the two-way approach resulted in videotelephony.

Performing Magic on Television

In "The Aesthetic of Astonishment" Tom Gunning (1995, 116) writes that it is "[t]he seeming transcendence of the laws of the material universe by the magical theatre" that "defines the dialectical nature of its illusions." Elsewhere, he ascertains that the effects achieved in a magic show heavily depend on in-person presence: when writing about the "optical uncanny," an effect that he attributes to magic tricks, Gunning (2008, 73) states that "[s]eeing an event—such as an elephant apparently vanishing before our very eyes, or a woman floating in midair—that contradicts rational expectations generates a different, perhaps more powerful, hesitation than reading an account of such an event." Magic, it seems, draws its strength, at least partially, from taking place directly within the reach of the spectators' sensory experience. In a similar vein, magician Thomas Fraps (2021, 57) writes that the kind of illusion that we encounter in performance magic differs from, for instance, optical illusions in that these illusions take place "in reality"—that is, in the space and time immedi-

ately shared by the audience. This "illusion of impossibility," as Fraps (2021, 60) calls it, "is unique to the art of magic, since it apparently happens in the here and now, in real time and space. There is no canvas, no screen, no paper on which the fiction is mediated by a painter, director, or writer. The canvas of a magician is the mind of the spectator and reality itself." Even the performance of an illusion, he says, cannot be perfected by the magician alone. Rather, it evolves over time, through interactions with audiences that take place during the performances (Fraps 2021, 54).

As a consequence of performance magic's strong link to in-person shows and its emphasis on audience interaction, it has often been argued that it is unfit for medial transmission. A glance at the history of performance magic, however, reveals that it has, in fact, not been exclusively successful in person. Famously, cinema, in its early days, was instantly invaded by magicians, both from artistic and commercial angles (see Barnouw 1981). Magicians played a crucial role in the history of early cinema: they were among the first to screen films in theaters (as part of their shows) as well as to bring film projections to the provinces and to other countries (on their tours); they were also among the first filmmakers, constructors of cinematic apparatus, and distributors of films (see Rein 2017 for a detailed account). The most famous example is the pioneer of cinematic special effects Georges Méliès, who was a well-respected magician and director of one of Europe's most renowned magic theaters before, during, and after his creative focus shifted to cinema. Another example is David Devant, widely regarded as the greatest magician in English history, who worked as Méliès's agent in the UK and was key in bringing early cinema to English venues away from metropolitan centers.

While this shift from stage practice to cinema as another illusionistic medium seemed like a logical extension of Victorian magic, the migration to television went less smoothly. Magicians began to appear on television in the 1950s, when they performed their acts as part of variety programs such as *The Ed Sullivan Show.* In 1960, Mark Wilson created the first magic show to be broadcast nationwide in the US, *The Magic Land of Allakazam* (1960–64). This program set the parameters for magic performances on television, including the ones illustrated by the example below. While, in early cinema, magicians quickly shifted from filming their stage effects in what Matthew Solomon (2010) calls *films of tricks* to inventing cinematic effects with which they were able to produce new illusions in *trick films*, when it came to television half a century later, camera tricks and special effects were something that made magic less convincing. Therefore, magicians put a lot of effort into persuading audiences that they were "merely" watching the transmissions of illusions, which could be performed on a theater stage in exactly the same manner. Television had to be presented as a medium merely distributing rather than changing its "content." However, as we know, media are not neutral transmitters. "[I]t is the medium," Marshall McLuhan writes in *Understanding Media* (1994 [1964], 9), "that shapes and controls the scale and form of human association and action. The content or uses of such media are as di-

verse as they are ineffectual in shaping the form of human association. Indeed, it is only too typical that the 'content' of any medium blinds us to the character of the medium." The main challenge performing on television posed for magicians was to make the defining role of the medium in the process of communication disappear and to create the illusion that television was a neutral transmitter.

This challenge is rooted in the view that performance magic was, and still is, often deemed unsuitable for mediatization. As described previously, this is because its effect is frequently attributed to its display of something impossible happening in the physical space shared by the spectators and that therefore follows the natural laws that they are familiar with. Performance magic, this narrative tells us, loses its power as soon as it is mediatized. However, the medium through which magic primarily reached its audiences in the twentieth century was television. Its great success on television since the 1960s remains in opposition to the aforementioned widespread claim. In the following section, we examine the ways in which this migration to a new medium has changed performance practices through the example of David Copperfield's "Portal" illusion. This will help us to understand, in the following section, how magic transforms when it changes media once again, invading the virtual space of video conferencing technology where it confronts the same claim concerning its mediatization.

Example: David Copperfield's "Portal" (2001)

On television, the lack of in-person interaction is compensated for by a constant confirmation of authenticity. Because performance magic on television is always already suspected of being accomplished by camera tricks or editing, "[c]redibility," magician and magic historian Jamy Ian Swiss (2007) writes, "is a supremely pressing issue" (see also Swiss 2022). Indeed, televised magic shows go to great lengths in order to establish authenticity, when, for instance, volunteers from the audience inspect props, floors and walls, serving as representatives of the larger audience. While this mechanism is also used at in-person shows, its role on television is even more important because the viewers at home have no chance to inspect the set-up on site. The volunteers serve as identification figures who experience the three-dimensional space in lieu of the viewers who only receive a two-dimensional picture of it. Some magicians even go so far as to make volunteers the central subjects of their illusions, thereby suggesting that the given feats could be accomplished with any and every person from the audience—including, by proxy, the television viewers.

In his "Portal" illusion, which was introduced in 2001 and featured in the television special *Copperfield: Tornado of Fire*, David Copperfield "teleports" himself and a spectator named Michael to the latter's father's home, Hawaii. The place of destination is allegedly transmitted in real-time—attested to by the word "LIVE" in the

picture—and screened at the back of the stage throughout the performance.[5] Here, upon Copperfield's request, another person checks for a possible false bottom that might be hidden under the sand. The magician and Michael then ascend a platform, which is raised above the audience—suggesting that they cannot leave it without being noticed by the surrounding spectators. A curtain closes around the pair. When it is pulled away fifteen seconds later, they are gone. Another forty seconds pass, and Copperfield and Michael appear on the screen, apparently live in Hawaii.

While the story of this illusion is described quickly, the largest part of the performance comprises a complicated array of actions designed to establish credibility. In his introduction, Copperfield tells of letters he received, among them a particularly touching one from a father longing to meet his estranged son. While the father lives in Hawaii, Copperfield explains, his son is in the audience tonight. The volunteer, subsequently introduced as Michael, is thus provided with a backstory that is verified by childhood photographs appearing on a screen. The choice not to use a random audience member was a careful one, designed to seem fair yet believable (see Young, Britten, and Copperfield 2020). Copperfield then selects further spectators by throwing a ball into the audience and asking those who catch it to point out more volunteers. Thus, four more people join Copperfield and Michael on stage, where they leave personal marks—initials, hobbies, etc.—on a large sheet of paper. The result, along with the group, is documented by a polaroid photograph, which Copperfield and Michael take with them to Hawaii. Along with one of the spectator's initials that were written on Copperfield's arm, this proves that the footage has not been edited before the broadcast. Before vanishing, Copperfield further stresses his show's spontaneity and coincidence by announcing that he performs this illusion nightly, with different spectators.

After the two reappear on the "Hawaii" screen, Copperfield invites Michael to run into the ocean until his legs get wet. He then pulls up his sleeve to reveal the initials on his arm, while Michael removes the polaroid photograph from his pocket. The complex, mise en abyme–like structure of this authenticating procedure manifests itself in the form of this drawing, documented by a photograph, shown to a camera that transmits it to a screen on a stage that is filmed for a television show. To top up this spectacular media circus, Copperfield now hands Michael a camera and asks him to "take it to that guy over there," pointing to Michael's father who is about to walk into the picture frame and with whom Michael remains on the beach. After stating that "it's starting to rain," the magician disappears behind a cloth on the sand and reappears on a small platform back in the theater auditorium. To further illustrate the magical interpenetration of the two distant places, Copperfield brings

5 Even when not recording the performance for television, Copperfield would hire a satellite truck that would stay outside the theater, to reinforce the idea that there was a live broadcast from Hawaii (Young, Britten, and Copperfield 2020).

the Hawaiian weather with him: A tilt of the camera reveals water drops on its lens and his reappearance is accompanied by thunder, lightning, and rain pouring down on astonished spectators. For the finale, Copperfield returns to the stage, pours out a handful of sand, and strikes a pose.

"Portal" exemplifies the trouble taken to establish credibility in magic performances on television. While these practices are also found in stage performances, in mediatized ones, their importance increases dramatically. For television, Copperfield has to disprove the assumptions that the illusion might be achieved by "a camera trick," that the show, and the beach sequence in particular, may have been pre-recorded and edited. To do this, great care is taken to establish continuity between the two places. For instance, Michael's getting his feet wet in the ocean serves to prove that "Hawaii" is neither a painted background in an adjacent studio nor a greenscreen effect. Disproving video manipulation is a challenge that has accompanied mediated magic performances ever since the possibility has been understood by audiences. A televised magic show has to please two possible audiences: the one in the theater from which volunteers are pulled and the one watching from home via their televisions. The first audience establishes credibility for the second one, vouching for an authenticity that is otherwise inaccessible. The televised Hawaii also stands in for the televised space watched by the television audience—this continuity therefore also serves to connect the space of the television show with their physical environment.

Performing Magic via Video Conferencing

This example shows how magic has previously been shaped by its migrations across media and by finding ways to compensate for the difference to in-person experiences. While the same arguments concerning performance magic's unsuitability for transmission are brought up against online shows, some practitioners have nonetheless pioneered performances via the internet. Demonstrations of magic tricks, debunking videos, and tutorials on YouTube and similar platforms have been attracting unprecedented numbers of viewers in recent decades, but these formats, though somewhat different under the conditions of the internet, mostly follow the one-to-many mass-media model of television shows. This changed in 2020, when the Covid-19 pandemic forced magicians, like many other artists, to find solutions for interactive online performances. This is a challenge for two reasons that have already played in relation to television: performance magic as an art form relies heavily on (1) making the apparently supernatural phenomena happen in the same physical space occupied by the spectators and (2) interacting with audience members who take on the role of assistants or of authenticating observers. Adapting their performances to virtual spaces and to software initially developed

for other purposes, some magicians successfully transitioned to shows via video conferencing software. Working against the long-standing conviction that magic only "works" in person, approaches emerged to productively use the new virtual environment for illusionistic purposes and to exploit its possibilities.

As already discussed, television was initially devised as a tool for two-way communication, "a form of visual telephony" (Roberts 2019, 21). While its successful practical implementation required a shift to one-way transmission, video conferencing technologies that first became reality in the 1930s enabled a return to the two-way model envisioned by Victorian electrical engineers. The American Telephone and Telegraph Company (formerly the Bell Telephone Company) presented an improved version of their "iconophone" to a selected public in 1930. A device that looks similar to this one (see *Popular Mechanics* 1930, 892), while also referencing later developments, is depicted in Stanley Kubrick's science fiction classic *2001: A Space Odyssey* (1968), which features a video phone call from a space station to earth. Outside of futuristic cinematic magic, AT&T's first commercial videotelephone service was a failure: When Kubrick's futuristic vision was released, videophone booths were being closed after an unsuccessful four-year run in three major US cities (Mäkinen 2007, 37). Succeeding models, too, failed commercially. Videotelephony only became part of our everyday reality with the advent of the internet, smartphones, and, particularly, during the remote-working peak caused by the Covid-19 pandemic.

As a performance space, the virtual environment offers a unique combination of in-person and television performance. On the one hand, performances are mediated visually and acoustically via camera, microphone, and screen, as with television. On the other hand, they maintain a liveness that is close to in-person shows, with the possibility of real-time two-way interaction between performer and audience, both as a whole and as individuals. In addition, the wholesale adoption of video conferencing in 2020, across a broad demographic and for events ranging from business meetings to education to social interaction, engendered a kind of trust in the medium. People experienced video conferencing (often engaging deeply with the technology for the first time) as a stand-in for the in-person events that were suspended due to the pandemic. Most users of video conferencing software do not perceive it as a technology prone to audiovisual manipulation via special effects and editing. While video conferencing makes the same tools available that are at hand in any performance mediated via a camera, spectators are not necessarily aware of this, tending to believe that what they see via the camera is precisely what they would see if they were in the room with the performer, without the suspicion that would accompany an identical illusion if it were viewed on a television program like Copperfield's. Thus, because of the context of pandemic-era video conferencing, the technology itself creates the impression of being a neutral transmission device that imitates an in-person situation as closely as possible. Because video conference

calls are typically perceived in this way, seemingly without offering much possibility of manipulation, it is the technology itself that does the authenticating work that magicians took pains to accomplish in television shows. This, too, is rooted in today's use as much as in the history of two-way video communication, which, since its earliest conceptions, has been regarded as an electric "window through which one could see a distant place," including "[w]itnesses [who] sometimes responded to the interaction with a television screen as if there was no mediation involved" (Roberts 2019, 213–14).

As large numbers of magicians shifted their performances to online video conferencing platforms, they broadly utilized one of two different approaches: either attempting to adapt the tricks they had performed in person to the new setting or trying to develop new material for this novel performance space. The former approach had the advantage of being a quicker route to getting performances going but also featured an inherent issue: in adapting material designed for a different setting to work online compromises invariably had to be made, and the best-case outcome was a performance that would have been better in an in-person setting. The latter approach, while requiring more work and creativity initially, produced a remarkably broad selection of work specifically designed to create magical experiences that could only ever happen via video conferencing. An example of a trick developed using the latter approach is another form of teleportation.

Example: NFW (2020)

On a video call the magician invites two spectators to help with an experiment in teleportation: Anne, in America, and her sister, Sam, in Spain. Anne and Sam's video feeds are added to the performer's, beside one another, and they are asked to get the pack of cards and envelope that they were told to bring to the show. Anne shows everyone on the call that the envelope she has is empty, seals it up, and then holds it in between her hands, making sure it stays in view of the camera. Sam then names a random playing card, the Queen of Hearts, and holds her sealed pack of cards up in one hand. The magician then reaches over to where Sam's video is showing and mimes grabbing something invisible from it. They look at it, smile, and then throw it toward Anne's video feed.

A puzzled Sam is invited to break the seal on her pack of cards and take the pack out of the box. She confirms that she picked the Queen of Hearts, and that she could have named any card. She then shows the cards, one by one to the camera. The entire pack is in order, until she gets to the hearts. The Ten of Hearts is there, as is the Jack, but then the next card is the King of Hearts. Sam goes through the entire pack and confirms that the Queen has completely vanished.

Anne confirms that the envelope has been between her hands the entire time, that it was empty, and that nobody has gone anywhere near it. She then tears it open, looks inside, and starts laughing. She tells everyone that there is now one card inside. On removing the card, she reveals the Queen of Hearts. Sam and Anne's videos expand to fill the screen, as the magician fades away into the background, and the audience offer the astonished sisters a round of applause.

While a chosen card appearing in a spectator's hands has been a standard effect for centuries (see, for example, Breslaw 1795) the fact that this performance is taking place via video conferencing offers a range of novel possibilities.

Perhaps the most obvious of these is distance. Whilst Copperfield required extensive technological apparatus to frame his broadcast from Hawaii, the fact that the card transposition takes place on a video conferencing platform makes it entirely uncontrived that the card travels from Spain to America. It does not, however, diminish the drama in the effect. Making a spectator's chosen playing card appear in their hands is always a good trick, but making the card travel from one continent to another adds a whole new degree of impossibility. While distance is key in the narrative of the trick, the idea of making it disappear, as with Copperfield's magical journey to see an estranged father, is also present. Sam and Anne would only be able to share this magical experience of an in-person show at huge expense and inconvenience, but via video conferencing, they can share it conveniently from the comfort of their homes.

The fact that Anne and Sam participate in the show from a domestic setting is, in itself, important. In-person magic shows tend to happen in public spaces, whether theaters, bars, or restaurants, rather than in homes, and because of this magicians go to great lengths to prove that the items they are using are every-day objects rather than special apparatus (see Maskelyne and Devant 1946 [1910], 119–20). Because all the spectators are in a domestic setting for this show, and they have brought the props themselves, that suspicion is eliminated. The setting also removes the need for the elaborate proof that Copperfield required to demonstrate that he and Michael have actually traveled to Hawaii. Anne and Sam are in their homes, locations that may be recognized by other family members on the call, so there is no question that the card has been teleported from one place to the other. Thus, the invasion of private spaces by videotelephony that has called for associations with surveillance and caused concern throughout the technology's history since the nineteenth century (see Roberts 2019, 42, 79, 138, 212–14), becomes an advantage for performance magic because it effortlessly adds authentication.

Even the mechanics of Anne and Sam's participation in the show is facilitated by the use of video telephony. Getting audience members on stage is always a challenge at in-person shows, creating dead time and logistical challenges. Via video conferencing anyone in an audience can instantaneously be brought "on stage" without delay or considerations about seating positions, etc. The technology also allows the

wider audience to see the on-stage helpers more clearly than in any other setting, enjoying every nuance of their reaction to the impossibility in which they play a part.

This example highlights just a few of the ways in which video conferencing has shaped the performances that magicians are now giving, and as more conjurers spend time exploring the possibilities, many new opportunities will appear. Video conferencing also offers advantages of television, like control over the studio setting for the performer (lighting, sound, multiple cameras, etc.) and the facility to do physically small magic in a way that large audiences can see. In addition, other forms of audience interaction that would traditionally be the preserve of in-person performance are facilitated, and even expanded upon, in the video conferencing setting, thanks to functionality like breakout rooms, voting, reactions, and text chat.[6]

Conclusion

At first glance, the integration of performance magic in a video conferencing environment seems problematic. The same has been said about television, and while magic is still often regarded as unsuitable for television, it was hugely successful in this medium during the twentieth century. In 1895, magic's first transition to an audiovisual medium was a smooth one, when magicians became pioneers of early cinema. At this point, filming the tricks was enough, before magicians like Georges Méliès turned to the invention and implementation of cinematic illusions, i.e., special effects, which, for a period of time, worked as an attraction in their own right (see Gunning 1986). Six decades later, when it came to television, the presentation of special effects turned into the thing that had to be believably ruled out in order for magic performances to be effective. Our exemplary analysis of performance magic on television showed how it was adapted to work with and despite this medium's specificities, primarily establishing credibility by disproving the use of image manipulation. Moreover, magicians were also working against the characteristics of media in general, by making television appear as a neutral window onto the show.

Crucially, in the next shift of audiovisual channels, to the context of video conferencing, magicians encountered the same problem in principle but, for the time being, without the need to disprove image manipulation. Unlike television, video conferencing performances do not require the same amount of authentication because the medium is connoted differently, seemingly promising a higher degree of "unmanipulated liveness" to the spectators. The perception of video conferencing as a "window" has accompanied it since the technology's early days, and it proved useful

6 For an in-depth exploration of the practical, methodological possibilities video conferencing affords the magician, see Houstoun and Thompson (2021).

to magicians when they shifted to video conferencing applications. This is paradoxical because, for instance, Zoom very overtly offers the possibility of image manipulation to its users through the use of video filters and virtual backgrounds—a technique going back to the illusionistic practice of the black screen that originated in performance magic. And yet, it is not typically thought of as prone to image manipulation outside of these obvious effects. Rather, in the tradition of videotelephony, it is perceived as a neutral transmitter, a window to another space.

In the context of illusionistic performance practice, we have shown, video conferencing platforms allow for a combination of some of the best aspects of in-person and mediated performances. While the field is a relatively new one, there are advantages to be found in the realm of online shows for performing artists, with further development ongoing. The space combines the convenience of a global reach without the necessity to travel with the possibilities of digital effects and audience interaction.

Far from having failed, and despite having had a hard time asserting itself in everyday life for a number of reasons, videotelephony has been on the minds of inventors, engineers, businesspeople, authors, and filmmakers for about 150 years. The countless fantasies and debates it sparked, and the numerous inventions it stimulated attest to the fact that videotelephony responds to a persistent desire, while further, its long-time image as a future or futuristic technology evidences its "magical" qualities.

References

Barnouw, Erik. 1981. *The Magician and the Cinema*. New York: Oxford University Press.

Breslaw, Philip. 1997 [1795]. "For a Person to chuse a Card, you not supposed to know what it is, and then for the person to hold the cards between his Finger and Thumb, to strike them all out of his Hand, except the very Card he had taken." In *Breslaw's Last Legacy*, 92–93. Wichita: Stevens Publishing (Facsimile).

Burns, R. W. 1998. *Television: An International History of the Formative Years*. London: Institution of Electrical Engineers.

Caveney, Mike. 2009. "The Masters of the Golden Age." In *Magic, 1400s–1950s*, edited by Noel C. Daniel, 338–397. Cologne : Taschen.

Chaplin, Charles, dir. *Modern Times*. 1936. USA : Charles Chaplin Productions.

Davis, Erik. 2004. *TechGnosis: Myth, Magic, and Mysticism in the Age of Information*. Updated ed. London: Serpent's Tail.

Debruge, Peter. 2020. "'The Present': L.A. Theater Review." *Variety*, May 15, 2020. https://variety.com/2020/legit/reviews/the-present-review-helder-guimaraes-geffen-stayhouse-1234608463.

During, Simon. 2002. *Modern Enchantments: The Cultural Power of Secular Magic*. Cambridge: Harvard University Press.

Enns, Anthony. 2015. "Spiritualist Writing Machines: Telegraphy, Typtology, Typewriting." *Communication +1* 4 (1), art. 11.

"Far-Off Speakers Seen as Well as Heard Here in a Test of Television." *New York Times*, April 8, 1927: 20.

Fraps, Thomas. 2021. "Illusions, Magic and the Aesthetics of the Impossible." In *Illusions in Cultural Practice: Productive Deceptions*, edited by Katharina Rein, 53–70. London: Routledge.

Gernsback, Hugo. 1922. *Radio for All*. Philadelphia: J. B. Lippincott.

Gunning, Tom. 1986. "The Cinema of Attraction: Early Film, Its Spectator and the Avant-Garde." *Wide Angle* 8 (3 & 4 "Narrative/Non-Narrative"): 63–70.

Gunning, Tom. 1995. "An Aesthetic of Astonishment. Early Film and the (In)Credulous Spectator." In *Viewing Positions: Ways of Seeing Film*, edited by Linda Williams, 114–33. New Brunswick: Rutgers University Press.

Gunning, Tom. 2008. "Uncanny Reflections, Modern Illusions. Sighting the Modern Optical Uncanny." In *Uncanny Modernity. Cultural Theories, Modern Anxieties*, edited by Jo Collins and John Jervis, 68–90. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.

Hagen, Wolfgang. 2002. "Die entwendete Elektrizität. Zur medialen Genealogie des 'modernen Spiritismus.'" In *Grenzgänge zwischen Wahn und Wissen: Zur Koevolution von Experiment und Paranoia 1850–1910*, edited by Torsten Hahn, Jutta Person, and Nicolas Pethes, 215–39. Frankfurt on the Main: Campus-Verlag.

Hanna, William, and Joseph Barbera, dirs. 1962. "The Space Car." *The Jetsons*, season 1, episode 4. USA: Hanna-Barbera Productions et al.

Held, Tobias. 2020. *Face-to-Interface: Eine Kultur- und Technikgeschichte der Videotelefonie*. Marburg: Büchner.

Houghton, Natasha et al. 2021. "Cross-disciplinary Perspectives on the Transition to Remote Education." *BMJ Simulation & Technology Enhanced Learning* 7: 586–89.

Houstoun, Will, and Steve Thompson. 2021. *Video Chat Magic*. s.l.: Vanishing Inc. Magic.

Kneebone, Roger, Will Houstoun, and Natasha Houghton. 2021. "Medicine, Magic, and Online Performance." *The Lancet* 398 (10314), November 20, 2021. https://doi.org/10.1016/S0140-6736(21)02485-5.

Kubrick, Stanley, dir. *2001: A Space Odyssey*. 1968. UK/USA: MGM & Stanley Kubrick Productions.

Lamont, Peter. 2006. "Magician as Conjurer: A Frame Analysis of Victorian Mediums." *Early Popular Visual Culture* 4 (1): 21–33.

Lang, Fritz, dir. *Metropolis*. 1927. German Reich: UFA.

Mäkinen, Lauri. 2007. "Mobile Videophone." In *Topical Evolution Paths of Mobile Multimedia Services: Proceedings of the Research Seminar on Telecommunications Business*,

edited by Sakari Luukkainen, 37–41. Helsinki University of Technology Publications in Telecommunications Software and Multimedia. http://www.tml.hut.fi/Opinnot/T-109.7510/2007/Proceedings_2007.pdf.

Maskelyne, Nevil, and David Devant. 1946 [1910]. *Our Magic: The Art in Magic, the Theory of Magic, the Practice of Magic*, edited by Paul Flaming. Berkeley Heights: Fleming Book.

McLuhan, Marshall. 1994 [1964]. *Understanding Media. The Extensions of Man.* Cambridge: The MIT Press.

M'Govern, Chauncy Montgomery. 1899. "The New Wizard of the West: An interview with Tesla, the modern miracle-worker, who is harnessing the rays of the sun; has discovered ways of transmitting power without wires and of seeing by telephone; has invented a means of employing electricity as a fertiliser; and, finally, is able to manufacture artificial daylight." *Pearson's Magazine* VII (41) (May): 291–97.

Natale, Simone. 2016. *Supernatural Entertainments: Victorian Spiritualism and the Rise of Modern Media Culture.* University Park: The Pennsylvania State University Press.

Rein, Katharina. 2015. "Mind Reading in Stage Magic: The 'Second Sight'" *communication +1* 4 (1): article 8. https://doi.org/10.7275/R50C4SPB.

Rein, Katharina. 2017. "Magicians and Early Cinema." In *A History of Cinema Without Names/2*, edited by Diego Cavallotti et al., 169–78. Milan: Mimesis.

Rein, Katharina. 2019. "Vanishing Technology: Transparency of Media in Stage Magic." In *Media Archaeology and Intermedial Performance: Deep Time of the Theatre*, edited by Nele Wynants, 99–114. Cham: Palgrave Macmillan.

Rein, Katharina. 2023. *Techniques of Illusion: A Cultural and Media History of Stage Magic in the Late Nineteenth Century*. London: Routledge.

Roberts, Ivy. 2019. *Vision of Electric Media: Television in the Victorian and Machine Ages.* Amsterdam: Amsterdam University Press.

Sconce, Jeffrey. 2000. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press.

Scott, Ridley, dir. 1982. *Blade Runner*. USA: Warner Bros. et al.

Silverman, Kenneth. 1996. *Houdini!!! The Career of Ehrich Weiss; American Self-Liberator, Europe's Eclipsing Sensation, World's Handcuff King & Prison Breaker.* New York: HarperCollins.

Solomon, Matthew. 2010. *Disappearing Tricks: Silent Film, Houdini, and the New Magic of the Twentieth Century*. Urbana: University of Illinois Press.

Steinmeyer, Jim. 2005. *Hiding the Elephant: How Magicians Invented the Impossible*. London: Arrow.

Swiss, Jamy Ian. 2007. "In Search of Street Magic." *ANTINOMY* 9. https://jamyianswiss.com/blog/in-search-of-street-magic.

Swiss, Jamy Ian. 2022. "Conjuring on the Small Screen." In *Magic: A Companion*, edited by Katharina Rein. Oxford: Peter Lang, 175–183.

"Telephone Users See Each Other as They Talk." 1930. *Popular Mechanics* 53, no. 6 (June): 892.

Verne, Jules (and Michel). 1889. "In the Year 2889." In *The Forum* VI (February), edited by Lorettus S. Metcalf: 662–77. Hathi Trust. https ://hdl.handle.net/2027/mdp.39015008192885.

Verne, Jules. 1892. *Le Château des Carpathes*. Paris : J. Hetzel et Compagnie. https ://fr.wikisource.org/wiki/Le_Château_des_Carpathes.

Young, Richard, Britten, Noel and David Copperfield. 2020. "Portal," edited by Will Houstoun. *The Magic Circular* 114 (1249): 238–39.

Zemeckis, Robert, dir. *Back to the Future II*. 1989. USA: Universal Pictures, Amblin Entertainment, and U-Drive Productions.