Platforms, Purpose, and Pedagogy
Reclaiming Context and Resisting Technopoly with Participatory Media

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Just over 20 years ago media theorist and cultural critic Neil Postman (1992) asked two important questions, "What story does American education wish to tell now? In a growing Technopoly, what do we believe education is for" (p. 174)? The first question may seem a peculiar one to many people involved in the day-to-day work of modern schooling where overarching purposes are often lacking. The second requires us to revisit Postman's critiques regarding the role technologies play in society. Postman would hopefully commend such a reconsideration of these questions as he began his own story in *Technopoly: The Surrender of Culture to Technology* by revisiting Plato's tale of Thamus and he continued with the ideas of many thinkers, innovators, skeptics, and technophiles of the last two centuries. He said, "we listen to their conversations, join in it, and revitalize it" (p. 20). I hope to do the same in this article.

Postman's (1992) basic contention is that modern America has subordinated cultural traditions and varied ways of knowing for the scientific progress supposedly embedded in prevailing technologies. I was drawn to Postman's writing because my teaching and research have increasingly involved the use of social media (e.g., Carpenter & Krutka, 2014a; Krutka, 2014; Krutka, Bergman, Flores, Mason, & Jack, 2014), and I wanted to step back and take stock of the burdens and blessings of the technologies in my classes, our schools, and society at large. I will begin by outlining Postman's general arguments with particular emphasis on educational talk and appraisals of modernity. I will then examine his ideas in the wake of the rise of participatory media, which arrived on a large scale

near the time of his passing in 2003. Postman maintained a skeptical attitude toward technologies, particularly computers; his assessment has even been described as "excessively pessimistic, almost apocalyptic" (Muñoz & El-Hani, 2012, p. 916). However, the rise of participatory media, including Web 2.0 sites and social media platforms, warrants new considerations of Postman's critiques. These new media provide users platforms that offer innovative, albeit largely unrealized, possibilities for life and education. Specifically, participatory media might supply prospects for the contextualization and purposing of information in an educational environment where this is often absent. I will conclude this discussion with some theoretical and practical implications for schools and society.

Modernity and Technopoly

With *Technopoly* (1992) Postman posed a unique, yet thematically familiar (Houser, 2006), critique of modernity and its associated characteristics—namely "objectivity, efficiency, expertise, standardization, measurement, and progress" (Postman, p. 42). However, instead of focusing on human progress in general, he contended that the relentless pursuit of technological progress has particularly rendered the United States a "desacralized world" (160). Citing McLuhan's (1964) refrain that "the medium is the message," Postman believed that "technologies create the ways in which people perceive reality" (p. 21). For example, he cites the invention of grading—the quantification of human thoughts and works—in the late eighteenth century as setting off a new mathematical view of learning which is so ingrained that most people probably have difficulty conceiving of formal education without it.

Specifically, Postman (1992) took aim at the assumptions of technological progress by offering a three stage taxonomy of Western cultures—tool-using cultures, technocracies, Technopolies—that are defined by their relationships to technologies (see Table 1). In tool-using cultures technologies are integrated within the prevalent societal ethos and do not regularly challenge this worldview. Although rare today, all cultures prior to the seventeenth century fit this grouping. Tools served either to solve physical problems or reinforce the symbolic world. For example, Briggs and Peat (1999) explain the worldview of Postman's tool-using cultures where there is a holistic union of moral and intellectual beliefs:

> …the Earth was considered a living being, and the human artisan was an assistant or midwife to nature. Metals grew in the womb of the Earth. The miner, smelter, metalworkers and goldsmith engaged in the sacred tasks of helping nature reach perfection…" (p. 148)

Theological or metaphysical beliefs bestowed "order and meaning to existence" (Postman, p. 26), and scientific understandings were not viewed as threats to spiritual ways of life. Prior to the invention of the printing press, information gathered was largely local, contextual, and social. The term consciousness even "referred to what people knew together," not what could be gleaned individually (Briggs & Peat, 1999, p. 149). In short, technologies did not determine how people interpreted and experienced the world. However, this began to change as a more modern, mechanistic, and individualistic worldview took hold.

Table 1
Postman's (1992) Three Stage Taxonomy of Western Cultures

Types	*Cultural role of technologies*	*Purpose of technologies*	*Cultural representatives*	*Cultural example(s)*
Tool-using cultures	Subordinated and integrated into the traditional, cultural, and spiritual worldview	Solve physical problems and serve symbolic purposes	Aristotle	All pre-17th century cultures; few today
Technocracies	Bid to become cultural worldview; Separation of moral and intellectual values	Address physical problems, pave way for progress; Play a central role in thought-world of the culture (e.g., clock, printing press, telescope)	Francis Bacon	Most Western cultures
Technopolies	Technologies are the worldview; Subordination of the moral to intellectual	Tools address physical problems, pave way for "progress"; Replace human judgment with measureable techniques	Auguste Comte; Henry Ford; Frederick Taylor	20th century United States

Postman's second stage is characterized by the slow but sure splitting of the intellectual from the moral and the scientific from the spiritual, and this yielded a predominantly technocratic view where "tools play a central role in the thought-world of the culture" (Postman, 1992, p. 28). Inventions like the clock, printing press, and telescope redefined societal definitions of time, orality, and Judeo-Christian theology and moved culture towards a more mechanistic belief system. These changes were gradual as many of the leaders of the Scientific Revolution like Copernicus, Kepler, Galileo, and Descartes held to the theological beliefs of their time and did not believe their investigations would lead to progress in the improvement of people's lives. In Western technocracies, people maintained traditional spiritual beliefs, but the technological and traditional "coexisted in uneasy tension" (p. 48).

By the nineteenth century Western cultures were "only loosely controlled by social custom and religious tradition and [were] driven by the impulse to invent" (Postman, 1992, p. 41). The question as to whether new technologies yielded a higher quality of life was largely disregarded as inventions were assumed to do so. Technocratic reasoning presumed that if something could be invented then it should, and thus came to pass technical changes like the transition from "small-scale, personalized, skilled labor to large-scale, impersonal, mechanized production" not only for industrial production, but eventually for schooling and other institutions (41). The world was increasingly externalized and objectified as the Cartesian machine metaphor became dominant and the world became understood as a collection of isolated parts (Capra, 1996; Houser, 2006; Postman, 1992).

Postman (1992) claimed that Technopoly, his third stage, is "totalitarian technocracy" where spiritual traditions are subordinated to science, which becomes the ultimate source for answers to the moral questions of life (p. 48). Under this worldview, "precise knowledge" is utilized to correct the error of human subjectivity, and "in a culture in which the machine, with its repeatable operations, is a controlling metaphor and considered to be the instrument of progress, subjectivity becomes profoundly unacceptable. Diversity, complexity, and ambiguity of human judgment are enemies of technique" (p. 158). While there were many episodes that could serve as a symbolic inauguration of American Technopoly (e.g., Henry Ford's assembly lines, Scopes Trial), the popularization of Frederick Taylor's *The Principles of Scientific Management* (1914) is fitting. Taylor's system was only meant to guide industrial production, but has been peculiarly applied to a vast array of labors, including teaching. His monograph outlines the presumptions of the Technopoly worldview which effectively holds that:

> …the primary, if the only, goal of human labor and thought is efficiency; that technical calculation is in all respects superior to human judgment; that in fact human judgment cannot be trusted, because it is plagued by laxity, ambiguity, and unnecessary complexity; that subjectivity is an obstacle to clear thinking; that what cannot be measured either does not exist or is of no value; and that the affairs of citizens are best guided and conducted by experts. (Postman, 1992, p. 51)

Steadily, the idea that human cultural existence should give way to techniques, tools, and the progress they bestow was accepted.

Indicative of the broad repercussions of such a worldview, social scientists ascended from Taylor's shadow to found a science of society. Postman labeled positivistic efforts to objectify complex and largely subjective human affairs as mere "scientism." He further lamented "the illusory belief that some standardized set of procedures called 'science' can provide us with an unimpeachable source of moral authority" (p. 162). These are technical attempts to not only answer the questions of life that once fell in the realm of the traditional and spiritual, but to solve them. Furthermore, those people who understood or controlled these technologies formed "knowledge monopolies" whereby they were "granted undeserved authority and prestige" (Postman, p. 9).

While some might dismiss Postman's (1992) general argument as oversimplified, binary, or even a discursive case of existential angst, his ideas offer a broad, critical lens through which we might evaluate the benefits and drawbacks of participatory media and their educational potential. Postman's modernist critique is certainly familiar within educational circles (e.g., Eisner, 1991) where the standardization movement of the last quarter century has increasingly defined schooling by narrow and quantifiable academic objectives at the expense of holistic or moral aims (Goldstein, 2014; Noddings, 2005). With this context in mind, I will highlight Postman's comments on two areas that are particularly pertinent to the forthcoming discussion—information and computers.

Information Glut

The invention of communication technologies beginning with the printing press and followed by a host of other tools began the "elevation of information to a metaphysical status" (Postman, 1992, p. 61). The diffusion of knowledge is widely praised in American culture, but Postman contended that the side effects of information glut included people filling their lives with segments of information that solve little. While there are numerous control mechanisms (e.g., school curricula) that attempt to prescribe what information is worthy of attention, the overload makes it "possible to say almost anything without contradiction"

by simply citing "research" (p. 63). After the printing press, the invention of the telegraph brought more information to more people at an even swifter pace and this resulted in a world where too much information lacks context. Postman contended that a new definition of information emerged "…that rejected the necessity of interconnectedness, proceeded without context, argued for instancy against historical continuity, and offered fascination in place of complexity and coherence" (p. 69). Without context, Postman reasoned that information has become "a form of garbage" that is hardly useful at all (p. 69).

Frank Smith (1998) used different language than Postman (1992) but likewise contended that schools have long-been rife with "nonsense" information because of the scientism that dates back to the late nineteenth century. In his efforts to quantify learning and hence validate psychology as a science, Hermann Ebbinghaus conducted experiments which disclosed that people could learn non-sense syllables (e.g., WUG, VOG) through repetition—or time and effort. Of course, it was only a short time before these syllables were forgotten by experiment participants, thus negating any short-term memorization gains. While the latter finding about forgetting was largely ignored, the former finding that hard work leads to learning was embraced by the budding compulsory school system in the United States. It did not matter that the entire experiment removed the most important aspects of long-term learning—context, interest, and purpose. To this day students are required by teachers to memorize decontextualized and purposeless information, which they quickly forget after testing is complete. Typical of Technopoly, "the tie between information and human purpose has been severed," but most people do not seem to even notice such absurdity in a culture where science and information are both often beyond reproach (Postman, p. 70).

Personal Computers

Postman (1992) contended that personal computers have done little to shift cultural views, instead embodying the characteristics of Technopoly and modernity, even fulfilling "Descartes' dream of the mathematization of the world" (pp. 118-119). While schools have made huge investments in computer technologies, this is frequently done without relation to an educational purpose that goes beyond vague justifications of efficiency, interest, or progress (Cuban, 1986, 2001). The sheer adoption of computers fails to contribute purpose to learning, and Postman expressed concern of whether the private and individual nature of computers would diminish communal aspects of schooling. Additionally, the production of outputs by computers reduces people to "'information processors' and

nature itself as information to be processed…" (p. 111). The computer offers an apt metaphor for a Technopoly society. Needless to say, much has changed in regards to computer technologies since Postman penned *Technopoly*, particularly since the turn of the twenty-first century. In the next section I will bring participatory media into the discussion and give consideration to its relationship to culture and Postman's Technopoly construct.

Participatory Media

The internet first became widely accessible to the general population at about the same time that Postman wrote *Technopoly*. The web was hailed as a revolutionary force, but much like early personal computers, it seemed to merely provide a new form of speedy communication for most citizens. Initial iterations of the online world largely functioned as a "repository of information" on stagnant web pages, retroactively called Web 1.0 (O'Brien, 2010, p. 200). This function of the web was not vastly dissimilar, though more accessible, than the mass of information that accompanied books after the arrival of the printing press. However, the last decade has seen the diffusion of participatory media that includes Web 2.0 sites (e.g., blogs, video-sharing sites) and social networking platforms (e.g., Twitter, Facebook, Instagram) that have lowered the cost, effort, and technological knowledge needed for users to share and interact with digital media. These sites characteristically flourish when users make purposeful contributions that accentuate the collective intelligence of groups (O'Reilly, 2012).

There is little doubt that the computer technologies of Postman's (1992) day did not offer a "means of substantive communication" (p. 118) akin to participatory media. The rise of social media merits new considerations as to whether platforms might afford contextual and purposeful experiences. Social media advocates argue that platforms address Postman's complaints concerning "knowledge monopolies" of elites who controlled the information flow (e.g., newspapers, radio, television), and platforms have lowered the cost, effort, and technological knowledge needed for users to share media and participate in social dialogues. Rosen (2012) even called new media users "the people formerly known as the audience" because of their newfound capacity to join conversations formerly reserved for elites (p. 13). Unlike the individualistic computer technologies of Postman's day, participatory media afford users platforms for digital participation that are "mobile, social, personal, and ubiquitous" (O'Brien, 2010, p. 200).

However, it is clear that social media cannot be easily detached from

the larger American culture which Postman derided (1992). For example, Twitter is a microblogging service that allows users to send messages, called tweets, consisting of 140 characters or less to followers or connect with others through hashtags. This social networking platform has been rightly criticized as a space for narcissistic, trivial, bigoted, and even violent (e.g., Greenhouse, 2013) interactions, and the character limit can restrict depth of thought, leaving users always skimming the surface of subjects. Postman (1992) might disparage the service because with tweets, "information appears indiscriminately, directed at no one in particular, in enormous volume and at high speeds, and disconnected from theory, meaning, and purpose" (p. 70). Social media may therefore contribute even more information to the glut than already exists, and raise numerous questions as to whether, "Google is making us stupid, Facebook is commoditizing our privacy, or Twitter is chopping our attention into microslices" (Rheingold, 2012, p. 1). And despite naïve claims that the internet is inherently a democratizing force, online activities have often served to maintain the status quo or even bolster the power of elites (Stoddard, 2014).

Despite these concerns, the ways that educators utilize Twitter offers possible reconsideration as to whether participatory media "may or may not be life-enhancing" (Postman, 1992, p. 185). Many educators testify that the Twitter platform affords affinity spaces for professional growth, and even emotional support, with energetic colleagues (Carpenter & Krutka, 2014a; Visser, Evering, & Barrett, 2014). For a profession where teacher burnout, poor in-service professional development (Sprinthall, Reiman, & Thies-Sprinthall, 1996; Hawley & Valli, 2007), and low morale are persistent problems, it is notable that teachers credit their online activities with invigorating their professional lives (Carpenter & Krutka, 2015). The use of hashtags (e.g., #edchat, #spedchat) within social media messages can allow for a cross-referencing of tweets so people can unite around topics and work towards dialogues or purposeful actions. Educators have spawned hundreds of hashtags that encourage focused channels of communication by grade level (e.g., #elemchat for elementary teachers), subject area (e.g., #sschat for social studies teachers), pedagogical approaches (e.g., #pblchat for problem-based learning), educational equity and social justice (e.g., #educolor), and cultural events like what happened in Ferguson, Missouri and Charleston, South Carolina in 2014 and 2015 (e.g., #FergusonSyllabus, #CharlestonSyllabus). These hashtags allow educators to seek out colleagues with common concerns or aims and participate in social dialogues in ways that were not possible with more individualistic conceptions of early personal computers. Moderated hour-long chats on particular and organic topics offer a popular example

as to how many in the field address professional challenges of education (Carpenter & Krutka, 2014b).

The participatory cultures that exist in affinity spaces often extend beyond platforms like Twitter to other mediums and face-to-face activities. Participatory media have been utilized as a means to organize educators for grassroots, day-long unconferences in their communities or regions (Carpenter, 2015). Precisely because social media is social, no single medium can be understood in isolation. Jenkins and colleagues (2009) maintained that "rather than dealing with each technology in isolation, we would do better to take an ecological approach, thinking about the interrelationship among different communication technologies, the cultural communities that grow up around them, and the activities they support" (p. 7). This pragmatic method differs from the deterministic attitude sometimes present in Postman's presentation of the idea that "the medium is the message" where the technologies, not human actors, seemingly determine reality (Nartonis, 1993).

As Rheingold (2012) and others have pointed out, the worth and meaning of Twitter in human affairs likely depends on how the technology is used, the cultures that grow around various media, and its associations with other experiences. Participatory cultures within informal learning spaces offer glimpses into the possibilities for education to return power to the interests and needs of people even in the face of hierarchical systems. In a profession where teachers are often de-skilled and viewed as technicians who are only the "alienated executors of someone else's plans" (Apple & Teitelbaum, 1985, p. 373), participatory media has become a source of agency and voice. While much work must be done for participatory cultures to push back against Technopoly in substantial ways, these online activities hold the capacity to contest the bureaucratic and technical spirit of schooling while valuing the judgment of those who actually teach students on a daily basis. Participatory media, like any technology, comes both with blessings and burdens, and their success in addressing the defects of Technopoly might ultimately determine their usefulness. The question becomes, how can American society ensure more contextual and purposeful experiences via participatory media?

Possibilities for Purpose

While it is possible to find more holistic ways to live spiritual and intellectual lives (e.g., Spretnak, 1991), the cultural holism of tool-using cultures is not likely to return any time soon. In a culturally pluralistic nation where individual rights are firmly established, and there is a general inability to decide what technologies enter the culture, citizens

in countries like the United States must be pragmatic about what is possible. Moreover, we cannot turn back the clock and prevent information glut. We must deal with it, but in doing so there is hope for more mindful uses of technologies that reclaim context and reject the tenets of Technopoly. I will examine one of Postman's critiques in terms of the possibilities of Web 2.0 from the health sector before returning to the prospects of such technologies for education.

In *Technopoly* Postman (1992) detailed how the medical profession embodies many of the precepts of a Technopoly culture. While doctors used to have personal relationships with, and value the judgment of, their patients, American medicine has come to be known for over-testing of patients with a sundry of machines and techniques. The reliance on machines, and disregard for human judgment, casts a view of nature as "an implacable enemy that can be subdued only by technical means" (102). All of this can leave patients with little contextual understanding of personal health issues, but with participatory media some people have found online communities where they can gain contextual understandings of their conditions. In describing new ways of learning in a social media era, Thomas and Brown (2011) detailed how bounded online environments create "a context in which ideas, information, and passions grow" (p. 18). Informal, online "affinity spaces" where people come together around interests could offer educators a way to rethink formal education that often assumes that explicit teaching is needed for learning to occur (Gee, 2004). Traditional approaches to education treat learning "as a series of steps to be mastered, as if students were being taught how to operate a machine or even… as if the students themselves were machines being programmed to accomplish a task" (Thomas & Brown, p. 35).

However, if learning is viewed in terms of bounded online environments, then people can learn in commune with others in both formal and informal settings. Thomas and Brown (2011) detail the case of Tom, a 41 year old man diagnosed with adult onset diabetes, whose brief, technical doctor's visits provided him little understanding of how his diagnosis would affect his life. Tom was able to find an online community of other patients with diabetes where the collective intelligence of the group offered both advice that emanated from daily living and emotional support. While such communities did exist dating back to earlier iterations of the web, Web 2.0 and social media have further increased the possible spaces and ways in which people can access, participate, and contribute in affinity spaces without the constraints of physical or spatial barriers. In Tom's digital space, he was treated humanely and his judgment, feelings, and knowledge were valued. In this sense, online communities offer

contextual and purposeful rejoinders to a culture where the techniques of Technopoly may fall short.

Of course, as Postman (1992) might have predicted, some social "scientists" in education, clearly not trusting the judgment of those who work in classrooms daily to make sound judgments, analyzed the websites that practicing teachers shared on Twitter to determine their "educational relevance" (Elliott, Craft, & Feldon, 2010, p. 445). Not surprisingly, the researchers' analysis rings of the scientism of Technopoly:

> …no evidence to merit [shared websites'] classification as "best" or "most effective" other than the opinion of an experienced (or sometimes fledgling) teacher. The danger is that these best practice opinions, while perhaps having had the backing of an excellent teacher, did not have the backing of evidentiary support. Without evidence to support the opinions of those sharing knowledge on Twitter, the inherent issue of the validity of claims becomes based in popularity and perceived expert status. This is a fine demonstration of the need for digital literacy among educational professionals, perhaps the most important of the 21st century learning skills, the ability to sift through masses of material, tell the difference between research and opinion, and weigh them accordingly. (p. 447)

Even as educators and others use online spaces like Twitter to engage purposefully, and in effect, resist some imperatives of Technopoly, they will likely be questioned by those who still believe that education can be quantified and that "best practice" can be universally known without regard for context. While scientific opinion should not replace human judgment, educators should avert "ubiquitous consumption of media technology," and instead aspire to use technologies in ways that will foster purposeful learning (Mason & Metzger, 2012, p. 439).

In *Technopoly*, Postman (1992) offered numerous answers to his questions of what story education should tell and what is it for. He derided quantifications of education (e.g., multiple choice testing, grades) that contribute little to purposeful learning. He contended that schools adopt educational purposes that go beyond simple economic motives, and argued that:

> …perhaps the most important contribution schools can make to the education of our youth is to give them a sense of coherence in their studies, a sense of purpose, meaning, and interconnectedness in what they learn… Modern secular education is failing… because it has not moral, social, or intellectual center. There is no set of ideas or attitudes that permeates all parts of the curriculum. The curriculum is not, in fact, a 'course of study' at all but a meaningless hodgepodge of subjects. It does not even put forward a clear vision of what constitutes an edu-

cated person, unless it is a person who possesses 'skills.' In other words a technocrat's ideal—a person with no commitment and no point of view but with plenty of marketable skills. (186)

He also proposed that every subject include its own histories to provide a context that impels students to consider the continuity between experiences from the past, present, and future.

Finally, Postman (1992) suggested all levels of school include a history of technology class so students "may begin informed conversations about where technology is taking us and how" (198). Similar to Postman's reference to "technological modesty" (p. 119), Rheingold (2012) contended that it is essential that students who use social media at high rates learn to do so "intelligently, humanely, and above all, mindfully" (p. 1). Specifically, Rheingold suggested five social media literacies that can help people contextualize their experiences and make them purposeful. First, he contended that people must learn how to thoughtfully focus attention in a time when information seemingly arrives from all directions. It is also important that citizens are able to use their "crap detector" to wade through the masses of information and sources to find that which is relevant. Furthermore, we all must learn how to participate, collaborate, and determine which networks are most useful as we work with others to benefit from the collective intelligence of groups. While Postman's characterization of American society as suffering from Technopoly has merit, his educational recommendations point to pragmatic possibilities that largely resonate with recommendations of thoughtful social media advocates (e.g., Jenkins et al., 2009; Rheingold, 2012).

There is no simple answer to Postman's (1992) question asking what story education should tell, but he is correct in recognizing that experiences of students and teachers should be contextual and purposeful. Participatory media has the potential for more voices to join public dialogues. Educators could seek to empower students, teachers, staff, and community members in affinity spaces where they may address critical questions concerning school curriculum, instruction, organization and more. Within classes, students and teachers might bring context to classes by following Postman's recommendation of telling the histories of the various subjects already taught. Classes may also specifically examine the present, past, and future of technologies, including social media, and citizens can make conscious decisions about personal and social relationships between tools and our lives. However, Postman's call for some shared and uniting curriculum itself ignores the varied contexts of classrooms and could simply serve to disempower the judgment of teachers to make appropriate curricular decisions. Could participatory media help schools tell stories that are democratic, inclusive, and purposeful to their contexts?

Conclusions

Postman's (1992) concerns about American Technopoly, and his questions for educational systems, are still relevant nearly a quarter century later. Yet, participatory media gives voice to the masses and offers examples, and many counterexamples, of cultures that are purposeful, contextual, and organic. Twenty-first century American education must help contextualize, problematize, and synthesize technological experiences and digital cultures so as to push back against modernist worldviews that narrow what human experiences count. Teachers, students, and all citizens must take stock of the burdens and benefits that emanate from our relationships to technologies, cultures, and ourselves if we are to ensure that we control our technologies and not the other way around.

Notes

Postman's interpretation of Medium Theory (MT) often borders on the type of dichotomous distinctions characteristic of modernistic discourse of which he seems opposed. Instead of taking a more nuanced approach to MT (e.g., Meyrowitz, 2009) that clearly reflects human agency, transactional relations, and complex and varied influences, his telling often comes off as deterministic. However, considering his claim that "too much information" can leave theories meaningless, maybe his oversimplifications were intentional (Postman, 1992, p. 72).

Postman (1992) acknowledges that "no taxonomy ever neatly fits the realities of a situation," and that exceptions exist to most classifications (p. 28). Nonetheless, he contended that his taxonomy is still useful for distinguishing among general categories.

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